



MESMA Work Package 6 (Governance)

Deliverable 6.1

Typology of Conflicts in MESMA case studies

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Table of Contents

1 Introduction	5
1.1 About this report.....	5
1.2 MESMA Governance Research – Background and Aims.....	6
1.3 The MESMA WP6 case study initiatives.....	7
1.3.1 The southern North Sea case study	9
1.3.2 The Strait of Sicily case study.....	11
1.3.3 The Barents Sea case study.....	12
1.3.4 The Bay of Biscay (Spain) case study.....	13
1.3.5 The Pentland Firth and Orkney Waters (PFOW) case study	13
1.3.6 The Celtic Sea case study	14
1.3.7 The Greek case study	14
1.3.8 The Polish / Baltic Sea case study	15
1.3.9 The Bulgaria / Black Sea case study	15
1.4 Methods: The Governance Analysis Framework	16
2 Background: The Emerging Policy Landscape for marine spatial planning in Europe	18
2.1 Marine Spatial Planning in EU Policy and Legislation	18
2.2 Environmental legislation	19
2.3 Renewable Energy Directive	20
2.4 The Common Fisheries Policy (CFP).....	20
2.4 The Integrated Maritime Policy, the Roadmap and the proposed MSP Directive	21
2.5 The synergies and tensions between the EU policy drivers for MSP.....	22
3 Typology of Conflicts in the MESMA case studies	27
3.1 Main conflicts in MESMA Case Studies	27
3.1.1 The southern North Sea case study, Belgian sub-case study.....	27
3.1.2 The southern North Sea case study, Dogger Bank sub-case study.....	28
3.1.3 The southern North Sea case study, Wadden Sea sub-case study	29
3.1.4 The southern North Sea case study, Skagerrak sub-case study.....	30
3.1.5 The Strait of Sicily case study, Sicilian sub-case study	31
3.1.6 The Strait of Sicily case study, Malta sub-case study.....	31
3.1.7 The Barents Sea case study.....	32
3.1.8 The Bay of Biscay (Spain) case study.....	33
3.1.9 The Pentland Firth and Orkney Waters (PFOW) case study	34
3.1.10 The Celtic Sea case study	34

3.1.11 The Greek case study	36
3.1.12 The Polish/Black Sea case study	36
3.1.13 Summary overview of the main conflicts in the case studies.....	37
3.2 Typology of Conflicts.....	38
3.2.1 Inter-sectoral Conflicts.....	38
3.2.2 Intra-sectoral conflicts	42
3.2.3 Institutional conflicts	43
3.3 Discussion: The drivers of conflicts.....	43
3.3.1 Economic drivers and the perspectives of different marine users.....	43
3.3.2 Policy drivers.....	45
3.3.3 Rights and entitlements.....	45
3.3.4 Value conflicts.....	46
4 MESMA Governance Research: Overarching Discussion.....	46
4.1 The emerging reality of marine spatial planning in Europe.....	46
4.1.2 Marine spatial planning as a vehicle for ecosystem-based management?.....	46
4.1.3 Frameworks for implementing (ecosystem-based) marine spatial planning	48
4.1.4 Reality check and reflections on the findings of MESMA case study initiatives.....	49
4.2 Reflections on the MESMA case study sample	55
4.3 Reflections on the governance analysis framework as an evaluation tool	56
Appendix 1 – References	60
Appendix 2 – Two Open Access Papers Derived from WP6 Governance Research	65
Appendix 3 – The WP6 Governance Analysis Framework.....	93
Appendix 4 – Methods for Governance Analysis.....	103
Appendix 5 – Themes from the April 2013 MESMA Governance workshop	105
Appendix 6 – Overview of EU MSP Policy Drivers	109
Appendix 7 – The case study reports.....	120
A7.1 About the case study reports	120
A7.2 Case study report: The southern North Sea case study, Belgian sub-case study.....	123
A7.3 Case study report: The southern North Sea case study, Dogger Bank sub-case study.....	173
A7.4 Case study report: The southern North Sea case study, Wadden Sea sub-case study	219
A7.5 Case study report: The southern North Sea case study, Skagerrak sub-case study.....	288
A7.6 Case study report: The Strait of Sicily case study, Sicilian sub-case study	315
A7.7 Case study report: The Strait of Sicily case study, Maltese sub-case study	350
A7.8 Case study report: The Barents Sea case study.....	378

A7.9 Case study report: The Biscay case study	425
A7.10 Case study report: The Pentland Firth and Orkney Waters (PFOW) case study	474
A7.11 Case study report: The Celtic Sea case study	505
A7.12 Case study report: The Greek case study	865
A7.13 Case study report: The Polish / Baltic Sea case study	903
A7.14 Case study report: The Bulgaria / Black Sea case study	988

1 Introduction

1.1 About this report

This report is one of three formal deliverables of MESMA Work Package 6 (WP6). MESMA stands for ‘monitoring and evaluation of spatially managed areas’. It was an EU-funded FP7 project which focused on marine spatial planning, aiming to supply innovative methods for the monitoring, evaluation, and implementation of sustainable marine planning in Europe’s seas. The project operated from 2009 to 2013, involving 21 partners from 13 European countries, and was coordinated by [IMARES](http://www.imares.nl)¹ in the Netherlands. The tools and methods developed by MESMA were tested by applying them to real-world case studies, which are introduced in section 1.3 below.

The project’s work was partitioned into several work packages. UCL coordinated WP6, which focused on governance. This report is the first of three deliverables from WP6:

- Deliverable 6.1: Typology of Conflicts in MESMA case studies
- Deliverable 6.2: Approaches for addressing conflicts in MESMA case studies
- Deliverable 6.3: Toolbox of incentives for governance of spatially managed areas

Although each of these three reports has been drafted as a stand-alone document, they are best read alongside each other. In particular, deliverables 6.1 and 6.2 are closely related: The analysis of conflict resolution mechanisms in deliverable 6.2 follows directly from the conflict typology presented in section 3 of this report. Furthermore, the introduction (section 1), policy background (section 2), discussion (section 4), and appendices contained in this first report are also relevant to deliverables 6.2 and 6.3:

- The introduction contained here (section 1) covers the background to MESMA’s governance work package as a whole, including a description of the methods and analytical tools used.
- The introduction is followed by a background section on the EU policy landscape (section 2), which sets the overarching context for the whole of MESMA’s governance research.
- The discussion in section 4 at the end of this report draws on findings presented in all three deliverables as well as in the case study reports (appendix 7). Thus, the discussion provides a synthesis of key over-arching findings of the governance work package as a whole, and reflections on the methods and analytical tools that were tested.
- The appendices include the analytical framework that was used for the MESMA WP6 empirical research (appendix 3), including the findings that form the basis for deliverables 6.2 and 6.3. The appendices also include the individual case study reports (appendix 7), which provide detailed findings for each case study, forming part of the information base for deliverables 6.1, 6.2 and 6.3. The information in the case study reports was supplemented by empirical information provided by case study researchers at a governance research workshop organised by UCL in April 2013. Appendix 5 describes the themes covered in the workshop.

Given the length of the introduction, background, discussion and appendices (in particular, the case study reports in appendix 7), equivalent sections have not been included in deliverables 6.2 and 6.3, in order to avoid repetition of the same information in three reports. This makes deliverables 6.2

¹ www.imares.nl

and 6.3 much more focused and streamlined reports, but readers should note that, in themselves, they only reflect very specific aspects of MESMA's governance research. Ideally, the three reports should always be read alongside each other.

The outline of the deliverables was determined in advance of the research having been completed. They very much focus on conflicts and incentives, and do not reflect the full richness and diversity of the empirical findings that emerged as the governance research progressed. In order to capture and disseminate these findings more widely, and maximise the impact of the MESMA project, a special issue of *Marine Policy* is in preparation at the time of writing, which will include papers on most of the case studies, as well as a synthesis paper drawing from across all the case studies. Drafts of the case study papers are cited (as 'in prep') throughout this report.

1.2 MESMA Governance Research – Background and Aims

Governance has been defined as '*steering human behaviour through combinations of people, state and market incentives in order to achieve strategic objectives*' (Jones *et al.* 2011). The need to develop cross-sectoral and integrated governance is a key challenge in developing and implementing marine spatial planning, as well as in the implementation of ecosystem-based management through MSP, which requires extending the scale of coordinated management across different marine ecosystems and social systems (UNEP 2011). Analysing governance, and evaluating the effectiveness of governance systems, is therefore an essential part in the evaluation of spatial management.

Governance analysis is often concerned with the relative importance of state, market and civil society institutions in 'steering' policy- and decision-making processes, i.e. recognising the roles of state control (government and bureaucracy), market forces (capitalism and economies), and public interests (people and civil society). Governance involves a combination of different institutions from all three of these spheres.

MESMA WP6 had two broad aims. Firstly, it focused on developing and testing a method for analysing and evaluating governance of on-going spatial planning initiatives. This took the shape of an analytical framework (section 1.4 and appendix 3). Secondly, it carried out empirical research, which aimed to gather and synthesise new insights on emerging marine spatial planning across Europe. The two broad aims were linked: Once the analytical framework had been developed, it was applied in the empirical research, so the latter served not only to yield empirical research findings, but also to test the usefulness of the framework as an analytical tool.

The governance analytical framework is a tool that can serve to analyse marine spatial planning initiatives in future, as part of monitoring and evaluation in marine spatial planning. The framework forms an important output of the MESMA project. It is fully introduced in section 1.4 of this report, and is reproduced in full in appendix 3 (as well as on [MESMA's final website](http://www.mesmaexchange.eu)²). The discussion in section 4.3 includes reflections on how well the framework performed as a tool, and how it might be improved and adapted in future.

² <http://www.mesmaexchange.eu>

The three deliverables from WP6 focus less on the framework as a tool, and more on the empirical findings of the MESMA governance research. The empirical MESMA WP6 governance research focused on the analysis of existing marine spatial planning initiatives within the MESMA case studies. For each MESMA case study, a real-world marine planning initiative with spatial elements was identified and analysed, i.e. a 'marine spatial planning initiative' in the widest sense (see the definition of the term cited at the beginning of section 2.1). The initiatives varied a lot in terms of their specific objectives (including single-sector as well as multi-sector objectives), as well as in their scope, scale and duration (see section 1.3 for an overview). On the one hand, this was positive, as it meant that a broad range of situations and experiences was covered in the research, reflecting the diverse reality of marine spatial planning. On the other hand, the diverse and variable nature of the initiatives within the MESMA governance sample created some difficulties in terms of comparing case studies, and drawing a synthesis from across the findings of the research. Some of these difficulties are covered in section 4.2.

The WP6 governance research analysed the key conflicts raised by the implementation of each of the initiatives, and explored the different combinations of governance approaches (AKA 'incentives' – see section 1.4 and deliverable 6.3) used to address these conflicts. The empirical WP6 governance research focused on the following questions:

- What are the governance approaches and incentives that are being adopted in existing initiatives with spatial elements, and how effective are the incentives and governance approaches at achieving their objective(s) in particular contexts?
- What are the potential incentives and governance approaches that could be implemented to improve effectiveness in achieving the objective(s) of existing initiatives and addressing related conflicts?
- How do wider issues, such as top-down/bottom-up balance, inter-sectoral integration and power, cross-border issues, justice and different knowledges, affect the effectiveness of existing initiatives?

The analysis of conflicts, and mechanisms of addressing them, was central to all three of the above questions.

1.3 The MESMA WP6 case study initiatives

Empirical governance analyses were completed for 13 real-life marine spatial planning initiatives, which fell under the different MESMA case studies. Some of the case studies encompassed more than one 'sub-case study', in which case governance analyses were completed for one initiative under each 'sub-case study'. In the overview below, the title of each MESMA case study is in a numbered heading, followed by a table / tables naming the initiative(s) that was /were analysed for that case study, and an indication of who carried out each governance analysis, their background, and their role (if any) within the initiative in question.

Four initiatives were analysed within the southern North Sea case study: 1) the development of a Master Plan for the Belgian continental shelf area, 2) environmental governance of the Wadden Sea, 3) the development of a protected area on the Dogger Bank, and 4) the protection of cetaceans within two *Natura 2000* sites (i.e. protected areas designated under the EU Habitats and Birds Directives – see section 2) within the Danish Skagerrak. Within the Strait of Sicily case study, one

initiative was analysed in detail (the Egadi MPA, off Sicily), and another was analysed in less depth (the implementation of marine *Natura 2000* sites in Malta). Further analyses were completed for the development of a spatial plan for the Norwegian Barents Sea, a wave energy testing platform in the Bay of Biscay off Northern Spain, a renewable-energy focused marine planning pilot in the waters around Orkney in Scotland, an MPA planning process in south-west England, and local marine *Natura 2000* site designation and implementation processes in Greece, Poland and Bulgaria (Black Sea), respectively.

Although most initiatives that were analysed in MESMA WP6 focused on the designation and implementation of MPAs, several also focused on the development of the energy sector, or on multi-sector objectives. In addition to having differing types of objectives, the initiatives varied a lot in their scope, scale, duration, and degree of completion – thus, the sample was small and highly variable.

For each initiative, one of the MESMA partners took the lead in producing a governance analysis report (see appendix 7). Many of the researchers carrying out these analyses had a background in natural science, and no previous experience of governance research. To aid them in their work, UCL researchers developed a common governance analysis framework for them to follow, along with guidelines on how to apply the framework (see section 1.4, and appendices 3 and 4).

Different partners were able to allocate different amounts of time to their governance research, and there were significant differences in the complexity of the initiatives being researched, and the amount of access that researchers were able to gain to people and information. As a result, the level of depth and detail varies a lot between the analyses, with the Celtic Sea case study being the most detailed, and the Maltese and Bulgarian case studies the least. Hence, the latter two (the Bulgarian / Black Sea case study in particular) are referred to much less frequently and in less detail than other case studies within this report, and the other two WP6 deliverables.

In April 2013, a MESMA governance workshop was organised in London by UCL, at which representatives from ten of the 13 case studies and sub-case studies attended (the Bulgarian, Maltese, and Spanish case studies were unable to attend). The workshop served to question, analyse, discuss, and consolidate findings that were initially written up in the case study reports (appendix 7).

1.3.1 The southern North Sea case study

Sub-case study: Belgium

Initiative	From marine spatial planning in the Master Plan (2003) of the Belgian Part of the North Sea (BPNS) to an integrated marine spatial planning process and planning visions for the future(2013)
Description	This analysis specifically focuses on the evaluation of the designation of MPAs in the BPNS as part of the Natura2000 network and explores the history of conflicts, particularly between MPAs and the development of offshore wind farms.
Objectives	Renewables / multi-sector: The main reason for developing the Master Plan(2003) was to fulfill European directives and the (urgent) needs of two sectors: nature conservation and offshore renewable energy. It's a multi-sectoral zoning plan allocating areas for a range of different activities. Currently a legally binding marine spatial plan and planning process is underway.
Scale	The whole of Belgium's continental shelf area (small compared to other EU countries – 66km of coastline, 3,600 km ² of maritime area).
Period covered	1999-2013
Researchers	Ellen Pecceu, Kris Hostens (ILVO – Institute for Agricultural and Fisheries Research); Frank Maes (Maritime Institute, Ghent University)
Researchers' background	Natural Science (Marine ecology); Environmental Law
Researchers' role in initiative	Researchers not directly involved in the process. Nevertheless, both institutes provided scientific advice (directly and/or indirectly, e.g. through advisory bodies). They also contributed to numerous relevant scientific reports and projects.

Sub-case study: Dogger Bank

Initiative	The Dogger Bank <i>Natura 2000</i> sites
Description	Development of trans-boundary management measures in the SACs ³ designated by three member states (UK, Netherlands and Germany) on the Dogger Bank, including the FIMPAS and MASPNOSE projects
Objectives	Nature conservation / MPAs: To design a scheme of management that is integrated across the three member state territories that provides for the restoration and maintenance of the natural features represented on the Dogger Bank to a favourable condition.
Scale	International, offshore
Period covered	2011 - 2012
Researchers	David Goldsborough (Van Hall Larenstein, University of Applied Sciences, Leeuwarden, The Netherlands)
Researchers' background	Marine policy, marine and coastal management, stakeholder facilitation
Researchers' role in initiative	Participant: David was the Dogger Bank case study coordinator in the MASPNOSE project (see case study report, appendix A7.3) where he facilitated and supported the NSRAC ⁴ in developing a spatial management plan for the Dogger Bank taking into account fisheries, environmental and biodiversity aspects.

Sub-case study: Wadden Sea

Initiative	Environmental governance of the Wadden Sea (focusing on the Trilateral Wadden Sea Co-operation)
Description	To provide a framework for the integrated management of the Wadden Sea Area as an ecological entity, as well as its landscape and cultural heritage, within the cultural entities. The main focus of this analysis is on the Trilateral Wadden Sea Cooperation (between Denmark, Germany and the Netherlands), though the analysis also covered relevant aspects of the <i>Natura 2000</i> process within the area.
Objectives	Nature conservation / MPAs: To restore and maintain the natural features represented in the SACs and SPAs ⁵ in the Wadden Sea
Scale	International, coastal
Period covered	1978-2013
Researchers	Adriaan Slob, Tara Geerdink (TNO Netherlands); Christine Röckmann (IMARES Netherlands); Sandra Vöge (Senckenberg Germany)
Researchers' background	Governance of complex systems, Natural Science
Researchers' role in initiative	Independent observers

³ SACs are Special Areas of Conservation, designated under the EU Habitats Directive (see section 2). They form part of the *Natura 2000* network of protected areas in the EU.

⁴ 'NSRAC' stands for 'North Sea Regional Advisory Council', one of seven RACs established under the EU Common Fisheries Policy (CFP) to provide for greater stakeholder participation in fisheries management decisions. Details on the NSRAC can be found at <http://nsrac.org/>.

⁵ SPAs are Special Protection Areas designated under the EU Birds Directive (see section 2). They form part of the *Natura 2000* network of protected areas in the EU.

Sub-case study: Skagerrak

Initiative	The conservation of porpoise in SACs in the Danish Skagerrak
Description	Conservation of harbour porpoises within and around SACs in the Danish part of the Skagerrak; and reducing impacts of fishing
Objectives	Nature conservation / MPAs: To restore and maintain the harbour porpoise conservation features represented in the SAC
Scale	Two specific <i>Natura 2000</i> sites (combined area just under 3000 km ²)
Period covered	1998-2013
Researchers	Thomas Kirk Sørensen, Lotte Kindt-Larsen (National Institute of Aquatic Resources, Technical University of Denmark)
Researchers' background	Natural Science
Researchers' role in initiative	Scientific advisers to stakeholders and government within the initiative

1.3.2 The Strait of Sicily case study

Sub-case study: Sicily

Initiative	Egadi Islands (<i>Isole Egadi</i>) Marine Protected Area, Sicily
Description	The implementation and management of the Egadi Islands marine protected area (designated under national legislation) and the overlapping cSAC (due to be designated under the Habitats Directive)
Objectives	Nature conservation / MPAs: Maintaining or restoration to favourable conservation status of conservation features
Scale	Local (single MPA), ~540 km ²
Period covered	1991-2012
Researchers	Giovanni D'Anna, Tomás Vega Fernández, Carlo Pipitone, Germana Garofalo, Fabio Badalamenti (Institute for Coastal and Marine Environment (IAMC), National Research Council (CNR))
Researchers' background	Natural Science (Environmental Science, Marine Ecology)
Researchers' role in initiative	Independent observers

Sub-case study: Malta

Initiative	Rdum Majjiesa to Ras ir-Raheb SAC
Description	The implementation and management of the SAC
Objectives	Nature conservation / MPAs: Maintaining or restoration to favourable conservation status of conservation features
Scale	Local (single MPA)
Period covered	1992-2013
Researchers	Marie Louise Pace, Department of Fisheries and Aquaculture, Ministry for Sustainable Development, the Environment and Climate Change
Researchers' background	Natural Science
Researchers' role in initiative	Participant (Fisheries Department)

1.3.3 The Barents Sea case study

Initiative	The Norwegian Barents Sea Management Plan
Description	The development, implementation and revision the Integrated Management Plan for the Lofoten – Barents Sea Area (referred to as the 'Barents Sea Management Plan' or 'BSMP' in MESMA), including mapping and management of 'valuable and vulnerable areas' (VVAs, closed to oil & gas activities, <i>de facto</i> MPAs)
Objectives	Oil / multi-sector: To promote economic development (esp. oil exploration), allowing sustainable use while ensuring the health of the ecosystems
Scale	Norwegian portion of the Barents Sea
Period covered	2001-2013
Researchers	Erik Olsen, A. Hoel, Lene Buhl-Mortensen, I. Røttingen (Institute of Marine Research, Norway); Silje Holen (Norwegian Institute for Water Research)
Researchers' background	Natural Science; Economics
Researchers' role in initiative	Scientific advisers in the initiative

1.3.4 The Bay of Biscay (Spain) case study

Initiative	The Biscay Marine Energy Platform
Description	The planning and implementation of the Biscay Marine Energy Platform (BIMEP) – an area for testing marine renewable energy devices (wave energy)
Objectives	Renewables: To develop an ocean infrastructure for research, demonstration and operation of offshore wave energy harnessing devices + minimise impacts on fishing
Scale	Small
Period covered	2009-20012
Researchers	Ibon Galparsoro , Marta Pascual*, Martín Aranda, Ángel Borja, Iratxe Menchaca, María Calvo (AZTI-Tecnalia, Marine Research Division) (*current affiliation: Basque Centre for Climate Change)
Researchers' background	Marine Scientists, Biologists
Researchers' role in initiative	Scientific advisers in the initiative

1.3.5 The Pentland Firth and Orkney Waters (PFOW) case study

Initiative	The Pentland Firth and Orkney Waters (PFOW) marine planning pilot, Scotland
Description	Development of a pilot Marine Spatial Plan to test the emerging marine spatial planning framework for Scotland and facilitate the deployment of wave and tidal energy devices in the PFOW.
Objectives	Renewables: To facilitate the deployment of 1.6GW of wave and tidal energy generating capacity from the PFOW by 2020; to investigate and accommodate associated ecosystem, social and economic interactions.
Scale	~12,000km ²
Period covered	2009-2013
Researchers	Kate Johnson, Sandy Kerr, Jonathan Side (Heriot Watt University)
Researchers' background	Natural Science; Social Science
Researchers' role in initiative	Partners of government in stakeholder consultation, scientific researchers and advisers

1.3.6 The Celtic Sea case study

Initiative	The Marine Conservation Zone process in south-west England
Description	England's Marine Conservation Zone (MCZ) planning process, with a focus on Finding Sanctuary, a regional stakeholder project tasked with developing MCZ recommendations for south-west England
Objectives	Design a network of MCZs in SW England, taking account of socio-economic impacts
Scale	Nature conservation / MPAs: South-west England's inshore and offshore waters (~95,000 km ²) – though much of the analysis focuses on the wider MCZ process for England as a whole
Period covered	2009-2013
Researchers	Louise Lieberknecht; Peter Jones (University College London)
Researchers' background	Natural Science; Social Science
Researchers' role in initiative	UCL has no role in the process & acts as independent observer, though the lead researcher on the case study, L. Lieberknecht, worked for Finding Sanctuary as MPA Planner from 2007-2011

1.3.7 The Greek case study

Initiative	Marine Protected Areas in the Inner Ionian Archipelago-Patraikos and Korinthiakos Gulfs, Greece
Description	The planning and implementation of the Kyllini, Zakynthos and Inner Ionian SACs
Objectives	Nature conservation / MPAs: Effectively protect sites so that they are maintained at or restored to favourable condition, focusing on Kyllini, Zakynthos and Inner Ionian SACs
Scale	Three specific MPAs
Period covered	~1992-2013
Researchers	P. Panayotidis, V. Vassilopoulou, C. Anagnostou, V. Drakopoulou, V. Gerakaris, Y. Issaris, S. Kavadas, A. Kokkali, G. Mavromati, M. Salomidi (Hellenic Center for Marine Research)
Researchers' background	Natural Science
Researchers' role in initiative	Scientific advisers to government

1.3.8 The Polish / Baltic Sea case study

Initiative	Marine Protected Areas in Puck Bay, Poland*
Description	Designation and implementation of Baltic Sea Action Plan (BSAP) and <i>Natura 2000</i> sites in Puck Bay and the Hel Peninsula
Objectives	Nature conservation / MPAs: Maintenance or restoration of favourable conservation status of conservation features in the BSAP and <i>Natura2000</i> sites
Scale	Local
Period covered	1970s-2013 (main focus on 2004-2013)
Researchers	Joanna Piwowarczyk, Borys Wróbel, Jan Marcin Węsławski (Institute of Oceanology, Sopot, Poland), Silje Holen (Norwegian Institute for Water Research)
Researchers' background	Biology, ecology and economics
Researchers' role in initiative	Independent observers

*The Baltic Sea case study initially also encompassed a second initiative in Östergötland, Sweden, which is described in the case study report included in appendix 7.13. However, the detailed governance analysis for this case study centred on the Polish initiative, which is the one referred to throughout this report.

1.3.9 The Bulgaria / Black Sea case study

Initiative	Marine nature protection in the Black Sea region
Description	Designation and implementation of a marine <i>Natura 2000</i> network in Bulgaria
Objectives	Nature conservation / MPAs: Maintenance or restoration of favourable conservation status of conservation features in the <i>Natura 2000</i> sites
Scale	Bulgarian part of the Black Sea (27 294 km ²)
Period covered	1-1-2011 to 1-1-2013
Researchers	Dr. Cor Schipper, MSc. Patricia Schouten, MSc Ruben Vogel (Deltares); MSc Adriaan Slob (TNO Netherlands)
Researchers' background	Marine policy, marine scientist
Researchers' role in initiative	Independent observers

1.4 Methods: The Governance Analysis Framework

The governance analysis for each case study was carried out by researchers from one or more MESMA partners, following guidelines and an analytical framework developed by UCL. UCL took on a guiding and coordinating role throughout, providing written guidelines to the governance researchers working on the different case studies (most of whom had a background in natural science, and were new to governance research), as well as organising meetings and workshops with specific case studies to support progress. Following completion of the initial case study governance analysis reports (appendix 7), UCL research focused on producing the synthesis presented in this report, which draws together findings from all the case studies.

The governance analysis framework (also referred to as the 'WP6 Governance Analytical Structure') provided a systematic and structured approach to analysing governance in marine spatial planning, by deconstructing governance into different incentive categories and examining the effectiveness of different governance approaches in addressing the key thematic issues or challenges encountered in existing initiatives with spatial elements. It was based on previous work carried out by UCL researchers on analysing the governance of marine protected areas (Jones *et al.* 2011; 2013), adapted in order to apply it to marine spatial planning initiatives with a range of different objectives (including socio-economic rather than just environmental objectives).

The analytical framework, as applied to the initiatives within each MESMA case study, is included in full in appendix 3, whilst appendix 4 reproduces guidelines on research methods for governance analysis, as provided to MESMA governance researchers at the start of their WP6 research.

In summary, the governance analysis framework deconstructs the governance process as follows:

- 1) **Context** –The socio-economic and political context of the initiative being analysed, as well as some basic information about the initiative itself (who is involved, its location & scale, its history).
- 2) **Objectives and management measures** – The key priority objective which the analysis is focused on, which should be the - or one of the - key objective(s) of the initiative itself, as well as existing policies, laws, plans or regulations that facilitate the achievement of the priority objective.
- 3) **Conflicts** –The conflicts generated by the implementation of the above measures, and the driving forces behind those conflicts.
- 4) **Governance approach and effectiveness** – The overall governance approach (or combination thereof) adopted in the initiative (top-down, bottom-up, or market-led), and its effectiveness in achieving the priority objective.
- 5) **Incentives** – A description of the economic, legal, knowledge, interpretative and participative incentives employed within the initiative in order to achieve the priority objective (a list of possible incentives was supplied – see appendix 3).
- 6) **Cross-cutting themes** – A discussion of the combination of top-down and bottom-up approaches, inter-sectoral integration, cross-border issues, environmental and social justice issues, and the influence of uncertainty in decision-making.

The governance analysis framework can be used independently (as a way to deconstruct and analyse governance within a marine spatial planning process), or it may be used alongside the main MESMA

evaluation framework (one of the key outputs of the MESMA project, see [MESMA's final website](#)⁶ and (Stelzenmüller *et al.* 2013). Appendix 3 indicates points at which links can be made between the governance analysis framework, and the main MESMA framework (referred to as the 'WP2 framework', since it was developed in MESMA work package 2).

The governance analysis framework was seen as an evolving structure throughout the MESMA project. Through applying the framework to the initiatives in the different case studies, MESMA WP6 served to test the framework as a tool for analysing and evaluating governance in marine spatial planning (in addition to fulfilling the empirical research aims stated above).

In April 2013, researchers from 10 of the 13 case study initiatives came together at a workshop at UCL, in order to share their empirical insights gained during their governance analyses, as a foundation for the synthesis of empirical findings presented in this report, and in the other two deliverables from work package 6. Rather than following the original framework structure, this workshop focused on six cross-cutting themes, which had emerged as key themes within the governance analysis reports provided by the case studies prior to the workshop (see appendix 5).

In summary, the six workshop themes were:

- 1) **Governance approach and structure** – the basic story of the initiative, the actors (people with specific roles and priorities) involved, their roles and responsibilities, their objectives, the ways in which they interact, and the role of the researcher within the initiative.
- 2) **Conflicts** – the main conflicts emerging within the initiative, the drivers behind them, the ways in which they manifest themselves, the ways in which they impact on outcomes, and any mechanisms for addressing these conflicts.
- 3) **Integration** – horizontal integration across multiple sectors, vertical integration through levels of government, and integration between plan and reality (i.e. the impact that the initiative is having on the ground)
- 4) **Participation, transparency and accountability** – mechanisms of participation and roles for actors within the initiative, transparency within the process, and accountability of key actors / decision-makers
- 5) **Equity and justice** – power struggles, differences in influence between actors, winners and losers of the initiative, and any mechanisms to ensure fairness within the process and its outcomes
- 6) **Uncertainty** – uncertainties within the process, impacts on the process and outcomes, and mechanisms of addressing uncertainties.

There is no single 'correct' way to deconstruct, analyse and evaluate governance processes, so these six themes could be used as an alternative or as an addition to the original WP6 analytical framework for future governance analyses in marine spatial planning. Section 4.3 reflects further on the usefulness and applicability of the WP6 governance framework as an evaluation tool in marine spatial planning.

⁶ <http://www.mesmaexchange.eu>

2 Background: The Emerging Policy Landscape for marine spatial planning in Europe

2.1 Marine Spatial Planning in EU Policy and Legislation

One common element in all MESMA case studies is that marine spatial planning initiatives are, at least for part of the marine areas, governed by the policies and directives at an EU level. The EU policies and directives set out important targets and obligations in various areas of marine planning and management that EU Member States must fulfil, and have a strong influence on the outcomes of marine spatial planning in individual countries. This section introduces the policy and legal frameworks for marine spatial planning in the EU, and the targets and the general principles that influence marine spatial planning in the case studies.

Marine spatial planning (MSP) is defined as *'a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process'* (Ehler and Douvere 2007). Although the process of MSP can be introduced to achieve social and economic goals, MSP is often recognised and advocated as a practical strategy to implement the ecosystem approach to the conservation and management of ocean resources (Douvere 2008; Maes 2008).

The legal framework for MSP at the international level consists of two global conventions, the United Nations Convention on the Law of the Sea and the Convention on Biological Diversity. The former sets out rights, jurisdictions and obligations of coastal states in the exploitation and protection of marine resources, and the latter includes several principles underlying ecosystem-based MSP, such as integrated marine and coastal area management under the jurisdictions of coastal states, the application of environmental impact assessments for individual projects, and strategic environmental assessments for the planning of different activities, and the necessity to establish ecologically representative networks of MPAs (Maes 2008).

Marine spatial planning in the EU receives important impetus from a number of EU directives, policies and regulations. Such policy drivers can be broadly categorised into four groups: environmental legislation, legislation for renewable energy, fisheries regulation and frameworks for cross-sectoral and integrated management. It is important to recognise that although most of the policy drivers discussed below do not contain explicit provisions for cross-sectoral MSP, they do have direct and significant influence on the allocation of marine space for a particular purpose, thereby affecting the availability of space for other sectors. The synergies and tensions between the different policy drivers therefore represent opportunities and challenges for the emergence of fully integrated, cross-sectoral MSP initiatives. The discussions below draw on a review of the objectives and provisions of the main policy drivers as summarised in Table 2.1.

This section provides an overview of the various policy drivers in the EU and the tensions and synergies between them, and discusses the links between MSP and sustainability. It also compares the policy framework for MSP with the policy framework for terrestrial planning at the EU level. It is based on a working paper on EU policy landscape for MSP that was authored as part of the MESMA research, and a subsequent paper published in Marine Policy (Qiu and Jones, 2013, [Open Access](#)). The specific objectives and targets of each policy or legislation are summarised in appendix 6.

2.2 Environmental legislation

In Europe, one of the most important drivers for MSP is biodiversity conservation legislation, as part of the EU's fulfilment of international commitments under, *inter alia*, the Convention on Biological Diversity (CBD) and the World Summit on Sustainable Development. The most significant policy drivers include the Birds (Directive 2009/147/EC) and Habitats directives (Directive 92/43/EEC), which require EU Member States to designate and protect Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), together known as the *Natura 2000* network. In most EU countries, progress is underway to implement the Habitats and Birds Directives in the marine environment, which is the main focus of governance analysis in several of the MESMA case studies (see section 1.3).

In addition to the Birds and Habitats Directives, the Environmental Impact Assessment (EIA) Directive (85/337/EEC) and Strategic Environmental Assessment (SEA) Directive (2001/42/EC) also have important implications for MSP, as they require environmental assessments to be undertaken for individual projects (EIA Directive) or development programmes and plans (SEA Directive). Under the SEA Directive, an environmental assessment is mandatory for all plans and programmes that require an assessment pursuant to Article 6 or 7 of the Habitats Directive for the protection of *Natura 2000* sites. The SEA Directive also requires that a Member State shall forward a copy of a draft plan or programme and the relevant environmental reports to other Member States, when the plan or programme is likely to have significant transboundary effects on the environment, and shall enter into consultation at the request of other Member States concerning the transboundary effects of implementing the plan or programme. This provision creates incentives for cross-border consultation and cooperation in addressing the transboundary environmental impacts of national marine plans (Drankier 2012).

The most recent policy driver for the protection of the marine environment is the EU Marine Strategy Framework Directive (MSFD), which requires an ecosystem-based approach towards marine management and governance, aiming towards achieving 'good environmental status' (GES) of all seas around the EU by 2021. Together with the Water Framework Directive, the MSFD represents a framework through which other EU sectoral directives can be linked, providing integrated management from the catchment through coast to open marine ecosystems (Borja *et al.* 2010). The 'framework' nature of the MSFD is reflected in the eleven descriptors for determining GES, which cover the most important maritime sectors and their impacts on marine ecosystems.

The MSFD strengthens the commitment to designate a network of MPAs across Europe, by requiring Member States to implement spatial protection measures that contribute to '*coherent and representative networks of marine protected areas (MPAs)*' (Article 13 Programme of Measures). Establishing coherent and representative networks of MPAs is the only explicit requirement under Article 13, forming a core element in delivering the ecosystem-based approach envisaged in the MSFD. Such networks of MPAs include marine *Natura 2000* sites, but the MSFD requirement for coherent and representative networks of MPAs implies that protection needs to be extended beyond marine features listed under the Habitats and Birds Directives, as these were not designed to lead to coherent and fully representative MPA networks. This suggests that MPAs of national importance need to be designated by Member States to complement the existing *Natura 2000* network, leading to coherent and representative networks of MPAs across Europe.

The MSFD does not explicitly require MSP, but Member States are required to develop national programmes taking into consideration ‘*spatial and temporal distribution controls*’, which are ‘*management measures that influence where and when an activity is allowed to occur*’ (Annex VI).

2.3 Renewable Energy Directive

In a number of case studies, including the Belgian and the PFOW case studies, the promotion of offshore wind energy has been a strong driving force behind the development of national MSP frameworks. The growing interest in offshore renewable energy represents a response to anticipated economic benefits in terms of job creation and stimulating growth, as well as concerns over energy security (European Wind Energy Association 2011; Toke 2011). It is also a response to obligations under the EU Renewable Energy Directive (Directive 2009/28/EC), which is a key component of the EU Climate and Energy Pack adopted in 2008 to contribute to the EU’s fulfilment of Kyoto Protocol objectives. The Pack includes a legally binding obligation to increase the share of renewables to 20% of total energy consumption in the EU by 2020, and each Member State is required to meet its national overall target for the share of energy from renewable sources in 2020, which is set out in Annex I of the directive.

As the offshore renewable industry grows, the spatial requirements are likely to have significant effects on other uses of the sea, such as fishing, navigation and the establishment of *Natura 2000* sites (Todd 2012). The existing and emerging conflicts between offshore renewable energy, conservation and fishing are discussed in several MESMA case studies (see section 3).

2.4 The Common Fisheries Policy (CFP)

The Common Fisheries Policy is the basis for regulating fishing activities in EU Member States, and interacts with other marine policies, particularly the implementation of *Natura 2000* sites. The reform of the CFP started in 2011 and an agreement was reached between the European Parliament, the Council of Ministers and the European Commission on 30 May 2013 on a new regulation under the CFP. The new regulation introduces several changes, which include:

- A legally binding target to achieve maximum sustainable yield (MSY) for all harvested stocks by 2015. Achieving MSY by a later date can be allowed if achieving the target by 2015 would seriously jeopardise the social and economic sustainability of the fishing fleets involved. However, the target must be achieved by 2020 in all circumstances.
- Discards of unwanted or over-quota fish will be phased out according to a specified timeline (progressively between 2015 and 2019). Fishermen have a legal obligation to land 95% of all edible fish.
- Biologically sensitive protected areas shall be established, in which fishing activities may be restricted or prohibited in order to contribute to the conservation of marine resources and ecosystems. Member States shall identify suitable areas which may form part of a coherent network. The Commission may be empowered to establish these areas in a multi-annual fisheries management plan.
- Within SACs, SPAs and MPAs of national importance, fishing activities shall be conducted in such a way as to alleviate the impacts of fishing – substantiated proposals for such restrictions shall be put forward by Member States but the Commission shall also be empowered to specify such fishing related measures to alleviate the impact of fishing.

The CFP and its reform may influence MSP in individual countries in a number of ways, particularly the need for 'biologically sensitive protected areas', and the link between fisheries and MPA management. Despite various provisions for fisheries restrictions to support environmental conservation and the management of *Natura 2000* sites under the CFP, such provisions are actually very rarely used. Whilst there are over 2,000 marine *Natura 2000* sites, only two specific CFP regulations have been introduced to protect such sites: the Darwin Mounds (De Santo and Jones 2007) and the Macaronesian Isles, though two temporary measures have also been introduced for SACs in Irish waters and the El Cachucho offshore SAC, as well as one compensatory measure to better protect the Dutch Voordelta related to the expansion of Rotterdam harbour (European Commission 2011; Qiu and Jones 2013). Such restrictions under the CFP are very important as designation of *Natura 2000* sites does not have any immediate, direct effect on fisheries management, as is subsequently illustrated by several of the MESMA case studies.

2.4 The Integrated Maritime Policy, the Roadmap and the proposed MSP Directive

The group of EU policy and directives that contains specific and direct provisions for MSP includes the Integrated Maritime Policy (IMP), the Roadmap for MSP and the proposed MSP Directive. The IMP embraces all the objectives established in other marine policies and legislation, including designation of MPAs in addition to *Natura 2000* sites, the development of offshore renewable energy, and the development of ports and sustainable fisheries. The Marine Strategy Framework Directive (MSFD) is regarded as being the 'environmental pillar' of the IMP (Juda 2010), however its relationship with other objectives or 'pillars' is not clear. This is reflected by the fact that of a total of EUR 40 million committed for the implementation of the IMP for the period 2011-2013, at least 60% will be allocated for the development of cross-sectoral management tools, including MSP, compared to 8% for the protection of the marine environment and sustainable use of marine resources ([REGULATION \(EU\) No 1255/2011](#)⁷, Annex: General allocation of funds to areas of expenditure listed in Article 2).

The Commission has also published a [Roadmap for Maritime Spatial Planning](#)⁸ which supports the implementation of the IMP. The Roadmap outlines the following 10 key principles for maritime spatial planning:

- Using MSP according to area and type of activity
- Defining objectives to guide MSP
- Developing MSP in a transparent manner
- Stakeholder participation
- Coordination within Member States — Simplifying decision processes
- Ensuring the legal effect of national MSP
- Cross-border cooperation and consultation
- Incorporating monitoring and evaluation in the planning process
- Achieving coherence between terrestrial and maritime spatial planning — relation with ICZM
- A strong data and knowledge base

⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:321:0001:0010:EN:PDF>

⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:DKEY=483715:EN:NOT>

The European Commission has also drafted a proposal for a Directive for Maritime Spatial Planning. The added value of the proposed directive is to 1) ensure and streamline Member State action on MSP and integrated coastal management and 2) to provide a framework for cooperation between Member States on MSP and integrated coastal management. The proposed directive is procedural in nature, which means that individual Member States will decide the detailed planning objectives, processes and mechanisms for implementation. Article 5 of the proposed directive stipulates that MSP and integrated coastal management shall apply an ecosystem-based approach to facilitate the co-existence and prevent conflicts between potentially competing sectoral activities, and shall aim to contribute to a number of strategic objectives, which include:

- Energy security, including the development of marine renewable energy;
- The development of maritime transport;
- Sustainable development of fishing and aquaculture sector;
- The protection of the marine environment and rational use of marine resources , in order to achieve good environmental status;
- Ensuring climate resilient coastal and marine areas.

Article 6 stipulates that common minimum requirements for marine spatial plans and integrated coastal management strategies are that:

- They must be coordinated, provided they are not integrated
- They must ensure trans-boundary cooperation
- They must identify the trans-boundary effects of marine spatial plans and integrated coastal management strategies and collaborate with competent authorities in affected countries.
- Marine spatial plans and integrated coastal management strategies should be reviewed in every 6 years.

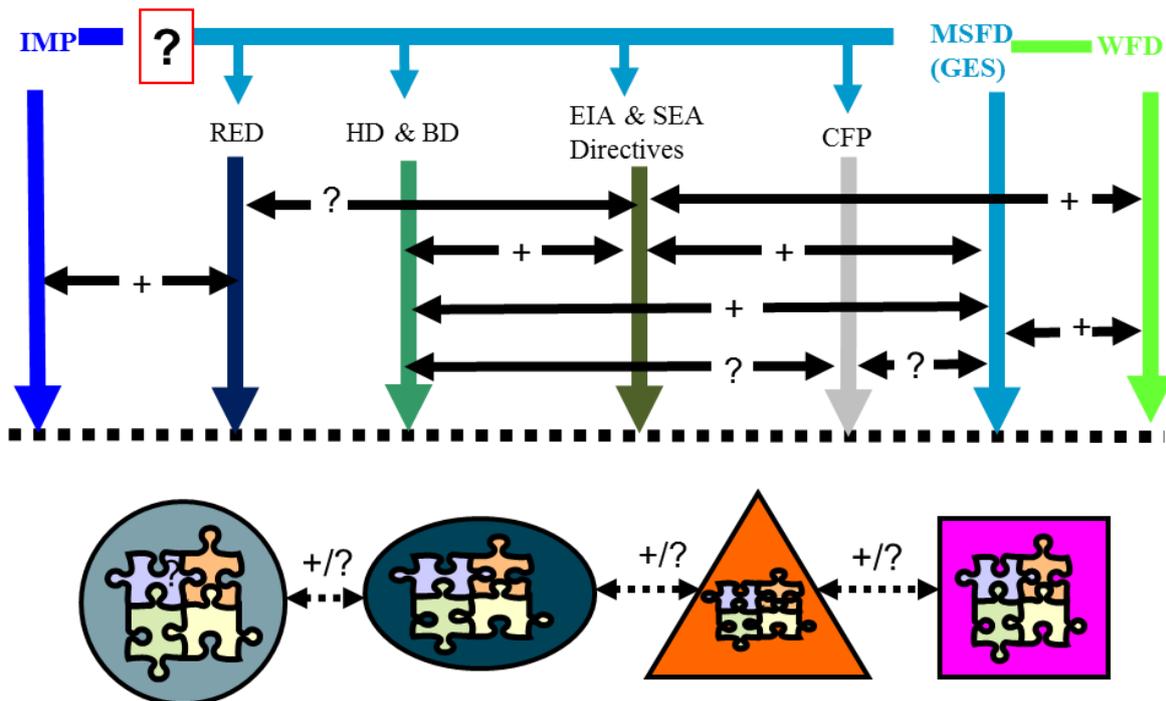
With regards to public participation, article 9 stipulates that Member States shall establish means for public participation of all interested parties at an early stage in the development of marine spatial plans and integrated coastal management strategies, and ensure that all the relevant stakeholders and authorities and the public concerned are consulted in the draft plans and strategies, and have access to the results once available.

2.5 The synergies and tensions between the EU policy drivers for MSP

There are synergies between the different policy drivers for MSP in the EU. For example, the MSFD strengthens the commitments under the Birds and Habitats Directives, and the Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive strengthen the commitments under the Renewable Energy Directive (see figure 2.1).

However, there are also tensions between the policies, in particular between environmental and fisheries legislation. The agreed new Common Fisheries Policy does not contain targets for the establishment of fisheries recovery areas, as proposed by the European Parliament (Qiu and Jones 2013), and whilst Article 12 does provide further mechanisms to support the management of *Natura 2000* sites compared to the previous version of the policy, it remains to be seen whether this will lead to the higher number of restrictions under the CFP that will be required if marine *Natura 2000* sites are to be maintained at or restored to favourable condition. The potential for a continued lack of integration between the CFP and the HD/BD remains a potential weakness in the policy

framework for MSP, though it is one that could be mitigated by full implementation of Article 12 and cooperation amongst member states, DG MARE and DG Environment.



Member States: different priorities and national interests

Figure 2.1 The policy landscape for MSP in the EU, exhibiting both synergies (+) and potential tensions (?) between the different existing policy drivers and Member States (represented by different objects at the bottom). IMP: Integrated Maritime Policy; MSFD: Marine Strategy Framework Directive; WFD: Water Framework Directive; RED: Renewable Energy Directive; HD & BD: Habitats Directive and Birds Directive; EIA and SEA Directives: Environmental Impact Assessment and Strategic Environmental Assessment Directives; CFP: Common Fisheries Policy. Adapted from Qiu and Jones (2013).

In addition, there are also potential tensions between the MSFD and the Integrated Maritime Policy or the proposed Maritime Spatial Planning Directive. It seems that the MSFD and the Integrated Maritime Policy/proposed Maritime Spatial Planning Directive could be interpreted as prescribing two different approaches to MSP in Europe. As highlighted earlier, the MSFD provides for an ecosystem-based approach for achieving good environmental status, and requires different sectoral activities to be managed in a way that achieves good environmental status. Whilst the MSFD does provide for sustainable development, it does not explicitly promote economic development. The MSFD is legally binding on all Member States, and although it does not explicitly require MSP, this requirement being limited to MPAs, it can be used as a good basis for ecosystem-based MSP (Suárez de Vivero and Rodríguez Mateos 2012). In contrast, the Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive envisage MSP as being an instrument primarily for cross-sectoral management and providing predictability for future investments, in addition to implementing the ecosystem-based approach (Qiu and Jones 2013).

The Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive can be interpreted as being based on 'soft' sustainability, through which MSP is more likely to be developed as an integrated use framework for balancing the needs of different sectors and ensuring that strong

growth in certain maritime sectors does not lead to undesirable consequences for other sectors (Figure 2.2, Table 2.1). From the perspective of Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive, ecosystem conservation is likely to be considered as one type of 'sectoral' use of marine space, which is considered in relation to other sectors. Such an approach to MSP is more likely to be adopted in countries with large maritime industries (oil-gas, renewables, aggregates, etc.), with increasing competition for marine space among different sectors. By contrast, the MSFD can be interpreted as being based on 'hard' sustainability, in which ecosystem conservation is the foundation of the ecosystem-based approach. MSP following the approach of MSFD is more likely to be used as a preventive strategy to conserve ecosystem health, often in countries that do not have large maritime industries (Suárez de Vivero and Rodríguez Mateos 2012). NGOs have recently argued that it must be ensured that the 'Blue Growth' strategy that implements the Integrated Maritime Policy is consistent with the requirements of the MSFD and thereby be ecosystem-based⁹.

Underlining the issue of potential tensions between the two types of policy drivers is that they fall under the responsibility of different Commission departments: Directorate-General Environment (DG Environment) oversees the implementation of the MSFD, whilst Directorate-General Maritime Affairs and Fisheries (DG MARE) oversees the implementation of the Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive, along with the CFP. Marine spatial planning-related initiatives commissioned under the two bodies seem to have little connection with each other, leading to confusions regarding the strategic direction(s) for MSP in Europe (Suárez de Vivero and Rodríguez Mateos 2012). As it stands, DG MARE and DG Environment receive scientific advice from different advisory bodies, creating barriers in terms of information flow and shared decision-making (De Santo 2010). The potentially contrasting approaches to MSP, as prescribed in the MSFD and the Integrated Maritime Policy and proposed Maritime Spatial Planning Directive, combined with disconnections between the two main Commission bodies responsible for marine management, are likely to be key challenges for the development of a more coherent policy landscape for MSP in Europe.

It should also be noted that the Integrated Maritime Policy and the proposed Maritime Spatial Planning Directive see MSP as a means to achieve multiple environmental, social and economic objectives, and one of the main purpose of MSP is to reduce the conflicts between different objectives or sectors. The reality is, however, that many potential conflicts cannot be 'planned away' through MSP. The proposed Maritime Spatial Planning Directive does not address the potential conflicts or tensions between different objectives or policies, other than leaving such issues to Member States.

⁹ Limits to Blue Growth. Joint NGO position paper. <http://www.seas-at-risk.org/1images/Limits%20to%20Blue%20Growth%20-%20joint%20NGO%20position%20paper%20-%20FINAL.pdf> (accessed October 2013)

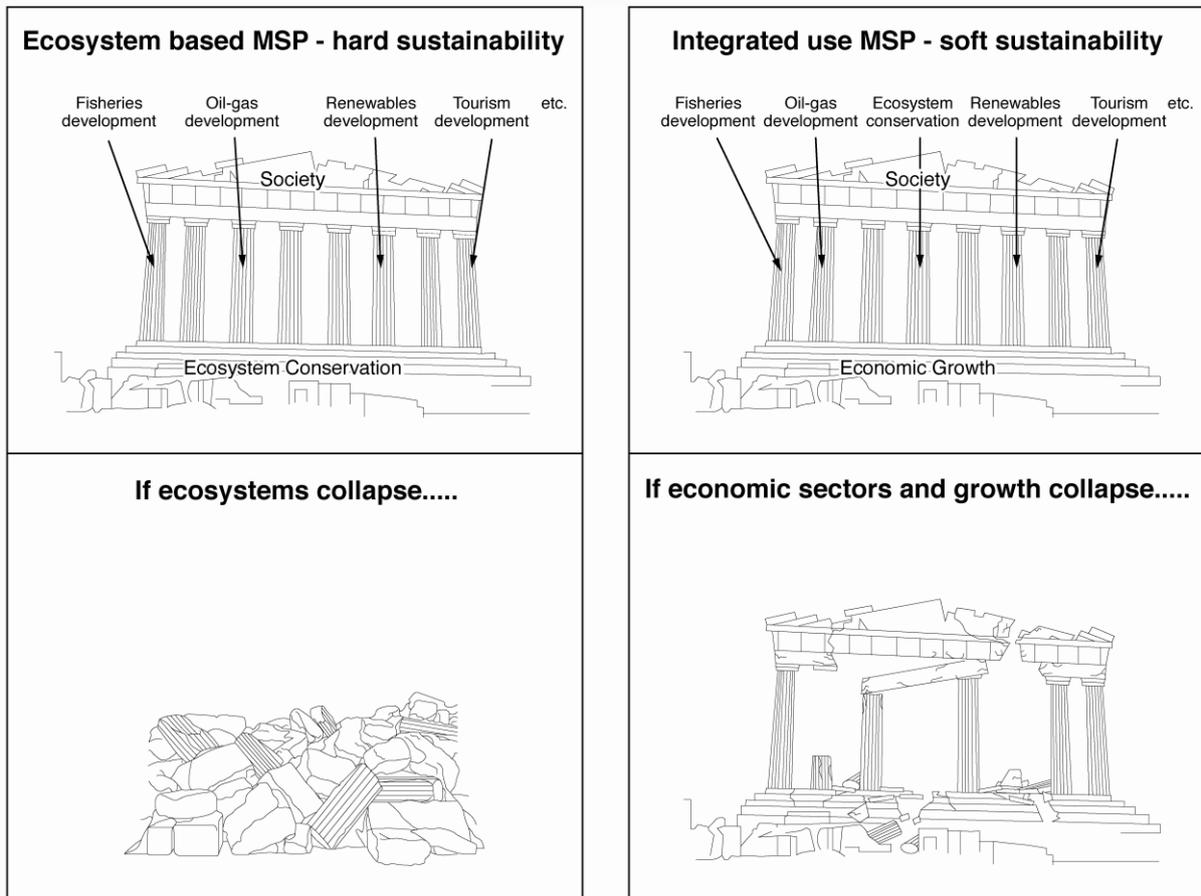


Figure 2.2 Different views on sustainability in MSP. The two figures on the left describe ecosystem-based MSP, and the anticipated consequences of ecosystem collapse, based on 'hard sustainability'. This view sees ecosystem conservation as the foundation for MSP, and that irreversible collapses in marine ecosystems would eventually lead to collapses in the economic sectors that depend on such marine ecosystems. The two figures on the right describe integrated-use MSP, based on 'soft sustainability', in which economic growth is seen as the foundation of MSP, and the collapse of the 'environmental pillar' does not necessarily lead to the collapse of related socio-economic structures. Figure from Qiu and Jones (2013).

Table 2.1 Comparison between the Marine Strategy Framework Directive (MSFD) and the Integrated Maritime Policy (IMP)/the proposed Maritime Spatial Planning Directive (pMSPD).

	MSFD	IMP/ pMSPD
Overarching aim	A framework for implementing an ecosystem-based approach.	A framework for promoting maritime economic development and integrated management of different activities.
Role of MSP	MSP as a mechanism for achieving ‘good environmental status’.	MSP as a mechanism for balancing different uses of sea space.
Role of MPAs	Conservation through MPAs at the core of its implementation.	Conservation and MPAs as one of the uses of sea space.
Legal power	Legally binding (Member States can be taken to the European Court of Justice for non-compliance).	The IMP is a soft policy (no legal actions will be taken for non-compliance) while the pMSPD is legally binding
Authority	DG Environment.	DG MARE.
Approach to sustainability	Based on ‘hard’ sustainability.	Based on ‘soft’ sustainability.

3 Typology of Conflicts in the MESMA case studies

3.1 Main conflicts in MESMA Case Studies

3.1.1 The southern North Sea case study, Belgian sub-case study

The main conflict in the Belgian case study, as revealed in the governance analysis (Pecceu *et al.* 2013, Pecceu *et al.* in prep.), seems to be between nature conservation (i.e. the designation of MPAs) and offshore energy developments. This conflict is particularly evident in the designation of the “Vlakte van de Raan”, a 19 km² site which was added to the list of European Sites of Community Importance (SCI) in 2008 (to form part of the *Natura 2000* network – at national level, the site became a candidate SAC). Due to the continued lobbying and pressure from the energy company Electrabel-DeNul, which had obtained concession for the same area, the site was subsequently de-designated in Belgian national legislation in 2008, on the basis that there was a lack of sound ecological data to support its designation (Pecceu *et al.* 2013). However, once a site has been designated as a SCI¹⁰ under the Habitats Directive, there are no EU-level mechanisms for it to be de-designated under national legislation. Under the Habitats Directive, therefore, the site continues to be an SCI, and management measures will need to be in place by 2014, six years after its designation. At the time of writing, this conflict remains unsolved and the future of this SCI remains uncertain.

It is not clear from the governance analyses why the Belgium Federal Government decided to give Electrabel-DeNul the permission to develop in the area in 2005, when a few months later it recommended the site to the EU as a candidate SAC, and declared that no wind energy development would be allowed within the SAC. A lack of transparency within this decision-making process may have prevented the case study researchers from obtaining comprehensive and up-to-date information on the issue. What can be seen from the governance analyses, however, is that there were pressures from both sides – pro-environmental groups and the energy company. Both launched legal appeals against the decisions of the Federal Government between 2003 and 2008. In 2008, the energy company won the battle and the Council of State decided that the designation of the Vlakte van de Raan was void, illustrating that by then the political support from the Belgian Government for the designation and management of the site as a protected area within the *Natura 2000* network was very low, despite its legal status as a SCI, and the potential for sanctions under the Habitats Directive for failure to effectively manage a designated site within the required timeframe.

The main driver of this conflict is the competition between nature conservation and energy development interests in the same area, which led to prolonged dispute over the appropriate use for the area.

Change of leadership at the political level may also contribute to a lack of consistency in government policy and decisions. After the elections in 2003, a separate Minister for the North Sea was appointed for the first time in Belgian history, which significantly strengthened the leadership for marine planning and governance in Belgium. However between 2008 and 2011, no federal

¹⁰ ‘SCI’ stands for ‘Site of Community Importance’. It is a collective term for *Natura 2000* sites, i.e. sites designated as protected areas under the EU Habitats and Birds Directives (see section 2).

government was in place, due to a 'hung election' and delays in agreeing a government coalition, leading to delays in decisions and government actions, and a lack of leadership from the federal government.

Other conflicts in the Belgian case study include the potential conflicts between nature conservation and other use activities, such as fishing, shipping and aggregate extraction. The first attempt to designate MPAs led to a series of protests between 1999 and 2002, as fishermen, ship owners, the water sports sector and local politicians raised objections to the potential restrictions that might be placed on various activities. Such conflicts were carefully avoided in subsequent years by allocating new MPAs (SACs and SPAs) away from areas already allocated for wind energy and sand extraction, and by not requiring any management measures or restrictions for fishing, navigation, water sports, etc. in the designated sites.

According to the governance analysis, the designation of the first five MPAs in 2005 (except for Vlakte van de Raan) and the extension of the site "Vlaamse Banken" between 2008 and 2012 did not lead to major conflicts. However, as the Belgian government is still obliged to put in place management measures in *Natura 2000* sites (SACs and SPAs) by 2014, the situation may change in the future.

3.1.2 The southern North Sea case study, Dogger Bank sub-case study

The Dogger Bank is a large trans-boundary marine ecosystem, and three adjacent SACs have been designated or proposed by Germany, the Netherlands and UK within this area to conserve the shallow sand bank habitats and other conservation features (e.g. marine mammals). The three countries are working together to develop a common management plan for fisheries management in the three adjacent SACs covering the Dogger Bank.

The main inter-sectoral conflicts in the Dogger Bank case study (Goldsborough 2013) are between conservation, fishing and offshore wind energy. As the overall management plan for the Dogger Bank SACs is still under development, it is not entirely clear what restrictions will be put in place. As one of the common conservation objectives for the SACs is to protect the sand bank habitat, the assumption is that bottom impacting fisheries, such as demersal trawls, will be prohibited in specific areas in the SACs. This will inevitably lead to conflict between conservation and demersal trawl fisheries that can impact benthic features associated with sand banks. So far, no restrictions have been placed on fishing activities. As with all offshore SACs, i.e. designations outside 6nm or 12nm where most commercial fisheries are directly regulated under the CFP, one of the difficulties is that any restrictions will need to be agreed and enforced through Article 12 of the Common Fisheries Policy before they can be applied to vessels from all member states.

The conflict between conservation and fisheries is also complicated by plans for wind farm development in the area. The UK Part of the Dogger Bank is a strategically important area for development of offshore wind energy. The planned Dogger Bank Offshore Wind Energy Zone includes an area of 8660km², and spatially overlaps with the SAC proposed by the UK. Development of large wind farms will also lead to the displacement of some fishing activities. In a parallel with the Celtic Sea case study (see below), the fishing industry therefore proposed placing no-fishing areas in the wind farm concession area (Goldsborough 2013).

According to the governance analysis, the main impacts are thought to come from demersal fisheries, while impacts from other activities such as oil & gas extraction and potential development of wind farms, are considered to be low. Therefore the management plan mainly deals with fisheries management in the Dogger Bank (Goldsborough 2013).

In addition to the main inter-sectoral conflicts, there are also conflicts within the fishing industry, between different Member States and institutions involved in the process. For example, bottom trawl and otter trawl fisheries take place on different areas in the Dogger Bank and therefore have different spatial claims. While the main inter-sectoral (between conservation and activities such as fishing) and intra-sectoral conflicts (within the fishing industry) are mainly driven by competition for space, the conflicts between different member states and institutions are mainly driven by different objectives or interests, and a lack of transparency in the process. For example, the German Government was the first to designate its part of the Dogger Bank as a SAC and therefore faces a tighter timeline to implement management measures, the Dutch and UK governments having much longer timelines to develop management measures as they designated their SACs later. While the UK has a strong interest in developing wind farms in its part of the Dogger Bank, Germany and the Netherlands are not that interested due to long distances from their part of the Dogger Bank to the coast, which leads to high costs.

Negotiations between the three governments take place within the Dogger Bank Steering Group, which is an inter-government organisation set up to coordinate the development of the management plan, and the process has not been completely transparent. The lack of transparency became an issue when the North Sea Regional Advisory Council was contracted to develop a draft zoning plan in collaboration with stakeholders (representatives from the fishing industry, NGOs and Forewind – the energy company holding concession in the UK Dogger Bank). A lack of transparency and clear directions from the Steering Group has arguably had negative impacts on the stakeholder process has led to slow progress (Goldsborough 2013).

3.1.3 The southern North Sea case study, Wadden Sea sub-case study

The Wadden Sea (Slob *et al.* 2013, Slob *et al.* in prep), like the Dogger Bank, is a large-scale transboundary coastal ecosystem. The governance analysis of the Wadden Sea case study focused on the Tri-lateral Wadden Sea Cooperation (TWC), an international cooperation that exists between Germany, the Netherlands and Denmark in conserving this iconic ecosystem. Unlike the Dogger Bank, however, the Wadden Sea seems to be a highly regulated area and protected under various national, European (e.g. Habitats Directive) and international (e.g. World Heritage Convention) laws and agreements. The main inter-sectoral conflict, according to the governance analysis, is between nature conservation and fishing. Mussel and shrimp fisheries are the main fisheries in the Wadden Sea and closed areas are set up in the Wadden Sea where these activities are banned. According to the governance analysis, the mussel fisheries are relatively well managed and a sufficient number of mussel beds are reserved for birds. In the Netherlands, agreements have been signed jointly by NGOs and mussel fishermen to harvest mussels using low-impact gears and to revive the mussel fishery. However, the shrimp fishery remains a concern to both conservation and the industry itself, as over-exploitation leads to environmental impacts as well as over-supply and low price for the catch (Slob *et al.* 2013). Both the mussel and shrimp fisheries are managed under national regulations, resulting in substantial differences in the approach to manage the impacts of such

activities in the three countries. For example, mussel fishermen in the Netherlands complain about more strict restrictions on their activities compared to their counterparts in Germany or Denmark.

The main driver for the inter-sectoral conflict is competition for space between nature conservation and fishing activities. However, the differences in how these activities are managed in different countries undermine the capacity of the TWC in addressing such conflicts. As the TWC only deals with issues that all three countries agree to tackle, fisheries management is not dealt with under the TWC. By comparison, areas designated as SACs are subject to better legal protection under the Habitats Directive. For example, mechanical cockle fisheries have been banned from the Wadden Sea following a judgment of the European Court of Justice in 2004, in order to protect the integrity of the site based on Article 6 of the Habitats Directive (Slob *et al.* in prep.). The judgment confirmed that fishing activities constitute 'plans or projects' that must be regulated under the procedure established by Article 6 of the Habitats Directive (Qiu and Jones, 2013).

As in the case of Dogger Bank, the TWC is also facing conflicts between different participating countries and institutions. Each country is represented by different ministries, resulting in differences in interests and negotiation capacity. There are also conflicts between nature conservation and fisheries departments within individual countries. For example, there seems to be a conflict of authority between the National Park Authority and Fisheries Department in Germany; the former seems to be 'sidelined' in discussions about fisheries management (Slob *et al.* 2013). Such a lack of integration between fisheries management and conservation agencies at the national level also makes it difficult to fully address the conflict between the two sectors.

3.1.4 The southern North Sea case study, Skagerrak sub-case study

The Skagerrak case study (Kirk Sørensen and Kindt-Larsen 2012, Kirk Sørensen and Kindt-Larsen in prep.) focuses on the current process in developing fisheries management to support harbour porpoise conservation in two SACs- the Skagerrak and Store Rev. No management measures have been implemented in the two sites and there is no obligation to implement such measures until 2015. The main emerging inter-sectoral conflict in the Skagerrak case study is between fishing (particularly gill net fishing) and porpoise conservation. Gillnet fisheries lead to a significant level of bycatch of harbour porpoises, and environmental NGOs have proposed measures to reduce the impacts, including the ban of gill net fishing in SACs designated for harbour porpoise conservation and the application of acoustic deterrents.

It would seem that there are no other inter-sectoral conflicts in the two SACs, so the governance analysis of the Skagerrak case study is focused on the conflict between gill net fishing and harbour porpoise conservation. The main drivers of this conflict are competition for space as well as different perceptions about the impacts of gill net fishing. While environmental NGOs and the Danish Agrifish Agency (the Agency in charge of developing fisheries management in SACs) are keen on reducing the level of bycatch and meeting international targets, fishermen believe that bycatch is not a significant threat to harbour porpoise.

In addition to the main inter-sectoral conflict, there are also conflicts within the fishing industry. For example, gill net fisheries tend to avoid areas where towed gears are deployed. One of the SACs, Store Rev, represents an important fishing ground for gill net fisheries because of the distribution of

complex reef structure, which makes it difficult for towed gears to access the area. Closing the Store Rev to gill net fishing would have raised particular costs for local gill net fishers.

3.1.5 The Strait of Sicily case study, Sicilian sub-case study

The Sicily case study (D'Anna *et al.* 2013, D'Anna *et al.* in prep.) focuses on the governance of the Egadi MPA, which is one of the largest MPAs in Europe, covering 540 km² and 73.9 km of coastline. The Egadi Islands marine area has recently become a Site of Community Importance (SCI) and most of the SCI overlaps with the Egadi MPA. The main inter-sectoral conflicts in the Egadi MPA are between conservation, tourism and fisheries, and the main driver for such conflicts is competition for space between the three sectors.

The main fishing activities in the MPA include trawling, small-scale artisanal fisheries and recreational fishing. Trawling is prohibited in specific zones within the MPA but a lack of effective enforcement also means that illegal trawling often occurs in such zones. Opposition from the trawling fishermen led to a protest when the MPA was first designated in 1991, and the industry has continued lobbying to open up more areas to trawling within the MPA in the on-going re-zoning process. In contrast, artisanal and recreational fisheries are believed to have lower impacts on conservation features, and most such activities are allowed in the MPA except for spear fishing. There are, however, fears among small-scale artisanal fishermen that their activities will be restricted in the future (D'Anna *et al.* in prep.).

The main tourism activities are *pescaturismo* (fishing trips with artisanal fishermen), scuba diving, boat trips, and beach tourism. *Pescaturismo* activities and underwater excursions (scuba diving and snorkelling) are regulated through licensing and the latter are also prohibited in highly protected zones in the MPA. Boat trips and beach tourism contribute very significantly to the local economy and receive little restriction, however, such activities may impact on the marine environment through waste, noise and disturbance to marine animals (D'Anna *et al.* in prep.).

There are also intra-sectoral conflicts within the fishing and tourism sectors. Artisanal fishermen complain about the occurrence of illegal trawling boats, and unfair competition from recreational fishermen who sell their catch to local restaurants. In addition, there are also conflicts between the local Egadi residents and "outsiders" concerning access to fishing grounds and the tourism market. The MPA regulation gives Egadi residents exclusive rights to practice fishing in specific zones in the MPA, which led to intense conflicts between artisanal fishermen from Egadi and Trapani (a municipality on the mainland, close to the Egadi Islands). In the tourism sector, local small boat operators also face strong competition from big charter boat operators. As the charter boats often take tourists for one-day trips and often do not land on shore, the economic benefits to the local island community is rather limited. There is a feeling that this could lead to the "leakage" of the benefits associated with the MPA from the local community (D'Anna *et al.* in prep.).

3.1.6 The Strait of Sicily case study, Malta sub-case study

The Malta case study (Pace 2012) focuses on the governance of the Rđum Majjiesa to Ras ir-Raħeb Marine Protected Area, which is the only marine *Natura 2000* site in Malta. The MPA was designated as a SAC in 2008 but there is no management plan in place and so far no management measures have been implemented. A draft zoning plan was published in 2006 but is still subject to revision

after consultation with stakeholders. The main activities that conflict with the conservation of the site include fishing and tourism (Pace 2012). As in other case studies, the main driver of such conflicts is competition for space.

The Ġnejna fishing port is located within the MPA and a range of vessels, including full-time, part-time and recreational fishing boats, are registered. Most of the vessels in this area are 'Kajjik' which are mainly used for coastal artisanal fishing. 'Lampara fishing' is used for pelagic species, whereas demersal fish are caught with small long-lines or trammel nets. Basket traps and hand line fishing are also used along the coast as well as spear fishing and small boats for cuttlefish (Pace 2012).

The main tourism activities in the MPA include bathing, boating and diving, which impact on the environment through noise, pollution, disturbance and anchoring. A local environmental NGO, the Gaia Foundation, has been charged with managing some of the beaches within the MPA (Pace 2012). The Foundation works in collaboration with the Malta Environment and Planning Authority (MEPA, responsible for MPA management), the Ministry for Resources and Rural Affairs (MRRA, responsible for managing terrestrial area) and local stakeholders in promoting sustainable tourism activities.

3.1.7 The Barents Sea case study

The Barents Sea case study (Olsen *et al.* 2012) focuses on the Norwegian Lofoten – Barents Sea management plan (BSMP), which was adopted in 2006 in response to the national drive to open more areas for oil & gas activities, as well as implementing ecosystem-based planning and management. The Plan was revised in 2011. The main inter-sectoral conflicts in the Barents Sea case study are between hydrocarbon and renewable energy developments, nature conservation and fisheries.

The conflict between hydrocarbon development and nature conservation centres around whether or not areas designated as ecologically vulnerable areas (EVAs) should be opened up for oil & gas activities. In fact there has been continued debate on whether and to what extent oil & gas activities should be allowed in the Lofoten-Vesterålen region, and due to the importance of the hydrocarbon industry to the Norwegian economy, it has become a national issue that split voters in the 2013 parliamentary election. Apart from the debate on ecologically vulnerable areas, the conflict between oil & gas development and environmental protection also manifests in many ways, for example, there are disagreements on the environmental risks of oil & gas activities and how to treat worst-case accidents (Olsen *et al.* in prep.). The Norwegian approach to tackle the conflict between oil & gas development and environmental protection is through continued research and acquiring new knowledge about the ecosystem and the cumulative impacts of various activities. It should be noted, however, that such conflict can be value-based (e.g. whether short-term economic benefits take precedence over long-term ecosystem health), and therefore difficult to resolve purely through improved knowledge.

Oil & gas activities also affect fishing through seismic surveys. Since 2006, the knowledge of the effects of seismic shooting on fish has been improved and there are mechanisms in place to compensate the economic losses of fishermen due to seismic activities. In addition, seismic surveys are also being tracked and regulated so that the impacts on fishing are minimised (Olsen *et al.* 2012).

The conflict between conservation and fisheries concerns the access to ecologically vulnerable areas, many of which are also productive fishing grounds, and the overall impacts of fishing on habitats. Many gear or area-based restrictions are already in place to address this conflict. The environmental impacts of fishing seem to be less significant than those of oil & gas activities. It is therefore no surprise, in this particular case, that the fishing sector finds itself in alliance with environmental NGOs in resisting further oil & gas developments in the area (although such an alliance would be seen as unusual in the context of the other case studies).

The main driver for inter-sectoral conflicts in this case study is competition for space between the sectors. Uncertainty regarding the impacts of oil & gas development on the marine environment as well as on society is also fuelling the conflicts. Institutionally, such conflicts play out at the central (e.g. between different government ministries) as well as local levels. At the local level, promoters of oil & gas development - local governments and developers - face opposition from the fishing sector and environmental NGOs.

3.1.8 The Bay of Biscay (Spain) case study

The Bay of Biscay case study (Galparsoro *et al.* 2012) focuses on the Biscay Marine Energy Project (BIMEP), which is an ocean infrastructure for research, testing, demonstration and operation of technology for the production of offshore wave energy. Although, like the PFOW case study, the BIMEP is a development-driven initiative, it differs from the PFOW plan in two ways: 1) while the main objective of the BIMEP is to develop a platform for research and testing offshore renewable energy technologies, the PFOW plan is aimed at large-scale production of marine energy and 2) the BIMEP only covers a marine area of 8 km² and has a much smaller spatial scale compared to the PFOW plan. As a result, although the same types of inter-sectoral conflicts are observed in the BIMEP, the intensity and extent of such conflicts are much lower compared to the PFOW case study.

As in the PFOW case study, the BIMEP leads to conflicts between the marine renewables industry and the local fishing community. Although the area is relatively small, some small-scale fisheries will be displaced and the economic loss from such fisheries is estimated to be 86,400 Euros. In the Spanish context, traditional fishing activities in coastal areas are widely recognized as customary activities and the local fishing guild own some “tacit” rights to the use of the sea. The local fishing guild has been involved in the consultation and there have been discussions on possible ways by which the economic loss of local fishing community can be compensated.

The BIMEP may also conflict with nature conservation in the Bay of Biscay, and local environmental NGOs, who were not invited to participate in the consultation, have raised concerns through the media and the internet about the potential environmental impacts of the project. There have been NGO proposals for establishing marine *Natura 2000* sites in the Bay of Biscay but the location and status of such sites remain unknown, as there have been no official proposals for such designations, and it is not clear if the BIMEP will have any impact on the designation of such sites.

The main driver of such inter-sectoral conflicts is the competition for space between offshore energy, fishing and conservation. In addition, the exclusion of local environmental NGOs from the consultation process may have also intensified the conflict between the energy and conservation sectors.

3.1.9 The Pentland Firth and Orkney Waters (PFOW) case study

The focus of this case study (Johnson *et al.* 2013) is the non-statutory marine plan for the PFOW area, which is a development-driven plan aiming to promote wave and tidal energy as well as integrated marine planning. The PFOW area, covering a marine area of about 12000km², is an important area for the development of marine renewable industry in Scotland, and the ambition is to install 1.6 GW of wave and tidal energy by 2020, making this one of the largest tidal stream and wave energy projects in the world. The main inter-sectoral conflict is between marine renewables and community-based inshore fisheries in the Pentland Firth. The fishery is managed sustainably and is important to the local island community, culturally and economically. Although the developments are still under planning and subject to licensing, there is fear among the local fishing community that the developments will lead to the closure of some areas to fishing and the displacement of fishing pressure to areas that remain open, placing further pressure on the habitats/species in these areas, intensifying competition for space and stocks amongst fishermen and exacerbating conflicts between static and towed gears.

Another inter-sectoral conflict is between marine renewables and nature conservation. The PFOW area has been subject to several designations, including World Heritage status and *Natura 2000* sites. However, the environmental impacts of new and developing renewable energy technologies remain largely unknown, and the regulators have followed a 'deploy and monitor' strategy to addressing this uncertainty (Johnson *et al.* in prep.).

There are also conflicts concerning the demand for land to build terrestrial infrastructure associated with marine renewable energy installations. This may conflict with existing land use, such as farming, landscape/seascape protection and tourism. It is also worth noting that terrestrial and marine planning are subject to different planning systems in the UK, and while most terrestrial planning is done at the local level, most marine renewable developments are subject to centralised control. Under the UK Electricity Act (1989), ministers can declare 'deemed planning consent' for marine energy developments over 1 MW. This means that land use associated with marine energy will likely take precedence over local planning and other types of land use.

The main driver of inter-sectoral conflicts in this case study is competition for space between marine renewables and other activities, both in the sea and on land. The conflicts are also fuelled by uncertainty concerning the types of technology and their interactions with the natural environment and human communities, this being the first current and wave energy project on this scale in the world. The disconnection between land and marine planning and the centralised nature of the latter also fuel the conflicts between the claims made by the local communities and the developers or the central Scottish government.

3.1.10 The Celtic Sea case study

The conflict analyses in the Celtic Sea case study (Lieberknecht *et al.* 2013 a,b) focuses on the Finding Sanctuary project, an initiative to develop recommendations for a network of Marine Conservation Zones (MCZs) through stakeholder participation in southwest England. At the time of writing, none of the 127 sites recommended by the stakeholders have been designated by the UK Government, with only 31 recommended MCZs currently being subject to a public consultation, and there is no clear guidance on how the sites will be managed when they are designated. However, major inter-

sectoral conflicts have already emerged in the process leading to the development of the proposed network. Nature conservation, fisheries and marine renewables were the three main sectors that conflict with each other, with each sector claiming large spatial coverage in the marine area. Trade-offs between the three sectors involved had a significant influence on the spatial configuration of the recommended MCZ network.

Within the Finding Sanctuary plan area, two large offshore wind farms have been planned and concession areas allocated, the Atlantic Array in the Bristol Channel, and Navitus Bay off Dorset. There are also growing interests in developing wave and tidal energy in the region. It is not clear whether and how MCZ designations will affect planned and future marine renewable developments, and this uncertainty leaves marine renewable industry representatives few options other than opposing the 'co-location' of MCZs with planned wind farms. In one instance, the Atlantic Array, objections by the developers to the wind farm area being proposed by stakeholders as an MCZ was overcome. After a preliminary assessment and bi-lateral negotiations with Natural England (the agency responsible for nature conservation in England), the developer was satisfied that the MCZ designation would not affect wind farm development in the Atlantic Array area (Lieberknecht *et al.* 2013b, Lieberknecht and Jones in prep.). However, following the end of the stakeholder process, the UK government reviewed the stakeholder recommendations, and decided not to progress this site within the planned first tranche of 31 MCZ designations that the public is being consulted on.

Although it is not clear how fishing activities will be managed in the MCZs, some restrictions are expected and the general assumption amongst most stakeholders involved in the planning process was that offshore fishing (using bottom-towed gears, in particular) would either be restricted or banned in MCZs. Offshore fishing representatives highlighted that their industry faced potential cumulative impacts from both MCZs (nature conservation), and offshore renewable energy developments (within wind farms, fishing activities can be restricted for safety reasons). Thus, an assumption was that fishing activities, particularly those employing mobile gears, would be further displaced when the combined impacts of MCZ designations and offshore energy developments are considered. Thus, there was a triangle of conflicts between offshore renewables – nature conservation (MCZs) – offshore fisheries, with planning decisions taken for each sector individually having potential knock-on effects on the other two.

Co-locating MCZs with offshore renewable energy zones could potentially reduce the cumulative impacts of MCZs and renewable energy developments on the fishing sector, therefore the proposal to designate the Atlantic Array wind farm area as an MCZs was considered as a 'win-win' for all three sectors by most stakeholders (Lieberknecht *et al.* 2013b, Lieberknecht and Jones in prep.). In an interesting twist to this conflict, however, offshore fishing representatives from North Devon raised objections to the co-location proposal, despite the fact that it was developed primarily for their benefit and that all the other fishing associations in SW England supported the co-location of MCZs and wind farms. This was because they are potentially entitled to economic compensation from lost fishing grounds from the the Atlantic Array wind farm developers, if the wind farm closes access to their fishing areas. However, the wind farm developers were arguing that, should the site be designated an MCZ, and protection measures include fishing restrictions, the fishermen might lose their claim for compensation as it would be the MCZ that was restricting their activities rather than the wind farm development (see section 4.1 in deliverable 6.2).

There are also intra-sectoral conflicts, particularly within the fishing industry. For example, there are conflicts between static and mobile gear fishermen, and between small-vessel inshore fishermen and large-vessel offshore fishermen. While such conflicts might have complicated the participative process, as different claims needed to be considered and addressed, they may also present opportunities for conservation. For example, some inshore static gear fishermen proposed to designate their favourite fishing grounds as protected areas, under the assumption that their low-impact gears would not be restricted in MCZs, whilst there would be bans or restrictions on mobile gear types which compete for space with static gears, including cases of losses of static gear due to it being towed away by towed fishing gears. In essence, static gear fishermen saw MCZs as a potential opportunity for conflicting activities to be restricted, thus potentially opening up more fishing ground for static gear fishermen (Lieberknecht *et al.* 2013b, Lieberknecht and Jones in prep.).

The main driver for the main inter-sectoral conflicts in this case study is competition for space among the three sectors. Such conflicts are also fuelled by a complete lack of certainty regarding how MCZs will eventually be managed, as stakeholders tend to defend their interests according to the 'worst-case scenario' in such circumstances. Such a lack of certainty also prevents synergies, such as co-location, from emerging during the process. This issue is covered at length in Lieberknecht *et al.* (2013a,b).

3.1.11 The Greek case study

The Greek case study (Panayotidis *et al.* 2013) focuses on the management of marine SACs in the Inner Ionian Archipelago & adjacent gulfs. The three SACs discussed in the governance analyses were established to conserve a range of features, including marine mammals, loggerhead turtles and sea grass meadows. The main inter-sectoral conflicts are between nature conservation, fisheries and tourism. The main driver for such conflicts is competition for space.

The conflict between nature conservation and tourism is particularly evident in the SAC Laganas Bay in the island of Zakynthos. Tourism activities pose threats to nesting beaches of loggerhead turtles and the Mediterranean monk seal population. A management plan is in place to attempt to reconcile such conflicts in the SAC.

The conflict between nature conservation and fisheries is evident in the other two SACs. Demersal trawling leads to the degradation of *Posidonia* beds and although existing legislation prohibits trawling in large parts of the sea grass meadows, enforcement has not been very effective. Fishing also leads to the declines in protected marine mammal populations in the SAC Inner Ionian Archipelago. It is not clear whether fishing directly conflicts with tourism activities but it would appear to be a minor conflict, if any, the aesthetic and cultural attraction of 'traditional' fishing potentially having a positive impact on tourism.

3.1.12 The Polish/Black Sea case study

The Baltic Sea case study (Holen *et al.* 2013) focuses on the governance of two marine *Natura 2000* sites in Puck Bay, Poland. So far no management measures have been implemented and a draft management plan is being prepared. The main inter-sectoral conflicts in this case study are between nature conservation, fisheries and tourism. Although such activities have not been restricted in the *Natura 2000* sites, and stakeholders have been involved in the consultations for the development of

the management plan, there are concerns amongst the stakeholders that their activities will be restricted.

The drivers for such conflicts include competition for space, but also distrust among the stakeholders. There has been a lack of trust of the administration, as well as between the fishing industry, conservation NGOs and scientists. This may be related to different objectives as well as a lack of past experiences in collaborative and participatory decision making. The lack of accountability is also a key issue that fuels conflicts, for example, the marine administration and some experts played multiple and potentially conflicting roles in the consultation process, undermining the legitimacy of the process and the potential for conflict resolution (Piwowarczyk and Wróbel in prep.). There is also uncertainty over the status of the conservation features in the two marine *Natura 2000* sites in Puck Bay, given that no protective measures have yet been implemented, and over the prospects for future such measures to maintain or restore these features.

3.1.13 Summary overview of the main conflicts in the case studies

Table 3.1 Summary of the main inter-sectoral conflicts in MESMA case studies.

Case study name	Main objective in governance analyses	Main Inter-sectoral conflict(s)	Drivers of conflicts
Belgian Part of the North Sea	Nature conservation (the designation of <i>Natura 2000</i> sites)	Nature conservation vs. offshore wind energy	Competition for space
Dogger Bank	Nature conservation (the management of <i>Natura 2000</i> sites)	Nature conservation, offshore wind energy, fishing	Competition for space
Skagerrak	Nature conservation (the management of <i>Natura 2000</i> sites)	Nature conservation vs. fishing	Competition for space, different knowledges about the impacts of bycatch
Wadden Sea	Nature conservation	Nature conservation vs. fishing	Competition for space, different approach to managing fisheries in individual countries; lack of integration between fisheries management and conservation
Pentland Firth and Orkney Waters (PFW)	The development of marine renewable energy	Marine renewables, fishing, nature conservation and existing land use	Competition for space, uncertainty, and centralised control over marine planning
Bay of Biscay	The development of marine renewable energy	Marine renewables, nature conservation and fishing	Competition for space, the exclusion of local environmental NGOs from the consultation process
Celtic Sea	Nature conservation (the designation of MCZs)	Nature conservation, offshore wind energy, fishing	Competition for space, uncertainty regarding how the designated sites will be managed
Barents Sea	Opening up new areas for oil & gas development	Oil & gas development, nature conservation and	Competition for space, uncertainty regarding the environmental and social

		fisheries	impacts of oil & gas activities.
Inner Ionian Archipelagos & adjacent gulfs	Nature conservation (the management of <i>Natura 2000</i> sites)	Nature conservation, fisheries and tourism	Competition for space
Sicily	Nature conservation (the management of a MPA and <i>Natura 2000</i> site)	Nature conservation, fisheries and tourism	Competition for space
Malta	Nature conservation (the management of a MPA and <i>Natura 2000</i> site)	Nature conservation, fisheries and tourism	Competition for space
Baltic Sea	Nature conservation (the management of <i>Natura 2000</i> sites)	Nature conservation, fisheries and tourism	Competition for space, distrust among stakeholders

3.2 Typology of Conflicts

As described in the section above, the conflicts identified in the MESMA case studies fall into several categories:

- Inter-sectoral conflicts: conflicts between two or more sectors such as conservation, marine renewables and fisheries. Most case studies focus on this category of conflicts in the governance analyses.
- Intra-sectoral conflicts: conflicts within a single sector, such as conflicts between inshore and offshore fishermen, and between fishermen operating static and towed gears.
- Institutional conflicts: conflicts between different organisations (governmental or non-governmental).

These different categories of conflicts are discussed in numbered sub-headings below.

3.2.1 Inter-sectoral Conflicts

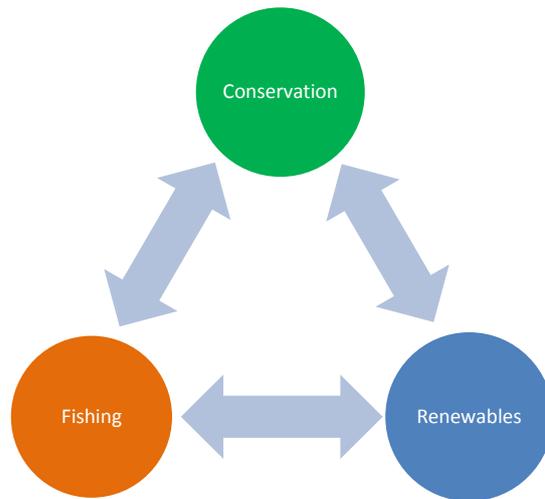
The main inter-sectoral conflicts in the MESMA case studies are summarised in the diagrams below. The case studies fall into three groups (Figure 3.1):

- Group I: In the Belgian, PFOW, Dogger Bank, Bay of Biscay, Celtic Sea, and Barents Sea case studies, the main inter-sectoral conflicts are between **nature conservation, marine energy (renewables and oil & gas) and fisheries**.
- Group II: In the Inner Ionian Archipelago & adjacent gulfs, Sicily, Malta, and Baltic Sea case studies, the main inter-sectoral conflicts are between **nature conservation, tourism and fisheries**.
- Group III: In the Skagerrak and Wadden Sea case studies, the main inter-sectoral conflict is between **nature conservation and fisheries**.

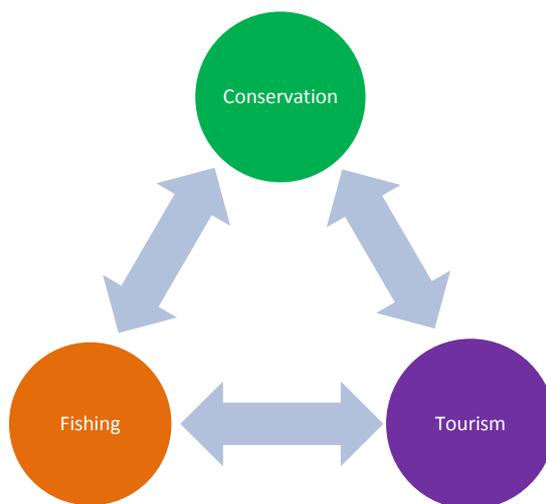
The inter-sectoral conflicts are influenced by the wider socio-economic context (national and local), in which the case studies are embedded. In case studies in the first group, there is a strong and expanding marine energy (renewables and/or oil & gas) industry, and the inter-sectoral conflicts seem to be driven by the competition for space between nature conservation, marine energy and fishing. In case studies in the other groups, the maritime economy is dominated by traditional

sectors such as fishing and tourism, and the main conflicts tend to be driven by the competition between conservation and such sectors.

Figure 3.1: The main inter-sectoral conflict(s) observed in the case studies.



Main inter-sectoral conflicts in the Belgian, PFOW, Dogger Bank, Bay of Biscay, Celtic Sea, and Barents Sea case studies



Main inter-sectoral conflicts in the Inner Ionian Archipelago & adjacent gulfs, Sicily, Malta, and Baltic Sea case studies



Main inter- sectoral conflict in the Skagerrak and Wadden Sea case studies.

The findings support the view of Suárez de Vivero and Rodríguez Mateos (2012) that the wide range of approaches to MSP in the EU are being shaped by the same factors that shape the maritime economy of each Member State. Figure 3.2, taken from Suárez de Vivero and Rodríguez Mateos (2012), shows that most northern European countries, along with Italy and Spain, have a higher value-added maritime economy than other Member States. In particular, they have strong industrial (oil & gas and marine renewables) or traditional (e.g. fishing and tourism) sectors. Some countries (DE, FR, UK, IT and ES) have a high value-added maritime economy with high total employment in maritime sectors, and strong growth in both industrial and traditional sectors. MSP in such countries is likely to be driven by the need for facilitating the development of key marine sectors, such as energy, while accommodating the needs of other sectors (i.e. taking the IMP approach, as described in section 2). Conflicts in these countries may be more intense than in other countries, given the dual-focus of maritime economy and the large number of people employed in a wider diversity of marine sectors.

In comparison, most southern and central European countries have relative low value added marine economy and the number of people employed is relatively low, indicating relatively less strength in marine industrial sectors. MSP in these countries are likely to be driven by the need for sustainably managing existing sectors and fulfilling the requirements of nature conservation (i.e. taking the MSFD approach, as described in section 2). The conflicts, in this case, are likely driven by the competition for space between traditional sectors and nature conservation.

It should be noted, however, due to the small number of case studies examined in MESMA, a degree of caution should be taken when drawing generalised conclusions based on these findings. The factors influencing maritime economic development and MSP in each country are complex and large variations exist between different locations within each country. For example, Belgium has a relatively low value added marine economy and marine employment; however, this is mainly due to the small size of its EEZ and does not indicate weakness in its maritime economy. In fact, the Belgian case study reveals major conflicts between offshore energy, fishing and nature conservation. Another example is that according to Fig 3.2, Denmark is a good example of an industry-driven maritime economy; however our Danish case study does not reveal strong conflict between industrial development and other sectors (although this is perhaps due to the location and the nature of the case study initiative analysed within this country).

In conclusion, it is useful to characterise the different categories of approaches to MSP at an EU level, which links MSP to the national context and facilitates the exchange of experiences and knowledge of MSP across different countries. However, it is also important to recognise that each case is unique and managing conflicts in a particular case often needs to go beyond general knowledge about MSP and to focus on the local, specific and diverse factors that may interact to shape the conflicts.

It is also important to recognise that the main inter-sectoral conflicts identified in MESMA case studies are influenced by the positionality of researchers involved in the project (see the summary tables in section 1.3). In almost all case studies, conservation is at the centre of conflicts, it is one type of space use that interacts and conflicts with other activities. The centrality of conservation in the conflict analysis might have been influenced by the fact that most researchers involved are marine biologists, and therefore considered conservation as one of the most important dimension of

conflicts. Although there is a strong policy drive for marine conservation in all EU countries, this may appear less significant or obvious to other people. For example, fishermen may be far more concerned about the impacts of renewable installations or reduce fishing quota allocations over the impacts of MPAs.

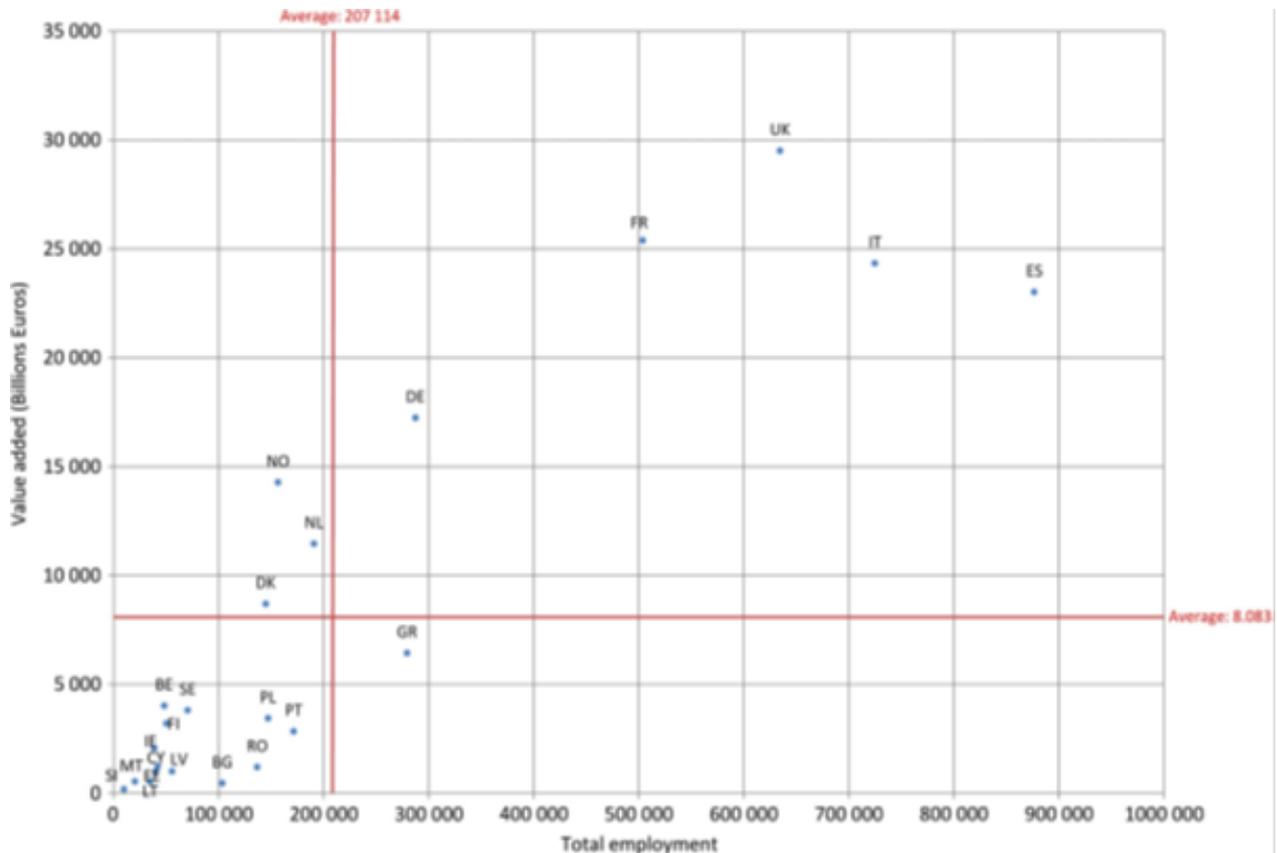


Fig 3.2 relationship between maritime employment and marine employment in EU countries (from Suárez de Vivero and Rodríguez Mateos 2012).

3.2.2 Intra-sectoral conflicts

In some case studies intra-sectoral conflicts are obvious. The most common intra-sectoral conflicts are conflicts between fishermen using different gears, for example, between mobile and static gears (e.g. Celtic Sea, Skagerrak), between industrial and small-scale fishermen (e.g. Sicily), between otter trawlers and demersal trawlers (e.g. Dogger Bank), and between small-scale and recreational fishers (e.g. the Sicilian and Belgian case studies). It is also important to recognise that in the face of strong competition for space from energy developers and larger fishing boats employing mobile gears, local small-scale fishermen can form alliances with conservation groups if they can be assured that MPAs can be managed in a way so as to protect each others interests (e.g in the Celtic Sea case study to some extent, as well as in the Sicily and Barents Sea case studies). The existence of intra-sectoral conflicts adds complexities to the conflicts, however, it can be managed in such a way as to gain support for certain objectives.

3.2.3 Institutional conflicts

Compared to the inter- and intra-sectoral conflicts, institutional conflicts are more difficult to discuss. The conflicts between different institutions or organisations may be driven by different sectoral or group interests, therefore can be interpreted as another manifestation of inter- or intra-sectoral conflicts. For example, the conflicts between the private energy company and the Belgian Federal Government stem mainly from the disputes over the designation of a MPA versus a renewable zone in the same area. In other cases, institutional conflicts may have little to do with either inter- sectoral or intra-sectoral conflicts. For example, there are tensions and conflicts between the Dogger Bank Steering Group and North Sea RAC, which are mainly due to a lack of transparency and clear direction in the Dogger Bank case study. In the Celtic Sea case study, tensions were revealed between the environment department and its environmental advisory agencies, and even between such agencies. Such institutional conflicts may have major influence on the process and outcomes of MSP, making it more difficult to develop a collaborative and integrated approach.

The MESMA case study reports contain limited details on institutional conflicts. The main reason is that such conflicts are not always obvious to people who have not been involved in the actual MSP process themselves. The majority of researchers in MESMA are marine biologists who had no first-hand experience with MSP. Although an effort was made to review relevant literature and interview people who have been involved in real MSP initiatives, in many cases a lack of transparency and experience means it is difficult to gather information for an insightful analysis on institutional conflicts. Another reason is that institutional conflicts can be sensitive topics, and depending on the relationship between the institutions in question and the case study researchers (and the organisations they are affiliated with), it can be a difficult subject to broach in research (e.g. in interviews), as well as a difficult subject to cover in writing.

3.3 Discussion: The drivers of conflicts

In the case studies, the main factor that leads to conflicts between and within sectors is competition for space between different activities. There are a variety of drivers that have contributed to the increasing demand and competition for space in the case studies. These drivers include those of economic and political nature, as well as resulting from different values and claims of rights. These are covered in the numbered sub-headings below.

3.3.1 Economic drivers and the perspectives of different marine users

Economic drivers are one of the most important group of drivers that contribute to the conflicts. The financial crisis and slow economic recovery experienced in many EU countries in recent years means that promoting 'blue growth' in maritime sectors remains as the top priority in marine governance. The most important economic sectors that have been identified in the case studies include marine energy (renewable and non-renewable) and fishing.

The marine energy industry often has national strategic importance (such as in Norway and Scotland), from an economic development perspective, energy being a key driver of these national economies and providing significant employment opportunities. Promoting the blue growth of maritime economies is a key priority of the Integrated Maritime Policy and the proposed Maritime

Spatial Planning Directive. The marine energy industry also contributes to energy security in the EU as well, in the case of renewable energy, as contributing to strategies to reduce greenhouse gas emissions under policies such as the Kyoto Protocol, which is a key objective in the EU's Renewable Energy Directive. The marine energy industries can exert significant influence on governments and in several MESMA case studies (such as the PFOW, Celtic Sea, and Belgian case studies), its needs are prioritised in planning ahead of the needs of other sectors. From the perspectives of the marine energy industry, securing a reasonable degree of certainty regarding where their activities will be allocated, how their activities will be managed and specific requirements on licensing is essential for conducting cost-benefit analysis, planning for long-term strategies, and securing massive investments for various activities. Therefore the marine energy industry or their representing government agencies and industrial associations are often a key player in the MSP processes that can have a particularly strong influence on decision-making in marine spatial planning processes.

The second economic driver of conflicts is the goal of maintaining profitable (and sustainable) fisheries. While the development of the marine energy industry is gaining speed, it has been a difficult time for the fishing industry. While the details on how the reformed Common Fisheries Policy will be implemented remain uncertain, some measures will no doubt have an impact on the fishing sector, such as the ban on discards and strengthened compliance and enforcement. In addition, the marine energy zones will also have some impacts on the sector, such as in the PFOW, Biscay and the Barents Sea case studies.

The impacts of marine protected areas (MPAs) on the fishing sector can be mixed, while such areas may have negative impacts on the mobile gear fishing sector, they may benefit the small-scale, inshore fishing sector by enhancing fish stocks and eliminating any competition from mobile gears (as in the Celtic Sea and Sicily case studies). From the perspectives of the fishing sector, fishermen used to 'rule the sea', most areas being open to fishing default, but their current priority in MSP processes seems to focus on minimising the negative impacts of other activities (energy, conservation etc.) on their sector in relation to competing claims for marine space. This also relates to the claims on rights and entitlements of local coastal communities in the context of MSP, as examined below.

The third economic driver of conflicts in MSP is the objective of promoting the tourism industry, which is particularly important for local economies in the southern European as well as in the Baltic Sea case studies. As with the fishing industry, tourism is negatively affected by the presence of energy installations. However it is not necessarily incompatible with fisheries or conservation. Tourism can provide important sources of income for fishing communities (e.g. in the Sicily and Greek case study), and provide a means for tourists to experience the culture of local fishing communities. However, where mass tourism is a common practice, it can lead to conflict between tourism and conservation. From the perspective of the tourism sector, the impacts of MSP on their sector are rather mixed and depend on the nature of tourism and other activities.

Other economic sectors, such as shipping and port development, also add to the conflicts. However, their impacts tend to be more localised and case specific (Lieberknect *et al.* 2013b), compared with the three drivers examined above.

3.3.2 Policy drivers

The objectives of MSP in most MESMA case studies are supported by the various policy drivers examined in section 2. A summary overview is provided in table 3.2. Overall, the existence of various degrees of inter-sectoral conflicts in all MESMA case studies indicates the likelihood that the conflicts cannot realistically be ‘planned away’. Having an integrated policy framework such as the Integrated Maritime Policy or the proposed Maritime Spatial Planning Directive does not address the issue of how such conflicts can be addressed. MSP can, however, provide a platform for such conflicts to be communicated and debated (e.g. Lieberknecht *et al.* 2013; Olsen *et al.* in prep.).

Table 3.2 Overview of main objectives in the MESMA governance case studies, and related EU policy drivers.

Case study name	Main objective(s)	EU policy driver(s)
Belgian Part of the North Sea	Renewable energy, conservation	Renewable Energy Directive, Habitats and Birds Directive
Dogger Bank	Conservation	Habitats and Birds Directive
Wadden Sea	Conservation	Habitats and Birds Directive
Skagerrak	Conservation	Habitats and Birds Directive
Baltic Sea (Poland)	Conservation	Habitats and Birds Directive
Celtic Sea (Finding Sanctuary)	Conservation	Habitats and Birds Directive, MSFD
PFOW	Renewable energy	Renewable Energy Directive
Barents Sea	Energy (oil & gas)	National policy/legislation
Biscay	Renewable energy	Renewable Energy Directive
Greece	Conservation	Habitats and Birds Directive
Sicily	Conservation	Habitats and Birds Directive
Malta	Conservation	Habitats and Birds Directive

3.3.3 Rights and entitlements

In some case studies, an important driver of conflicts is the different claims on rights and entitlements. Shared and common access to the sea has so far been a main characteristic of marine governance, and many marine resources, such as fish stocks, are common pool resources. MSP may change the nature of these rights and ownership. A notable case in this respect is the PFOW case study, in which the legislation empowers the renewable energy sector to establish safety zones where fishing and shipping will be excluded, as well as to have overriding rights to certain areas on land that has been identified for energy infrastructure. The ancient public rights of freedom of navigation and fishing, and the rights of land owners may be affected, with significant financial implications for affected individuals and the local community.

The PFOW case study also raised the issue of disconnection between terrestrial and marine planning. While the local authority on the mainland and island is responsible for planning on land, marine planning is subject to the control at a national level. In land-use planning, local authorities are held accountable to the decisions they made to their constituents and are often obliged to

consider different interests (economic, environmental and social) thoroughly during the planning process. However, in the marine environment, planning was traditionally conducted more centrally on a sectoral basis and the move towards MSP provides opportunities for national governments to establish new priorities, often based on longer term national interests. The impacts on some local users may be considered as a low priority, particularly in the presence of powerful sectors such as marine renewables (Qiu and Jones 2013).

3.3.4 Value conflicts

In many if not all of the cases, it could be argued that there are ‘primary conflicts’ underlying some of the main inter-sectoral conflicts (3.2.1), i.e. conflicts between allocating areas for one or more sectoral uses, and setting areas aside from such uses as MPAs in order to contribute to ecosystem-based management and the fulfilment of GES. Such primary conflicts are consistent with the soft and hard sustainability perspectives discussed in section 2.5 and illustrated in figure 2.2. These perspectives, in turn, are arguably a reflection of underlying divergences between value priorities, integrated-use soft sustainability perspectives being based more on utilitarian value priorities, i.e. focused on deriving material benefits from the utilisation of natural resources, ecosystem-based hard sustainability perspectives being based more on preservationist and ecocentric value priorities, i.e. focused on deriving non-material benefits from the preservation of natural resources and the ecosystems of which they are components. Such underlying basic conflicts between value priorities can be extremely challenging to reconcile, as they are underpinned by different ethical positions, therefore agreement can be difficult to reach as compromises between these priorities are philosophically intolerable (Jones, 2001).

4 MESMA Governance Research: Overarching Discussion

4.1 The emerging reality of marine spatial planning in Europe

4.1.2 Marine spatial planning as a vehicle for ecosystem-based management?

Spatial planning of human activities at sea has been happening in some form or other in the seas around Europe for a long time – every time an area is licensed for the mining of aggregates, the extraction of oil & gas, the building of a wind farm, the installation of aquaculture infrastructure, the implementation of a traffic separation scheme, the exclusion of seafarers from ‘danger areas’ where military exercises take place, etc. However, the term ‘marine spatial planning’ is generally used to mean a process that goes beyond the planning of a single activity or development. MESMA Deliverable 1.1 provides a review of the current literature on MSP. Although there is no single definition of the term, authors generally stress or assume that ‘marine spatial planning’ means integrating planning across multiple sectors of human use, to achieve multiple objectives efficiently: “The goal of MSP is to balance demands for development with the need to protect the marine environment. It is not just about environmental protection or economic development. The essence of MSP is integrating various sectors and concerns” (Ehler and Douvère, 2009).

Three elements are generally emphasised as being integral to ‘marine spatial planning’: a) the goal of achieving environmental sustainability and the protection of the marine ecosystem, b) the goal to resolve or reduce conflicts, and c) the integration of planning across multiple sectors and activities,

creating space for different activities in order to achieve multiple objectives in an efficient manner (including social, economic, and environmental objectives). There is a degree of conflation between the concepts of 'marine spatial planning' and 'ocean zoning'. A strategic zoning plan for the sea is often seen as a key output of the MSP process (e.g. see Ehler and Douvère 2007; 2009; Douvère 2008). The concept of ocean zoning arose from work on MPAs and systematic conservation planning: conservation planners and scientists tend to see ocean zoning as a way to achieve conservation measures (particularly MPAs) whilst also allocating space to economic activities, reducing conflicts, and managing cumulative impacts on the environment (Day *et al.* 2008; Davos *et al.* 2006; Halpern *et al.* 2008; Klein *et al.* 2008; Agardy 2010; Klein *et al.* 2010). Decision support tools for ocean zoning have been developed from conservation planning tools, e.g. Marxan with Zones (Klein *et al.* 2008; Ball *et al.* 2009). Thus, there are a lot of links and overlaps in the literatures on MSP, ocean zoning, conservation (MPA) planning, and marine environmental management.

Although reference is frequently made to the importance of balancing social, economic, and environmental goals, it is the latter that are generally given the most attention in the literature – i.e. a lot of the literature takes an MSFD-type view of MSP (see section 2). A lot of attention is focused on developing methods and tools for integrating human utilisation of the sea with environmental protection measures (see above), or on developing ways to integrate ecological criteria or data into a spatial planning process (e.g. Crowder and Norse 2008; Foley *et al.* 2010) – based on the assumption that environmental protection and environmental sustainability are fundamental components of the planning process. It is notable that an often-cited example of successful MSP is in fact a zonation plan for a large MPA, the Great Barrier Reef Marine Park (Day *et al.* 2002; 2005).

In fact, many authors regard MSP as a vehicle for the implementation of ecosystem-based management (EBM) in the marine environment (e.g. Ehler and Douvère 2007; Leslie and McLeod 2007; Douvère 2008). Ecosystem-based management, anchored in the Convention of Biological Diversity and the MSFD (see section 2), has been defined as '*an integrated approach to management that considers the entire ecosystem, including humans. The goal of ecosystem-based management is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. Ecosystem-based management differs from current approaches that usually focus on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors*' (McLeod *et al.* 2005).

Some authors (e.g. Crowder and Norse 2008; Foley *et al.* 2010) have developed ecological principles or criteria for ensuring that environmental sustainability is adequately integrated into ecosystem-based MSP processes. These echo some of the principles of systematic conservation planning and the development of MPA networks, which have been discussed in the literature for at least two decades (Pressey *et al.* 1993; Margules and Pressey 2000). Many people consider networks of no-take MPAs to be an essential and central element of an ecosystem-based approach to the management of our seas, e.g. Botsford *et al.* 1997, and this is arguably reflected in the obligation to designate networks of MPAs under the MSFD as a key means of achieving GES.

As highlighted in section 1.3, many of the case study researchers within the MESMA governance work package have a background in ecology and conservation, and therefore have a world view in line with ecosystem-based management. In several analyses, it was apparent that the researchers assumed that environmental sustainability is or should be the fundamental objective that MSP aims

for. However, in reality, there is a tension between the 'MSFD' type view of MSP and the 'IMP' approach (see section 2). 'Real-life' MSP processes might be more concerned with integration between different economic sectors, reducing conflicts between different maritime users, maximising economic gains from the use of the marine environment, and achieving strategic objectives that have been prioritised through political processes, rather than viewing environmental sustainability as a fundamental goal that forms the basis for all others. Where relevant, in the remainder of this document, the abbreviation 'EBM-MSP' is used to specify that the concept of ecosystem-based ('MSFD-type') MSP is being referred to.

4.1.3 Frameworks for implementing (ecosystem-based) marine spatial planning

A number of frameworks, roadmaps, or principles for the implementation of EBM-MSP have been published. These contain common elements, stressed repeatedly by authors as important components of a successful process:

1. **The integration of environmental sustainability as a fundamental consideration within the planning process** (as already discussed above) – MSP frameworks tend to be developed by conservation researchers and professionals, and therefore focus on how to implement EBM-MSP (e.g. Ehler and Douvère 2007; 2009; Douvère 2008).
2. **The integration across multiple human use sectors and multiple objectives**, balancing social, economic, and environmental concerns (as already discussed). Multi-sector integration is often equated with a reduction in or the solving of conflicts between sectors, as well as a means of managing the cumulative impacts of multiple sectoral activities on ecosystems;.
3. **Stakeholder participation**. This is frequently discussed as an important, if not vital, part of a successful MSP process (e.g. (e.g. Ehler and Douvère 2007; 2009; Douvère 2008; Leslie and McLeod 2007; Maes 2008; Pomeroy and Douvère 2008). Authors generally imply or state that earlier and higher levels of participation make for a better process than lower levels of stakeholder participation in later stages. For example, Gilliland and Laffoley (2008) state that *'The nature of MSP is such that stakeholder engagement should be considered an inherent aspect. Stakeholder engagement is critical to different stages of producing a plan, but so too is the way in which it is done. The earlier in the process stakeholders are involved, and dialogue to resolve conflict is initiated, the better.'*
4. **Adaptive management**, as a mechanism to deal with uncertainties, changing knowledge, and changing circumstances. Whilst occasionally, a 'marine spatial plan' is seen as an end-point and a 'solution' to a particular set of problems, (e.g. Plasman 2008), many authors regard 'marine spatial planning' as an on-going process, where planning decisions and their implementation should be under regular review (e.g. Ehler and Douvère 2007; 2009; Douvère 2008; Gilliland and Laffoley 2008). Reflecting the focus on environmental goals (the first point above), these authors tend to focus on the monitoring and evaluation of the status of the environment, where 'success' is seen as achievement of environmental objectives (e.g. 'Good Environmental Status' as defined under the MSFD), and non-achievement of environmental objectives act as a 'trigger' for adapting or changing management measures. It is particularly notable that little equivalent emphasis has been placed on developing monitoring and evaluation strategies focused on the degree to which social or economic goals have been achieved within MSP frameworks.

4.1.4 Reality check and reflections on the findings of MESMA case study initiatives

It is tempting to see MSP as a ready-made solution for achieving environmental sustainability, but in reality, even integrated, multi-sector MSP processes are not, by default, ecosystem-based. It would, theoretically, be possible to spatially plan the use of the marine environment in an integrated manner across multiple economic sectors, balancing the practical needs and economic objectives of each one, without giving any consideration to environmental protection. It is possible to conceive of a comprehensive ocean zoning plan that is focused solely on the spatial separation of activities that interfere with each other, and on the allocation of suitable space to the most profitable economic sectors.

Foley *et al.* (2010) carried out empirical research on several recent MSP initiatives around the world, and recognised that *'although nearly all planning efforts have outlined one goal of MSP as protecting marine ecosystem health, in many cases, ecological goals and objectives were not fully incorporated into the planning process.... Although the importance of ecosystem health and functioning is implicit in most MSP processes (i.e. if an ecosystem is not functioning well, many services cannot be provided), it is not guaranteed to serve as a foundation of the process. In some cases, ecosystem health may not be the primary goal ...; in others, ecosystem goals may not be well defined. In either case, social and economic goals have often been prioritized to the detriment of ecological goals and objectives.'* This empirical work points to a discrepancy between the reality of emerging MSP processes, and the idealised implementation frameworks for 'EBM-MSP', such as the UNESCO 'ten steps' EBM-MSP framework (Ehler and Douvère 2009).

Similarly, MESMA's governance research aimed to move beyond the development of idealised frameworks, to empirical analysis and evaluation of governance in real-life MSP initiatives (and the development and testing of tools to do so). The findings of the MESMA's governance research permit some critical reflection on the existing frameworks for EBM-MSP, and how they compare to reality.

Real-world MSP processes are ultimately political decision-making processes, or processes with politically defined goals (as, indeed, was recognised by Ehler and Douvère 2009). Despite international treaties, agreements, and legislation (such as the MSFD), environmental sustainability and conservation are often given low political priority in decision-making, with economic considerations carrying much more weight. The empirical findings of the MESMA case studies echo those of Foley *et al.* (2010), indicating that the reality of emerging MSP in the EU is a long way off the 'EBM-MSP' ideal. The following explores some of the findings from the MESMA case studies relevant to each of the four common elements of EBM-MSP frameworks highlighted in the four points above.

1. *The integration of environmental sustainability as a fundamental consideration*

The majority of the MESMA WP6 case study initiatives are MPA planning processes, which exist in order to achieve environmental objectives, the Habitats and Birds Directives and the MSFD being important drivers of these initiatives. Even in the case studies where the priority objective was not MPA-related (e.g. the Barents Sea, the Biscay and the PFOV case studies), environmental considerations are, at some level, an integral part of the process, not least because of the need to comply with the EU EIA and SEA Directives.

Despite this, the case study analyses seem to indicate that when it comes to on-the-ground planning decisions and the implementation of management measures, environmental conservation and sustainability are not, in fact, genuine political priorities in most instances. The MPA initiatives analysed as part of WP6 are characterised by delays, lack of leadership, lack of clarity and coherence, and the existence of process-defined hurdles in the way of site designation and/or of effective implementation of protection measures. This contrasts with the achievement of objectives for renewable energy development or oil exploration, e.g. in the PFOW and Barents Sea case studies. In the Belgian case study, an MPA was de-designated primarily because of pressure from wind farm developers who had previously been granted permissions for constructing a wind farm within the 'Vlakte van de Raan' area.

All of the MPA initiatives analysed for WP6 faced conflicts, and resistance to site designation and conservation measures from affected sectors and organisations (see section 3). These conflicts would in themselves not necessarily impede effective implementation and management of MPAs, if effective governance was in place to address them. The specific reasons for delays in implementing conservation measures (and addressing existing conflicts in one way or another) vary between the case studies.

Most of the MPA initiatives analysed are *Natura 2000* sites, the designation and implementation of which are driven by EU legislation rather than at national level – EU legislation is an important driver of environmental protection measures, as it obliges all member states to designate MPAs and achieve Good Environmental Status (see section 2). In the Polish case study, some of the problems are due to Poland's status as a relatively new member of the EU, having to adapt its laws and institutions to comply with 'imposed' EU legislation such as the Habitats and Birds Directives, as well as its status as a country that is emerging from a former restrictive regime with a now rapidly expanding economy.

In the Egadi (Sicily) case study, a lack of leadership from central Government authorities resulted in a long delay between the designation of the protected area and its effective management – progress was made when a key individual was appointed as MPA manager, highlighting the potential importance of key individuals in effective management. The Celtic Sea case study started with ambitious environmental aims, and stakeholder groups developed recommendations for 58 new MPAs off south-west England – however, the process subsequently stalled, with a shift in focus from a coherent MPA network to the protection of individual species and habitats, the minimisation of economic costs for the fishing industry, and related increasing evidence hurdles to overcome prior to site designation. It is uncertain where the process will lead in future, although it seems unlikely that an MPA network that is fully representative of the range of marine species and habitats in England's seas will be in place within the foreseeable future.

Where MPAs have successfully been designated, they frequently lack effective and properly-enforced management measures (e.g. in the Greek, Polish and Maltese case studies), or there have been long delays in the implementation of effective management (e.g. in the case of the Egadi MPA). This makes them little more than paper parks, achieving nothing for environmental sustainability or improved environmental status.

Thus, looking across this particular sample of case studies, it seems that the achievement of environmental sustainability and environmental conservation goals is not, in reality, at the heart of

the emerging MSP processes in the EU. Whilst in principle environmental objectives exist, relevant national and EU legislation is in place, and environmental sustainability is recognised as important, when it comes to implementing measures and taking specific decisions, economic development is given priority. This is unlikely to change in the foreseeable future, given the context of the on-going financial crises facing the EU.

Energy-related development, in particular, is prioritised, e.g. in the Barents Sea, PFOW, and Belgian examples. This reflects the economic importance of the energy sector, the political priority given to economic development and energy security, and, increasingly, international efforts to address climate change, in that the energy sector includes renewable energy developments, in particular, offshore wind farms. Shallow shelf sea areas around northern European countries such as Denmark, Germany, Belgium, and the UK, in particular, have seen the construction of large offshore wind farms in recent years.

Offshore renewables are an interesting sector to consider within the context of EBM-MSP. The concept of EBM-MSP centres on environmental sustainability, but is focused on the marine environment, specifically. Offshore wind farms are 'green' developments, and contribute to environmental goals related to climate change mitigation, and thus to global environmental sustainability. However, they are not measures designed to improve the status of the marine environment, and can have detrimental as well as beneficial ecological impacts within the areas they occupy (Wilson *et al.* 2010; Blyth-Skyrme 2011). Thus, in the context of EBM-MSP, which is focused on the marine ecosystem, offshore wind farms cannot be regarded as measures to help improve marine environmental status and sustainability. In an idealised EBM-MSP process, the negative environmental impacts of offshore renewable developments would be balanced against the wider environmental gains related to the mitigation of climate change, but the current reality is that offshore renewable developments are prioritised on a de facto basis through their link to political priorities, obligations under the Renewable Energy Directive being a relatively weak influence in this respect), the main focus being on economic development opportunities.

2. *The integration across multiple human use sectors and multiple objectives*

A small number of MESMA case studies are examples of processes which aim to carry out integrated planning across maritime sectors, balancing multiple goals (e.g. the Belgian, Barents Sea and Celtic Sea case studies). However, neither of them amount to a fully integrated, strategic ocean zoning process: the Belgian marine spatial plan, at present, primarily is a map and record of the outcome of several separate planning processes (e.g. for renewables, *Natura 2000* sites, aggregate dredging sites). To an extent, this is inevitable, given the history of existing activities. No European country has the luxury of starting with a clean slate in MSP: existing activities, infrastructure, areas under lease or license for a given activity, and protected areas cannot necessarily be easily moved or abolished, so any MSP process has to begin with what is already in place. However, it remains highly uncertain to what extent the Belgian 'Master Plan' will turn into a strategic plan that will drive behaviours and management decisions in future. It is feasible that the same political processes that led to the mapped distribution of activities will continue to dominate decision-making processes in the allocation of different sectoral activities to different zones, rather than the 'master plan' itself, and there is no evidence that the master plan has been the basis of decisions rather than a reflection of them.

The Norwegian plan for the Barents Sea area is essentially a plan for oil & gas exploration – as the main economic sector of the country, the oil & gas industry is a political priority. When it came to planning and deciding where to permit oil & gas exploration, rather than focusing solely on the needs of the oil & gas industry, environmental concerns were taken into account. Research was carried out to identify and map ecologically valuable areas, and particularly significant areas have been kept off-limits for oil & gas exploration for now (the Lofoten area, specifically). However, this cannot be regarded as a fully integrated MSP process as defined by Ehler and Douvère (2009), because no environmental goals (or objectives for any third sectors) were explicitly addressed – the process did not simultaneously plan oil & gas exploration areas and a network of MPAs, for example. Notably, fisheries management was not integrated into the plan, although fishing is another important sector of the country's maritime economy.

In terms of integration, the Norwegian case study parallels the Celtic Sea case study, in that the focus in both case studies was on planning for a single sector, but that the needs and concerns of other sectors were considered within that process. In both case studies, planning took place across large spatial scales. However, in the Celtic Sea case study, the primary focus was on environmental objectives (the planning of an MPA network), whilst avoiding unnecessary detrimental impacts on economic activities. In the Barents Sea case, the outcome was successful (there are new areas for the oil industry to occupy), whereas the Celtic Sea process stalled, and it is unlikely that a fully representative MPA network will be achieved in the foreseeable future.

Most of the MESMA case study initiatives analysed here are single-sector initiatives, and do not inherently aim to integrate multiple sectors or interests. Some of the case study initiatives are very small-scale and specific (the Biscay case study, in particular, where the analysis focused on the planning of a single development at a single small location). Arguably, the case study initiatives are in themselves not necessarily an adequate reflection of the degree of cross-sector integration that may be in place at a more strategic and broad-scale level within the country or region of their location.

For example, the Celtic Sea case study analysis noted that a wider marine planning process is underway in England, led by the UK's Marine Management Organisation ([MMO](http://www.marinemanagement.org.uk/)¹¹). The marine planning process is separate from the MPA planning initiative that was analysed for WP6 (and is therefore not covered in detail in the analysis). It is developing a framework for decision-making, which is aiming to streamline and simplify marine planning decisions, and reduce uncertainty for developers and potential developers, whilst taking account of existing environmental policies and MPAs, as well taking into account cumulative impacts of multiple activities. It is not an EBM-MSP process as defined by Ehler and Douvère (2009), as it will not result in comprehensive ocean zoning with pre-emptive restrictions on activities in any given location, nor is its primary aim the implementation of EBM (Appleby and Jones, 2011). However, the marine planning process has spatial elements, and is moving towards integration across multiple maritime sectors, with some key exceptions, such as offshore oil & gas, and any nationally significant infrastructure development, which includes offshore wind farms above 100MW in capacity, decisions concerning such developments needing only to have 'due regard' to marine plans (Appleby and Jones, 2011).

¹¹ <http://www.marinemanagement.org.uk/>

The Celtic Sea example illustrates why it is not possible to draw firm conclusions about the level of progress made in the EU towards integration in MSP, solely from the set of initiatives analysed here. However, the governance analysis framework (section 1.4 and appendix 3) was designed in such a way that any existing, well-functioning broader mechanisms for integration across sectors should have been identified as part of the case study analyses. The case study reports (appendix 7) contain little indication that the specific initiatives under analyses are embedded within broader, integrated planning frameworks. Overall, thus, there is little evidence from the MESMA WP6 research that significant progress has been made, to date, in the implementation of fully integrated cross-sector MSP in EU countries.

3. Stakeholder participation

The conceptual framework for EBM-MSP put forward by Ehler and Douvère (2009) stresses the importance of stakeholder engagement throughout the planning cycle. Within the sample of initiatives analysed for MESMA WP6, there is little evidence of this ideal being applied in reality. All of the initiatives contain some element of stakeholder engagement, although this is limited to information provision and some degree of consultation in almost all cases. There is little evidence of mechanisms to ensure that all interested or affected parties have equal access to information, or are given equal opportunities to wield influence. In fact, it is not always clear what degree of influence stakeholder input has on outcomes (e.g. through consultations). Many analyses mention lobbying and campaigning on behalf of specific sectors or interest groups (e.g. the Celtic Sea, Puck Bay, Barents Sea, Belgium, and Sicily case studies), with unequal power distribution across sectors and interests.

Only a very small number of initiatives contained mechanisms for creating cross-sector communication through multi-sector stakeholder forums (the Wadden Sea, Dogger Bank, and Celtic Sea). In the case of the Wadden Sea and Dogger Bank, the forums were created opportunistically, with no long-term funding, no clear role or influence in decision-making, no stakeholder analysis, and no mechanism to ensure that all interested parties are fairly represented and present at meetings.

Out of all the initiatives analysed here, the Marine Conservation Zone process in the Celtic Sea case study contained the most elaborate stakeholder process, including stakeholder analysis, facilitation, and dedicated support for regular meetings of representative stakeholder forums with a clearly defined role in planning. This role went beyond consultation: the regional stakeholder group was tasked with developing initial recommendations for a network of MCZs. However, the stakeholder process came to an abrupt end partway through the planning process, at which point the planning approach changed from collaborative planning to a top-down 'plan-consult-defend' model driven by the UK Government's environment ministry and its advisory bodies, with strong lobbying and threats of legal challenges from the fishing industry's national body. The process changed from a participative one to a top-down one before any sites were designated, or any management measures decided, leading to a great degree of frustration and disengagement from stakeholders who had participated to begin with.

Stakeholder fatigue and frustration with lack of influence were also apparent in the PFOW and Wadden Sea case studies. These case studies illustrate, by their lack of such, the importance of well-designed, thought-through, and properly supported stakeholder engagement processes. 'More' or

'earlier' engagement is not, in itself, 'better': badly designed stakeholder engagement processes, where participants invest time with little benefit in return, and no clear influence on outcomes, can be counterproductive. The findings of these case studies echo those in other environmental stakeholder processes - experiences in environmental planning which MSP practitioners can learn from (e.g. see the review by Reed (2008), or the suggested framework for a participative, adaptive environmental planning framework by Luyet *et al.* (2012)).

4. Adaptive management

Several of the case studies document processes that have been on-going for several years, with changes to management measures in place on the ground over time (e.g. Wadden Sea, Sicily, Barents Sea, Belgium). However, changes to the *status quo* on the ground have tended to happen through a process of evolution, driven largely by the needs and interests of powerful industrial sectors (e.g. the oil & gas industry in the Barents Sea and offshore wind farm developers in Belgium), as well as by EU environmental legislation requiring the designation of protected areas and the implementation of management measures therein. In several other case studies, initial planning is still underway and management measures have yet to be defined (e.g. Celtic Sea, Puck Bay, Dogger Bank).

The EU Habitats Directive requires monitoring and reporting of the status of protected features within *Natura 2000* sites every six years following designation, ensuring an element of adaptive management within these protected areas. However, it is not clear from the WP6 analyses how well the processes to do so are defined and mapped out in the *Natura 2000* case studies (e.g. Greece, Puck Bay) – none of these sites have reached a reporting deadline to date. None of the other case study initiatives have a clear long-term process mapped out for regular adaptive management cycles focused on environmental status, as envisioned by Ehler and Douvère (2009), nor do any of them have any specific plans for participative monitoring and evaluation as envisaged by Gilliland and Laffoley (2008).

In summary, this set of case studies indicates that the reality of emerging MSP processes in the EU is still a long way off an idealised concept of EBM-MSP. Marine spatial planning is not, in itself, a 'magic bullet' to resolve issues relating to environmental sustainability or conflicts between people and sectors. Instead, MSP appears, in reality, to simply represent a new arena for political processes to play out in, where decisions are driven by political expedience, economic priorities, and legal imperatives, more than by genuine commitment to long-term environmental sustainability, stakeholder participation and cross-sectoral integration. Where the marine environment and the resolution of any existing conflicts between its users is not a political priority, decision-making and implementation of measures can be delayed by simple lack of leadership (e.g. in Greece, and in the Egadi case study, prior to the appointment of a new MPA manager).

In the discourse about MSP, and in developing tools for monitoring and evaluation, it is therefore useful to differentiate between 'marine spatial planning' as a real-life political decision-making process, and a marine conservation planner's ideal of EBM-MSP. This differentiation is particularly important when it comes to the empirical analysis or evaluation of real-life MSP initiatives, which may, in reality, never have been conceived as a way to achieve or prioritise environmental goals.

4.2 Reflections on the MESMA case study sample

Clearly, the insights gained from the MESMA WP6 research into the reality of emerging MSP in the EU are limited by the selection of the case study initiatives. The sample analysed has several shortcomings.

It is debatable whether all the initiatives can be defined as 'marine spatial planning' initiatives, given that so few of them are multi-sectoral, and some of them cover very specific developments and confined spatial extents. The Biscay case study, in particular, analysed the planning and decision-making process that led up to a single infrastructure development (a platform for testing renewable energy devices, located off the coast of the Basque country in northern Spain). Several others analysed the planning and implementation processes for a single MPA, or a small number of specific MPAs (e.g. the Sicilian, Greek, and Skagerrak case studies).

As highlighted above, these initiatives are in themselves not necessarily an adequate reflection of the degree of cross-sector integration that might be taking place at a more strategic and broad-scale level, within the country or region they are located in. However, the governance analysis framework was designed in a way that should have resulted in any existing wider MSP frameworks being identified, and analysed through the lens of the specific initiative in question. In that sense, the smaller-scale case study initiatives can be seen as vehicles for exploring the actual status of MSP within their relevant countries.

The sample is relatively small (13 case study initiatives), and does not cover all EU countries. The findings cannot necessarily be seen as representative for the EU as a whole. More significantly, the sample is also highly variable. This is perhaps the single biggest shortcoming of the selection of this particular set of initiatives. The initiatives varied significantly in their scope and scale, ranging from Biscay case study mentioned above, to the Wadden Sea case study which analysed environmental governance at an international scale, or the Celtic Sea case study which analysed the planning process for a network of MPAs within a region of 95,000km². There were also differences in the objectives of the initiatives: whilst many focused on nature conservation and MPAs, the sample also included multi-objective initiatives, as well as initiatives focusing primarily on energy developments. It is very difficult to draw broad conclusions from such a small and variable sample, and the synthesis of empirical findings from MESMA's governance analyses presented in these deliverables has to be interpreted based on that understanding. However, the diversity of the case studies did provide for a variety of initiatives in different contexts to be analysed, in order to gain a wider understanding of how marine spatial planning is actually practiced in reality.

The analyses are further complicated by the fact that many of the initiatives analysed as still on-going, and have not yet reached a point where effective management measures have been put in place.

Another factor to bear in mind when drawing conclusions from MESMA WP6 is that many of the researchers involved were natural scientists, who were new to governance research, and thus faced a steep learning curve in carrying out qualitative social science research. This drawback was balanced by the significant benefits to the spanning of interdisciplinary boundaries, including the cross-fertilisation of ideas, the sharing of methods, and the development of a more holistic

understanding of environmental management and MSP, all of which are an important foundation to the development of applied tools and methods that will be of use to practitioners in the field.

None of the WP6 researchers can be seen as entirely neutral with respect to their case study. The positionality of the researchers is important to understand when interpreting the results of their research. Many of the WP6 researchers have a conservation background. Most are supportive of environmental protection measures, and of the development and implementation of management measures aimed at achieving Good Environmental Status as envisioned in the MSFD. This largely pro-environmental sustainability stance, combined with the natural science background of many, impacted the way in which they approached the analyses. For example, when it came to analysing conflicts, it was notable that many of the case study researchers initially highlighted environmental impacts (e.g. bottom trawling on seagrass beds) as important conflicts, instead of (or in addition to) analysing conflicts unfolding between different players in the process. A group of researchers consisting predominantly of economists or social scientists probably would have approached the task very differently.

Given the context of the MSFD requirement to reach Good Environmental Status, the environmental focus of most of the researchers in MESMA is not necessarily inappropriate. Marine spatial planning practitioners within the EU operate within the EU's legal and policy context, and tools to evaluate and monitor MSP processes need to be relevant within that context. However, the MSFD is not the only high-level EU policy context to consider. The tensions between the different EU policies are discussed at length in section 2.5. Not all relevant EU policies and directives are focused as much on environmental sustainability as the MSFD, and it is apparent from the findings of a lot of the case studies that the reality on the ground is currently often less in line with the MSFD approach and more with the IMP approach (as defined in section 2).

Several of the researchers also played or are playing a direct role in the process they were analysing. There are advantages and disadvantages to a researcher in this position. On the one hand, being part of a process on an on-going or day-to-day basis generally means that one can gain a much more in-depth understanding of it than an outside observer would ever be able to achieve – this is especially true for processes that lack transparency or easy outside access to relevant information. On the other hand, the role a researcher plays can lead to bias in their analysis, as they might wish to avoid sounding critical of particular institutions or people that they work with, or of outcomes that they have participated in generating. Even if that is not an issue, playing a direct role within a process will tend to give a researcher a very specific perspective. It can be difficult to step back from that perspective in order to gain a more comprehensive understanding of the process as a whole, although with the help of UCL's guidance and support, MESMA researchers were encouraged to be as objective as was realistically feasible and to seek multiple perspectives on their case studies, e.g. through interviews with players from across a range of roles and backgrounds.

4.3 Reflections on the governance analysis framework as an evaluation tool

There is no single correct way to deconstruct and analyse governance. The MESMA analytical framework should not be seen as a fixed product, but rather as one possible approach or a work in progress, which can be further developed or adapted depending on circumstances. Indeed, the framework was presented as work in progress during the MESMA research – the case studies served to test its usefulness in deconstructing and analysing a diverse range of MSP initiatives. Feedback

from MESMA WP6 researchers indicated that, in combination with support and guidance on research methods provided by UCL, they largely found the framework to be a useful and workable tool. Through applying it, they were able to tease apart different elements of their case studies and understand them better. Thus, the framework performed well as an aid to deconstructing, describing, analysing and understanding governance issues in the different case studies.

Following the completion of the initial governance analyses, UCL organised a workshop for case study researchers to share their findings, and begin drawing together a synthesis for WP6. The analytical framework was too complex and detailed for structuring the discussions and conclusions of the workshop (the incentives, in particular, are very detailed). UCL researchers therefore developed an alternative, more streamlined approach to analysing the MESMA case studies, centred on six overarching cross-cutting themes (see appendix 5). The themes are broad, but instructions sent to workshop participants broke down each theme into a series of sub-themes and issues to address, drawing findings from the more detailed analyses that had already been completed. The workshop themes are currently being used to structure a series of peer-reviewed papers on the individual case studies, due to be submitted to a special issue of *Marine Policy*, as an additional output from MESMA WP6. The themes could be used as an alternative, broader analytical framework for guiding future governance research, for the purpose of describing and understanding the most important aspects of on-going processes in MSP without going into as much detail as the original WP6 analytical framework.

Early on in MESMA WP6, there was a degree of concern amongst participating researchers about the fact that the WP6 analytical framework is designed for focus on a single primary objective, even if the process being analysed is working towards multiple objectives. Simultaneously focusing on multiple objectives using this framework would render the analysis unwieldy and confusing – the incentives analysis, in particular, is based on the premise of multiple incentives being used to achieve a single objective, rather than different sets of incentives in place to achieve different (possibly competing) objectives. WP6 researchers were therefore instructed, in keeping with the WP2 framework and the WP3 case studies employing this framework, to focus on a single primary objective from within their initiative, and use that as a guiding thread through their analysis.

Several participating researchers initially struggled with this idea, arguing that it was not appropriate to limit their analysis to a single objective when in reality their initiative had multiple objectives (e.g. the Barents Sea and the Belgian case studies). Several MESMA participants felt strongly that a governance analysis tool for analysing MSP processes should be designed for multi-objective processes, and thus be able to focus on multiple objectives simultaneously. However, as their work progressed, it became clear to participating researchers that focusing the governance analysis on a single primary objective is not the same as ignoring the reality of multiple objectives where that exists: through the conflict analysis and cross-cutting themes (especially the one focused on integration), the framework ultimately draws out any process elements relating to multiple objectives. The single-objective focus merely serves as a 'way in', a manageable approach to completing what might otherwise be an overwhelming and confusing task in gaining a comprehensive and structured understanding of a multifaceted process.

Whilst the analytical framework worked well purely as an analytical tool (i.e. helping to deconstruct and understand processes), it was less effective as a tool for evaluation, because of a lack of clarity

about benchmarks or criteria for evaluation. Process evaluation can either focus on whether or not a process is *effective at achieving its stated objectives* (a challenging proposition in multi-objective MSP initiatives where different objectives might compete with each other), or it can focus on whether or not it is a *'good' process* based on pre-defined criteria or values that are independent of the process itself. Within MESMA WP6, there was a degree of conflation between the two.

With respect to evaluating *effectiveness*, it is important to understand that the WP6 analytical framework is not designed to determine whether or not the environmental, social or economic goals of a given process are being achieved - in theory, this is what the MESMA WP2 framework is designed to do (although that is very much focused on environmental objectives, cumulative impacts, and Good Environmental Status). Rather, the WP6 framework is designed to help the researcher gain an understanding of the reasons *why* objectives might not be being achieved, the causes of obstacles and barriers to progress, and the way different elements of a process interact either to facilitate or obstruct the desired outcomes. In this sense, the framework was found to be reasonably successful. Section 4 of the analytical framework explicitly encourages the analyst to discuss the effectiveness of the process, drawing information from other sections of the analysis. The increased understanding and insights into the case study initiatives gained from applying the analytical framework allowed the identification of process elements that facilitated the meeting of objectives, as well as process elements causing obstacles. The Celtic Sea case study analysis was even used to underpin a list of recommendations for improving the effectiveness of England's MCZ planning process (Lieberknecht *et al.* 2013a).

However, the framework performs less well as a method for evaluating a process based on pre-defined external criteria. The framework is rooted in empirical research on MPA governance (Jones *et al.* 2013), so it evolved from research with an environmental focus. For the MESMA research, it was adapted to widen out its scope beyond purely environmental planning, but the environmental origins of the framework are still evident. For example, the framework splits conflicts into 'primary conflicts' (those between conservation and human use sectors), and 'secondary conflicts' (those between different human use sectors). This suggests that environmental concerns deserve to be afforded more significance than conflicts between different human activities.

Thus, the framework at times contains an implicit assumption that the process that is being analysed is aiming to be in line with principles of ecosystem-based management, and that if it is jeopardising environmental sustainability, it is deficient. This is a step beyond evaluating whether a process is effective at meeting its objectives (which could conceivably be entirely focused on economic development, depending on the way in which 'marine spatial planning' is interpreted by practitioners and decision-makers). Within the context of the MSFD, building environmental criteria into a process evaluation methodology might be seen as appropriate, so this is in itself not necessarily problematic. However, the fact that these environmental values are implicit in the framework rather than explicit might be seen as a drawback. The framework could be improved in future by differentiating more clearly between elements designed to evaluate effectiveness in delivering process-defined objectives (e.g. section 4), and elements designed to evaluate whether a process (irrespective of its objectives) is environmentally sound.

Similarly, the cross-cutting themes within the framework prompt the analyst to consider a number of value-laden aspects of governance, such as justice, equity, transparency, and accountability. One

might take a neutral stance towards these concepts per se, and simply analyse whether there are any obstacles to effectiveness within the process that relate to them, e.g. a lack of transparency leading to loss of trust in institutions and thus increased conflicts or opposition to spatial management measures. The analyst might conclude that increased transparency might, pragmatically, make the process more effective (leading to better compliance with management measures). On the other hand, the analyst might see transparency (and justice, equity and accountability) as ends in themselves, which every governance process should implement. Any governance process failing to meet a given standard of equity, justice, transparency, accountability, and participation might be seen as lacking legitimacy, and therefore deficient. The framework does not explicitly prompt the analyst to make this differentiation, and could perhaps be improved by doing so.

The analytical framework should continue to be seen as flexible, as a tool that can be adapted and evolved, rather than a fixed product. The above limitations in terms of its use as a tool for evaluating a process against external benchmarks of environmental sustainability and legitimacy should be borne in mind. However, the fact that it was successfully applied to a broad and diverse range of case studies in MESMA WP6 demonstrates that in its current form, it serves as a workable tool for deconstructing, analysing, and evaluating effectiveness in MSP processes. It has, in combination with some expert guidance, also proved to be a tool that can be used in a multidisciplinary environment, including by non-experts in governance research.

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Appendix 2 – Two Open Access Papers Derived from WP6 Governance Research

Marine protected areas in the UK: challenges in combining top-down and bottom-up approaches to governance

THEMATIC SECTION
Temperate Marine
Protected Areas

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SUMMARY

This review outlines the policy frameworks for marine conservation zones (MCZs) and marine special areas of conservation (SACs), which are the main components of the emerging UK marine protected area (MPA) network. If current recommendations are implemented, the coverage of MPAs in English seas could rise to 27%. The governance challenges that this will raise are explored through case studies of MPA initiatives in south-west England. Whilst the initial processes by which MCZ recommendations have been developed provided for stakeholder participation (bottom-up), the main steer has been from central government (top-down). The subsequent designation and implementation of MCZs is likely to be more top-down. Marine SAC processes have, by contrast, been top-down from the outset. The fishing industry fears that more MPAs will lead to increasing restrictions, whilst conservationists fear that MPAs will not be sufficiently protected, potentially becoming paper MPAs. Both argue that the burden of proof should be placed on the other party. Such combinations of top-down (central government-led) and bottom-up (community and user-led) approaches and the related conflicts are typical of government-led MPAs in temperate countries that have higher governance capacities. Top-down approaches tend to dominate, but this does not mean that they cannot be combined with bottom-up approaches.

Keywords: governance, marine protected areas, temperate

INTRODUCTION

Since a previous review of progress to develop a UK network of marine protected areas (MPAs) (Jones 1999), there has been much progress. This could lead to a network of MPAs that fulfils international obligations and makes significant contributions to the conservation and recovery of marine ecosystems around the UK. As the processes of designing,

implementing and managing these MPAs proceeds, many governance challenges are being met. These are related to issues such as addressing uncertainty, the role of the government, the role of non-governmental organizations (NGOs) and the relative influence of different marine sectors.

The marine area around south-west of England provides a very good context for analysing such governance challenges. Maritime activities, such as coastal tourism, marine recreation, commercial fishing and sea angling, are of particular socioeconomic importance in these predominantly rural communities, and the region is a focus for the development of marine renewable energy. The region also has several designated and proposed marine special areas of conservation (SACs). SACs must be designated for listed habitats and species, referred to as features, under the European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC, see URL http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm) henceforth referred to as the Habitats Directive.

South-west England is also one of four regions in which recommendations for a network of marine conservation zones (MCZs) have been developed, through the Finding Sanctuary project. I have followed the development of the Finding Sanctuary project since its inception in 2004; it started as a project in its own right prior to the Marine and Coastal Access Act (2009, see URL <http://www.defra.gov.uk/environment/marine/mca/>), which I henceforth refer to as the Marine Act, and the national MCZ project. I undertook detailed qualitative research between April 2010 and July 2011, involving direct, but non-participant observations of the workshops of the Finding Sanctuary stakeholder groups, including discussions with participants and analyses of related reports.

These stakeholder groups consist of representatives of fishing, regional economic development (particularly marine renewable energy and ports), recreational boating, sea angling, historical heritage, marine science and conservation NGO sectors, as well as representatives of the nature conservation agencies. Their task was to develop, discuss and agree on a network of MCZs that complied with the Ecological

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Network Guidance (NE [Natural England] & JNCC [Joint Nature Conservation Committee] 2010). The findings from my observations of these working groups were qualitatively analysed, through the development of themes, also known as open codes, such as the interactions between top-down (central government-led) and bottom-up (community and user-led) approaches; I draw on some of the results in the following discussion. MCZs represent a particularly interesting policy framework for exploring how top-down and bottom-up approaches can be combined, as the Marine Act requires them to be designated and effectively managed, but official policy emphasizes that users should be fully involved with the design of the MPA network.

This paper discusses progress and some of the emerging governance challenges in the development of a UK network of MPAs (particularly SACs and MCZs), introducing the concept of MPA governance, and then describing the principles, components and legal framework of the proposed UK MPA network. After outlining the specific policies for MCZs and SACs, the paper reviews progress in designating them. The challenges of combining top-down and bottom-up governance approaches are considered, drawing on my qualitative research on MPA design processes in south-west England. Finally, the implications of these challenges and the prospects for addressing them through ongoing processes to designate and manage a UK network of MPAs are assessed.

MPA GOVERNANCE

Governance can be defined as ‘steering human behaviour through combinations of people, state and market incentives in order to achieve strategic objectives’. Incentives are defined as ‘particular approaches (agreements, laws, interactions through markets, etc) that are designed to encourage people to behave in a manner that provides for specific strategic objectives to be fulfilled’ (Jones *et al.* 2011). As debates move on from whether MPAs are needed to how many MPAs are required, where they should be and how to design MPA networks, there is growing interest in the challenges surrounding MPA governance. Accepting that MPAs are focused on the achievement of a range of strategic biodiversity and resource conservation objectives (Jones 2001), their governance can be considered in terms of how different incentives can be combined in order to best support the fulfilment of such MPA objectives.

The generally accepted policy recommendation in this respect is that the ‘design and management of MPAs must be both top-down and bottom-up’ (Kelleher 1999) but what does this actually mean in practice? Three marine SACs in the UK were previously categorized, in a United Nations Environment Programme (UNEP) study on MPA governance, as a government-led approach under a clear legal framework, as were case studies from Australia and the USA (Jones *et al.* 2011). This does not, however, mean that such government-led MPAs are enforced solely through a top-down legislative approach. All MPAs need to combine

economic, interpretative, knowledge, legal and participative incentives if the governance framework is to be effective, equitable and resilient. Political commitment to MPAs and political will across different sectors was considered to be a key factor in this respect (Jones *et al.* 2011). Given that the legal framework for MCZs is similar to that for SACs, the governance of UK MPAs can be considered from the analytical perspective of the UNEP MPA governance study (Jones *et al.* 2011), with a particular focus on how top-down and bottom-up approaches are combined.

DEVELOPING A UK MPA NETWORK

Principles and components

The UK government’s plans to implement a network of MPAs around the UK were set out in a statement by the Minister for Marine and Natural Environment (DEFRA [Department of Environment, Food and Rural Affairs] 2010), as required by Section 123(6) of the Marine Act. This stated that the design of the MPA network will be underpinned by seven principles: representativity, replication, viability, adequacy, connectivity, protection and use of best available evidence. The government committed to have substantially established the UK MPA network by the end of 2012 (DEFRA 2010).

This MPA network will consist of Ramsar sites under the Ramsar Convention (1971); sites of special scientific interest (SSSIs) under the Wildlife and Countryside Act (1981); special protection areas (SPAs) under the European Birds Directive (2009); special areas of conservation (SACs) under the Habitats Directive; and MCZs under the Marine Act, along with parallel acts for Northern Ireland and Scotland. Ramsar sites, SSSIs and SPAs are predominantly intertidal, though three entirely marine SPAs have been designated for sea birds.

Marine SACs and SPAs are collectively referred to as European Marine Sites (EMSs) under UK policy, and as Marine Natura 2000 Sites under European Union (EU) policy. Sub-tidal marine biodiversity conservation will mainly be achieved through SACs and MCZs, therefore these will be the main focus in this paper. Many important provisions for the protection of SACs under the Habitats Directive also apply to SPAs, although the selection process for SPAs differs and is based on different annexes.

Legal framework

The Marine Act is one of the largest pieces of legislation to have been passed by the UK Parliament in the last 100 years and is ambitious in its scope (Appleby & Jones 2012). It provides for the creation of a new Marine Management Organization (MMO), the development and implementation of an integrated marine spatial planning system, the improvement and streamlining of the system for licensing marine activities, and the reformation of inshore fisheries management. Whilst these provisions are an

important context for MPAs, the Marine Act also includes specific provisions to designate and implement a network of MPAs, specifically referred to as marine conservation zones (MCZs), around the UK. This will include the whole continental shelf, but exclude the territorial sea (inside 12 nautical miles) of Scotland and Northern Ireland; these devolved countries will provide similar marine acts for MPAs in their seas. The Marine Act repealed the provisions for marine nature reserves under the Wildlife and Countryside Act (1981), which were a key focus of the previous review (Jones 1999), as these have been superseded by MCZs.

The UK government intends that the Marine Act will also contribute to the fulfilment of several regional obligations, particularly to designate an ecologically coherent and representative network of MPAs by 2016 under the Marine Strategy Framework Directive (2008) as a contribution to the achievement of good environmental status through an ecosystem approach, and to contribute to an ecologically coherent network of MPAs under the OSPAR Convention on the Protection of the Marine Environment in the North East Atlantic (1992). The Marine Act will also contribute to the fulfilment of several international commitments, particularly the establishment of representative networks of MPAs by 2012 under the plan of implementation from the World Summit on Sustainable Development (2002), and the designation of at least 10% of coastal and marine areas as MPAs by 2020 under a decision at the 10th Conference of the Parties to the Convention on Biological Diversity (2010).

The Department of Environment, Food and Rural Affairs (DEFRA) is the central UK government department with the main responsibilities for fulfilling these commitments. It is also responsible for fisheries management and wider nature conservation policies, though some responsibilities are devolved to Wales, Scotland and Northern Ireland. Natural England (NE) is a statutory agency responsible for advising and reporting on nature conservation in England, including inshore MPAs within 12 nautical miles. The Joint Nature Conservation Committee (JNCC) is an agency responsible for advising and reporting on nature conservation across the UK, including offshore MPAs beyond 12 nautical miles. NE and JNCC are collectively referred to as statutory nature conservation bodies (SNCBs).

Special areas of conservation (SACs)

Marine SACs are designated on the basis of the significant representation of one or more listed features, which must then be maintained at or restored to favourable condition. In particular, Article 6 of the Habitats Directive requires that any plan or project that could potentially affect the conservation status of a habitat or species for which an SAC has been designated needs to be subject to a step-wise assessment process; developments that may have significant effects on such features may only go ahead if there are imperative reasons of overriding public interest, including those of a social or economic nature. Detailed guidance on how to establish

Marine Natura 2000 sites and introduce necessary fisheries management restrictions has been provided by the European Commission (2007).

The formal moderation process for agreeing national lists of SACs is ongoing, but there are currently 96 marine SACs, covering 4.8% of the total UK marine continental shelf area (JNCC 2011*a*). Five possible additional marine SACs, that are currently under consultation, will increase cover to 5.6%. The obligations under the Habitats Directive to protect SACs have been transposed into UK legislation by four sets of regulations, which essentially place a duty on any authorities that have statutory functions relevant to the management of EMSs to exercise these functions in a manner that ensures compliance with the Directive (see Jones 1999 for further details). The jurisdiction of UK fisheries authorities to protect SACs and other MPAs is, however, limited, as most fishing around the UK is directly regulated by the European Commission (EC) under the Common Fisheries Policy (CFP). The UK authorities only have complete fisheries management jurisdiction within six nautical miles of the coastline, and within this CFP quotas for certain stocks still apply.

Marine conservation zones (MCZs)

Marine SACs, along with marine SPAs, will not fulfil the UK's requirement to designate ecologically coherent and representative networks of MPAs under the Marine Strategy Framework Directive (2008). The Marine Act (along with similar provisions in parallel acts for Scotland and Northern Ireland) therefore also includes detailed provisions to designate and protect nationally important marine areas as MCZs (Part 5, Chapter 1, Articles 116–148). The designation of MCZs is required as a contribution towards a representative and coherent network of MPAs, along with the other MPA network components. Once designated, any authority with functions that are relevant to the conservation of MCZ features, or of the processes on which such features are dependent, must exercise these functions in a manner that furthers or, where this is not possible, least hinders the fulfilment of MCZ conservation objectives, unless the public benefits of the proposed activity outweigh the risk of environmental damage (Articles 125 and 126). Activities that are not currently regulated by any relevant authority can be controlled through the introduction of by-laws by the MMO (Articles 129–144).

These legal provisions are supported by many official policy guidance documents (DEFRA 2011*a*; JNCC 2011*b*; NE 2011). The March 2010 ministerial statement (DEFRA 2010) outlined the principle that users should be fully involved with the design of the MPA network in order to integrate conservation with sustainable use, minimize socioeconomic impacts and promote support for the MPA network. The policies and official guidance on how to implement the MCZ provisions (Table 1) set out an MCZ network design process (Fig. 1) that provides for the participation of stakeholders who represent sectors that could be impacted by MCZ

Table 1 Key policy guidance documents for MCZs in England.

<i>Title</i>	<i>Authors/Date</i>	<i>Nature of guidance/advice</i>
Project delivery guidance on the process to select MCZs	NE & JNCC July 2010	Process for selecting and recommending MCZ network, including taking socioeconomics into account
Ecological Network Guidance	NE & JNCC June 2010	Criteria that MCZ networks must fulfil, based on the principles outlined in the ministerial statement: representativity, replication, viability, adequacy, connectivity, protection and use of best available evidence (DEFRA 2010)
MCZ Reference Areas: guidance document for regional MCZ projects	NE & JNCC October 2010 (draft)	Design of highly protected reference areas within MCZs
Conservation Objective Guidance	NE & JNCC January 2011	Development conservation objectives for each feature in an MCZ
Additional Guidance for regional MCZ projects on planning for areas where licensed, planned or existing activities occur	NE & JNCC July 2010	Compatibility of various activities with the conservation objectives of MCZ features
Levels of evidence required for the identification, designation and management of MCZs	NE & JNCC May 2011	Principles on the anticipated type and level of evidence required for the selection, recommendation, designation and management advice for MCZs
Advice from the JNCC & NE with regard to fisheries impacts on Marine Conservation Zone habitat features	JNCC & NE April 2011	Impacts of fishing activities on broad scale habitats and habitat Features of Conservation Importance (FOCI), possible management options and their compatibility with conservation objectives
General advice on assessing potential impacts of and mitigation for human activities on MCZ features, using existing regulation and legislation	JNCC & NE June 2011	Identifying the potential impacts of human activities on MCZ features, whether mitigation for these impacts is currently provided in the absence of protected areas (including MCZs) and what mitigation might be appropriate for MCZs
Advice on the impacts of MCZs on information provision and decisions in relation to marine licensing proposals	NE & JNCC June 2011	Process for the environmental assessment of licensing proposals and potential differences in the information provision for licensing proposals that could affect MCZs

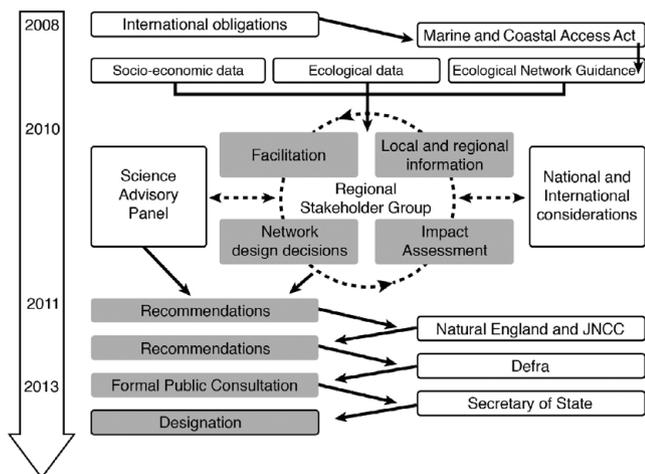


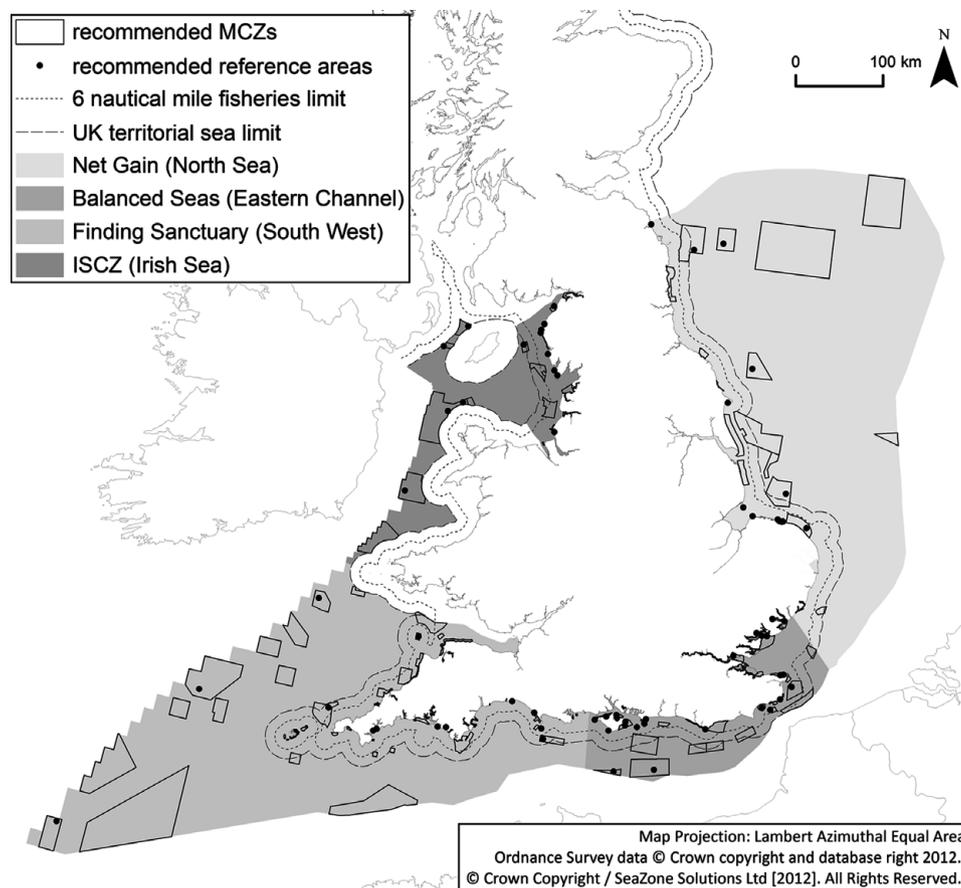
Figure 1 MCZ designation process. Redrawn from figure at <http://jncc.defra.gov.uk/page-4882>.

restrictions. This process was followed through four separate regional MCZ projects in England (Fig. 2); I here focus on the regional project for south-west England, Finding

Sanctuary. A national interactive mapping web page (see URL <http://www.mczmapping.org>) allows users to view and add to the information layers on which the MCZ network design draws, including the distribution of different activities, species, habitats and marine SACs.

In September 2011, the four regional projects each sent their recommendations for a regional network of MCZs (see Lieberknecht *et al.* 2011 for Finding Sanctuary report) to the science advisory panel (SAP), which assessed whether they were consistent with the Ecological Network Guidance (NE & JNCC 2010). The SAP’s detailed recommendations were published in November 2011 (DEFRA 2011*b*). These concluded that ecological coherence could be achieved if all the recommended MCZs were implemented, but that there were deficiencies and uncertainties in the evidence-base for many of the recommendations. The SNCBs have commissioned surveys to gather further evidence to address these deficiencies and uncertainties, and will then make their recommendations on the MCZ network to DEFRA. A full official public consultation on the proposed MCZ network will then be undertaken. A final decision on the configuration of the MCZ network was due to be taken by the Minister

Figure 2 MCZs recommended by the four regional projects in England. Redrawn from figure at <http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/mcz/default.aspx>.



for Marine and Natural Environment before the end of 2012, but this deadline was extended to 2013 by a second ministerial statement (DEFRA 2011c). This also stated that a phased approach to the designation of the MCZ network will be followed. MCZ proposals with a sufficiently robust evidence base will be designated in a first phase in 2013. Further studies will then be undertaken to build the evidence base for future MCZ designations. This statement includes a commitment to consult on all the MCZs recommended by the regional projects, including proposals for such further studies to develop a robust evidence base for future phases of MCZ designations. However, marine conservation NGOs are concerned that the potential for a coherent MCZ network is being undermined by such delays, and that the evidence requirements for marine SACs (Graham-Bryce *et al.* 2011) are being applied to MCZs, despite the very different basis and policy framework for these designations.

The UK government intends that the MCZs, along with other designations that constitute the MPA network, will be fully implemented by 2016, in keeping with the Marine Strategy Framework Directive deadline. A total of 127 MCZs have been recommended by the regional projects. These cover 37 164 km² and represent 15.3% of the total marine area under English jurisdiction (Fig. 2), SACs and SPAs covering 12.8% of the English marine area, taking the total MPA coverage (excluding overlaps, some areas

having more than one designation) in the English marine area potentially to 27.1%. SACs and SPAs tend to be concentrated in inshore waters (territorial sea inside 12 nautical miles), where they cover 23% of the English inshore area, alongside recommended MCZ cover of 13.9%, taking the total English inshore MPA coverage (excluding overlaps) potentially to 34.2%.

MPA targets

Many conservation NGOs had campaigned for the inclusion in the Marine Act of a statutory target for no-take MPAs, where all extractive and disturbing activities are banned, of 30% of the national marine area, in keeping with previous recommendations (RCEP [Royal Commission on Environmental Pollution] 2004; Jones 2008, 2009). Such targets are based on evidence that no-take MPAs result in greater biomass densities than partially protected MPAs and therefore provide greater potential benefits (Lester & Halpern 2008). The Marine Act does not include a no-take MPA target, nor does it require any no-take MPAs. Instead, it maintains the flexibility to provide the appropriate level of protection in each case, based on the available evidence (Appleby & Jones 2012). The March 2010 ministerial statement (DEFRA 2010) provides for a range of levels of protection, including MPAs that accommodate compatible uses and no-take reference

Table 2 Proportion of each broad-scale habitat that should be protected by MPAs within each of the four regional MCZ project areas (after NE & JNCC 2010, p. 38).

<i>Broad-scale habitat types</i>	<i>Proportion</i>
High energy intertidal rock	21% – 38%
Moderate energy intertidal rock	21% – 38%
Low energy intertidal rock	22% – 39%
Intertidal coarse sediments	25% – 42%
Intertidal sand and muddy sand	25% – 42%
Intertidal mud	25% – 42%
Intertidal mixed sediments	25% – 42%
High energy infralittoral rock	15% – 31%
Moderate energy infralittoral rock	17% – 32%
Low energy infralittoral rock	16% – 32%
High energy circalittoral rock	11% – 25%
Moderate energy circalittoral rock	13% – 28%
Low energy circalittoral rock	16% – 32%
Subtidal coarse sediment	17% – 32%
Subtidal sand	15% – 30%
Subtidal mud	15% – 30%
Subtidal mixed sediments	16% – 32%

areas. Specific reference area guidance has been produced which states that each broad-scale habitat type and feature of conservation interest (FOCI) should have at least one viable reference area within each of the four regional MCZ project areas, where all extraction, deposition or human-derived disturbance is prohibited (Table 1). Viability is based on the minimum patch diameter required to maintain the integrity of the habitat or feature and be self-sustaining. Reference areas are intended to provide a benchmark against which the effectiveness of partially protected MCZs can be assessed. The 127 recently proposed MCZs include 65 such reference areas (Fig. 2), which constitute nearly 2% of the total MCZ area.

Broad-scale habitat types are based on level three marine habitat types under the European Nature Information System (EUNIS) classification, each of which should have a reference area with a minimum diameter of 5 km. FOCI are particular habitats or species that are rare, threatened or declining around the UK, each of which should have a reference area with a minimum diameter that ranges in size from 0.5 km to the whole patch size. The total coverage of reference areas is likely to fall far short of the 30% no-take MPA target recommended by a previous expert committee (RCEP 2004), as the recommended no-take reference areas cover < 0.3% of the total English marine area, or just 1% of the 30% no-take MPA target. The inclusion of any such targets nevertheless represents a major concern for many marine use sectors, particularly fishers (Jones 2008, 2009) and anglers. Meanwhile, the NGO campaign for 30% coverage of no-take MPAs has been relaunched (MRC [Marine Reserves Campaign] 2011).

The Ecological Network Guidance (NE & JNCC 2010) also includes targets for the proportion of each of 17 different broad-scale habitats that should be protected within each of the four regional MCZ areas (Table 2). These need not all be

protected as no-take reference areas, and other types of MPA, such as SACs and SSSIs, can contribute to these targets. Even though it does not meet the 30% no-take MPA target, the Ecological Network Guidance represents the first official and systematic set of targets for MPA coverage in the UK.

MPAS IN SOUTH-WEST ENGLAND

Challenges of achieving compliance through participation

The processes for designing an MPA network around south-west England raise some interesting governance challenges. A wide range of marine interests were represented on the Finding Sanctuary stakeholder working groups. People with marine interests were also able to participate through four local stakeholder groups, through fishing industry liaison officers employed by the project, a fishing industry MCZ planning group, and the interactive MCZ web site; the information provided was collated for the stakeholder groups. The representatives on the stakeholder working groups were responsible for developing the MCZ recommendations. This participative transparent process was, however, subject to the requirement to develop an MCZ network that complied with the Ecological Network Guidance (NE & JNCC 2010), in combination with the other MPA network components, within an 18-month period. Progress reports on the development of the MCZ proposals were officially assessed by the SAP on four occasions to provide interim feedback on compliance.

This process was supported by an independent facilitator, but, as it proceeded, many representatives became increasingly aware that it was driven by obligations and instructions, rather than guidance and advice, and that the facilitator's key role was to support compliance with these requirements. This role was therefore one of 'tempered' rather than neutral facilitation (Jones & Burgess 2005), in that the facilitator frequently had to be quite strict in reminding the working groups of the requirements of the Ecological Network Guidance and of the need to stick to a timescale, and to strategically steer the discussions accordingly.

From the outset, it was clear that some of the fishing industry representatives did not support the legal obligation to designate a network of MCZs, one of them stating that his role was simply to minimize the damage to the industry caused by MCZs. This is consistent with previous research that involved interviews with fishing industry representatives in south-west England, which found that 74% of the 57 interviewees did not support no-take MPAs for biodiversity conservation purposes, though many did support partial/seasonal closed areas to protect spawning/nursery grounds (Jones 2008). It thereby follows that the requirement to designate no-take reference areas became a particular issue as the process progressed. Two of the four fishing industry representatives formally declared that they could not support any such proposals. They argued that the reference areas were based on an imposed, unjust and unjustified requirement. They also

stated that they would refuse to participate in any discussions related to reference area proposals, though they actually did participate to limit the impacts of particular reference areas.

Towards the end of the participative working group process, the stakeholder representatives became increasingly concerned that the network recommendations would subsequently be taken out of their hands. The regional stakeholder groups were formally disbanded once the MCZ recommendations went forward for final scrutiny by the SAP. Many representatives had developed a shared sense of ownership of the MCZ recommendations, and they were concerned that the MCZs would subsequently be decided by scientific, statutory and political processes (see Fig. 1), without the input of the stakeholder groups. This reflected growing recognition that the requirement to fulfil the Ecological Network Guidance and comply with the Marine Act meant the process was largely driven by legal obligations and science, rather than being driven by stakeholders. This was contrary to statements made by senior NE representatives at the launch of the MCZ process in 2009 that the process would be a bottom-up (Phillips 2009) and stakeholder-led (J. Marsden, Director Marine, Natural England, unpublished statement 2009).

It could be argued, however, that a degree of top-down government control is required if strategic wider-scale and longer-term MPA objectives are to be met (Jones & Burgess 2005). The role of the Ecological Network Guidance, the SAP, the SNCBs and the Marine Act, along with the top-down process by which the final MCZ network will be decided by the minister, may represent an appropriate degree of government control. This is consistent with arguments that the process by which MPAs were designed in California was largely based on decisions made by scientists, coupled with a general legal obligation (Hilborn 2012). This consistency is no coincidence, as the governance structures and processes for recommending English MCZs were an adaptation of those for Californian MPAs. This was partly based on a study of the California MPAs by Finding Sanctuary's MPA planner (Lieberknecht 2008), which were concluded to be both participatory and science-based. It would seem that this is a more accurate description of the MCZ design process, in that it provided for stakeholder participation, but was ultimately top-down and was steered by scientific guidelines which are underpinned by a legal obligation. This has provided for socioeconomic priorities to be considered through the participation of stakeholder representatives, in keeping with article 117(7) of the Marine Act. This has proved particularly important in order to avoid MCZs in areas of high socioeconomic interest, where alternative areas can be proposed as MCZs, provided the overall network still complies with the Ecological Network Guidance. This was deemed a damage limitation approach by some representatives, particularly those from the offshore fishing sector, who still felt that MCZs had essentially been imposed on them in a manner that would lead to their constituents bearing an unfair share of the costs.

The process for marine SACs has, by contrast, been even more top-down in that SACs are proposed solely on

the basis of scientific evidence. Stakeholders are consulted on the proposals, though responses can only address the scientific basis of the proposed SAC. This is consistent with the Habitats Directive and the Lappel Bank (case reference C-44/95) and Severn Estuary (C-371/98) judgments (see <http://eur-lex.europa.eu/en/index.htm>), by which only ecological considerations can be taken into account when selecting and defining the boundaries of SACs. This precludes consideration of socioeconomic impacts, on which many consultation responses are based. Whilst this SAC selection approach has caused concern for many marine users, particularly commercial fishers, there is recognition that this requirement has been imposed by the EC, an institution most fishers mistrust, at the least, as a result of their negative perceptions of the Common Fisheries Policy.

Prospects for management

Stakeholder concerns about the processes by which MPAs are selected are essentially a prelude to their main concerns about the prospects for MPA management, particularly, but not solely, amongst commercial fishers. Whilst some SACs in south-west England have been designated for several years, others have only recently been designated or are currently subject to consultations. This temporal convergence has led to confusion between the designation of SACs and MCZs amongst many stakeholders, and this has added to their concerns about the prospects for future management restrictions. The two designations became conflated as MPAs, with much uncertainty as to what activities will be allowed within them and what activities will be restricted. Even once SACs and MCZs have been distinguished, much uncertainty remains.

The MCZ provisions are, as is outlined above, similar to the regulations that transpose the Habitats Directive for marine SACs into UK law, though they are not subject to the potential for the legal intervention of the EC and European Court of Justice under the Habitats Directive. This is an important difference, as it means that the designation and management of MCZs is under national jurisdiction, whereas the designation and management of SACs is ultimately under European jurisdiction. Whilst MCZs are required to constitute a network under the Marine Strategy Framework Directive (2008), EC officials have indicated to member state representatives that this Directive is largely considered a supportive and enabling framework, as compared to the Habitats Directive, which is more strictly enforced, including referrals to the European Court of Justice for non-compliance. This difference has important implications with regards to the prospects for management restrictions for SACs and MCZs.

As is outlined above, all authorities with responsibilities for the management of activities that could potentially be incompatible with the conservation of a given MCZ feature are obliged to manage these activities in a manner that ensures that the MCZ conservation objectives are fulfilled. However, there is still great uncertainty as to which activities will

actually be restricted. Guidance is available in the form of compatibility matrices that list which activities are likely to need restrictions to protect specific features, but these are only in draft form. Furthermore, the draft conservation objectives for the recommended MCZs, which are important as they affect compatibility assessments in stating whether a feature should be maintained or restored, were actually provided by the SNCBs towards the end of the working group process, rather than being decided by the stakeholders. This led to major concerns amongst some potentially affected stakeholders, as it again highlighted the top-down nature of some elements of the MCZ network design process, as well as exacerbating concerns that activities that were assumed by the stakeholders to be compatible would subsequently be considered as incompatible by the SNCBs.

The acceptability of many MCZs was based on such assumptions, which constitute an official element of the MCZ recommendations, but there is great uncertainty over whether these assumptions will be incorporated into final management decisions by the relevant authorities, subject to the official advice of the SNCBs. There are major concerns that the eventual management restrictions will be much more stringent than had been assumed by the stakeholders. Such uncertainties and concerns have undermined the stakeholders' ownership of the MCZ recommendations, alongside the loss of ownership associated with the scientific, legal and political basis for the final decisions on the MCZ network following the dissolution of the stakeholder groups.

There is also uncertainty as to how management restrictions will be enforced. The draft guidance (DEFRA 2009, p. 16) states that voluntary measures should be considered as an alternative to legal restrictions, as they can, in the right circumstances, be appropriate for the control of local activities before the impacts become significant. They also have the advantage of being more flexible than regulations and can encourage greater levels of engagement, buy-in and cooperation amongst users. It is no coincidence, however, that a conservation NGO has recently published a report that concludes, on the basis of eight UK MPA case studies, that voluntary approaches are only effective in small bottom-up MPAs with broad stakeholder support, and that statutory approaches are more appropriate for top-down MPAs that require restrictions on economically significant activities (Prior 2011). Given that MCZs are most likely to be considered as top-down MPAs, there is considerable uncertainty not only over the configuration of the final MCZ network, but also over what the official conservation objectives of a given MCZ will be, what management restrictions will be deemed necessary to achieve these objectives and how these restrictions will be implemented.

Lessons from Lyme Bay

In the midst of such major uncertainties over how MCZs will be managed, it is important to consider how marine SACs have been managed, as these have had a longer history and the

experiences that stakeholders and relevant authorities have had with them influence their views on the prospects for the management of MCZs. Fishers' views continue to be particularly strongly influenced by the sequence of events in Lyme Bay. This large bay includes some important reef habitats, particularly for pink sea fans (*Eunicella verrucosa*), and, in 2001, prior to the area being proposed as part of an SAC, the Devon Wildlife Trust brokered a voluntary closure to trawlers of two small but important reef areas (total two square miles). The recovery of these reefs was monitored, but, in 2006, it became evident that this voluntary agreement was being breached. The regional inshore fisheries regulators considered that they were not in a position to implement legal restrictions through local by-laws, partly because there was no SAC or other MPA designation requiring such protective measures. NE considered that conservation measures were needed, as pink sea fans were listed in 1991 under the species protection provisions of the Wildlife and Countryside Act (1981). As the reefs were threatened by scallop dredging, NE applied to the central fisheries regulator, DEFRA, for a prohibition on trawling in a 60 square mile area of Lyme Bay.

This encouraged the local fishers to form an association, and they agreed to better abide by the voluntary agreement for the original two closures along with closures of two additional areas, protecting a total of 12 square miles. Despite this, there were reports that the voluntary reef closures continued to be breached and, in September 2006, DEFRA launched a public consultation on the protection of the reefs and the pink sea fans they supported. This considered three options: rely on the existing four voluntary closures (12 square miles), legally ban trawling in an enlargement of these areas covering 25 square miles, or legally ban trawling in a single 60 square mile box encompassing all the reef areas in question and a wider area. The majority of responses, mainly from the wider public, favoured the last option, and, in June 2008, DEFRA announced that trawling would be banned in the 60 square mile area under a Fishing Restrictions Order (2008, No. 1584, see URL <http://www.legislation.gov.uk/uksi/2008/1584/contents/made>) under the species protection provisions of the Wildlife and Countryside Act (1981), creating a *de facto* MPA.

The fishers and their leaders strongly objected to this closure, the chair of their association formally withdrawing (albeit temporarily) from the Finding Sanctuary steering group as a protest, even though the closure was not related to MCZs or Finding Sanctuary. A subsequent statement by the Chief Executive of NE that scallop dredging in Lyme Bay represented 'rape and pillage' resurrected this issue, the chair of the fishers' association claiming that this had 'exposed deep-seated prejudice and has insulted the scallopers and their families, whose livelihoods have been decimated by the closure' (Fleming & Jones 2012).

In the wake of this controversy, a wider area of Lyme Bay was subsequently proposed by the UK government as part of the Studland to Portland SAC in November 2009,

but consultation revealed the need for boundary revisions, so this area was instead included in the Lyme Bay and Torbay SAC proposed to the EC by the UK government in August 2010. The scientific evidence base for the 2008 closure and for this SAC designation was challenged by south-west fishing industry representatives. This led DEFRA's Chief Scientific Advisor to commission an independent review of the evidence base for the selection of this and two other south-west marine SACs in March 2011. The report concluded that the evidence base was sufficient, though there was scope for improvements in project management and record keeping (Graham-Bryce *et al.* 2011).

The most recent development in this saga is that NE have argued that the legal protection provided by the MMO for the Lyme Bay and Torbay candidate SAC, is insufficiently proactive or strong (Marsden 2011). Two NGOs (Client Earth [CE] and the Marine Conservation Society [MCS]) have also launched a legal challenge which argues, under the precautionary principle and Article 6 of the Habitats Directive, that all fishing operations should be legally prohibited from all European Marine Sites until there is sufficient evidence that a given operation in a given site will not have a significant effect on the conservation features in question. Lyme Bay and Torbay is one of three marine SACs in south-west England on which this challenge is based (CE & MCS 2011). In a parallel development in Northern Ireland, the EC has begun infraction proceedings against the Department of Environment, Northern Ireland (DOENI). This follows a complaint by an NGO that a ban on all fishing operations in Strangford Lough SAC, needed to conserve horse mussel (*Modiolus modiolus*) reefs, has not been implemented (Ulster Wildlife Trust 2012). These arguments are all underpinned by the UK government's obligations to comply with the Habitats Directive and it is likely that there will be further such legal challenges, particularly from NGOs.

Conversely, fishing industry representatives have argued in their industry newspaper that the Lyme Bay closure demonstrates that NE cannot be trusted in their role as scientific advisors on MCZs (Portus 2010) and that the legal challenge from CE and MCS represents 'irrational zealotry' (Lockwood 2011). They also fear that MCZs will be the NGOs' next target for such challenges (Oliver 2011).

These complicated but typical cases reveal that there are major concerns about the future management of MPAs in south-west England that are illustrative of similar concerns around the UK. The fishing industry fears that both marine SACs and MCZs will lead to further restrictions on trawling, but potentially also static fishing, adding to the many major pressures on the industry: 'Society and politicians do not care about fishermen so if no-take MPAs are the final nail, so be it as far as they are concerned' (quote from a fisherman, Jones 2009). The SNCBs and NGOs are concerned that the MPAs will not be sufficiently protected under the inshore fisheries regulatory framework, potentially becoming paper MPAs. Both argue that the burden of proof should be placed on the other, the fishing industry on the basis of the need for a firm

evidence base to justify use restrictions, the conservationists on the basis of the precautionary principle.

The only concern that they probably share is that the reformed CFP will not provide for the protection of MPAs beyond six nautical miles, where stocks are shared with fishers from other European countries, under the relative stability principle, and directly regulated by the EC. The motives for these concerns are, however, very different. UK fishers fear that MPA restrictions beyond six nautical miles will be unilaterally imposed on them, a concern that is reinforced by the recent unilateral ban on pair trawling by English vessels to protect cetaceans in the south-west approaches (De Santo & Jones 2007). However, conservationists fear that restrictions on fishing for MPAs will not be provided for, and that conservation objectives will therefore be undermined, reinforcing their concerns about the potential for paper MPAs.

DISCUSSION

It could be argued that as both fishers and conservationists have concerns of a similar gravity but opposite nature, a balance between top-down and bottom-up approaches in UK MPA governance has probably been achieved. However, it must also be recognized that, whilst other stakeholders, such as anglers, recreational boatmen and divers have some reservations, particularly with regards to no-take reference areas, there is also considerable support for the MCZ network recommendations and anticipation of benefits for their constituents. The main concern of such stakeholders is that the final MCZ network will include significant changes to their recommendations and that their ownership of the initiative will be undermined, as it becomes more top-down and less participative.

Other major commercial stakeholders, such as marine renewables and ports have, like the fishing industry, endeavoured to minimize the risk of potential restrictions that could lead to costs for their sectors, by influencing the location of recommended MCZs and including certain assumptions about potentially compatible activities. However, these sectors are also aware that they may be able to argue that the public benefits of their activity outweigh the risk of environmental damage, given the strategic and economic importance of these major commercial sectors, compared to fishing. Most sectors are also preparing to make representations and challenges during the national consultation on the MCZ network recommendations, certainly including political lobbying and potentially including legal challenges.

Such governance storylines tend to be typical of MPAs in temperate countries that are more economically developed and have relatively mature democratic systems, coupled with relatively well developed legal, bureaucratic and political systems, and relatively organized stakeholder sectors, such as North American, Australasian and European countries. In the same way that Caveen *et al.* (2012) distinguished MPAs in terms of conservation biology on the basis of broad biogeographic regions, MPAs can be distinguished

in terms of governance on the basis of broad geopolitical classifications. Countries such as those discussed here tend to have relatively high governance capacities and employ government-led approaches, including for MPAs and related sectoral policies. That is not to say, however, that such MPAs need be managed solely on a top-down basis, as the key to successful governance is to employ as high a diversity of governance incentives as feasible (Jones *et al.* 2011). The Wash and North Norfolk Coast marine SAC is a good example of such a statutory partnership approach, whereby participative and other incentives have been combined with legal incentives to achieve some, but not all, socioeconomic development and biodiversity conservation objectives (Roberts & Jones 2009).

CONCLUSIONS

In the UK, rapid progress is being made toward increasing the number and coverage of MPAs, rising from < 6% to potentially *c.* 30% of the national marine area in less than five years. These emerging MPA networks will form a basis of the ecosystem approach element of the wider marine spatial planning framework, which the Marine Act also provides for, in keeping with the Marine Strategy Framework Directive (Appleby & Jones 2012). Combining top-down and bottom-up approaches in the governance of MPAs in temperate government-led geopolitical contexts requires many particularly challenging but necessary issues to be addressed, as outlined in this paper, particularly the integration of national and regional fisheries policies with MPAs.

It is critically important to consider the context when considering the transferability of what appears to be good practice from one MPA to another (Jones & Burgess 2005), recognizing both biogeographical and geopolitical elements. The rapid development of MPAs in the UK will hopefully be able to positively contribute to such debates and initiatives in working towards an effective combination of top-down and bottom-up approaches. Some major challenges, however, remain to be addressed, and political commitment to designating a coherent MPA network coupled with political will to address the apparent impasse is likely to be vital.

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The emerging policy landscape for marine spatial planning in Europe

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ABSTRACT

This paper provides an overview of the emerging policy landscape for marine spatial planning in the European Union, which consists of four main categories of policy drivers: environmental legislation, legislation on marine renewable energy, fisheries regulations and the Integrated Maritime Policy. The weak links between these categories of policy drivers, underpinned by a lack of clarity regarding the vision for sustainability, pose major challenges for the emergence of ecosystem-based and integrated marine spatial planning in Europe. In addition, there is still uncertainty arising from on-going reform of the Common Fisheries Policy, and discussions on the need for a new marine spatial planning directive. This paper concludes with the view that better integration of environmental concerns into the Common Fisheries Policy is needed to strengthen the link between environmental legislation and fisheries regulations, and that the existing policy landscape, particularly the Marine Strategic Framework Directive, already provides a legal framework for ecosystem-based marine spatial planning. Such a framework is consistent with the recognition that ecosystem conservation underpins other pillars of sustainable development and provides the foundation for cross-sectoral marine planning and management.

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1. Introduction

Marine spatial planning (MSP) is “a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process” [1]. MSP is often considered a practical strategy to implement the ecosystem-based approach to the conservation and management of marine resources [2,3].

The policy landscape for MSP in Europe is still a young and emergent one. The concept of MSP is relatively new and some important policy drivers, such as the Marine Strategy Framework Directive (MSFD, Directive 2008/56/EC) and Integrated Maritime Policy (IMP, COM(2007) 575), came into force relatively recently. As an emergent policy landscape, it is also subject to on-going political and legislative changes that may significantly affect its future development. The European Union (EU) has recently adopted a new legislative procedure under the Lisbon Treaty (2009), which may affect the adoption of new policies or the revision of existing ones. A proposal for a new regulation under the Common Fisheries Policy (CFP) is currently being deliberated upon, following the new procedure as established in the Lisbon Treaty. New policy instruments on

MSP are being explored by the European Commission (hereafter the ‘Commission’) as a means of promoting a common approach to MSP across Europe [4]. Such major policy reforms and new developments may significantly shape the vision and direction of MSP in Europe in the decades to come.

This paper aims to examine the main areas in which synergies and tensions are likely to arise in this emerging policy landscape for MSP. The paper is divided into the following inter-related parts:

- definition of sustainability in the wider EU policy context, and its implications for MSP,
- implications of the Lisbon Treaty for the emerging MSP policy landscape,
- main policy drivers of MSP in Europe, and the interactions between them, and
- emergent issues that need to be addressed to enable a system of ecosystem-based, integrated and just MSP initiatives in Europe.

When preparing this paper, information on MSP-related policies, directives and regulations was gathered through reviewing relevant policy documents. This information was combined with in-depth interviews with several MSP experts with detailed knowledge about the emergent issues discussed in this paper. They remain anonymous for reasons of confidentiality, but their views and perspectives informed the analyses presented in the paper. Based on the

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review of policy documents and the interviews, an interim working paper was produced and circulated to a wider audience, including scientists, researchers and government officials, to verify the main findings. The comments and feedback received were subsequently incorporated into the revised working paper, which forms the basis for this paper (see Supplementary Material).

2. Different views on sustainability and implications for MSP

It has been recognised that there are different views on the meaning of sustainability. The differences partly result from the divergent moral and philosophical roots from which conceptions about society–nature relationships develop [5]. This implies that defining and achieving sustainability is not fundamentally a scientific or technical issue, but an issue that concerns human values and collective choices for a preferred future [5,6].

Various authors [6–8] distinguish between ‘soft’ and ‘hard’ sustainability. ‘Soft’ sustainability is based on the view that depletions in natural capital, through crashes in natural stocks, declines in biodiversity, etc., can be compensated for through economic growth, related improvements in technology, etc. This often means that among the different ‘pillars’—economic, social and environmental—of sustainable development, the economic pillar is considered as the foundation for the well-being of a society. ‘Hard’ sustainability is based on the view that natural capital cannot be substituted by man-made capital, and that increases in man-made capital should not be based on consuming natural capital and should not undermine the natural systems and processes that are vital to the existence of humans. The environmental pillar is thereby considered as the foundation for the well-being of society (Fig. 1).

The EU Sustainable Development Strategy includes the objective to “safeguard the earth’s capacity to support life in all its diversity, respect the limits of the planet’s natural resources and

ensure a high level of protection and improvement of the quality of the environment” [9]. This policy statement and the requirement of the precautionary principle under the Lisbon Treaty (examined below) imply the underpinning importance of environmental sustainability in the EU’s overall commitment to sustainable development [10], i.e. tending towards ‘hard’ sustainability. It is also noted, however, that in reality the economic pillar has often been prioritised over the environmental pillar [10,11], i.e. tending towards ‘soft’ sustainability.

MSP ultimately involves political processes that lead to the allocation of sea space to meet social, ecological and economic objectives. How sustainability is interpreted in such political processes thus has important implications for the outcomes of such processes. Mee et al. [6] note that in marine management, both ‘soft’ and ‘hard’ sustainability represent two extremes, and the real approach often lies somewhere in between. The policy drivers for MSP in the EU are dominated by environmental regulations, which may be based on the recognition that Member States do not need further encouragement from the EC in promoting growth in the maritime economy. However, how these environmental regulations interact with other policy drivers to influence MSP, and whether MSP should be based on ‘hard’ or ‘soft’ sustainability is likely to be a recurring theme in existing and future debates and initiatives concerning MSP, in the same manner as it has been a recurring theme in sustainable development debates and initiatives since the Stockholm conference in 1972 [12]. MSP thereby provides a framework for such debates rather than a solution to them.

3. The ‘Lisbon Treaty’ and the implications for MSP in the EU

EU law consists of ‘primary’ and ‘secondary’ legislation. The treaties (i.e. primary legislation) establish ground rules that govern

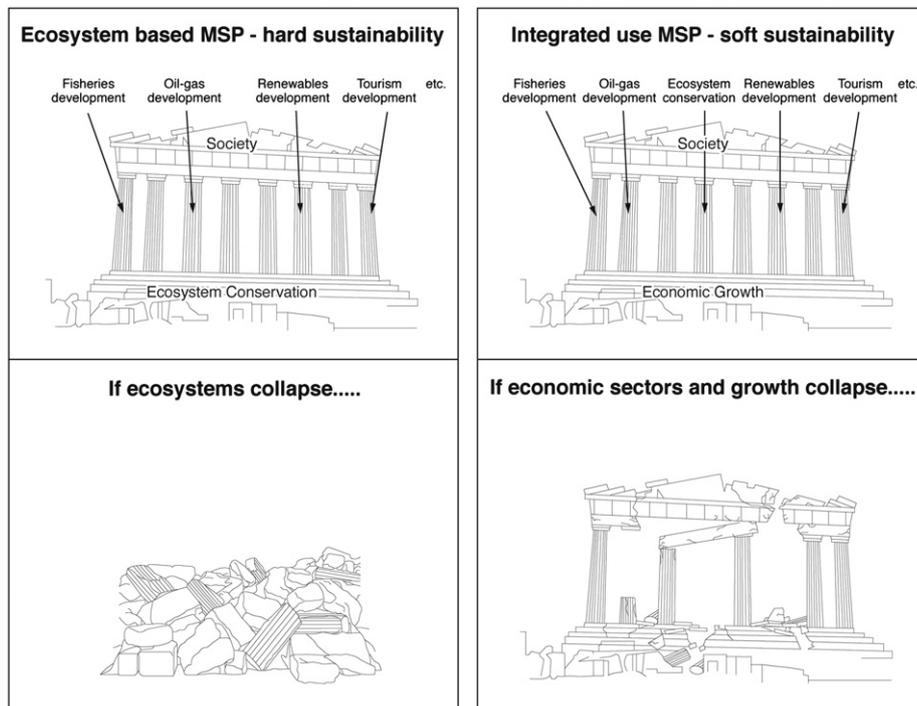


Fig. 1. Different views on sustainability in MSP. The two figures on the left describe ecosystem-based MSP, and the anticipated consequences of ecosystem collapse, based on ‘hard sustainability’. This view sees ecosystem conservation as the foundation for MSP, and that irreversible collapses in marine ecosystems would eventually lead to collapses in the economic sectors that depend on such marine ecosystems. The two figures on the right describe integrated-use MSP, based on ‘soft sustainability’, in which economic growth is seen as the foundation of MSP, and the collapse of the ‘environmental pillar’ does not necessarily lead to the collapse of related socio-economic structures.

all EU decisions and actions. Secondary legislation, including regulations, directives and decisions, is based on the principles and objectives established in the treaties [13]. The Lisbon Treaty is comprised of the Treaty on the European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU), and entered into force in 2009, amending previous treaties without replacing them [14]. A full analysis of the Lisbon Treaty is beyond the scope of this paper; however, important implications of the Treaty for MSP are outlined below and discussed in subsequent sections of the paper.

As in previous treaties, environmental protection continues to be prominent in the Lisbon Treaty [15]. Article 3 of the TEU specifies that the EU “shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment”. According to Article 191 of the TFEU, policy on the environment “shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay” [16]. Although the Lisbon Treaty does not specify the relationships between different objectives of sustainable development—social, economic and environment [15], the inclusion of the precautionary principle implies that environmental protection is given a particularly high priority. While EU environmental laws are often criticised for a lack of explicit requirement for the precautionary principle [6], it is important to recognise that such a principle is enshrined in the Treaty that establishes ground rules for the functioning of the EU, including all EU laws and policies.

One of the most important changes introduced by the Lisbon Treaty is the adoption of co-decision making as the ‘ordinary legislative procedure’ (Article 294). Under the co-decision procedure, the Commission drafts proposals for adoption of new legislative acts, in consultation with national parliaments and other interested parties. The legislative proposals are then passed to the two co-legislators—the directly elected European Parliament (hereafter the ‘Parliament’) and the Council of Ministers (hereafter the ‘Council’) representing national governments. Co-decision procedure gives the two co-legislators equal rights and obligations in adopting legislation, and neither can adopt legislation without the agreement of the other. As the ‘ordinary legislative procedure’, the Lisbon Treaty extends the application of the co-decision procedure to 85 policy areas, compared to 44 in the Treaty of Nice (2001) [17]. Such policy areas now include the Common Fisheries Policy, environment (except for certain measures) and energy (except for fiscal measures). For some Council acts on the environment, including the supply and diversification of marine renewable energy resources, a ‘special legislative procedure’ applies. Decisions in these areas are adopted by the Council acting unanimously after consulting the European Parliament, Economic and Social Committee and Committee of the Regions [18].

The significance of the co-decision procedure is that it places democratically elected members of the Parliament on an equal footing with the Council, and government ministers in the Council can no longer dominate law-making in the EU in most policy areas [19]. Given the ‘green’ track record of the Parliament, the increased role of the Parliament could help advance environmental agenda in EU decision-making [15]. In addition, the co-decision procedure also strengthens the influence of national parliaments following the subsidiarity principle. If a draft legislative act’s compliance with the subsidiarity principle is contested by a third of the votes allocated to national parliaments, the Commission has to review the proposal and decide whether to maintain, amend or withdraw the act [20]. The co-decision

procedure therefore enhances transparency and accountability, and provides more opportunities for political representatives, including those with environmental sympathies and under lobbying pressure from conservationists, to have a much greater influence through their national parliaments and through the Parliament. The implications of the new co-decision procedures will be illustrated in a later section through discussions of the ongoing processes for the reform of the CFP and the adoption of new policy instruments for MSP.

4. Policy drivers for MSP in the EU

MSP in the EU receives important impetus from a number of EU directives, policies and regulations. Such policy drivers can be broadly categorised into four groups: environmental legislation, legislation for renewable energy, fisheries regulation and frameworks for cross-sectoral and integrated management. It is important to recognise that although most of the policy drivers discussed below do not contain explicit provisions for cross-sectoral MSP, they do have direct and significant influence on the allocation of marine space for a particular purpose, thereby affecting the availability of space for other sectors. The synergies and tensions between the different policy drivers therefore represent opportunities and challenges for the emergence of fully integrated, cross-sectoral MSP initiatives. The discussion below draws on a review of the objectives and provisions of the main policy drivers as summarised in Table S1 (see Supplementary Material).

4.1. Environmental legislation

In Europe, one of the most important drivers for MSP is biodiversity conservation legislation, as part of the EU’s fulfilment of international commitments under, inter alia, the Convention on Biological Diversity (CBD) and the World Summit on Sustainable Development. The most significant policy drivers include the Birds Directive (Directive 2009/147/EC) and Habitats Directive (Directive 92/43/EEC), which require EU Member States to designate and protect Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), together known as the *Natura 2000* network.

The Habitats Directive aims to maintain the ‘favourable conservation status’ of species and habitats through the establishment of *Natura 2000* sites, as well as the protection of listed species throughout their natural range. The Directive provides for the protection of over 1000 animals and plant species and over 200 habitat types [21]. These include 9 marine habitat types and 18 marine species [22]. The marine *Natura 2000* network consists of 1813 sites covering a total area of 198,760 km², though significant gaps still exist, particularly in offshore environments [23]. At the heart of the Habitats Directive is Article 6, which requires sound management of *Natura 2000* sites through various measures (Table S1, Supplementary Material). A series of non-binding guidance documents have been published by the Commission on the application of Article 6, including on environmental impact assessments in *Natura 2000* sites and on the application of Article 6 in specific sectors, such as wind energy, port development and non-energy mineral extraction [24].

In addition to the Birds and Habitats Directives, the Environmental Impact Assessment (EIA, Directive 85/337/EEC) and Strategic Environmental Assessment (SEA, Directive 2001/42/EC) Directive also have important implications for MSP, as they require environmental assessments to be undertaken for individual projects (EIA Directive) or development programmes and plans (SEA Directive). Under the SEA Directive, an environmental assessment is mandatory for all plans and programmes that require an assessment pursuant to

Article 6 or 7 of the Habitats Directive for the protection of *Natura 2000* sites. The SEA Directive also requires that a Member State shall forward a copy of a draft plan or programme and the relevant environmental reports to other Member States, when the plan or programme is likely to have significant transboundary effects on the environment, and shall enter into consultation at the request of other Member States concerning the transboundary effects of implementing the plan or programme (Table S1, Supplementary Material). This provision creates incentives for cross-border consultation and cooperation in addressing the transboundary environmental impacts of national marine plans [25].

The most recent policy driver for the protection of the marine environment is the MSFD, which represents an ecosystem-based approach towards marine management and governance, aiming towards achieving ‘good environmental status’ (GES). Together with the Water Framework Directive, the MSFD represents a framework through which other EU sectoral directives can be linked, providing integrated management from the catchment through the coast to open marine ecosystems [26]. The ‘framework’ nature of the MSFD is reflected in the eleven descriptors for determining GES, which cover the most important maritime sectors and their impacts on marine ecosystems (Table S1, Supplementary Material). From the Birds Directive to the SEA Directive and the MSFD, there is a clear trend of mainstreaming environmental concerns into wider planning and development programmes in European legislation.

The MSFD strengthens the commitment to designate a network of MPAs across Europe, by requiring Member States to implement spatial protection measures that contribute to ‘coherent and representative networks of marine protected areas (MPAs)’ (Article 13 Programme of Measures). Establishing coherent and representative networks of MPAs is the only explicit requirement under Article 13, forming a core element in delivering the ecosystem-based approach envisaged in the MSFD. Such networks of MPAs include marine *Natura 2000* sites, but the MSFD requirement for coherent and representative networks of MPAs implies that protection needs to be extended beyond marine features listed under the Habitats and Birds Directives, as these were not designed to lead to coherent and fully representative MPA networks. This suggests that MPAs of national importance need to be designated by Member States to complement the existing *Natura 2000* network, leading to coherent and representative networks of MPAs across Europe. The MSFD does not explicitly require MSP, but Member States are required to develop national programmes taking consideration of ‘spatial and temporal distribution controls’, which are ‘management measures that influence where and when an activity is allowed to occur’ (Annex VI).

4.2. Legislation on renewable energy

In a number of EU countries, including Belgium, Germany, the Netherlands and the United Kingdom, the promotion of offshore wind energy has been a strong driving force behind the development of national MSP frameworks [25,27,28]. The growing interest in offshore renewable energy represents a response to anticipated economic benefits in terms of job creation and stimulating growth, as well as concerns over energy security [29,30]. It is also a response to obligations under the EU Renewable Energy Directive (Directive 2009/28/EC), which is a key component of the EU Climate and Energy Pack adopted in 2008 to contribute to EU’s fulfilment of Kyoto Protocol objectives. The Pack includes a legally binding obligation to increase the share of renewables to 20% of total energy consumption in the EU by 2020.

The Renewable Energy Directive was adopted to address this obligation. Under this directive, Member States are required to meet its national overall target for the share of energy from

renewable sources in 2020, which is set out in Annex I of the Directive. Each Member State is also required to adopt a national renewable energy action plan, providing projections for the share of renewable energy consumed in electricity, transport and heating/cooling sectors in 2020 (Table S1, Supplementary Material). According to the submitted national renewable energy action plans, EU Member States are planning to install 44.2 GW of offshore wind energy and 2.3 GW of tidal, wave and ocean energy in 2020 (increased from 2.6 and 0.2 GW in 2010), which accounts for 12.2% of total renewable electricity capacity, or 5.2% of total renewable energy (including transport and heating/cooling) in 2020 [31].

As the offshore renewable industry grows, the spatial requirements are likely to have significant effects on other uses of the sea, such as fishing and navigation [32]. There are also potential tensions between offshore renewable developments and *Natura 2000* sites [29]. How such conflicts are addressed will have major implications for MSP, which will be discussed in the next section.

4.3. The reform of the CFP

The reform of the CFP will have a significant effect on the implementation of other EU policies, particularly the Birds and Habitats Directives and the MSFD. A key difference between the CFP and other policy drivers discussed in this paper is that the European Commission has exclusive competence through the CFP for managing fisheries beyond 12 nautical miles in Member States’ EEZs. This is based on the recognition that fisheries in a given Member State’s waters have long been accessed by fishermen from other Member States, therefore fisheries regulation would benefit from an EU-wide approach, achieved through a number of regulations and Council Decisions adopted under the CFP. The CFP was officially established in 1983, and is currently undergoing a reform process. The revised CFP is expected to enter into force during 2013.

It has been widely recognised that the current CFP fails to meet the goals of reducing overfishing and integrating environmental concerns into fisheries management [33]. The Green Paper on the reform of the CFP reported that 88% of Community stocks subject to scientific assessment were being fished beyond maximum sustainable yield (MSY), and that 30%, including the iconic cod, were being fished outside safe biological limits [34]. In July 2011, detailed proposals for the reform of the CFP were adopted by the EC. The following proposals are being discussed in the European Council and Parliament following the co-decision procedure [35]

- Multi-annual management plans capable of achieving MSY within specified timeframes.
- Ban on discards for specified stocks—fishermen will be obliged to land all catches for specified stocks in accordance with a precise timeline for implementation.
- Mandatory system of transferable fishing concessions from 2014 for fishing vessels over 12 m and vessels under 12 m deploying towed gear—Member States will decide whether such a system should be applied to fishing boats under 12 m in total length deploying other gears.
- Financial assistance Member States or individual fishing operators receive from the EU will be linked to compliance—non-compliance may lead to interruption or suspension of the financial assistance.
- Within SACs, SPAs and MPAs of national importance under the MSFD, fishing activities shall be conducted in such a way as to alleviate the impacts of fishing—substantiated proposals for such restrictions shall be put forward by Member States but the Commission shall also be empowered to specify such fishing related measures to alleviate the impact of fishing

activities in SACs, SPAs and MPAs. Similar provisions are made for temporary measures to prevent damage to wider marine biological resources or marine ecosystems in order to achieve GES.

The outcomes of the CFP reform will affect MSP in many ways, particularly with regards to protecting SACs, SPAs and MPAs, and achieving GES. Despite various provisions for fisheries restrictions to support environmental conservation and the management of *Natura 2000* sites under the CFP (see Table S1, Supplementary Material), such provisions are actually very rarely used. Whilst there are over 1800 marine *Natura 2000* sites, only two specific CFP regulations have been introduced to protect such sites: the Darwin Mounds [36] and the Macaronesian Isles, though two temporary measures have also been introduced for SACs in Irish waters and the El Cachucho offshore SAC, as well as one compensatory measure to better protect the Dutch Voordelta related to the expansion of Rotterdam harbour [37]. Such restrictions under the CFP are very important as designation of *Natura 2000* sites does not have any immediate, direct effect on fisheries management. The co-decision process will raise many political challenges to these ambitious proposals, as examined in more detail in the next section. However, better integration of the environmental pillar into the CFP is arguably necessary if the objectives of the MSFD, Habitats Directive and other EU environmental policies are to be achieved.

4.4. The IMP and the potential for integration

As the EU's integrated maritime policy, the IMP embraces all the objectives established in other marine policies and legislation, including designation of MPAs in addition to *Natura 2000* sites, the development of offshore renewable energy and sustainable fisheries. It is stated in the 'Blue Book' that competence for decision-making in MSP and Integrated Coastal Zone Management (ICZM) lies with the Member States, and that both instruments "contribute to meeting the commitments deriving from the Thematic Strategy for the Protection of the Marine Environment (MSFD) and provide operators with improved predictability for their planning of future investments" (Table S1, Supplementary Material).

Similar to the MSFD, the IMP interacts with most other EU directives and regulations that affect the use and management of the marine environment, including those for fisheries, shipping, ports, renewable energy and nature conservation. The MSFD is regarded as being the 'environmental pillar' of the IMP [38], however the MSFD's relationship with other objectives or 'pillars' is not clear. Compared to the MSFD, the IMP clearly places a greater focus on promoting cross-sectoral integration and maritime economic growth. This is reflected by the fact that in a total of EUR 40 million committed for the implementation of the IMP for the period 2011–2013, at least 60% will be allocated for the development of cross-sectoral management tools, including MSP, compared to 8% for the protection of the marine environment and sustainable use of marine resources [39]. As further discussed in the next section, the relationship between the IMP and the MSFD—the EU's 'framework' directive for the marine environment, raises important questions regarding the future direction for MSP.

To summarise, the policy landscape for MSP in the EU is characterised by a complex array of sectoral policies and directives, exhibiting both synergies and tensions between the different policy drivers (Fig. 2). Following the objectives set out in the MSFD and IMP, MSP must be able to deliver the ecosystem-based approach, provide clarity and certainty for future investments in maritime sectors and prevent or reduce conflicts between different uses of sea space through integrated planning. Such an ambition faces the reality that maritime activities in Europe have previously been managed on a strongly sectoral basis [40], and that some conflicts cannot be 'planned away'. There are challenges and issues to be addressed, as discussed below.

5. Emergent issues for MSP in Europe

5.1. The relationship between the MSFD and the IMP: Different approaches to sustainability?

It seems that the MSFD and IMP prescribe two different approaches to MSP in Europe. As discussed earlier, the MSFD provides for an ecosystem-based approach for achieving GES, and requires different sectoral activities to be managed in a way that achieves GES.

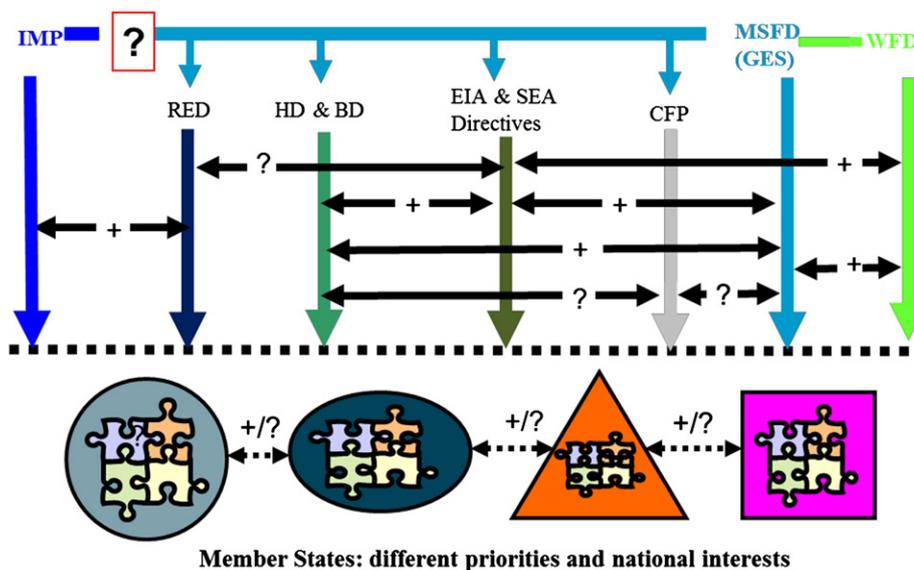


Fig. 2. The policy landscape for MSP in the EU, exhibiting both synergies (+) and potential tensions (?) between the different policy drivers and Member States (represented by different objects at the bottom). IMP: Integrated Maritime Policy; MSFD: Marine Strategy Framework Directive; WFD: Water Framework Directive; RED: Renewable Energy Directive; HD & BD: Habitats Directive and Birds Directive; EIA and SEA Directives: Environmental Impact Assessment and Strategic Environmental Assessment Directives; CFP: Common Fisheries Policy.

Whilst the MSFD does provide for sustainable development, it does not explicitly promote economic development. The MSFD is legally binding on all Member States, and although it does not explicitly require MSP, this requirement being limited to MPAs, it can be used as a good basis for ecosystem-based MSP [41]. By comparison, the IMP envisages MSP as being an instrument for cross-sectoral management and providing predictability for future investments, in addition to implementing the ecosystem-based approach [41].

The IMP can be interpreted as being based on ‘soft’ sustainability, through which MSP is more likely to be developed as an integrated use framework for balancing the needs of different sectors and ensuring that strong growth in certain maritime sectors does not lead to undesirable consequences for other sectors (Fig. 1, Table 1). From an IMP perspective, ecosystem conservation is likely to be considered as one type of ‘sectoral’ use of marine space, which is considered in relation to other sectors. Such an approach to MSP is more likely to be adopted in countries with large maritime industries (oil–gas, renewables, aggregates, etc.), with increasing competition for marine space among different sectors. By contrast, the MSFD can be interpreted as being based on ‘hard’ sustainability, in which ecosystem conservation is the foundation of the ecosystem-based approach. MSP following the approach of MSFD is more likely to be used as a preventive strategy to conserve ecosystem health, often in countries that do not have large maritime industries [41]. NGOs have recently argued that the ‘Blue Growth’ strategy that implements the IMP should be consistent with the requirements of the MSFD and thereby be ecosystem-based [42].

Underlining the issue of potential tensions between the MSFD and IMP is that they fall under the responsibility of different Commission departments: Directorate-General Environment (DG Environment) oversees the implementation of the MSFD, whilst Directorate-General Maritime Affairs and Fisheries (DG MARE) oversees the implementation of the IMP, along with the CFP. MSP-related initiatives commissioned under the two bodies seem to have little connection with each other, leading to confusions regarding the strategic direction(s) for MSP in Europe [41]. As it stands, DG MARE and DG Environment receive scientific advice from different advisory bodies, creating barriers in terms of information flow and shared decision-making [43]. The potentially contrasting approaches to MSP, as prescribed in the IMP and the MSFD combined with disconnections between the two main

Commission bodies responsible for marine management, are likely to be key issues in the development of a more coherent policy landscape for MSP in Europe.

5.2. The integration between the new Common Fisheries Policy and EU environmental legislation

The lack of restrictions under the CFP to protect marine *Natura 2000* sites is a stark illustration of the legal and political difficulties of improving the link between EU fisheries regulations and environmental legislation. In a recent Council meeting, Fisheries Commissioner Maria Damanski gave a speech which included the withdrawal of a proposal for an automatic 25% cut in total allowable catches for stocks with insufficient data for assessment, which was intended to implement the precautionary approach, proposing instead that such precautionary cuts be decided on a case by case basis. Concerns about a proposed ban on all discards are also being raised by both the Parliament and the Council, members of which have argued for a more cautious and flexible approach on a fishery by fishery basis, instead of the overambitious, strictly timetabled, species by species basis proposed by the Commission [44]. This shows that as the legislative proposals go through the co-decision process, compromises will have to be made.

It will also be interesting to see if the new co-decision procedure will make a difference in this round of reform of the CFP, one certainty being that the passage of the new CFP regulations will become a lengthy and complicated process. Previously, government ministers, under significant lobbying pressure from industries, have dominated negotiations for the CFP and other new legislations through the Council. For example, catch quotas decided by the Council have exceeded scientific advice on average by 47% [45], leading to proposed fisheries regulations being ‘watered down’ [33]. During the negotiations for the proposal that has become the MSFD, many attempts by the Parliament to strengthen the environmental commitments were rejected by the Council, including the compulsory designation of MPAs [6]. Under the co-decision procedure, the Parliament has the power to challenge the position of the Council, and the latter cannot adapt legislation without the agreement of the Parliament. In the on-going negotiations for the CFP reform, a draft report of the Parliament’s Fisheries Committee has proposed compulsory targets for the designation of a coherent network of fish stock recovery areas amounting to between 10% and 20% of territorial waters in each Member State [46]. Such a proposal is considered to be beneficial to both fisheries and biodiversity conservation in a recent report commissioned by the Parliament [47], though whether these ambitious and potentially controversial fish stock recovery areas are implemented remains to be seen. The timing and scope of the CFP reform therefore makes it an excellent test field for exploring whether potentially divergent interests—environmental, socio-economic and political—are represented and balanced in a way that reflects greater transparency and democratic values, a change that the co-decision procedure aims to introduce.

5.3. Power, conflicts and justice in the ‘race for space’ in Europe’s seas

Although widely recognised as a means towards achieving integrated marine planning and management, MSP is sometimes introduced and/or implemented in a way that the result will have positive implications for the development of some sectors, which are often of strategic importance to the country concerned [28]. In the EU, the entry into force of the MSFD and the Renewable Energy Directive provides a driving force for the designation of MPAs and the development of marine renewable energy, particularly wind farms, across Europe, which may claim extensive marine areas and lead to a ‘race for space’ in the marine

Table 1
Comparison between the Marine Strategy Framework Directive (MSFD) and the Integrated Maritime Policy (IMP).

	MSFD	IMP
Overarching aim	A framework for implementing an ecosystem-based approach	A framework for promoting maritime economic development and integrated management of different activities
Role of MSP	MSP as a mechanism for achieving ‘good environmental status’	MSP as a mechanism for balancing different uses of sea space
Role of MPAs	Conservation through MPAs at the core of its implementation	Conservation and MPAs as one of the uses of sea space
Legal power	Legally binding (Member States can be taken to the European Court of Justice for non-compliance)	Soft policy (no legal actions will be taken for non-compliance)
Authority	DG Environment	DG MARE
Approach to sustainability	Based on ‘hard’ sustainability.	Based on ‘soft’ sustainability.

environment. For example, both the German and British Governments have launched processes to expand MPA networks. Nominated *Natura 2000* sites in Germany cover about 30% of the country's EEZ [48], and recommended Marine Conservation Zones could increase the coverage of MPAs to 27% of English seas if they are implemented [49]. Both countries are also planning large-scale offshore marine renewable installations, which may (in the UK case) or may not (in the German case) co-locate with MPAs [29,50].

While marine spatial planning may have positive implications for the development of new sectors, as a means to promote strategically important sectors or industries, it often also results in the displacement of existing activities. A key difference between planning on land and in the sea is that the former is often subject to approval from local authorities, while the latter is often subject to much more centralised controls [28,29]. In land-use planning, local authorities are held accountable to the decisions they made to their constituents and are often obliged to consider different interests (economic, environmental and social) thoroughly during the planning process. However, in the marine environment, planning was traditionally conducted more centrally on a sectoral basis and the move towards MSP provides opportunities for national governments to establish new priorities, often based on longer term national interests. The impacts on some local users may be considered as a low priority, particularly in the presence of powerful sectors such as marine renewables. In Europe, the combined impacts of offshore wind farm development and *Natura 2000* designations on fisheries will lead to displacement of fishing efforts to other areas, as well as higher fishing costs and reduced catches for some species [51]. Furthermore, due to a lack of property rights in many marine fisheries, fishermen lack the stance for compensation or negotiation when negative impacts from the development of other activities are anticipated [52]. This could potentially raise significant social justice issues, if certain sectors claim that they are being systematically discriminated against in favour of other sectors in MSP decision-making processes.

However, it is debatable if such potential conflicts and justice issues can be 'planned away' through MSP. The needs for expanding existing MPA networks and marine renewable installations are justified by the obligations under respective EU directives, as well as growing public concerns over energy security, climate change and environmental quality [6]. There are also strong economic imperatives for promoting marine renewables [30]. It is unlikely that any MSP initiatives in Europe can ignore or downplay the importance of such drivers. In addition, decision-making in MSP, through centralised political processes, is also affected by existing power imbalances between different government institutions and stakeholder groups, which is manifest in the fact that planning for important activities, such as MPAs and offshore wind farms, precedes and remains relatively independent from wider-scale, integrated MSP in some countries [53]. It is therefore questionable if MSP, in itself, provides an integrated approach to marine planning and governance. Issues related to fairness and justice, in terms of access to information and participation in MSP decision-making, are likely to be addressed through existing legal platforms, such as the EU directives (2003/4/EC and 2003/35/EC) and regulation (1367/2006) that transpose the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters [54].

5.4. The necessity of a new EU directive for marine spatial planning?

Under the current policy and regulatory framework, Member States are not obliged to implement MSP, though they are obliged to implement MPAs. In order to promote a common approach to MSP, the Commission has launched a consultation process and

impact assessments to explore new policy instruments for MSP. The consultation process presented four policy options [4]

- Status quo: Maintaining the same level of interactions between the Commission and Member States, with no further actions.
- Non-legally binding acts: Encouraging Member States to pursue MSP through guidelines and recommendations published by the Commission.
- EU directives: Which establish the goals and targets, Member States then being required to adapt national laws to achieve such goals and targets.
- Regulations: Legally binding on every Member State.

In light of recent discussions with MSP policy experts, it seems that the most likely outcome is considered to be the adoption of a legally binding instrument for MSP, in the form of a directive. This is in line with the Commission's position that early development of a coherent framework for MSP is needed at the EU level to guide national processes and to ensure consistency and cross-border cooperation among Member States, and that the legal effects of MSP must be established to ensure its implementation and to provide strategic vision and transparency [55].

The idea of a new MSP directive has already raised several concerns. A number of Member States have expressed concerns that an alternative legal framework for MSP may depart from the environmental objectives established in the MSFD, and reiterated that 'the concept of the environmental pillar needs to be clearly upheld' [56,57]. A group of environmental NGOs has issued a joint position paper, opposing the Commission's view that a new framework for the sustainable use of Europe's seas is needed, as the MSFD already provides for such a framework. They point out that additional provisions for MSP can be added to the MSFD as an annex or amendments, rather than being fragmented into a new legal instrument [58]. This would be a logical solution, if the Commission intends to encourage Member States to undertake MSP following the ecosystem-based approach, as established in the MSFD. However, the option to strengthen the legal basis of MSP through amending the MSFD was not included in the consultation process. Some [e.g. [25]] consider such an approach (adding additional provisions for MSP under the MSFD) as being focused on a sectoral interest, i.e. the 'sector' being ecosystem conservation, which does not provide for strategic and cross-sectoral MSP. Such a perspective neglects the view that if MSP is to follow a truly ecosystem-based approach, ecosystem conservation should be seen as the foundation for cross-sectoral planning and management.

From this perspective, the MSFD represents a coherent framework not only for ecosystem conservation, but also for integrated planning and management in the marine environment. Some would argue that the MSFD exhibits institutional ambiguity, leaving room for manoeuvring during its implementation [59]. However, the level of institutional ambiguity will only increase if a new MSP directive is adopted, which is bound to have a broader policy scope and less clarity on implementation.

Another concern of introducing a MSP directive relates to the competence of the EU for spatial planning in Member States' waters. The limits of EU competences are governed by the principle of conferral, which means that the EU only has power to legislate in certain policy areas specified in the Treaty [25]. Competences not conferred upon the EU in the Lisbon Treaty remain with the Member States (Article 5, TEU). Articles 2–6 of the TFEU specify the limits and areas of EU competences, which include an exclusive competence for the conservation of marine biological resources under the CFP, and shared competences for environment, transport, energy and economic, social and territorial cohesion. In the policy

areas where the EU shares competence with Member States, it is debatable if the term 'territorial cohesion' includes elements of spatial planning. The issue of competence remained controversial during the process leading to the adoption of the 'mother document' for spatial planning on land—the European Spatial Development Perspective (ESDP) in 1999 [60]. The dominant view is that spatial planning is not an EU competence [25,59], which was reflected in the adoption of the ESDP as a non-binding policy guidance. The debates on EU competence for spatial planning will certainly come to the fore if a new MSP directive is pursued, and the necessity and scope of it will need to be justified against the principle of subsidiarity—a principle that has been strengthened under the Lisbon Treaty.

There are, however, opportunities for the Commission to adopt a non-binding instrument, similar to the EU Recommendation on Integrated Coastal Zone Management which sets out the principles for coastal planning and management [61]. This will allow some key concerns to be addressed, such as the requirement for transboundary cooperation between different Member States, for stakeholder participation in planning processes, and for aligning MSP with Integrated Coastal Zone Management, without unduly interfering in existing processes already pursued by different Member States and the authority of national governments. Whether the Commission pursues a directive or some other non-binding instrument, such as guidelines, to achieve these and other objectives remains to be seen.

6. Conclusion

The emerging policy landscape for MSP in the EU consists of various policies, directives and regulations, most of which focus on the promotion of a particular type of use of marine space. Although synergies exist between different policy drivers, the overall policy landscape is characterised by tensions or weak links between the main categories of policy drivers—environmental legislation, legislation on marine renewable energy, and fisheries regulations. This is further complicated by the fact that there is a lack of coherence and clarity regarding the relationship between the two most comprehensive and important policy drivers—the IMP and MSFD. Underlying these issues are arguments that have been raging at least since the Stockholm Conference (1972) as to whether healthy ecosystems underpin economic development or whether economic development provides for ecosystem conservation initiatives [12]. This poses significant challenges for the emergence of ecosystem-based, integrated and just MSP initiatives in Europe.

Furthermore, there is also significant uncertainty regarding how the MSP policy landscape will evolve in the near future. The outcomes of the CFP reform and the decision on a potential MSP directive, both of which are expected to be announced soon, will change the policy landscape, particularly the links between different policy drivers. The analyses presented in this paper supports the better integration of the environmental pillar into the CFP reform, and recognises the adoption of the Lisbon Treaty and the co-decision procedure as a welcome change in this context. This paper argues against the necessity of a new MSP directive, as the MSFD already provides the legal basis for implementing ecosystem-based and integrated MSP. This is based on the recognition that achieving 'good environmental status' underpins the management of different maritime sectors and overall sustainability in Europe's seas, which is consistent with the provisions under the Lisbon Treaty. The promotion of other strategically important industries, such as marine renewable energy, has been addressed in relevant EU directives, and the potential trans-boundary environmental effects of MSP are

addressed in the SEA Directive. It is questionable if a new MSP directive can provide a better and more coherent legal framework for implementing ecosystem-based, cross-sectoral and integrated MSP. The emphasis should, instead, be on strengthening synergies and addressing tensions between different policy drivers, particularly the MSFD and the sectoral policies for which it provides a framework. Introducing a new MSP directive is likely to only increase complications and tensions in an already crowded policy landscape.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.marpol.2012.10.010>.

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Supplementary Material

1. A working paper titled ‘The Emerging Policy Landscape for Marine Spatial Planning in Europe: overview of key policies, directives and regulations, and their interactions’, which can be downloaded from <http://www.homepages.ucl.ac.uk/~ucfwpej/pdf/EPLMSPPEU.pdf>
2. Table S1: A summary of the policy drivers for MSP in the EU, including the overarching aims and main provisions related to MSP.

Table S1: A summary of the policy drivers for MSP in the EU, including the overarching aims and main provisions related to MSP.

Title	Overarching aim(s)	Main provisions related to MSP
Birds Directive (Directive 2009/147/EC, an updated version of the Directive 79/409/EEC first adopted in 1979)	To maintain the population of wild bird species at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.	Member States shall classify in particular the most suitable territories in number and size as special protection areas (SPAs) for the conservation of species listed in Annex I (Article 4), and take similar measures for regularly occurring migratory species not listed in Annex I, including the protection of wetlands (Article 4(2)). SPAs should be protected through appropriate measures (Article 4), but this provision has been amended by the Habitats Directive (see below) to the effect that SPAs are now reactively managed under Article 6(2–4) of the Habitats Directive.
EIA Directive (Council Directive 85/337/EEC)	To ensure that plans, programmes and projects likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorisation.	Certain types of marine projects are subject to mandatory EIAs under the EIA Directive (<i>i.e.</i> Annex I projects). These include 1) trading ports and piers (excluding ferry piers) which can take vessels of over 1,350 tonnes, 2) extraction of petroleum and natural gas for commercial purposes where the amount extracted exceeds 500 tonnes/day in the case of petroleum and 500 000 m ³ /day in the case of gas, and 3) pipelines with a diameter of more than 800 mm and a length of more than 40 km.
		For the following types of marine projects, Member States should determine by a case-to-case basis, or according to established criteria or thresholds, whether a EIA is required (<i>i.e.</i> Annex II projects). These include intensive fishing farms, wind farms and mineral extraction.

Article 7 specifies how transboundary environmental impacts are considered, and Articles 9 and 10 provides for public access to information and rights to challenge the legality of decisions.

Habitats Directive (Council Directive 92/43/EEC) To maintain or restore, at a favourable conservation status, natural habitats and species of wild fauna and flora of Community interest, taking account of economic, social and cultural requirements and regional and local characteristics.

Article 6 provides for three types of measures for sound management of *Natura 2000* sites:

- Proactive measures through the designation of Natura 2000 sites and the establishment of appropriate plans and measures to maintain them (Article 6(1));
- Preventive measures which require an ‘appropriate assessment’ of potential plans and projects that may potentially have significant negative impacts on conservation features, and require them to be undertaken at an alternative location, if feasible, or require mitigation measures that reduce the negative impacts below significant levels (Article 6(2) and(3));
- Compensation measures when a plan or project has to be carried out for ‘for imperative reasons of overriding public interest’, despite related significant negative effects for the features of the site after all feasible mitigation methods. In such cases Member States are required to take ‘compensatory measures necessary to ensure that the overall coherence of *Natura 2000* is protected’ (Article 6(4)).

Water Framework Directive (Directive 2000/60/EC) To establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

Member states shall identify the individual river basins lying within their national territory. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts. For international river basin districts the Member states concerned shall together ensure coordination (Article 3).
Member states shall take measures to protect, enhance and restore all bodies of surface water, with the aims of 1) **achieving good surface water status** at the latest 15 years after the date of entry into force of this Directive and 2) progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances (Article 4).

Annex V of the Directive provides a general definition of **good ecological status**, which applies to coastal waters up to 6 nautical miles from the baseline, and **good chemical status**, which applies to territorial waters 12 nautical miles from the baseline.

Strategic Environmental Assessment Directive (Directive 2001/42/EC)

To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

Subject to exceptions, an environmental assessment shall be carried out for all plans and programmes (1) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II of Directive 85/337/EEC (EIA Directive), or (2) which, in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of Directive 92/43/EEC (Habitats Directive) (Article 3).

Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated (Article 5(1)).

Where the implementation of a plan or programme being prepared is likely to have significant **transboundary effects** on the environment, the Member State in whose territory the plan or programme is being prepared shall, before its adoption or submission to the legislative procedure, forward a copy of the draft plan or programme and the relevant environmental report to the other Member State (Article 7(1)).

Where a Member State is sent a copy of a draft plan or programme and an environmental report under paragraph 1, it shall indicate to the other Member State whether it wishes to enter into consultations before the adoption of the plan or programme or its submission to the legislative procedure and, if it so indicates, the Member States concerned shall enter into consultations concerning the likely **transboundary environmental effects** of implementing the plan or programme and the measures envisaged to reduce or eliminate such effects (Article 7(2)).

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Basic regulation
under the Common
Fisheries Policy
(Council Regulation
No 2371/2002)

To ensure exploitation of
living aquatic resources that
provides sustainable economic,
environmental and social
conditions.

Recovery plans shall be established for fish stocks which are outside safe biological limits
(Article 5). Management plans shall be established to maintain stocks within safe
biological limits for fisheries exploiting stocks at/or within safe biological limits (Article
6).

Under the current CFP, fisheries restrictions for the protection of a *Natura 2000* site can
be adopted through several mechanisms:

- Implementing fisheries management measures under the Common Fisheries
Policy (CFP) which apply to all fishermen from all Member States (Article 7);
- Member States can take emergency measures, the maximum duration of which is
3 months, if there is evidence of a serious and unforeseen threat to the marine
ecosystem resulting from fishing activities (Article 8). This emergency procedure
was adopted in 2003 and 2004 to close bottom trawling in the area around Darwin
Mounds under the Common Fisheries Policy, in anticipation of future SAC
designation in order to conserve deep-water corals in the area. The closure was
made permanent in 2004 (Council Regulation 602/2004).
- Member States can take non-discriminatory measures to minimise the effect of
fishing on the conservation of the marine ecosystems within 12 nautical miles of
their coast. If these measures are liable to affect the vessels of another Member
State, which have access to waters between 6-12 nm under a 'partial derogation'
of the CFP based on historical rights under the 'relative stability' principle of the
CFP, a consultation procedure with the Commission, other Member States and
Regional Advisory Councils concerned is necessary before the adoption of the
measures, subject to approval from the Commission (Article 9).
- Finally, Member States can take measures in waters under their sovereignty or
jurisdiction if such measures are only applicable to their fishing vessels (Article
10).

The Council, acting by **qualified majority** on a proposal from the Commission, shall
decide on catch and/or fishing effort limits and on the allocation of fishing opportunities
among Member States as well as the conditions associated with those limits. Fishing
opportunities shall be distributed in such a way as to assure each Member State **relative
stability** of fishing activities for each stock or fishery (Article 20).

Integrated Maritime Policy (COM(2007) 575)

To develop and implement integrated, coordinated, coherent, transparent and sustainable decision-making in relation to the oceans, seas, coastal, insular and outermost regions and in the maritime sectors.

Both maritime spatial planning and integrated coastal zone management (ICZM) contribute to meeting the commitments deriving from the Marine Strategy Framework Directive and provide operators with improved predictability for their planning of future investments. A system for exchange of best practice among authorities engaged in maritime spatial planning and ICZM will be set up.

The Integrated Maritime Policy addresses the following five action areas: 1) maximising the sustainable use of the oceans and seas; 2) building a knowledge and innovation base for the maritime policy; 3) delivering the highest quality of life in coastal regions; 4) promoting Europe's leadership in international maritime affairs and 5) raising the visibility of maritime Europe. Actions in all areas will be guided by the principles of subsidiarity and competitiveness, the ecosystem approach, and stakeholder participation.

Both MSP and ICZM contribute to meeting the commitments deriving from the Thematic Strategy for the Protection of the Marine Environment (MSFD) and provide operators with improved predictability for their planning of future investments.

Decision-making competence in MSP lies with the Member States. What is needed at European level is a commitment to common principles and guidelines to facilitate the process in a flexible manner and to ensure that regional marine ecosystems that transcend national maritime boundaries are respected.

Marine Strategy Framework Directive (Directive 2008/56/EC)

To implement an **ecosystem-based approach** to the management of human activities: ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of **good environmental status**, while enabling the sustainable use of

Member states are required to develop a programme of measures, as part of their marine strategy, designed to achieve or maintain **good environment status** by 2015, and to start implementing the measures by 2016 (Article 5).

The MSP obligations of the MSFD are quite weak, confined to types of measure that should be **taken into consideration as potential measures** for achieving good environmental status (Article 13), as set out in Annex VI.

The MPA obligations are much stronger, in that programme of measures **'shall include** spatial protection measures, contributing to **coherent and representative networks of**

marine goods and services.

marine protected areas' (Article 13)¹

Annex I of the MSFD established 11 qualitative descriptors for determining good environmental status, which cover the following areas: 1) Biodiversity; 2) Non-indigenous species; 3) Commercial fish stocks; 4) Marine food web; 5) Eutrophication; 6) Sea-floor integration; 7) Hydrographical conditions; 8) Contaminants and pollution; 9) Contaminants in seafood; 10) Marine Litter; 11) Energy.

Member states are required, as part of their marine strategy, to establish a set of characteristics and environmental targets for good environmental status, based on the above 11 descriptors, by 15 July 2012 (Article 5(2a)). These descriptors are detailed in [2010/477/EU](https://eur-lex.europa.eu/eli/dir/2010/477/eu)

Renewable Energy Directive (Directive 2009/28/EC)
This Directive establishes a common framework for the promotion of energy from renewable sources in EU member states.

Each Member State shall ensure that the share of energy from renewable sources meets its national overall target for the share of energy from renewable sources in that year, as set out in Annex I of the Directive. Such mandatory national overall targets are consistent with a target of at least a **20% share of energy from renewable sources in the Community's gross final consumption of energy in 2020** (Article 3).

Each Member State shall ensure that **the share of energy from renewable sources in all forms of transport in 2020 is at least 10% of the final consumption of energy in transport** (Article 3).

In order to achieve the national targets for the share of renewable energy sources, member states can apply measures including (Article 3(3)):

(a) support schemes;

(b) measures of cooperation between different Member States and with third countries for achieving their national overall targets in accordance with Articles 5 to 11.

Each Member State shall adopt a national renewable energy action plan. The national

¹ Aims, along with Habitats and Birds Directives, to contribute to fulfilment of CBD target (COP10) to designate 10% of coastal and marine areas as MPAs by 2020

renewable energy action plans shall set out Member States' national targets for the share of energy from renewable sources consumed in transport, electricity and heating and cooling in 2020 (Article 4(1)).

The coherence between the objectives of this Directive and the Community's other environmental legislation should be ensured. In particular, during the assessment, planning or licensing procedures for renewable energy installations, Member States should take account of all Community environmental legislation and the contribution made by renewable energy sources towards meeting environmental and climate change objectives (Preamble (44))

Appendix 3 – The WP6 Governance Analysis Framework

This is the analytical structure that was used for governance analysis in MESMA WP6. Linkages to the main MESMA framework (the WP2 framework - see Stelzenmüller et al. 2013 and [MESMA's final website](#)¹²) are mapped out below. If the two frameworks are to be used in conjunction with each other, both evaluations should focus on the same operational objective. The governance analysis framework is not designed to support multiple runs for different objectives.

Both frameworks are about evaluating different aspects of an existing marine spatial planning initiative. Such an initiative may be an integrated marine spatial plan or part of the integrated plan; or if there is no integrated marine spatial plan in place, an existing initiative with spatial elements (e.g. sectoral management plan with spatial restrictions) which may be linked or offer valuable lessons to the future development of an integrated marine spatial plan.

1 Context

In this section, please outline the 'story' of the initiative you are analysing, including its geographical context, the socio-economic and political context of the host country, and the regional policy framework (e.g. regional sea action plans). Below is a list of key information to be included in this section.

1.1 Basic information

Provide some basic information and background about the initiative you are evaluating, including:

- The name of the existing initiative
- The geographical boundary of the existing initiative
- Location
- The history of the existing initiative (how and why it was established)
- The relevant competent authority/authorities (eg which government authority is in charge of the initiative, and collaborating national/local authorities)

1.2 Socio-economic and political context

If the local context is significantly different from the national context, you may focus on the local context and briefly mention the difference between local and national contexts where this information is available. This section should provide information on:

- Per capita GDP
- Population density per km²
- GDP growth rate, and the main driver(s) of economic growth
- Economic structure (eg GDP composition by sector, main economic sectors, main source of employment etc)
- Contribution of maritime sectors to the national economy

¹² <http://www.mesmaexchange.eu>

- Unemployment rate
- Administrative structure (eg degree of autonomy of local/sub-national government)
- Governance capacity index (UCL can provide this index for each relevant country)
- Gini index of income disparity (UCL can provide this index for each relevant country)

Most of the indices listed above can be found in the CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/>). Governance indicators for countries are measured by the World Bank and can be found at www.govindicators.org.

1.3 Regional policy framework

→ *Sub-section 1.3 and UCL's review of EU policies and directives can feed into Action 1a in the WP2 framework.*

Describe the regional policy framework within which your initiative is 'nested', e.g. regional sea action plans. 'Regional' in this context refers to an international region, rather than a region within a country. This sub-section could include the following information:

- How did this regional policy framework come into existence?
- What are the overarching goals and objectives of the regional policy framework?
- Geographical scale and participating countries/parties
- How does this regional policy framework relate to the existing initiative you are evaluating in your case study?

2 Objectives and management measures

→ *Section 2 links to Action 2C in the WP2 framework.*

2.1 The priority operational objective

The priority operational objective is the objective on which the governance analysis is focused, recognising that this should also be a key priority in the existing initiative you are evaluating. This may come from a local, national or regional policy level but, where appropriate, relate this objective to the regional policy framework.

The governance analysis framework is not designed to support multiple runs for different objectives. In real-world marine spatial planning initiatives, however, there may be multiple objectives, or related objectives that complement and go alongside the priority objective, which come from a local, national or regional level. These may be included in the analysis whilst maintaining the focus on the priority operational objective. For example, the priority operational objective may be to designate a network of MPAs or to promote marine renewables, and the complementary objective may be to minimise the socio-economic or ecological impacts when meeting the priority operational objective. Note that the priority operational objective may, for instance, be national, whilst complementary objectives may be regional but you should only undertake one analysis with a focus on the priority operational objective.

2.2 Key policies

This section should describe the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above priority operational objective. List the titles of these

policies, legislations, regulations and/or plans, the year of implementation, and key legal provisions in relation to the priority objective. Focus on those policies, legislations, regulations and/or plans that are of particular importance to the fulfilment of the priority operational objective.

2.3 Measures and actions

Measures and actions put forward by the policies, legislations, regulations and/or plans listed above, in order to promote the achievement of the priority operational objective. Briefly summarise the measures and actions here. The details of how such measures and actions have been implemented on the ground, and how effective they are, should be described in the incentives section below.

2.4 Conflicting objectives and policies

Describe any other specific and particularly important sectoral priorities, objectives, obligations etc that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority operational objective. What measures or initiatives are in place to address such conflicts? Such measures could include an existing or emerging marine spatial planning framework and policies.

Please note that while a description of the key policies is needed here, an extensive review of every sectoral policy or legislation is not necessarily. Please focus on the policies and legislations that interact, articulate and/or conflict with the priority operational objective. It is the interactions between the key policies that are of interest here, not the details of individual policies and legislations, *ie* analogous to a synecology rather than an autoecology approach.

This section is mainly about setting the policy background for the following analysis, so the description on the interactions between different policies should be related to the discussion on conflicts, incentives and cross-cutting themes below

3 Conflicts

Describe the conflicts generated by the implementation of the management measures aimed at achieving the priority operational objective. Such conflicts will generally include:

- Primary conflicts between environmental conservation and resources use
- Secondary conflicts between different sectors/users

Wherever possible, describe the conflicts in the competition for sea space and related impacts in accordance with the following seven categories:

- Extractive use of living marine resources (*eg* fishing)
- Extractive use of non-living marine resources (*eg* aggregate extraction)
- Mariculture
- Commercial shipping
- Biodiversity conservation
- Marine renewables
- Amenity/recreation/tourism

Describe and discuss the conflicts rather than just trying to present and address them through a matrix. Focus on conflicts between people, and the ways in which these conflicts manifest

themselves, rather than on negative impacts of one activity on another (including negative environmental impacts of a given activity).

When describing the conflicts, it may worth exploring the influence of driving forces, *i.e.* key trends that are influencing conflicts, which may include:

- Changes in regulatory or administrative environments, which promote or restrict a particular type of marine space use, including strategic sectoral obligations, *eg* 20% of energy from renewables by 2020
- Changes in market conditions, which affect (positively or negatively) a particular type of marine space use;
- Cultural changes, shifts in public perception, etc which support or hinder the development of a particular sector.

4 Governance approach and effectiveness

Describe and discuss the *main* governance approach being used in the existing initiative you are evaluating and to implement the policy framework described in section 2, *i.e.* main governance approach that is dominating decision-making processes:

- a top-down approach (relying on government power and regulation), or
- a decentralised approach, whereby a degree of autonomy to fulfil certain responsibilities is granted to lower levels of government: deconcentration, delegation or devolution (see glossary)
- a bottom-up (relying on user participation and community self-governance), or
- a market approach (relying on economic incentives).

Please indicate, wherever possible, if there are any disconnections amongst the key sectoral policies involved in the governance framework. For example, a top-down approach but with different sectoral policies with no effective integration mechanism to address primary and secondary conflicts (see section 3).

Discuss the overall effectiveness of the governance approach in achieving the priority operational objective, using both qualitative and quantitative descriptions wherever possible.

→ *This assessment of effectiveness can be based on the results from the MESMA WP2 framework.*

- To what degree and extent is the priority operational objective in your case study being achieved?
- To what degree are primary and secondary conflicts being addressed? If there are unsolved conflicts, how does that affect the achievement of the priority operational objective?
- Is there any noticeable trend in terms of effectiveness (is the situation being improved, worsened, or stable)?

Specific elements of governance approaches that lead to high or low effectiveness in achieving the priority operational objective will be explored in detail in the next section. However, do briefly outline and discuss the main reasons/factors (could be part of the context, policy framework,

governance approach etc.) that contribute to high or low effectiveness in achieving the priority operational objective.

5 Incentives

➔ *Sub-section 5.1 feeds into Action 6.1 in the WP2 framework, and sub-section 5.2 feeds into Step 7 in the WP2 framework.*

5.1 Overview of incentives used

A summary of the key incentives that have been applied to promote the achievement of the priority operational objective and to address related conflicts in the initiative under evaluation, including an assessment of how particular individual or combinations of incentives have been particularly effective or ineffective. Focus on the incentives that are applicable/relevant to the initiative. The description of legal incentives can refer back to section 2 (Objectives and management measures).

The following provides a list of economic, interpretative, knowledge, legal, and participative incentives that have been used in marine spatial planning initiatives globally:

5.1.1 Economic incentives

E1 Promoting and protecting the rights and entitlements of local ‘customary’ users, *eg* through assigning fishing rights to certain marine areas and fish stocks

E2 Providing certainty to potential industries and their investors, *eg* through licensing and granting concessions to renewable energy developers in certain marine areas

E3 Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority operational objective and can generate sustainable income for local people

E4 Providing fair economic compensation for those users who carry costs as a result of restrictions on their activities that cannot reasonably be offset through compatible alternative livelihoods

E5 Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives

E6 Seeking NGO and corporate funding through endowments to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot ‘capture’ governance through an inappropriate degree and type of influence.

5.1.2 Interpretative incentives

I1 Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority operational objective

I2 Promoting recognition of the potential resource development benefits resulting from the achievement of the priority operational objective, whilst being realistic about such potential benefits and not 'over-selling' them, *eg* displaying development zones to potential developers and investors, potential internal and spillover/export benefits of MPAs

I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions

5.1.3 Knowledge incentives

K1 Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, *eg* establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge

K2 Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

K3 Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, *etc*, *eg* conducting studies in collaboration with users on the patterns of biodiversity and resource use in the existing initiative, including trends

K4 Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc* to support the achievement of the priority operational objective while reducing conflicts

K5 Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority operational objective

K6 Reducing the barriers in access to information and data held by different agencies, user groups and countries, and promoting the exchange, sharing and integrated use of such information and data in the existing initiative, *eg* geo-spatial data, ecological trends, fisheries data

5.1.4 Legal incentives

L1 Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc* in order to ensure the achievement of the priority operational objective, such as achieving environmental criteria and providing access rights for particular uses

L2 International-regional-national-local legal obligations that require the fulfilment of the priority operational objective, including the potential for top-down interventions

L3 Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfilment of the priority operational objective, whilst avoiding a complete 'command-and-control' approach

L4 Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users

L5 Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *eg* at national, EU or international level

L6 Clarity and consistency in defining the legal objectives of the existing initiative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority operational objective and existing plans/regulations for the management of individual sectoral activities

L7 Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international levels

L8 Scope for legal flexibility –subsidiarity, adaptive management and local discretionary action – maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of the priority operational objective

L9 Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority operational objective.

L10 Legal or policy basis for promoting cross-jurisdictional coordination between member states.

L11 Establishing legal provisions to ensure the transparency in policy processes, *eg* statutory requirements for public access to information, appeals, public hearings, *etc.*

5.1.5 Participative incentives

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *eg* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc.*, including training to support such approaches

P2 Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority operational objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect

P3 Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

P4 Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc.*, recognising that this can lead to an ‘upward spiral’ (Ostrom 1999¹³) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc.* can lead to a ‘downward spiral’

P5 Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users

P6 Providing for participative enforcement amongst users, *eg* peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of restrictions

¹³ Ostrom E (1999) Coping with tragedies of the commons. *Annual Review of Political Science* 2, 493-535.

P7 Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfilment of the priority operational objective

P8 Promoting recognition & realisation of the potential for a the participative governance of the existing initiative to influence the higher-wider statutory framework, processes and obligations, *ie* that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution

P9 Bringing in 'neutral' facilitators to support governance processes and negotiations or training state employees to do so

P10 Employing 'neutral' and widely respected panels to arbitrate on issues, conflicts, options, *etc* and recommend decisions

5.2 Discussion of incentives used

A discussion on how you think governance could be improved to better meet the priority operational objective and to address related conflicts through improved individual or combinations of incentives. This section might include discussion of different scenarios for improving governance in the existing initiative. The scenarios may include, for example, a key change or break-through in the planning or legislative process, more space for stakeholders to influence the policy process, or more input from scientists. Please note that such scenarios should not be purely hypothetical, and a reality base for the scenarios will be needed, for example, through grounding your scenarios on real examples in the vicinity of the case study area, where positive changes in the governance have been observed. Describe the incentives that will be needed to support these scenarios drawing on the list above.

6 Cross-cutting themes

This draws on results and findings in previous sections, with the aim of discussing and highlighting broad thematic themes that cannot be captured under previous sections. Section 5 looks particularly at specific and individual incentives, while section 6 looks particularly at wider-scale institutional/structural issues that may underpin or affect the effectiveness of individual incentives and/or the overall governance approach as described in section 4. There are five cross-cutting themes:

- Combining top-down role of state and bottom-up participative approaches;
- Inter-sectoral integration and related power issues including compensation (in emerging MSP framework);
- Cross-border issues between different countries;
- Environmental and social justice issues and related rights of appeal;
- Influence of different knowledges and of uncertainty in decision-making. *eg* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships.

Where relevant, the following sub-themes could be included under the five cross-cutting themes:

6.1 Combining top-down role of state and bottom-up participative approaches

6.1.1 Balance of the influence of stakeholders and the influence of national-local government in the existing initiative

6.1.2 Degree of decentralisation (*ie* level of autonomy of sub-national/local governments) and the relative influence of national/federal and sub-national/local governments on the existing initiative

6.1.3 Role of EC in promoting MSP at national and ground levels, including promoting stakeholder participation to achieve strategic outcomes

6.1.4 Level of consensus, compromise and imposition in the existing initiative

6.1.5 Views of stakeholders from different sectors on the priority operational objective, *eg* validity, priority

6.1.6 The existing initiative as a vehicle for promoting cooperation and collaboration between different levels of governments (*eg* national/federal, regional, and local) and different sectoral agencies in developing and implementing marine spatial plans

6.1.7 Transparency in decision-making processes

6.1.8 Role of NGOs *eg* promoting cooperation in fulfilling the priority operational objective; promoting the views of particular communities

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, *eg* employing fora, bilateral consultations *etc* in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new (*eg* renewables) and existing sectors (*eg* conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

6.2.2 Competition for space between sectors (*eg* renewables and conservation) and within sectors (*eg* between different renewable companies) as a source of influence on and drive for the existing initiative

6.2.3 The development and implementation of the existing initiative as a vehicle for promoting integrated management of different sectors: influence of the existing initiative over the management of different sectoral activities

6.2.4 Potential winners and losers in the existing initiative, power struggles and displacement issues

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

6.3 Cross-border issues between countries

6.3.1 Cross-border issues regarding historical fishing access rights under 'relative stability'

6.3.2 Effectiveness of transboundary cooperation and collaboration in the existing initiative, *eg* in designing, designating and managing adjoining MPAs for biogeographical features that cross national borders

6.3.3 Sharing of data and information between different member states in the existing initiative

6.3.4 Role of the EC and the principle of subsidiarity: what can the EC say and not say about cross-border and cross-sector management in MSP?

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

6.4 Justice issues

6.4.1 The provision of legal rights to appeal and effectiveness in the use of adjudication platforms at various levels (international, EU and national) in addressing justice issues

6.4.2 Environmental justice issues – conserving marine environment for indirect benefits (ecosystem services) of wider society

6.4.3 Social justice issues – rights of users to access areas/resources for their livelihoods and ‘way of life’

6.5 Influence of different knowledges and of uncertainty in decision-making. *eg* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in decision-making processes

6.5.2 The power of information and innovative communication tools (*eg* mapping and innovative ways of display) in influencing people’s perceptions and behaviour

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, *eg* uncertainties regarding the effects of key activities (*eg* wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

6.5.4 Transparency on issues arising from uncertainty; *ie* how such issues are communicated, debated and accommodated, *eg* by scientific advisory bodies.

6.5.5 Expanding role of scientific advisory bodies, *eg* ICES in gathering data and providing advice on marine management

6.5.6 Accessibility to and transparency of existing data and information held by expert bodies, within sectors and by different nations

6.5.7 Uneven distribution of data and information between countries and regions; differences in capacity for gathering and providing of data and information

7 Conclusion

A summary of the key messages and conclusions from the analysis.

Appendix 4 – Methods for Governance Analysis

The methods outlined here can be used to collect information under the main headings of the analytical structure in appendix 1, particularly the cross-cutting themes and sub-themes identified in the case study.

It is suggested that the first two methods can be used in the beginning of the research to gain an overall understanding of the context and key issues, followed by semi-structured interviews and questionnaires to gain a deeper understanding of the perspectives of individual stakeholders, and stakeholder workshops can be organised at a later stage of the research to collect new information and verify research findings.

The selection of methods to apply in a particular case study will depend on the context, research questions as well as the amount of research effort available. However, the selected methods should be applied to collect information relevant to the cross-cutting research themes and sub-themes identified to be relevant in a particular case study.

- 1) **Document analysis:** going through reports, meeting minutes, policy documents, newspapers etc. to collect information relevant to the research themes.
- 2) **Participant or non-participant observation:** observing an event or process (meetings, workshops, consultation process etc.), to collect information relevant to incentives and cross-cutting themes and sub-themes identified. The researcher can both participate in the event or process, or attend the event or process purely as an observer. To make the best use of participant or non-participant observation, the researcher often prepares a list of topics and questions relevant to the research themes, which will guide the collection of information during the event/process. The information collected can be recorded in field notes or in a research diary (containing information collected as well as the researcher's synthesis and reflections).
- 3) **Semi-structured interviews:** semi-structured interviews are one of the most common methods used in governance studies. Semi-structured interviews are based on the use of an interview guide, which comprises of a list of questions and topics to be discussed during the interviews. For governance research using the governance analysis framework in appendix 1, the interview guide can comprise of the cross-cutting themes and sub-themes identified to be relevant in the case study. However, the questions raised by the researcher during the interview process are not restricted to a set of predetermined questions. If there are relevant issues and topics that emerge from the actual interview process, the researcher can explore these issues and topics with the interviewee. In conducting semi-structured interviews, the interviewer intervenes when the conversation moves too far from the research themes. Wherever possible and with the consent of the interviewee, the interviews are taped for further analysis. After the interview, the researcher prepares an interview report which records key information collected, organised and structured in accordance with the research themes.

Below is a list of common advice that applies to semi-structured interviews:

- Find suitable gatekeepers (who are trusted by the people you want to interview and can introduce you to potential interviewees)

- Prepare a short self-introduction (about the researcher, the purpose of the research and why you want to talk to the interviewee)
 - If possible, introduce yourself as an independent researcher when conducting this governance research
 - Start interviews with little information in the beginning, let people talk about their stories. After 5-10 minutes or towards the end of the interview, you can ask more challenging questions
 - Conclude interviews with questions looking into future prospects
 - Length of interviews: varies but usually keep within 2 hours
 - It will be preferred to have one researcher dedicated to both conducting and analysing the interviews; but for difficult interviews (e.g. with multiple interviewees), it may be better to have two researchers
 - How to conduct interviews is always a learning-by-doing process, therefore it will be better to start with the interviewees who you can go back to (allowing for mistakes)
- 4) Structured questionnaires:** this can be done in person, by mail/phone etc.
- 5) Stakeholder workshops:** workshops for stakeholder representatives to discuss and debate key issues relating to the cross-cutting themes and sub-themes identified. Stakeholder workshops are usually mediated by a facilitator. It is an opportunity to observe the interactions between individuals representing different stakeholder groups to gain an understanding of the similarities and differences between the perspectives of different stakeholder groups.

In applying these methods in social science research, there are some common issues that the researcher should be aware of and address properly during the research process:

- **Confidentiality and privacy:** the results of a social science research may sometimes have practical consequences for the informants involved (*eg* information collected from fishermen may be used to regulate fisheries). Therefore when necessary, caution should be taken to protect the identities and interests of the informants. A common practice is to give assurances of anonymity to the informants. Furthermore, the informants' personal data (*eg* name, user group, place of residence) can be coded so that any records of the interview conducted (*eg* interview reports) cannot be used to trace the identities of the informants.
- **Informed consent:** the principle of informed consent requires that the researchers fully inform the informants regarding the intent, scope, and possible effects of the study as they seek to obtain their consent to participate in it. Informants should also be given information on the measures to be taken to protect their identities and interests.
- **Positionality:** while recognising that there is no 'value-free' social research, efforts should be taken to remain as neutral as possible when applying the research methods (particularly semi-structured interviews and stakeholder workshops). Even if the researcher's professional association may place him/her in a certain position (*eg* conservationists), it is useful to state to the informants that during this particular governance research, it is all about listening to the informants' stories and perspectives. Every effort should be taken to avoid imposing the researcher's own perspectives on the informants.

More detailed information on common methods used in social science research can be found in Bernard (2006), Hay (2005), McGoodwin (2001), and Valentine (2005).

Appendix 5 – Themes from the April 2013 MESMA Governance workshop

In April 2013, UCL hosted a workshop for MESMA WP6 case study researchers. This workshop was organised along six cross-cutting themes which had emerged as key themes from the governance analyses on the MESMA case study initiatives:

T1. Governance approach/structure

T2. Conflicts

T3. Integration across sectors, across Government, and between plans and reality

T4. Participation, transparency and accountability

T5. Equity and justice

T6. Uncertainty

During the workshop, participants agreed to work on peer-reviewed papers (one on each initiative) to submit to a special issue of Marine Policy, with each paper structured along the six workshop themes. UCL put together some guidelines for case study authors to follow, explaining each theme in a bit more detail – these are reproduced below, and could be developed into an alternative analytical structure for deconstructing and understanding governance processes in marine spatial planning.

1. Introduction

In this section, please give a brief account of

- The context of your case study, including geography (with a small map showing the area if possible), and socio-economic and political context;
- The history and nature of the initiative (when was the initiative established and what it is for);
- The main legal/policy basis of the initiative (stick to the key legislation/policy)
- The focus of your case study, if you chose to focus on specific elements of the whole process (e.g. specific time periods or objectives)
- Your own role or interest in the process you are analysing

2. Case study process and governance

- Describe the main organisations involved in decision-making in your case study, which may include government organisations, NGOs, stakeholder groups and scientific organisations.
- Explain the main roles and responsibilities of different organisations in the initiative, as well as the flow of information/influences/control between them.
- Try to represent the organisational set-up in a diagram, as you have done during the workshop.
- If possible, comment on whether this is a top-down, bottom-up, market-led approach, or a combination.

3. Conflict analysis

- Describe the main conflicts in your case study, providing details of the nature and dimensions of the conflicts. Focus on the strongest conflicts and those with the greatest impacts on your process and decision-making
- Distinguish between primary and secondary conflicts
- Consider both inter- and intra-sectoral conflicts
- Discuss the drivers of the conflicts
- Try to represent key conflicts and drivers in a diagram, as you did during the workshop.
- Discuss whether there is any mechanism in place to address the conflicts.

4. The degree of integration

- Drawing on previous sections, discuss whether effective integration exists between
 - 1) different sectors (horizontal);
 - 2) different levels of government (central-regional-local) .
- Discuss any mechanisms used for promoting the integration and cooperation between different sectors and organisations, and whether such mechanisms are effective or not
- Discuss if the plan has been implemented/enforced effectively in reality, i.e. has it led to changes in decisions, processes and/or practices in different sectors?
- Discuss the main barriers for effective integration (consider the role of leadership, influence of certain powerful interests/sectors, unresolved conflicts/tensions etc).

5. Participation, transparency and accountability

- Describe the different ways/platforms through which stakeholders participate in the process (e.g. regular forums, consultation, ad-hoc events, public hearings, lobbying, campaigning)
- Discuss the **formal** role that stakeholders have within the process (receive information – consultation – collaboration – co-decision making)
- Discuss the roles and influence that stakeholders **actually** have (either through a formal role, or through other means, e.g. lobbying, campaigning)
- Discuss the level of transparency in the process, and whether / how this relates (positively or negatively) to participation, conflicts, or equity and justice.
- If applicable, discuss how the level of transparency has varied over time, or any differences in transparency for different people.
- Discuss if government officials / organisations are held accountable for delivering actions that they are responsible for.
- Discuss the role of leadership in promoting effective participation, transparency and accountability.

6. Equity and justice

- Discuss the main winners and losers, and why they might be considered as such
- Discuss if there is any power struggle between different sectors/stakeholders
- Discuss if there are any mechanisms aimed at achieving full representation of all affected stakeholders within your CS (drawing relevant links to your discussion of participation in the previous section)

- Discuss if there are any mechanisms to ensure that the process and its outcomes are fair
- Discuss if access to court and judicial services is important in promoting equity and justice, and whether these services are effective and equally available / accessible to different people

7. Uncertainty

- Describe the different types of uncertainty in your case study (you can differentiate between scientific and process uncertainty, as some of you did at the workshop, following the Celtic Sea example – or you may have a different way of describing your uncertainties)
- Think beyond scientific uncertainty and data gaps, e.g. about uncertainties people might face about how the CS will impact their activities and livelihoods, or uncertainties about the future costs and benefits of implementing the initiative.
- Remember to consider multiple stakeholder perspectives – put yourself in the shoes of the different actors / stakeholders within your CS, and think about how uncertainty affects them and their behaviour / opinions.
- Discuss the effects of uncertainty on process and outcomes. e.g. does uncertainty fuel conflicts, put off stakeholders from participating, or is it used as a political excuse for (not) taking certain decisions/actions?
- Discuss any approaches used to deal with uncertainty (e.g. scientists' approach vs. engineers' approach, 'deploy and monitor' in renewable industry vs. evidence-based approach in conservation planning).
- Discuss the role(s) of scientists in interpreting and communicating uncertainty, both to decisions-makers and to stakeholders and the general public.

8. Conclusions

Draw some brief conclusions on

- the key messages/findings from your analysis
- what the prospects are for your case study initiative (in terms of meeting its objective), and what the key catalysts / obstacles are
- the prospects for more integrated, transparent and equitable MSP processes in your country (or region) in future

As an option, you may also wish to consider the prospects for moving towards ecosystem-based MSP (versus 'blue growth') in your country.

Appendix 5 - Glossary

Term	Definition	Source of definition
Governance	The involvement of a wide range of institutions and actors in the production of policy outcomes..... involving coordination through networks and partnerships	Johnston et al. (2000) Dictionary of Human Geography (4th Edition)
Institution	<p>Very broad term covering a wide range of agreements, interactions, etc., which remain relatively stable or predictable over a certain period of time, including:-</p> <ul style="list-style-type: none"> • Mutually agreed modes of cooperative behaviour (norms) • Interactions through markets: local – distant • Government policies and programmes • Legal instruments and related obligations 	Peter Jones
Incentive	Particular SMA institutions that are instrumentally designed to encourage people to choose to behave in a manner that provides for certain policy outcomes, particularly conflict management & ecosystem restoration, to be fulfilled through collective actions	Peter Jones
Disincentive	Particular SMA institutions that actively discourage people from choosing to behave in a manner that provides for certain policy outcomes, particularly conflict management & ecosystem restoration, to be fulfilled through collective actions	Peter Jones
Governance approach	A style of governing involving a particular combination of incentives, and/or a particular allocation of authority and responsibilities between different stakeholders, <i>eg</i> communities, governments and business corporations	Peter Jones

Appendix 6 – Overview of EU MSP Policy Drivers

A summary of the policy drivers for MSP in the EU, including the overarching aims and main provisions related to MSP.

Title	Overarching aim(s)	Main provisions related to MSP
Birds Directive (Directive 2009/147/EC, an updated version of the Directive 79/409/EEC first adopted in 1979)	To maintain the population of wild bird species at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.	Member States shall classify in particular the most suitable territories in number and size as special protection areas (SPAs) for the conservation of species listed in Annex I (Article 4), and take similar measures for regularly occurring migratory species not listed in Annex I, including the protection of wetlands (Article 4(2)). SPAs should be protected through appropriate measures (Article 4), but this provision has been amended by the Habitats Directive (see below) to the effect that SPAs are now reactively managed under Article 6(2-4) of the Habitats Directive.
EIA Directive (Council Directive 85/337/EEC)	To ensure that plans, programmes and projects likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorisation.	Certain types of marine projects are subject to mandatory EIAs under the EIA Directive (<i>i.e.</i> Annex I projects). These include 1) trading ports and piers (excluding ferry piers) which can take vessels of over 1,350 tonnes, 2) extraction of oil & gas and natural gas for commercial purposes where the amount extracted exceeds 500 tonnes/day in the case of oil & gas and 500 000 m ³ /day in the case of gas, and 3) pipelines with a diameter of more than 800 mm and a length of more than 40 km.

For the following types of marine projects, Member States should determine by a case-to-case basis, or according to established criteria or thresholds, whether a EIA is required (*i.e* Annex II projects). These include intensive fishing farms, wind farms and mineral extraction.

Article 7 specifies how transboundary environmental impacts are considered, and Articles 9 and 10 provides for public access to information and rights to challenge the legality of decisions.

Habitats Directive
(Council Directive
92/43/EEC)

To maintain or restore, at a favourable conservation status, natural habitats and species of wild fauna and flora of Community interest, taking account of economic, social and cultural requirements and regional and local characteristics.

A coherent European ecological network of special areas for conservation (SACs) and special protection areas (SPAs, under the Birds Directive summarised above) shall be set up under the title *Natura 2000* (Article 3).

Article 6 provides for three types of measures for sound management of *Natura 2000* sites:

- Proactive measures through the designation of *Natura 2000* sites and the establishment of appropriate plans and measures to maintain them (Article 6(1));
 - Preventive measures which require an ‘appropriate assessment’ of potential plans and projects that may potentially have significant negative impacts on conservation features, and require them to be undertaken at an alternative
-

location, if feasible, or require mitigation measures that reduce the negative impacts below significant levels (Article 6(2) and(3));

- Compensation measures when a plan or project has to be carried out for ‘for imperative reasons of overriding public interest’, despite related significant negative effects for the features of the site after all feasible mitigation methods. In such cases Member States are required to take ‘compensatory measures necessary to ensure that the overall coherence of *Natura 2000* is protected’ (Article 6(4)).

Water Framework Directive (Directive 2000/60/EC)

To establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

Member states shall identify the individual river basins lying within their national territory. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts. For international river basin districts the Member states concerned shall together ensure coordination (Article 3).

Member states shall take measures to protect, enhance and restore all bodies of surface water, with the aims of 1) **achieving good surface water status** at the latest 15 years after the date of entry into force of this Directive and 2) progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances (Article 4).

Annex V of the Directive provides a general definition of **good ecological status**, which applies to coastal waters up to 6 nautical miles from the baseline, and **good chemical**

status, which applies to territorial waters 12 nautical miles from the baseline.

Strategic
Environmental
Assessment
Directive (Directive
2001/42/EC)

To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

Subject to exceptions, an environmental assessment shall be carried out for all plans and programmes

(1) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II of Directive 85/337/EEC (EIA Directive), or (2) which, in view of the likely effect on sites, have been determined to require an assessment pursuant to Article 6 or 7 of Directive 92/43/EEC (Habitats Directive) (Article 3).

Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated (Article 5(1)).

Where the implementation of a plan or programme being prepared is likely to have significant **transboundary effects** on the environment, the Member State in whose territory the plan or programme is being prepared shall, before its adoption or

submission to the legislative procedure, forward a copy of the draft plan or programme and the relevant environmental report to the other Member State (Article 7(1)).

Where a Member State is sent a copy of a draft plan or programme and an environmental report under paragraph 1, it shall indicate to the other Member State whether it wishes to enter into consultations before the adoption of the plan or programme or its submission to the legislative procedure and, if it so indicates, the Member States concerned shall enter into consultations concerning the likely **transboundary environmental effects** of implementing the plan or programme and the measures envisaged to reduce or eliminate such effects (Article 7(2)).

Basic regulation
under the Common
Fisheries Policy
(Council Regulation
No 2371/2002)

To ensure exploitation of living
aquatic resources that
provides sustainable
economic, environmental and
social conditions.

Recovery plans shall be established for fish stocks which are outside safe biological limits (Article 5). Management plans shall be established to maintain stocks within safe biological limits for fisheries exploiting stocks at/or within safe biological limits (Article 6).

Under the current CFP, fisheries restrictions for the protection of a *Natura 2000* site can be adopted through several mechanisms:

- Implementing fisheries management measures under the Common Fisheries Policy (CFP) which apply to all fishermen from all Member States (Article 7);
 - Member States can take emergency measures, the maximum duration of which
-

is 3 months, if there is evidence of a serious and unforeseen threat to the marine ecosystem resulting from fishing activities (Article 8). This emergency procedure was adopted in 2003 and 2004 to close bottom trawling in the area around Darwin Mounds under the Common Fisheries Policy, in anticipation of future SAC designation in order to conserve deep-water corals in the area. The closure was made permanent in 2004 (Council Regulation 602/2004).

- Member States can take non-discriminatory measures to minimise the effect of fishing on the conservation of the marine ecosystems within 12 nautical miles of their coast. If these measures are liable to affect the vessels of another Member State, which have access to waters between 6-12 nm under a 'partial derogation' of the CFP based on historical rights under the 'relative stability' principle of the CFP, a consultation procedure with the Commission, other Member States and Regional Advisory Councils concerned is necessary before the adoption of the measures, subject to approval from the Commission (Article 9).
- Finally, Member States can take measures in waters under their sovereignty or jurisdiction if such measures are only applicable to their fishing vessels (Article 10).

The Council, acting by **qualified majority** on a proposal from the Commission, shall decide on catch and/or fishing effort limits and on the allocation of fishing opportunities among Member States as well as the conditions associated with those limits. Fishing opportunities shall be distributed in such a way as to assure each Member State **relative stability** of fishing activities for each stock or fishery (Article 20).

Integrated Maritime Policy (COM(2007) 575)

To develop and implement integrated, coordinated, coherent, transparent and sustainable decision-making in relation to the oceans, seas, coastal, insular and outermost regions and in the maritime sectors.

Both maritime spatial planning and integrated coastal zone management (ICZM) contribute to meeting the commitments deriving from the Marine Strategy Framework Directive and provide operators with improved predictability for their planning of future investments. A system for exchange of best practice among authorities engaged in maritime spatial planning and ICZM will be set up.

The Integrated Maritime Policy addresses the following five action areas: 1) maximising the sustainable use of the oceans and seas; 2) building a knowledge and innovation base for the maritime policy; 3) delivering the highest quality of life in coastal regions; 4) promoting Europe's leadership in international maritime affairs and 5) raising the visibility of maritime Europe. Actions in all areas will be guided by the principles of subsidiarity and competitiveness, the ecosystem approach, and stakeholder participation.

Both MSP and ICZM contribute to meeting the commitments deriving from the Thematic Strategy for the Protection of the Marine Environment (MSFD) and provide operators with improved predictability for their planning of future investments.

Decision-making competence in MSP lies with the Member States. What is needed at European level is a commitment to common principles and guidelines to facilitate the process in a flexible manner and to ensure that regional marine ecosystems that

transcend national maritime boundaries are respected.

Marine Strategy
Framework Directive
(Directive
2008/56/EC)

To implement an **ecosystem-based approach** to the management of human activities: ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of **good environmental status**, while enabling the sustainable use of marine goods and services.

Member states are required to develop a programme of measures, as part of their marine strategy, designed to achieve or maintain **good environment status by 2015, and to start implementing the measures by 2016** (Article 5).

The MSP obligations of the MSFD are quite weak, confined to types of measure that should be **taken into consideration as potential measures** for achieving good environmental status (Article 13), as set out in Annex VI.

The MPA obligations are much stronger, in that programme of measures ‘**shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas**’ (Article 13)¹⁴

Annex I of the MSFD established 11 qualitative descriptors for determining good environmental status, which cover the following areas: 1) Biodiversity; 2) Non-indigenous species; 3) Commercial fish stocks; 4) Marine food web; 5) Eutrophication; 6) Sea-floor integration; 7) Hydrographical conditions; 8) Contaminants and pollution; 9)

¹⁴ Aims, along with Habitats and Birds Directives, to contribute to fulfilment of CBD target (COP10) to designate 10% of coastal and marine areas as MPAs by 2020

Contaminants in seafood; 10) Marine Litter; 11) Energy.

Member states are required, as part of their marine strategy, to establish a set of characteristics and environmental targets for good environmental status, based on the above 11 descriptors, by 15 July 2012 (Article 5(2a)). These descriptors are detailed in [2010/477/EU](#)

Renewable Energy
Directive (Directive
2009/28/EC)

This Directive establishes a common framework for the promotion of energy from renewable sources in EU member states.

Each Member State shall ensure that the share of energy from renewable sources meets its national overall target for the share of energy from renewable sources in that year, as set out in Annex I of the Directive. Such mandatory national overall targets are consistent with a target of at least a **20% share of energy from renewable sources in the Community's gross final consumption of energy in 2020** (Article 3).

Each Member State shall ensure that **the share of energy from renewable sources in all forms of transport in 2020 is at least 10% of the final consumption of energy in transport** (Article 3).

In order to achieve the national targets for the share of renewable energy sources, member states can apply measures including (Article 3(3)):

(a) support schemes;

(b) measures of cooperation between different Member States and with third countries for achieving their national overall targets in accordance with Articles 5 to 11.

Each Member State shall adopt a national renewable energy action plan. The national renewable energy action plans shall set out Member States' national targets for the

share of energy from renewable sources consumed in transport, electricity and heating and cooling in 2020 (Article 4(1)).

The coherence between the objectives of this Directive and the Community's other environmental legislation should be ensured. In particular, during the assessment, planning or licensing procedures for renewable energy installations, Member States should take account of all Community environmental legislation and the contribution made by renewable energy sources towards meeting environmental and climate change objectives (Preamble (44))

Appendix 7 – The case study reports

A7.1 About the case study reports

The remainder of this appendix presents the individual governance reports that were produced by case study researchers as a resource for UCL to draw from in the synthesis presented in deliverables 6.1, 6.2 and 6.3. Many of these case study reports are not ‘polished’ reports finalised for publication, and several have not been edited by a native English speaker. This is because they were written solely for the purpose of the MESMA WP6 work, i.e. as an information source for UCL researchers, rather than for formal publication. They are included here as one of the key information sources used by UCL in drawing together the synthesis presented in deliverables 6.1, 6.1 and 6.3.

Note that the information contained in the case study reports was supplemented by UCL researchers in several ways, including through direct conversations with the case study researchers, as well as field visits and workshops with individual case studies. Furthermore, in April 2013, a governance workshop was held at UCL which brought together researchers from almost all of the case studies. Further information and clarification was brought together at this event, structured along the six themes presented in appendix 5.

At the April 2013 UCL MESMA governance workshop, several participants committed to drafting papers on their governance analyses for a special issue of Marine Policy. Early drafts of these papers served as another source of reference for the synthesis and overview of findings presented in deliverables 6.1, 6.2 and 6.3. At the time of writing, the papers for the special issue are in preparation, to be published in due course. For those case studies that are preparing a contribution to the special issue, the working titles of the draft papers are listed below, marked as ‘in prep.’

The full citations of the case study reports are listed below, in the order in which they are presented in this appendix, and in which the case studies appear throughout this report (e.g. sections 1.4 and 3.1). The reports are reproduced in sections A7.2 to A7.14, exactly as provided by their original authors (including their original page numbers). Hence, they differ in formatting and style of presentation. Note that for the Celtic Sea, which produced the most extensive case study report (at 328 pages), an additional summary report was written, which is also reproduced (at the start of section A7.11).

The southern North Sea case study, Belgian sub-case study

Pecceu, E.; Hostens, K.; Maes, F. (2013) *The evolution of marine protected areas in the Belgian Part of the North Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 49pp.

Pecceu, E.; Hostens, K.; Maes, F. (in prep.) Governance analysis in the Belgian Part of the North Sea

The southern North Sea case study, Dogger Bank sub-case study

Goldsborough, D. (2013) *Governance analysis, WP6. Case study: Dogger Bank*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 45pp.

The southern North Sea case study, Wadden Sea sub-case study

Slob, A.; Geerdink, T.; Vöge, S.; Jonkhoff, W.; Röckmann, C. (2013) *Governance of the Wadden Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 68pp.

Slob, A.; Geerdink, T.R.A.; Röckmann, C.; Vöge, S. (in prep.) *Governance of the Wadden Sea*

The southern North Sea case study, Skagerrak sub-case study

Kirk Sørensen, T.; Kindt-Larsen, L. (2012) *Governance analysis, WP6. Case study: Skagerrak Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 26pp.

Kirk Sørensen, T.; Kindt-Larsen, L. (in prep.) *Uncovering governance mechanisms surrounding harbour porpoise conservation in the Danish Skagerrak Sea*

The Strait of Sicily case study, Sicilian sub-case study

D'Anna, G.; Badalamenti, F.; Pipitone, C.; Vega Fernández, T.; Garofalo, G. (2013) *WP6 Governance Analysis in the Strait of Sicily. Sub-case study: "Sicily"*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 34pp.

D'Anna, G.; Vega Fernández, T.; Pipitone, C.; Garofalo, G.; Badalamenti, F. (in prep.) *Governance analysis in the Egadi Marine Protected Area: Sicily case study*

The Strait of Sicily case study, Maltese sub-case study

Pace, M.L. (2012) *Work Package 6. Maltese Governance Analysis on Rđum Majjiesa to Ras ir-Raħeb Marine Protected Areas*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 27pp.

The Barents Sea case study

Olsen, E.; Buhl-Mortensen, L.; Holen, S.; Hoel, A. H.; Røttingen, I.; Skjoldal, H. R. (2012) *MESMA WP 6 Governance analysis. Barents Sea Case Study*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 46pp.

Olsen, E.; Holen, S.; Hoel, A. H.; Buhl-Mortensen, L.; Røttingen, I. (in prep.) *How Integrated Ocean governance in the Barents Sea was created by a drive for increased oil production*

The Bay of Biscay (Spain) case study

Galparsoro, I.; Pascual, M.; Aranda, M.; Borja, A.; Menchaca, I.; Calvo, M. (2012) *MESMA WP6 Governance Analytical Research. Bay of Biscay CS*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 48pp.

The Pentland Firth and Orkney Waters (PFOW) case study

Johnson, K.; Kerr, S.; Side, J. (2013) *MESMA WP6 Governance Analysis. Case Study 2: Pentland Firth and Orkney Waters*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 30pp.

Johnson, K.; Kerr, S.; Side, J. (in prep.) Scotland and the Pentland Firth and Orkney Waters - planning the Atlantic gateway

Celtic Sea case study

Lieberknecht, L. M.; Qui, W.; and Jones, P. J. (2013) *Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 328pp.

Lieberknecht, L. M.; Qui, W.; and Jones, P. J. (2013) *Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process. Summary and Recommendations*. Summary of a case study report for Work Package 6 of the MESMA project (www.mesma.org). 31pp.

Lieberknecht, L. M.; Jones, P.J.S. (in prep.) From stormy seas to the doldrums: The challenges of navigating towards an ecologically coherent MPA network through England's Marine Conservation Zone process

The Greek case study

Panayotidis, P.; Vassilopoulou, V.; Anagnostou, C.; Drakopoulou, V.; Gerakaris, V.; Issaris, Y.; Kavadas, S.; Kokkali, A.; Mavromati, G.; Salomidi M. (2013) *Governance report (MESMA, WP 6). Case Study: Inner Ionian Archipelago & adjacent gulfs*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 37pp.

Panayotidis, P.; Vassilopoulou, V.; Mavrommati, G. (in prep.) Governance issues in the Greek MESMA case study area "Inner Ionian Archipelagos & adjacent gulfs"

The Polish / Baltic Sea case study

Holen, S.; Piwowarczyk, J.; Węśławski, J. M. Wróbel, B. (2013) *MESMA WP6 – Governance analysis. Baltic Sea Case – Baltic Sea Action Plan (BSAP) and NATURA 2000 sites in the Puck Bay: The Puck Bay (PLB22005) & The Puck Bay and the Hel Peninsula (PLH220032)*. A case study report for Work Package 6 of the MESMA project (www.mesma.org).84pp.

Piwowarczyk, J. & Wróbel, B. (in prep.) Determinants of legitimate governance of marine *Natura 2000* sites in a post-transition European Union country: a case study of the Puck Bay, Poland

The Bulgaria / Black Sea case study

Schouten, P.; Vogel, R.; Schipper, C.; Slob, A. (2012) *The governance of the Black Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 73pp.

A7.2 Case study report: The southern North Sea case study, Belgian sub-case study

Basic details of the case study:

Initiative	From MSP in the Master Plan (2003) of the Belgian Part of the North Sea (BPNS) to an integrated marine spatial planning process and planning visions for the future(2013)
Description	This analysis specifically focuses on the evaluation of the designation of MPAs in the BPNS as part of the Natura2000 network and explores the history of conflicts, particularly between MPAs and the development of offshore wind farms.
Objectives	Renewables / multi-sector: The main reason for developing the Master Plan(2003) was to fulfill European directives and the (urgent) needs of two sectors: nature conservation and offshore renewable energy. It's a multi-sectoral zoning plan allocating areas for a range of different activities. Currently a legally binding marine spatial plan and planning process is underway.
Scale	The whole of Belgium's continental shelf area (small compared to other EU countries – 66km of coastline, 3,600 km ² of maritime area).
Period covered	1999-2013
Researchers	Ellen Pecceu, Kris Hostens (ILVO – Institute for Agricultural and Fisheries Research); Frank Maes (Maritime Institute, Ghent University)
Researchers' background	Natural Science (Marine ecology); Environmental Law
Researchers' role in initiative	Researchers not directly involved in the process. Nevertheless, both institutes provided scientific advice (directly and/or indirectly, e.g. through advisory bodies). They also contributed to numerous relevant scientific reports and projects.

The next 49 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Pecceu, E.; Hostens, K.; Maes, F. (2013) *The evolution of marine protected areas in the Belgian Part of the North Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 49pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.

Governance analysis in the Belgian Part of the North Sea.

The evolution of marine protected areas in the Belgian Part of the North Sea

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1 Context

1.1 Information on the existing initiative

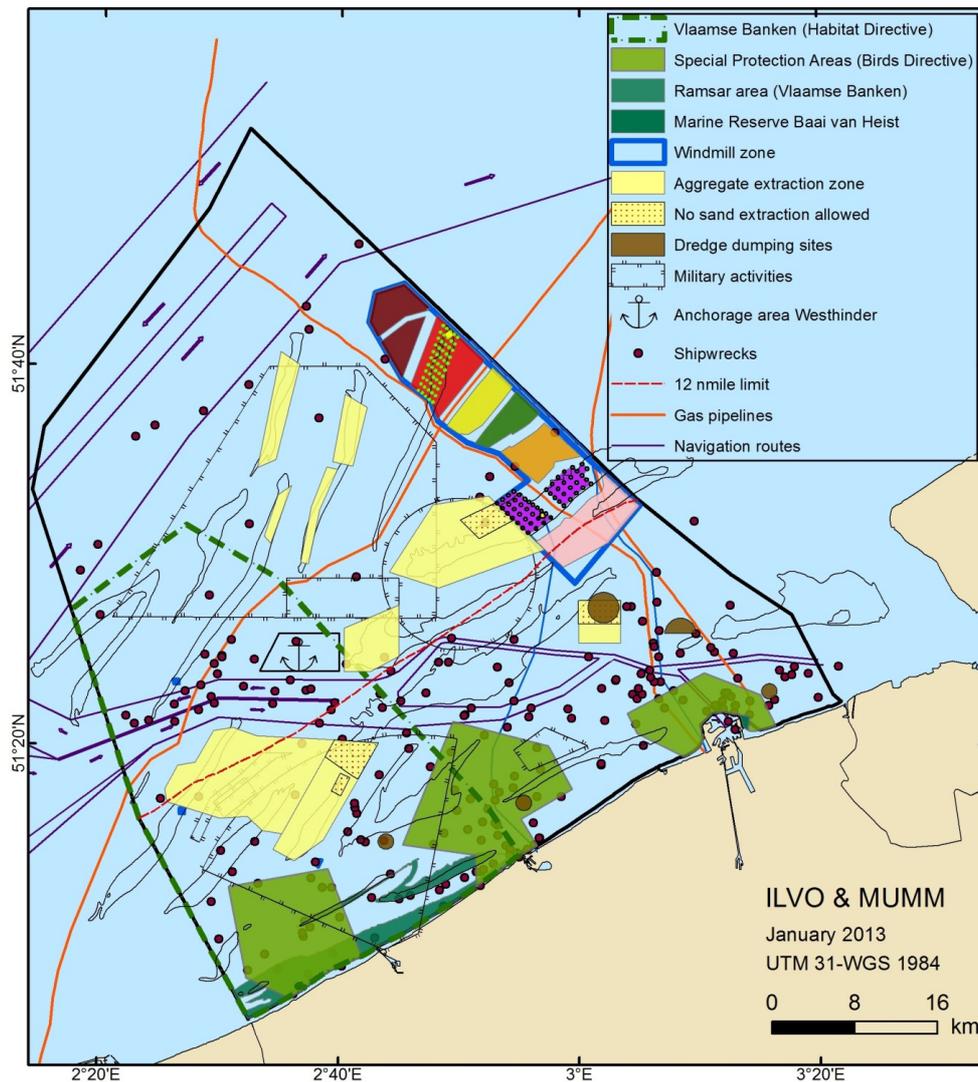
A. General information on the Belgian Part of the North Sea

The Belgian part of the North Sea (BPNS) has a maximum width of +- 65 km and extends about 87 km from the coast. Despite its small size (only 3600km²), the BPNS is also characterized by several valuable habitats. This is partly related with the presence of a complex system of sandbanks. Based on their location and orientation, the ca 30 sandbanks can be divided in 4 groups (Kustbanken, Vlaamse Banken, Hinderbanken and the Zeelandbanken). The sandbank area stretches out from Zeeland to Calais. Such an area is otherwise only found in the southeast of England (Maes et al.,2005). Besides the sandbanks, the BPNS also comprises 'reef' habitats, which are formed by either gravel banks or bristle worm aggregations (e.g. the sand mason, *Lanice conchilega*).

Water depths in the Belgian part of the North Sea are generally shallow close to the coast (0-10m within 15 km) with the bathymetry sloping down to the deeper waters (about 40m) found at the offshore limit (Bonne W., 2007).

In the BPNS, a territorial zone (up to 12 nautical miles from the coastal baseline) and an Exclusive Economic Zone (EEZ) can be distinguished. The Belgian EEZ was established by law in 1999 (EEZ law), and its boundaries coincide with the outer boundaries of the Belgian Continental Shelf. The boundaries of the BPNS with France, the Netherlands and the UK were established in treaties delimitating the territorial sea and the continental shelf (cf. Vlimar gazetteer website¹). The boundaries of the fishery zone, which was established in 1978, were adjusted by the law on the Belgian EEZ and coincide with the EEZ boundaries. Conservation and protection of the marine environment in the Belgian EEZ is regulated by the Law on the Protection of the Marine environment (Law Marine Environment) (Maes et al.,2005, Humblet C., 2010).

¹ Vlimar gazetteer website: <http://www.vliz.be/vmdcdata/marbound/details.php?area=59>



Belgium is an example of a multi-level governance. The institutions responsible for the management of the marine environment are divided both horizontally and vertically. Vertically, 3 levels of government can be distinguished: federal, regional and local. The federal government is competent for the marine part of the coastal zone, except the competences for specific activities that have been transferred to the Flemish region, such as dredging and fisheries. The horizontal competences are fragmented over several administrative institutions. The North Sea policy of Belgium includes, next to international institutes, the federal government, the Flemish Region, one province, the province of West-Flanders and ten coastal municipalities (Bogaert et al., 2009).

Some of the most important obligations (Cliquet et al., 2007, Bogaert et al., 2008) concerning the conservation of marine biodiversity in Belgium are to be found in:

- The Convention on Wetlands of International Importance, especially Waterfowl Habitat (Ramsar, 1971)²
- United Nations Convention on the Law of the Sea (1982)³
- The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR, 1992)⁴
- The Convention on Biological Diversity of Rio de Janeiro (1992)⁵
- EU Birds Directive 79/409/CEE⁶, 1979
- EU Habitats Directive 79/409/CEE, 1992⁷

Belgium has to comply with international commitments on the designation and management of marine protected areas, such as those agreed at:

- The World Summit on Sustainable Development, to establish a representative system of MPAs by 2012⁸
- the decision from the 7th conference of state parties to the Biodiversity Convention to establish and maintain (by 2012) marine and coastal protected areas that are effectively managed, ecologically based and contribute to a global network of marine and coastal protected areas.⁹

Also at the EU level, commitments have been made regarding the conservation of marine biodiversity:

With the Habitats Directive, the European Union aims, among other things, to create a European ecological network of Special Areas for Conservation (SACs) & Special Protection Areas (SPAs), the so-called '*Natura2000*' network. The network must maintain the natural habitats and habitats of species of community importance (SCI) described in Annexes I and II in a favorable conservation status and if necessary restore them. The Natura2000 network will also include the SPAs of the Birds Directive (article 3, Habitats Directive). The procedure of the establishment of the SACs consists of various stages (article 4, Habitats Directive). In the first stage member states shall propose a list of sites indicating which natural habitat types in Annex I and which species in Annex II that are native to the territory the site currently hosts. The designation must take place on the basis of the criteria in Annex III and relevant scientific data. A second stage in the establishment of the Natura2000 network consists in the Commission establishing a list of Sites of Community Importance (SCI) drawn from the Member States' lists. Once an area has been declared to be an SCI, the member state involved designates that area as soon as possible as an SAC.

² Convention on Wetlands of International Importance, Ramsar, 2 February 1971. Available: www.ramsar.org.

³ United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982

⁴ Convention for the protection of the marine environment of the North-East Atlantic, Paris, 22 September 1992. Available: www.ospar.org.

⁵ Convention on Biological Diversity, Rio de Janeiro, 5 June 1992. Available: www.biodiv.org.

⁶ Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, Official Journal L 103 , 25/04/1979. Available: <http://ec.europa.eu/environment/nature/home.htm>.

⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, Official Journal L 206 , 22/07/1992. Available: <http://ec.europa.eu/environment/nature/home.htm>.

⁸ United Nations. Report of the World Summit on Sustainable Development. Johannesburg, South Africa, 26 August- 4 September 2002. A/Conf.199/20. Available: www.unmillenniumproject.org/documents/131302_wssd_report_reissued.pdf.

⁹ CBD-COP7 Decision VII/5 Marine and coastal biological diversity. Available: www.cbd.int/doc/decisions/COP-07-dec-en.pdf.

The EU Biodiversity Action Plan has proposed the following timeframe:

- to complete a network of Special Protection Areas (SPAs) by 2008 for marine areas
- adopt lists of Sites of Community Importance by 2008 for marine areas
- designate Special Areas of Conservation (SACs)

Due to the delay in early stages of the designation, the designation of the SACs has theoretically been postponed until 2010.

- establish management priorities and necessary conservation measures for SPAs and SACs by 2012 for marine areas¹⁰.

B. Legal context BPNS

The first initiatives for marine spatial planning in Belgium were done on an ad-hoc basis. This approach can be explained by the evolution of the sea laws on an international level.

Before the United Nations Convention on Law of the Sea (1982), Belgium only had a territorial sea of 3 nautical miles. Beyond that, Belgium had nearly no authorities. An important law at that time was the law on the exploration and exploitation of non-living resources on the territorial sea and the continental shelf (1969).

With the arrival of the Law of the Sea (1982)¹¹, the coastal states had much more possibilities to rule the high seas. In 1987, the Belgian territorial sea was enlarged to 12 nM and two important implementation laws were approved. The law on the protection of the marine environment (MMM-law¹²) and the EEZ law¹³. The 1999 act on the protection of the marine environment provided the legal basis for designating and managing MPAs in the Belgian part of the North Sea (BPNS), including the territorial sea and the Exclusive Economic Zone. It took several years however to designate 5 MPAs in 2005 and one MPA in 2006 (Douvere et al., 2007).

C. Brief overview: evolution of MPA in BPNS (Douvere et al, 2007; Bogaert D & Maes F, 2008, Bogaert et al., 2009)

Before 1999

Preliminary attempts for the designation of MPAs in Belgium consisted of the designation in 1984 of the “Kustbanken¹⁴” as a Ramsar site and the proposal in 1996 of the “Trapegeer Stroombank” as an EU special Area of Conservation (SAC). No further protection measures were taken in these areas. It is hardly appropriate to call them MPAs (Bogaert et al., 2009).

¹⁰ Communication from the Commission. Halting the Loss of Biodiversity by 2010 - and beyond. Sustaining ecosystem services for human well-being, COM (2006)216 final. Available: http://eurlex.europa.eu/LexUriServ/site/en/com/2006/com2006_0216en01.pdf.

¹¹ United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982

¹² Act of 20 January 1999 on the protection of the marine environment, Belgian Official Journal 12 March 1999; amended by Act of 17 September 2005, Belgian Official Journal 13 October 2005.

¹³ Act of 22 April 1999 on the Exclusive Economic Zone in the Belgian Part of the North Sea, Belgian Official Journal 10 July 1999.

¹⁴ The Royal Decree speaks of the ‘Vlaamse Banken’ in the coastal waters

1999-2003 Failed attempts for designation of MPAs

In 1999 a long-lasting process to designate MPAs in the BPNS began. This policy process was not only characterized by a lack of legitimacy but also by huge conflicts and protest from several stakeholders.

Starting from an international legal context and a number of internationally applicable principles, the federal legislator for the first time provided the necessary rules for the designation of MPAs in the Marine Environment Act of 1999 (MEPA)¹⁵.

The establishment of MPAs was seen by the federal authorities as an important resource for tackling two problems: the protection of marine ecological values on the one hand and the fulfillment of international obligations on the other. Shortly after the Act was approved, a proposal, based on expert knowledge was made by the federal environmental Secretary of State for the delimitation of several marine reserves. At the setting up of these proposals, there was a supporting coalition made up of a limited number of agents from the nature conservation movement, the authorities and the academic world. A number of these supporters met each other in informal consultative structures. This first designation proposal ran up against protest of all sorts of North Sea users. The process was seen as an example of a top-down policy where initially, during the preparation of policy and in the later phase of the designation process no form of consultation (or even information) was provided. In reaction to this process, consultation was provided and working groups were formed according to the different stakeholders. In this groups procedural and substantive objections were formulated. The first designation proposal made it clear that local agents wished to be involved in the policy process. The top-down approach created questions of legitimacy, distrust of the federal authorities and the concept of MPAs.

The designation process almost came to a halt in the period 1999-2002. In that period, there was a shift of political responsibility from the social Secretary of State to 'Green' Ministers. This minister linked the plans for the development of near shore wind turbine parks to the MPAs dossiers but this rapidly appeared to be disastrous.

As the principle explanation for the fact that it had not been possible to designate in that period, respondents cite not only the considerable blocking power displayed by the North sea users and local politicians, but also the lack of political power and experience of these newly invested with responsibility for policy and a similar lack among the staff in their ministerial offices.

At the end of the governmental term (2003), the federal Minister, with the support of the Belgian Prince Laurent, launched a new initiative for the setting up of 'integral coastal nature parks'. What is striking is that in the pursuance of policy no lessons were drawn from the earlier failed attempts at designation.

This idea of 'integral coastal nature parks' was not followed up and with the prospect of new federal election the designation process ground to a halt.

¹⁵ Law of 20 January 1999 on the protection of the marine environment (Wet ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België), published in the Belgian Official Journal 12 March 1999. Amended by Law of 17 September 2005, Belgian Official Journal 13 October 2005.

2003-2006

In the new government, a specific Minister for the North Sea was appointed. This minister was mandated to coordinate all Federal North Sea competences and dealt with the issues of the North Sea in a more integrated manner by way of a Master Plan¹⁶. This Master Plan is a combination of political decisions, describing the principles and the agenda to realize a spatial planning of the BPNS. The demarcation of heavy economic exploitation zones for sand and gravel extraction and wind turbine parks are based on consultation rounds with stakeholders and on the basis of socio-economic and ecological studies.

Since the mid-1970s, sand and gravel extraction in the BPNS was limited to two concession zones and required a comprehensive monitoring program. However, the allocation in the zones proved to lead to an unsustainable exploitation. With the Master Plan, a more diverse zoning system was proposed. All those new requirements have been approved by law¹⁷ in 2004 (Douvere et al., 2007)

In a second phase the Minister planned the delimitation of MPAs, after bilateral consultation with all actors concerned. Parallel with the proposals for the designation of MPAs, a list of 21 possible protective measures for these areas were proposed in a step by step approach. Next to these consultation moments, the cabinet of the minister conversed directly with the fishing community.

In the same period, the MEPA was amended. A legal basis was included for policy plans and voluntary user agreements for MPAs were introduced. According to this act a policy plan has to be drawn up for every MPA and must contain information on the protection measures, the user agreements and the results of the monitoring.

As a result of this process, in 2005, three SPA's were delimited for birds and two SACs for habitats. In 2006, a sixth MPA, a small marine reserve was designated.

In this period, no longer exclusively scientific opinion, but also non-professional know-how and laymen knowledge were deployed. The bilateral consultation rebuilt trust to a large extent. However this consultations were hold behind closed doors and this could lead to a form of backroom consultation.

Master Plan

In 2003, the new Belgian Minister for the North Sea (Johan Vande Lanotte) initiated a more strategic approach to the (potential) conflicting spatial claims for the Belgian Part of the North sea which is called "Master Plan for the North Sea".

The Master Plan consisted of two phases: in the first phase the zones for the "hard" economic activities were designated: sand & gravel extraction and wind turbine parks in the sea. In both cases the demarcation was based on consultation rounds with stakeholders and on the basis of socio-economic and ecological studies.

¹⁶ See box Masterplan for more information

¹⁷ RD of 1 September 2004 concerning the conditions, the geographical delimitation, and the procedure for granting concessions for the exploration and exploitation of mineral resources and other non-living resources in the territorial sea and on the continental shelf, MB 7 October 2004

In the second phase of the Master plan, marine protected areas were designated. This was done after a process of bilateral consultation with all actors concerned, including fishermen, recreational water sports representatives, coastal mayors, civil servants of several departments, scientists and the civil society (the environmental movement).(Douvere *et al.*, 2007; Cliquet *et al.*, 2012)

It is often seen as one of the first examples of a marine spatial plan in Europe.

BUT

This plan is not legally binding. Until now there are no provisions in the Act on the protection of marine environment which describe the judicial effects of this plan. (Ref Cliquet, 2012).

It is static and doesn't contain a review cycle. After these two phases, new developments were executed again on a sectoral basis.

Besides that, the plan is neither future-oriented nor in alliance with neighboring countries.

2006-2012

In February 2008, the Belgian Council of State annulled the designation of the SAC "Vlakte van de Raan", following the complaint by the energy firm Electrabel. The main argument by the Council is the insufficient motivation for the designation. In the meantime, the owner of the permits introduced a liability action against the Belgian State claiming compensation for the damages suffered due to this change of policy by the Belgian government. In march 2008, the EC added this area to the list of European sites of Community Importance. Once added on that list, the European Commission cannot change the statute any more (as described in the Habitats Directive¹⁸) unless it appears that natural development caused changes. This cannot be demonstrated with the current scientific knowledge. According to the Habitats Directive, the member state has 6 years to designate "Vlakte van de Raan" as a special area of conservation. In other words, Belgium has until march 2014 to address this matter.

The formation of a new government (in 2007) was extremely difficult to establish and after half a year, a provisional government was appointed (Verhofstadt III). This interim government was responsible for the current affairs and in the mean time, they attempted to form a final government. In spring 2008, the federal government (Leterme I) was finally established. The North Sea policy was also the responsibility of the prime minister Yves Leterme. Owing to ongoing discussions amongst others on the state reform, this government resigned after only one year. Again, an interim government (sequentially Van Rompuy I & Leterme II) was appointed to follow up the current affairs.

During this government switches, the secretary of State (mobility), Etienne Schoupe remained formally responsible for the North Sea Policy. Under his jurisdiction, policy plans for the marine

¹⁸ Article 9 from the Habitats directive The Commission, acting in accordance with the procedure laid down in Article 21, shall periodically review the contribution of Natura 2000 towards achievement of the objectives set out in Article 2 and 3. In this context, a special area of conservation may be considered for declassification where this is warranted by natural developments noted as a result of the surveillance provided for in Article 11.

protected areas in the Belgium Part of the North Sea¹⁹ were formulated. The common thread of these policies is participation, information and gathering knowledge. These policy plans also contain 14 concrete action points including the establishment of conservation objectives from marine protected areas. The federal public service (FOD) marine environment was commissioned to write out a scientific study²⁰.

In addition, a scientific study²¹ was drawn out for the identification of potential special areas of conservation in the Belgian EEZ in accordance with the request from the EC (Degraer et al., 2009). This study eventually gave rise to the notification of the area “Vlaamse Banken” as part of the Natura2000 network (2010). This is – as the HD prescribes- purely based on ecological data. This area covers ca 1/3th of the entire BPNS.

In 2011, new federal elections were organized and the government Di Rupo I was created. Johan Vande Lanotte was again (see 2003) appointed as the Minister of the North Sea. Under his authority, the “Vlaamse Banken” was approved as a special area of conservation²².

The minister also picked up the work on marine spatial planning where it was left off in 2003. This future marine spatial plan goes beyond the allocation of zones for particular use. An integrated approach to policy and management are central here. First and foremost, a legal basis was provided in the Belgian legislation by amending²³ the Law Marine Environment from 1999²⁴. This amendment includes a new chapter called “organization of marine spatial planning”. The procedure (by Royal Decree) for a marine spatial plan includes at least a planning process, a public hearing, the development of a strategic environmental impact assessment and a procedure to change. The actual plan will also be determined by Royal Decree. The marine plan should allow to add new activities in the future (f.e. new zones for renewable energy, a logistic platform at sea,...) and also allow that modifications or combinations of functions within the same space (multiple use) are possible. Permits will only be granted when they comply with the provisions. The plan will include a long-term-vision and must be re-evaluated every 6 years. Meanwhile, the cabinet started an informal consultation round with all stakeholders involved. In this meeting, the procedure was explained and

¹⁹ Beleidsplannen beschermde mariene gebieden in het Belgische deel van de Noordzee, DG5 Leefmilieu, Dienst Marien Milieu, 25 juli 2009.

²⁰ Degraer S. et al. (2010) Bepalen van instandhoudingsdoelstellingen voor de beschermde soorten en habitats in het Belgische deel van de Noordzee, in het bijzonder in beschermde mariene gebieden. Eindrapport in opdracht van de Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Directoraat-generaal Leefmilieu. Brussel, België. 132 pp.

²¹ Degraer, S. et al (2009) Studie betreffende het opstellen van een lijst met potentiële Habitatrictlijn gebieden in het Belgische deel van de Noordzee. Eindrapport in opdracht van de Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Directoraat-generaal Leefmilieu. Brussel, België. 93 pp.

²² 16 oktober 2012- Koninklijk besluit tot wijziging van het koninklijk besluit van 14 oktober 2005 tot instelling van special beschermingszones en special zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België.

²³ 28 Juni 2012: Wetsontwerp tot wijziging van de wet marien milieu in de zeegebieden onder de rechtsbevoegdheid van België, wat de organisatie van de mariene ruimtelijke planning betreft.

²⁴ Law of 20 January 1999 on the protection of the marine environment (Wet ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België), published in the Belgian Official Journal 12 March 1999. Amended by Law of 17 September 2005, Belgian Official Journal 13 October 2005.

some specific questions were asked to the stakeholders. There was also time for some questions/suggestions. A planner will take these into account and will prepare a draft marine spatial plan. An advisory committee will provide (non-binding) advice on this plan during this process. This committee consists of all relevant government departments and experts outside the federal government. After approval in the federal ministry, this draft marine spatial planning and the strategic EIA will be available for public consultation. This includes a public hearing (socio-economic impact, environmental considerations,...), a targeted consultation (3 regions, the Federal Council for sustainable development(FRDO), the coast guard,...) and a transboundary consultation with the Netherlands, France, the UK,... Thereafter, the draft may be adjusted and will appear again in the federal ministry. Eventually the Marine Spatial plan will be recorded by Royal Decree.

Another initiative from the current minister of the North Sea is a new plan called “Seal Action Plan²⁵” in which some proactive management measures are proposed. A first measure is to create artificial reefs by placing structures on the seafloor mimicking the properties of a natural reef. This can protect, regenerate and stimulate the production of marine living sources. Next to favouring fisheries and nature conservation, this measure can promote scientific research, recreation and educational use. A second management measure is to provide artificial resting places for grey seals. These positive management measures will first be tested for 5 years within an experimental zone, i.e. the windmill park area. After the experimental phase, these biodiversity measures will be further developed. The Seal Action Plan is an initiative of the present minister of the North Sea. The fact that this initiative is not framed in a European Directive or long-term vision might be an obstacle. It remains uncertain if this initiative will continue with a new legislation. .

Belgium is also working on the implementation of the Marine Strategy Framework Directive.

During this governance analysis, we particularly focus on the events between 2006 and 2012 on marine protection areas in the Belgian Part of the North Sea. There are two areas of special interest. The first area is the SAC “Vlakte van de Raan” which was designated in 2005. Meanwhile, this area has been de-designated by the Council of State as a result of a complaint in 2008. Therefore, it is no longer protected by national legislation. The second area of interest is the SAC ‘Trapegeer-Stroombank’ which has been designated in 2005 and extended in 2010. The new expanded ‘Trapegeer-Stroombank’ is called “Vlaamse Banken”.

Below, a brief timeline of the major events in both areas is provided.

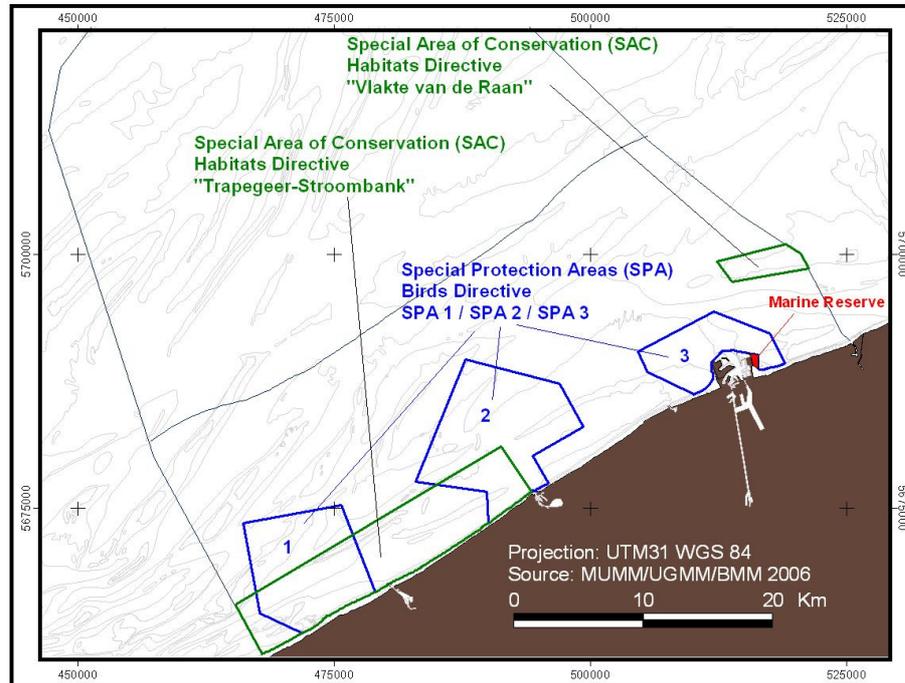
De Vlakte van de Raan

The marine protected area Vlakte van de Raan (H2) is 19.17km² and contains habitat type H1110 (Sandbanks which are slightly covered by sea water all the time). The area is located on the eastside of the BPNS within the 12nM-zone.

²⁵ Actieplan Zeehond http://www.samenaanhetwerk.be/media/uploads/johan/broch_plan_zeehond_nl.pdf



**Special Protection Area &
Special Area of Conservation
(Royal decree 14/10/2005)
Marine reserve (Royal decree 05/03/2006)**



Overview timeline Vlakte van de Raan

March 27, 2002: Temporary association Electrabel- Jan de Nul receives a domeinconcession for building a windmillpark of 50 windturbines on the Vlakte van de Raan.

June 25, 2002: Building permit and an authorization for the exploitation and the construction of a windmill farm on the Vlakte van de Raan were granted to the temporary association Electrabel - Jan De Nul by the Minister of Environment. The project consists of 50 windmills each with a capacity of 2 MW.

The environmental permit and authorization were also provided but strict conditions were imposed on the applicant. These conditions included the implementation of extensive environmental monitoring of the activity.

February 10, 2003: Request for an environmental permit and authorization for the exploitation and installation of Electricity cables in sea, in order to transport Electricity within the park and to the land. The permit and authorization were granted by the Minister but under strict conditions.

The project of Electrabel-De Nul also received the approval of the State Secretary of Energy (concerning the concession and the cables) and had thus, in principle all necessary permits and authorizations to go ahead.

However, several appeals for a cancellation were submitted to the Council of State. Some appeals are only against the permits for building, some against the authorization for the exploitation and

some against both. Amongst others, there is a complaint from Mrs Soete. She fears that her view of the sea and the horizon will be spoiled.

March 25, 2003 Suspension of the permit and the environmental authorization (on procedural grounds) ²⁶

December 19, 2003 The Council of Ministers approves a number of proposals relating to the sustainable management of the North Sea. Regarding the offshore electricity production, one specific area for renewable energy was proposed (Thorntonbank).

May 17, 2004 Royal Decree²⁷ amending the Royal Decree of 20 December 2000 on the conditions and procedure for granting domain concessions for the construction and operation of facilities for the production of electricity from water, currents and winds in the sea areas in which Belgium can exercise jurisdiction in accordance with the international maritime law.

June 30, 2005 Council of State lifted up the suspension of the permit and the environmental authorization. As a consequence, Electrabel-De Nul has again all permits needed to start building a windmillpark on the Vlakte van de Raan.

July 25, 2005 The Minister in charge of the North Sea environmental policy abrogated the permit and the authorization. Reason: the project being incompatible with the new federal plan for the sustainable management of the North Sea which was approved in the ministerial council (20th march 2004)

September 23, 2005: Complaint of Electrabel-De Nul against this decision.

Oktober 13, 2005: Announcement of the Law of 17 September 2005 amending the Law of 20 January 1999 on the protection of the marine environment in marine areas under the jurisdiction of Belgium.

Oktober 14, 2005: Royal Decree on the designation of 3 SPAs and 2 SACs: the Vlakte van de Raan is one of the two special areas for conservation (the other SAC is the Trapegeer Stroombank).²⁸

December 30, 2005: Complaint of Electrabel-DeNul against the designation of the Vlakte van de Raan as marine protected area

February, 2008: Annulation of the designation of the SAC, as a result of the complaint from Electrabel- DeNul. Reason: Only the most suitable sites of the BPNS had to be designated as an SPA/SAC, according to the Belgian Council of State. No proof was presented before the Council of State the the Belgian Part of the Vlakte van de Raan qualified as such. (lack of scientific proof)²⁹

March, 2008: European Commission places the area on the list of sites of Community importance.

March 2014: Belgium has time until March 2014 to find a solution for “Vlakte van de Raan”.

²⁶ Decision Belgian Council of State 25 March 2003, no. 117.482

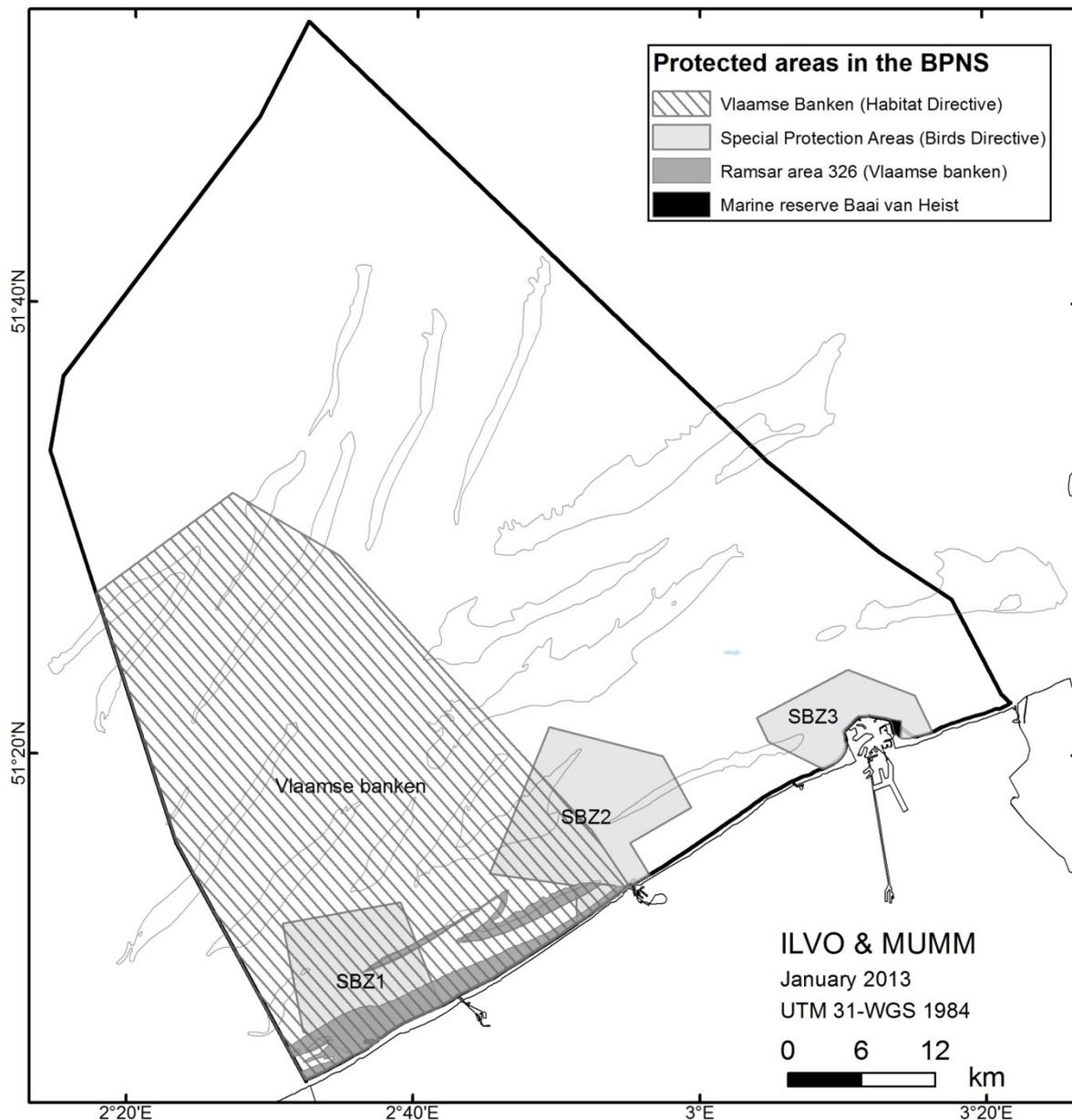
²⁷ BS 29.06.2004

²⁸ KB 14 oktober 2005 tot instelling van special beschermingszones en zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België. BS 13 oktober 2005

²⁹ RvS 1 February 2008, nr. 179.254, nv Electrabel.

Vlaamse Banken

The area “Vlaamse Banken” is a major extension seawards of the former area “Trapegeer-Stroombank”. The entire area has a surface area of 1099.94 km² (which is an extension of +- 920 km²) and thus covers about one third of the total area of Belgian marine areas. It is located on the west side of the Belgian part of the North Sea and adjacent to a marine protected area in France.



Overview timeline Vlaamse Banken

Oktober 14, 2005: Royal Decree: Designation of Vlakte van de Raan and Trapegeer Stroombank as the two special areas of conservation³⁰, next two 3 SPAs.

³⁰ See Note 23

Oktober 5, 2007: Letter from DG Environment. Request from the European Commission to the member states to designate marine protected areas in the Exclusive Economic Zone.

April 14, 2008: Policy document from the minister of the North Sea (Leterme)³¹. It states that Belgium will comply with the request from the EC to designate MPAs in the Belgian EEZ as part of the Natura2000 network. Secretary of State Schoupe is responsible for the policy of the Marine Environment.

August, 2008: On request of Secretary of State Schoupe, the administration calls for a scientific study to provide a list of potential Habitat Areas in the BPNS. This study was performed by a broad consortium of scientific institutions.

2009: Study on the preparation of a list of potential Habitat Areas in the Belgian Part of the North Sea. (Degraer et al., 2009)

Januari 13, 2010: Meeting with cabinet Peeters (Flemish government, fisheries) and cabinet Leterme (Federal Government, prime minister)

January 25, 2010 – March 15, 2010: Public hearing with respect to this study. This was published on the website³² and the stakeholders also received a personal invitation.

During this period 4 information meetings were organized at which someone of FOD marine environment was present.

April, 2010: Evaluation of the results of the public hearing by the marine environmental administration.

May/June, 2010: Expansion of the SAC Trapegeer-Stroombank to the “Vlaamse Banken SAC”, signed up to the EC.

2011: The Habitat Committee has notified the habitat area on the list of ‘Sites of Community Importance’.

After the approval of the potential SAC on the list of Sites of Community Importance, the member state has to assign this area as special area of conservation as soon as possible (and at least within 6 years)

Oktober 16, 2012: Royal Decree amending the Royal Decree of 14 October 2005 establishing special protection areas and special areas for nature conservation in the marine areas under the jurisdiction of Belgium³³.

No later than 3 years after designation, a policy plan should be prepared for this area.

³¹ Algemene Beleidsnota van de eerste minister inzake Marien milieu (14 april 2008)

³² Website <http://www.health.belgium.be>

³³ 16 oktober 2012- Koninklijk besluit tot wijziging van het koninklijk besluit van 14 oktober 2005 tot instelling van special beschermingszones en special zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België. Staatsblad 05-11-2012

1.2 *The socio-economic and political context of the case study (2011)*

- GDP per capita: \$ 38.200
- GDP growth rate, and the main drivers: 1.9%
- Economic composition -by sector:
 - Agriculture: 0.7%
 - Industry: 21.7%
 - Services: 77.6%
- Labor force-by occupation:
 - Agriculture: 2%
 - Industry: 25%
 - Services: 73%
- Unemployment rate: 7.7%
- Gini index: 28

1.3 *The regional policy framework within which your specific WP6 focus is 'nested', eg regional sea action plans.*

2 Objectives and management measures

2.1 *What is the priority objective in your case study?*

Priority objective: To meet with the European legislation (Habitats directive) concerning the conservation and restoration of the biodiversity in Europe.³⁴

2.2 *What are the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above operational objective?*

See table

2.3 *What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the operational objective?*

See table

2.4 *What are the interactions between the policies, legislations, regulations and/or plans listed under the second questions above? (F.e. Do they share common policy goals or goals can potentially conflict with each other?)*

See table

³⁴ With regard to selection of sites at Community level, the Commission has provided a reference document (Hab 97/2 rev4) to assist this process. This indicates certain percentage thresholds for examination of Member States proposals in biogeographic seminars. Where a proposal covers less than 20% of the resource this would normally be considered inadequate. Where it covers more than 60% it would normally be considered sufficient. For proposals that cover between 20 – 60%, the conclusions would need to be based in expert judgment in relation to the particular habitat or species concerned.

	What	Year	Amended	measures
Wet van 20 januari 1999 ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België	Marine Environment Act (MMM-Act)	1999	2005 (o.a provide a legal basis for the voluntary user agreements)/2007(further modifications)/2012 (Marine Spatial Plan)	Provides the legal basis for designating and maintaining MPAs in the BPNS. All activities are permitted in the SPAs and SACs on the basis of this Act, unless they are restricted or prohibited by Royal Decree. It is not possible to restrict or exclude supervision and control, monitoring and scientific research, military activities, sea fisheries, pilotage and beaconing services to and from the harbours, rescue and towing services as well as dredging. Navigation can only be restricted according to a procedure that is provided by the Act and in accordance to international law.
COM(2002)/539 def., Mededeling van de Commissie van 2 oktober 2002, Naar een strategie voor de bescherming en instandhouding van het mariene milieu, Eurlex.	<i>mededeling van de commissie</i>	2002		
KB 9 september 2003 houdende de regels betreffende de milieu-effectenbeoordeling in toepassing van de wet van 20 januari 1999 ter bescherming van het mariene milieu in zeegebieden onder de rechtsbevoegdheid van België	RD	2003		Provides the environmental impact assessment procedure with regard to the rules on the environmental impact assessment in implementation of the MMM-Act.

Master Plan	plan	2003		This Master Plan is not really a plan in the sense of a book or a map but is a combination of several decisions in the federal council of Ministers, which are executed by a number of Royal Decrees and a change of the Marine Environment law. Despite the lack of a legal basis, the Master Plan provides a translation of current and future management objectives of various sectors into a spatial vision
Decision Belgian Council of State 25 March 2003, no. 117.482	Decision Council of State	2003		
COM(2005)/504 def., Mededeling van de Commissie van 24 oktober 2005, Thematische strategie inzake de bescherming en het behoud van het mariene milieu, Eurlex	note from the commission	2005		

<p>KB 14 oktober 2005 tot instelling van special beschermingszones en special zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België.</p>	<p>RD</p>	<p>2005</p>	<p>The following activities are prohibited in the 3 SPAs and 2 SACs: civil engineering, industrial activities and activities of advertising or commercial companies. For the two SACs there is the additional prohibition to deposit dredged material and inert materials of natural origin. The appropriate assessment for plans and projects is obligatory as provided in the Habitats directive. In SP1 and SP2 species specific measures are imposed (in winter, helicopter exercises at a height of less than 500 ft are prohibited, as well as the passage of high-speed vessels and water sports competitions. The Minister of the Environment must consult with the Minister of Defense on the planning of artillery exercises and other military activities off the coast of Lombardsijde). User Agreements. For every SPA and SAC a policy plan must be established within three years after the designation of the area.</p>
<p>Decision Belgian Council of State 30 June 2005, no. 147.047 (so-called 'Soete-decision')</p>	<p>Decision Council of State</p>	<p>2005</p>	<p>Appeal for a cancellation of the authorization for exploration and permits for building (Mrs Soete & Knokke-Heist against the Belgian State) on the Vlake van de Raan</p>

KB 5 maart 2006 tot instelling van een gericht marien reservaat in de zeegebieden onder de rechtsbevoegdheid van België en tot wijziging van het koninklijk besluit van 14 oktober 2005 tot instelling van speciale beschermingszones en speciale zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België	Royal Decree	2006		All activities are prohibited, except for supervision and control, monitoring and scientific research, fisheries, dredging and other Flemish competences at sea, military activities, the laying and maintenance of cables and pipelines, the digging of trenches and the raising of the sea bed and the activities falling within the scope of the user agreements. Within three years a policy plan must be established. User agreements must be conducted.
Algemene Beleidsnota Marien milieu_14 april 2008_Yves Leterme	policy note	2008		Future goals and perspectives.
COM(2008)/534 def., Mededeling van de Commissie van 3 september 2008. Een Europese strategie voor marien en maritiem onderzoek. Een coherent kader voor de Europese onderzoeksruimte ter ondersteuning van het duurzame gebruik van oceanen en zeeën, Eurlex	note from the commission	2008		
Decision Council of State. 1 February 2008, nr. 179.254, nv Electrabel.	Decision Council of State	2008		Vlakte van de Raan
Algemene beleidsnota Marien milieu_25	policy note	2009		Future goals and perspectives.

november2009_Etienne Schouppe				
Beleidsplannen voor mariene beschermde gebieden in het BPNS	plan		2009	Policy plans for marine protected areas in the BPNS.
Algemene Beleidsnota economie, consumenten en Noordzee_23 december 2011) door Johan Vande Lanotte	Policy note		2011	Future goals and perspectives.
Actieplan Zeehond van defensief naar offensief milieubeleid in de Noordzee	Plan		2012	
Omschrijving van de Goede Milieutoestand & vaststelling van Milieudoelen voor de Belgische mariene wateren	Plan		2012	This document is not really a plan in <i>sensu strictu</i> but it sets clear environmental objectives to obtain GES.
KB 16 oktober 2012- Koninklijk besluit tot wijziging van het koninklijk besluit van 14 oktober 2005 tot instelling van speciale beschermingszones en speciale zones voor natuurbehoud in de zeegebieden onder de rechtsbevoegdheid van België.	Royal Decree		2012	Designation of the Vlaamse Banken as a SAC.

3 Conflicts

Describe the conflicts generated by the implementation of the above management measures. Such conflicts may include:

Conflicts between environmental conservation and resources use

Vlakte van de Raan

A detailed analysis has recently been published by Cliquet A., Schoukens H. & Maes F.(2012)

As the timeline above shows, a conflict on the Vlakte van de Raan has seized over several years. At first, de Vlakte van de Raan was allocated as an area for wind energy. At a certain moment, the temporary association Electrabel-Jan De Nul has all necessary documents to start building a windmill park. Due to several complaints from the local community (including the famous example of the old lady who wanted to preserve her sea view³⁵), the authorization and permission was annulled again. Meanwhile, the federal government assigned an exclusive area for renewable energy (area on the Thorntonbank & the Bligh bank) and also some steps were taken to delineate marine protected areas. Among others, the Vlakte van de Raan was put forward as a special area of conservation. The battle between the renewable energy sector (Electrabel-De Nul) and the local community continued for the Council of State and eventually Electrabel was put in the right and again got all necessary documents to start building a windmill park. However, on July 25th 2005, the Minister in charge of the North Sea environmental policy abrogated this permit and authorization; the project being incompatible with the new Federal Plan for the Sustainable Management of the North Sea which was approved in the ministerial council of March 20th, 2004.

On the 15th of October 2005, the Vlakte van de Raan was designated as a special area for Conservation by Royal Decree. Again a series of processes started for the Council of State. This time between Electrabel-DeNul and the federal government (Minister of the North Sea). Electrabel-DeNul, demanded a cancellation of the designation of the Vlakte van de Raan as a special area for conservation. In 2008, the Royal Decree of 15 October 2005 was canceled. Reason: only the most suitable sites of the BPNS had to be designated as an SPA/SAC. According to the council of State, no proof was presented that the Vlakte van de Raan can be qualified as such. (lack of sufficient scientific proof). In the meanwhile, the European Commission added the Vlakte van de Raan on the list of Areas of Community Importance. The Habitats Directive does not allow to change this status again. Counting from March 2008, Belgium has another 6 years to designate the Vlakte van de Raan as a special area for conservation. In other words, Belgium has to find a solution before March 2014.

Conflicts between different sectors/users

Wherever possible, please describe the uses in accordance with the following five categories

Partly because the Vlakte van de Raan is no longer considered as a marine protected area in Belgium, there are no conflicts with other sectors. In general, all sectors rejected the idea to designate MPAs

³⁵ Decision Belgian Council of State 30 June 2005, no. 147.047 (so-called 'Soete-decision')

during the earlier attempts because they feared consequences for their sector. Only after several consultation rounds and with a list of possible management measures, the stakeholders no longer rejected the idea.

- **Extractive use of living marine resources (e.g. fishing)**

Fishermen were really skeptical towards the allocation of MPAs in fear of the consequences but currently fishing is still allowed everywhere. Logically because the Vlakte van de Raan is no longer considered as an MPA in Belgium since the cancellation in 2008 but also in the area “Trapegeer Stroombank³⁶”, commercial fisheries is allowed everywhere. Some recreational fishing organizations have signed user agreements. Hereby an agreement was drafted with the federal government on what is and what isn't allowed in the protected areas (see below).

- **Extractive use of non-living marine resources (e.g. aggregate extraction)**

The allocation of the Vlakte van de Raan as an MPA didn't cause a conflict with the sand extraction companies. Before the designation of the marine protected areas, the minister of the North Sea allocated specific areas for renewable energy and for the sand and gravel industry. This significantly reduced the chance to have conflicts.

- **Shipping**

Not relevant

- **Nature conservation**

Not relevant

- **Renewable energy**

Besides the conflict with the temporary association Electrabel-DeNul (see above), there were no conflicts between the renewable energy sector and the allocation of MPAs in 2005. This is mainly due to the fact that in the Master Plan the minister of the North Sea started with the zoning of renewable energy and sand & gravel extraction areas(phase I). Only in the second phase the delimitation of MPAs was treated.

Vlaamse Banken

The area “Vlaamse Banken” was proposed to Europe in 2010 to be added to the list of Areas of Community Importance (SCIs) based on the results of a scientific study (Degraer et al.,2009). As the HD prescribes, for the designation only ecological data can be taken into account. Socio-economic aspects, are only addressed during the drafting of the management measures.

Describe the conflicts generated by the implementation of the above management measures. Such conflicts may include:

Conflicts between environmental conservation and resources use

³⁶ See chapter 5 (Toegelaten en verboden activiteiten) in het document “Beheersplannen mariene beschermde gebieden in het Belgisch deel van de Noordzee (2009).

Within the defined area, numerous activities are practiced. There are areas for sand & gravel extraction, dredge disposal sites, a shipping lane,... With the introduction of the management measures, it will become clear whether there are conflicts with these users. The stakeholders indicate that the designation of MPAs is a European obligation and therefore inevitable. They all hope however, that this will not affect their activities.

In July 2009, management plans³⁷ were drafted for the existing MPAs in the BPNS. For the three areas protected under the birds directive and Trapegeer-Stoombank, a general description of the area was given as well as a description of the uses in and around the MPAs. Furthermore, an overview is given of all activities in the BPNS and whether they are prohibited or not. Finally, the future challenges for the marine policy was discussed by a set of action points. One of the actions³⁸ resulted in a study (Degraer et al., 2010) to develop the operational conservation objectives in the BPNS. In order to reach these conservation objectives, management measures are needed. Within 3 years after the designation of the Vlaamse Banken, a policy plan for the area should be drafted as well.

Conflicts between different sectors/users

Wherever possible, please describe the uses in accordance with the following five categories

- **Extractive use of living marine resources (e.g. fishing)**

Currently, fishing is allowed everywhere in the Natura2000 area and no restrictions are imposed yet. Both, the recreational fisheries and the commercial fisheries have a more or less resigned attitude to the allocation of the area³⁹ but they clearly state that they want to be closely involved in future policy measures.

- **Extractive use of non-living marine resources (e.g. aggregate extraction)**

There is an area for sand and gravel extraction in the Natura2000 area (see activities map). This area is important for the sector because of its location (near the harbor Nieuwpoort) and the appropriate grain size. This sector doesn't foresee problems in the future as they are convinced that this allocation will not have any impact on the activities of the sector.

- **Shipping**

Major navigation routes acknowledged at international level (IMO) occupy a significant proportion of the Belgian marine domains. There is also a major shipping lane crossing the Vlaamse Banken

- **Nature conservation**

It is intended that the delimitation of MPAs has a positive influence on nature conservation. In the designated areas, management measures must be drafted so that the operational conservation

³⁷ Beheersplannen voor mariene beschermde gebieden in het Belgisch deel van de Noordzee.(2009)

³⁸ Action point 6 to 8

³⁹ Uit de interviews blijkt dat ze ervan uitgaan dat dit verplicht is door Europa en dat ze er bijgevolg toch niets aan kunnen doen. Bovendien zijn socio-economische aspecten hier niet van tel. Eén van de respondenten was niet op de hoogte van het nieuw aangemelde gebied.

This plan is legally binding, dynamic and future-oriented.

Total revision every 6 years; interim revision possible via Minister for the North Sea

Discuss the effectiveness of the governance approach applied, using both qualitative and quantitative descriptions where possible.

- **To what degree is the main priority objective in your case study being achieved?**

According to the EU Biological Diversity Plan (EC 2006), the network of SPAs and SACs in the marine environment should be completed by 2008. The necessary management measures should be taken by 2012 and this applies to both SACs and SPAs. Due to delay in the previous stages, this timeline was not feasible for Belgium. Nonetheless, with the delineation of the extension of “Trapegeer-Stroombank” to “Vlaamse Banken”, Belgium has met the requirements of the EC as well as the additional demand to delineate areas in the EEZ.

- **To what degree are conflicts being addressed?**

There is still a conflict with the Vlakte van de Raan due to the cancellation by the Council of state in 2008, although this area is still on the list of areas of Community Importance. As it is no longer protected under the Belgian legislation. In accordance with the Habitats Directive, the area must be indicated as a special area for conservation within the 6 years after registration. This situation was described in the article of An Cliquet (Cliquet A., 2012). So this means that Belgium has time until March 2014 to clarify this situation.

- **Is there any noticeable trend in terms of effectiveness?**

If we look at the evolution of the designation of MPAs in Belgium, we see an evolution in the governance approach. The various unsuccessful attempts to allocate MPAs are a typical example of a top-down policy where no or very little consultation and information was provided. Only after protests, information was given. In the final delineation of the 2 SACs and 3 SPAs, the government was forced to change their policy strategy. By choosing to start with the selection of a zone for renewable energy and for the sand & gravel industry, it was ensured that two important players wouldn't emphatically play a role in the demarcation of the protected areas. In addition, the stakeholders were involved in several ways so that the confidence was restored. Despite the criticism on the lack of transparency, for the first time the attempt lead to an effective delineation in 2005 (the Royal Decree of 14 Oct 2005). Just like in the previous attempts, for the delineation of the latest and at the same time the largest marine protected area (Vlaamse Banken), the initiative also came from the government. Every time, the government refers to the European legislation. In the policy notes 2008-2009, the demand for a study for the selection of potential Habitat areas at sea was recorded. This study with the proposed potential habitats area was freely available for public consultation. In this period, there is more transparency in the sense that all documents are available on the website. Both in

objectives can be reached (and as a consequence that the habitats and species from the lists are protected). In addition, for every descriptor, environmental goals are drafted in the light of the Marine Strategy Framework Directive.

- **Renewable energy**

In the first phase of the Master Plan 2003, an area for renewable energy was demarcated. As a result, there are currently no conflicts with this sector in the area ‘Vlaamse Banken’.

4 Governance approach and effectiveness

Describe and discuss the main governance approach being used to govern the SMA, e.g is the SMA governed through:

- **A top-down approach**
- **Bottom-up**
- **Marked approach**
- **A combination of different approaches?**

The Vlakte van de Raan

The Vlakte van de Raan was one of the first areas that was identified as part of the Natura2000 network. In the period before 1999, two NGOs made some efforts to put the designation of MPAs in the BPNS on the political agenda. In 1999 a legal basis was foreseen to make this possible. The 1999 Act on the protection of the marine environment (1999) made it legally possible to register and manage MPAs in the BPNS.

Nevertheless, it still lasted until 2005 to designate MPAs. This process has been described in *Who rules the coast* (Maes et al., 2005) and is described in several time blocks.

Immediately after the approval of the law (1999), a proposal was drawn up by the federal Secretary of State to delineate MPAs on the basis of expert knowledge. This proposal was not well received. There was only a supporting coalition from a limited number of stakeholders from the nature conservation movement and scientists. In a short period a coalition of multiple stakeholders (fishermen, ship-owners, water sports enthusiasts and local politicians) collectively objected to the proposed delimitation of marine reserves. There was a protest march and they threatened with blockages.

Not only the procedure felt to be incorrect but there was also a focus on the prohibitions and restrictions that MPA designation might bring. The authoritarian style of the government in which there was a lack of disseminated information and of consultation was the main cause for the lack of trust.

Only in reaction to the protest, consultation was provided for the users and local government officials.

Scientific knowledge and the EU obligation were used as arguments of power.

Unfortunately, the underpinning scientific knowledge used for designation did not match with the knowledge of local stakeholders. The referral to European obligations with regard to MPAs by the government was perceived by users of the North Sea and local politicians not so much as an argument of power but rather as an alibi for pushing through the policy of their own choice.

In the following period –between 1999-2002) the designation process came almost to a halt. In the summer of 1999 the federal government elections led to a new composition of the federal government.

The new initiatives lacked not only local political support but also support at the level of colleagues in the federal government.

Also the impact of developments in the energy policy area with the first plans for the development of near shore wind turbine parks at sea, should not be underestimated. The situation was not made easier when the offshore wind turbine dossier was linked to MPA designation. The first proposals for the establishment of wind turbine parks in the North Sea brought about yet more consternation among local agents, local population and politicians especially because of the expected eyesore on the horizon. This phase is also referred to as a top-down approach. Late and inadequate information was given and consultation only came after protest. There was still no clarity on the consequences for the stakeholders and the management measures. Also in this reign, they didn't succeed to achieve their goals.

The next period (2003-2006) began with new federal elections. For the first time a specific Minister for the North Sea was appointed. This minister was appointed by the federal government (decision of the Council of Ministers) and had the political power to coordinate all federal competences at sea. However, there was no redistribution of legal competences, and these remained in the hands of the responsible ministers. This post fell under the jurisdiction of Minister Vande Lanotte, who was also Minister of Budget and Deputy Prime Minister. This minister is from the coast, where he has a strong grassroots support.

This new minister dealt with North Sea issues in a more integrated manner. He drew up a Master Plan (see box) that consisted of two phases. The first phase was focused on spatial delimitations for sand and gravel extraction and a zone for future offshore wind energy projects. In both cases, the demarcation was based on consultation rounds with stakeholders and on the basis of socio-economic and ecological studies (Bogaert et al, 2009).

In a second phase, the conservation dossier was tackled. Bilateral consultation rounds were held with the stakeholders. Parallel with the proposals for the designation of the MPAs, a list of 21 possible protective measures for these areas were proposed in a step-by-step approach. Next to these consultation moments, the cabinet of the Minister conversed directly with fishermen of the two main fishing coastal communities. There was less emphasis placed on purely scientific knowledge with non- professional know-how and layman's knowledge being taken into account. The clear change in style parallel with a shift in methodology with groups being approached with a question rather than a statement. Nevertheless, some people remained critical about the transparency of the process.

An amendment to the Marine Environment Act (2005) in which formal legislation and agreements (eg strict prohibitions) were replaced by informal rules (eg user agreements) and a more voluntary approach. This lack of transparency was also mentioned during the first phase of the Master Plan (bilateral consultation rounds).

The revised MEPA also limited the possibilities for the federal government to restrict any activity that falls under the competence of the Flemish government in marine reserves and in SPAs/SACs. As a consequence, the federal government cannot restrict fisheries, dredging, etc. within these

MPAs any longer. Eventually, this will have to be done by the Flemish government, being the competent authority for this issues in Belgium.

As a result of this process, in 2005, three SPAs were delimited for birds (SBZ-V1 Nieuwpoort, SBZ-V2 Oostende and SBZ-V3 Zeebrugge) and two SACs for habitats (SBZ-H1 Trapegeer-Stroombank and SBZ-H2 Vlakte van de Raan).

In 2006 a sixth MPA was designated: a small marine reserve called 'Baai van Heist'.

It is clear that this designation process strongly differs from the earlier attempts. The delimitation of the marine protected areas was still based on scientific knowledge and criteria but by means of several forms of consultation this demarcation was accepted by the stakeholders. Moreover, the discussions concerning the measurements were held parallel to the delimitation procedure. The measures to be taken were also tackled according to a certain step-by-step plan.

Despite this new approach, the delineation of the Vlakte van de Raan was annulled by the Council of State in Feb. 2008, following the complaint by the energy firm Electrabel. The main argument by the Council of State is the insufficient motivation for the designation.

The Vlaamse Banken

The FOD marine environment in consultation with the Secretary of State Etienne Schouppe initiated to explore which areas are eligible to add to the Natura2000 network in order to meet with the European legislation (Habitats Directive). This directive obliges the member states to select potential SACs for the habitat types and species from Annexes I and II from the HD. For this purpose, a scientific study was framed. The marine environment service organized a public hearing (between January and March 2010) on the scientific report and the proposal of the potential SACs. In the same period, a number of information meetings were held for the following groups: Coast guard, Federal public service Economy and the sand & gravel industry and the SALV (Strategic Advisory board for Agriculture and Fisheries)

The entire process as described above is a clear illustration of a top-down process. The government was the initiator and none of the stakeholders seemed to be waiting for a delineation. From the public movement (Natuurpunt, Bond Beter Leefmilieu & WWF) a position paper was produced with the scientific support of UGent & VLIZ⁴⁰. This paper provides information on the North Sea as well as the idea behind marine protected areas. This initiative might have helped to give the initiative a broader public support.

Through the public hearing and the information meetings, people were informed and invited to give comments and remarks. Beforehand no clarity on the process was given and people were neither consulted. The FOD marine environment cites that this was not necessary as socio-economic aspects are covered in a later stage of the process (in accordance with the EU directive). In total the public service marine environment received 14 reactions from the public hearing and the information meetings.

⁴⁰ Natuurgebieden in de Noordzee voor natuur én mensen. Initiatief van Natuurpunt, Bond Beter Leefmilieu en WWF.2008

Marine spatial plan

Here as well, the government takes the initiative to develop a marine spatial plan (top-down approach). Nevertheless, the interviews revealed that the majority of the stakeholders are in favor of such a plan. Currently there is no legally binding, integrated spatial management plan for the Belgian part of the North Sea. First of all, an amendment of the Law Marine Environment was created⁴¹ which provides the legal basis for a marine spatial plan (MSP) for the Belgian sea. This MSP will provide the framework for granting future licenses. The procedure will also be provided by a Royal Decree. The draft plan will be discussed with all stakeholders and there will also be a public hearing. That way, a global vision will be developed.

The law also establishes the precautionary principle, the principle of sustainable management, the polluter pays principle and the recovery principle for activities in the marine areas. The cabinet started an informal consultation round with all the stakeholders. Again the government opted for bilateral consultations. As a consequence, various stakeholders are not aware of the content of the discussions with other stakeholders. The procedure is explained in the box below.

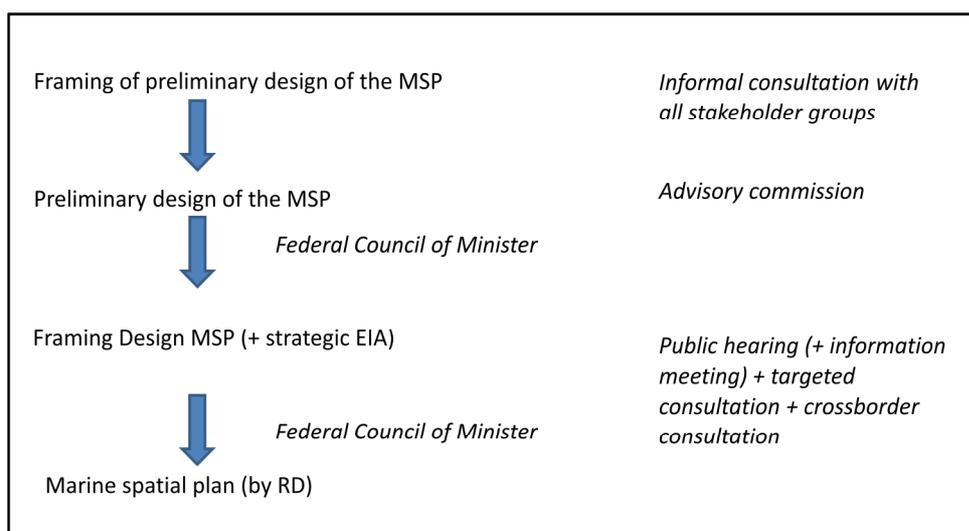
Marine spatial management plan

In December 2011, the same person (Johan Vande Lanotte) was mandated again for the function of Federal Minister for the North Sea (= coordination of federal North Sea policy). He choose a more integrated approach to marine policy and management is also central here. This future marine spatial plan goes beyond the allocation of zones for particular use.

Again the minister opted for a top-down approach with thorough stakeholder participation (cf. Master Plan,2003)

The first step was an amendment of the MEPA by providing a legal basis for the marine spatial management plan (2012).

Procedure:



⁴¹ 20 juli 2012- Wet tot wijziging van de wet van 20 januari 1999 ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België, wat de organisatie van de mariene ruimtelijke planning betreft.

the press and in the documents on the website it states that the procedure is in accordance with the European legislation (namely that only scientific arguments can be used in the selection and delineation of potential Habitat areas). In the letter to the stakeholders, however, the FOD marine environment clearly states that socio-economic remarks are extremely important for the future policy and management measures and that the public service marine environment is committed to elaborate these measures in close cooperation with the sectors.

5 Incentives

5.1 *A summary of the key incentives that have been applied to promote the achievement of the priority objective and to address related conflicts in the existing initiative. + How you think particular individual or combinations of incentives have been particularly effective or ineffective.*

Generally, it can be stated that designation process was not entirely transparent. This makes it hard to verify which incentives have been used to successfully complete the designation process.

Economic incentives

Vlakte van de Raan

At the first successful designation period (2005), the government had previously created a spatial delineation for some economic sectors. Areas had been selected for the exploration and exploitation of sand and gravel extraction and simultaneously an area was selected for a new sector, namely renewable energy. Fisheries would be forbidden in the windmill parks but they got the promise that possibilities would be explored for multiple use within the windmill parks like certain forms of aquaculture like for example open sea farms. Until now, there is still no multiple use in the windmill parks.⁴² Besides the windmill area, commercial fisheries are also forbidden in an area called "Paardenmarkt" which is used for military ammunition storage.

The strategy of the Master Plan (to deal with North Sea issues in a more integrated manner) has significantly facilitated the delineation process. Only the lack of transparency was criticized as there is a lot of uncertainty concerning the discussions during bilateral consultation (behind closed doors).

Vlaamse Banken

During the delineation procedure of the Vlaamse Banken, socio-economic aspects were not taken into account. In the letter to the stakeholders the FPS marine environment promised that all stakeholders will be informed and consulted for future management. This together with the fact that currently the sectors are hardly affected by the earlier delineation has probably ensured this smooth delineation. One respondent states that it was promised that the delineation will not affect the

⁴² The Minister of the North Sea presented however "Actieplan Zeehond"(2012)., a plan with a number of measures in the context of a more offensive environmental policy. In this plan, a range of possibilities is proposed for the construction of artificial reefs and artificial resting spots for seals. The windmill area is proposed as an experiment zone for these ideas.

www.samenaanhetwerk.be/actieplanzeehond

activities of his particular industry. This is not found in literature, nor confirmed by the government. Besides this respondent, all stakeholders declared that they didn't receive any form of compensation.

For both delineation rounds, budget was reserved for (scientific) studies and the necessary funding was provided for the administration.

Currently there is no control system within the marine protected areas. The general rule is that in the SACs and the SPAs all activities are allowed unless they are prohibited by other regulations. Most activities allowed in the BPNS are also allowed in the SACs. One or more specific zones are assigned to certain activities such as sand and gravel extraction, dumping of dredged material and renewable energy. These activities are strictly limited to these areas and for this the necessary surveillance and enforcement exists.

Within the Natura2000 site Vlaamse Banken, there are also a number of zones for mariculture, sand extraction and a dredge disposal site. It will be seen what will happen with these zones.

Interpretative incentives

The Master Plan is not really a plan in the sense of a book or a map but is a combination of several decisions in the federal council of Ministers, which are executed by a number of Royal Decrees and a change of the Marine Environment law. Despite the lack of a legal basis, the Master Plan provides a translation of current and future management objectives of various sectors into a spatial vision (Douvere *et al.*, 2007). A map has also been developed with the zoning of all activities present in the BPNS (fisheries was not included).

For the delineation of the area "Vlaamse Banken", maps were used to show the different borders. Promoting recognition of the biodiversity and ecosystem conservation restoration benefits of spatial restrictions is also applicable for 'Vlaamse Banken'. Vlaamse Banken is proposed in the scientific report based on scientific data. It is also stated that this is in accordance with the European legislation (it is stated that at least 20% of the total national area of each of the present habitat types from the directive must be registered.

Knowledge incentives

The federal government has applied for a scientific study on the potential areas eligible as part of the Natura2000 network. This served as a basis for the delineation of the area 'Vlaamse Banken'. The necessary budget was foreseen.

Besides that, several scientific projects relevant for the delineation were financed by BESPO (Belgian Science Policy).

GAUFRE project⁴³ (Towards a spatial structure plan for sustainable management of the sea)(2003-2004). The main objective for this project was the delivery and the synthesis of the scientific knowledge on the use and possible impacts of use functions. Besides that, a proposal of optimal allocations of all relevant use functions in the BPNS was formulated.

⁴³ <http://www.vliz.be/projects/gaufre/output.php?lang=en>

BALANS⁴⁴ (Balancing impacts of human activities in the Belgian Part of the North sea (2002-2006). The main goal of BALANS was to gain experience in correlating and balancing relevant social, economic and ecological data, through the elaboration of indicators, and weighing these indicators through the development of a conceptual policy model for “Sustainable Management of the North Sea”.

BWZEE⁴⁵ (A biological valuation map for the Belgian continental shelf) (2004-2006) This project aimed at setting up a Biological Valuation Map (BVM) for the Belgian Continental shelf (BCS). The goal was to develop a scientifically acceptable and widely applicable valuation strategy for marine areas and to apply this strategy to the BCS. The end-product is an integrated, full-coverage biological valuation map representing the biological and ecological value of all subareas within the Belgian Part of the North Sea.

LECOFISH⁴⁶ (An ecosystem approach in sustainable fisheries management through local ecological knowledge) (2009-2011) Lecofish stands for the use of local ecological knowledge which contributes to the ecosystem approach in a sustainable fisheries management.

These projects are not specifically formulated by the federal government in the framework of the Natura2000 network but it is financed by the federal government in general and they contribute to the scientific knowledge of the Belgian part of the North Sea.

No mechanisms were developed for independent advice and local knowledge was not specifically used. As indicated earlier, the delineation of the “Vlaamse Banken” was exclusively based on ecological data. The scientific report (Degraer et al., 2009) was written by a broad scientific consortium from different institutes and an extended dataset was used.. This way the study contributed to a better integration, exchange and sharing of the data. Uncertainty is not explicitly mentioned in the report but is partly treated by the choice of the wording and the used methods. For some species for example is mentioned that there was insufficient or only non-representative information available.

Legal incentives

Performance of standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, etc. in order to ensure the achievement of MSP objectives, such as achieving environmental criteria and providing access rights for particular uses.

There are no specific criteria for nature conservation or protection. In the area “Vlaamse Banken” as there is no management plan yet. These measurements will be integrated in the new Marine Spatial Plan.

International-regional-national-local legal obligations that require effective implementation of MSP, including the potential for top-down interventions.

In both initiatives, the government explicitly referred to European obligations (Habitats directive and Birds directive). In 2007, a letter was drafted by DG Environment to ask the member states to

⁴⁴ Maes, F.; Polet, H.; Vincx, M.; Janssen, C.; Scory, S.; Leroy, D. (2007). Balancing impacts of human activities in the Belgian part of the North Sea (BALANS). Belgian Science Policy: Brussel. 200 + annexes, cd-rom pp

⁴⁵ <http://www.vliz.be/projects/bwzee/index.php>

⁴⁶ <http://www.lecofish.be/>

delineate areas in the EEZ before 2008. Belgium did not succeed in time but undertook steps to finally propose the area “Vlaamse Banken” to Europe in 2010. A lot of respondents state that marine protected areas are inevitable due to this European obligations.

Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfillment of MSP objectives, whilst avoiding a complete ‘command-and-control’ approach.

There are no legal interventions. The government introduced some user agreements. A legal basis for this was provided by an adjustment in the Marine Environment Act (2005). In addition, with the approval of the Royal Decree of 14 October 2005 (designation of 3 SPAs and 2 SACs), the user agreements are integrated in the policy planning of marine protected areas (consultation, duration of the contract, termination and evaluation are mentioned in the user agreement). In 2005, 6 user agreements were drawn up for a period of 3 years and they were renewed in 2009. It concerns contracts between the federal government and associations of recreational fisheries. For the Habitat areas, it was agreed that users should maximize efforts to contribute to the protection of the area by respecting the laws applicable in the area. In addition, it is recommended not to fish on wrecks, avoid damage on the sea bottom and to respect fauna & flora, etc during the whole year. When the user doesn’t keep his promise during a certain amount of time, this agreement may be canceled by the Minister. Other consequences were not mentioned.

Ensuring that sufficient national-local state capacity, political will, surveillance technologies and Financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users.

Not applicable

Effective system for enforcing restrictions and implementing penalizing in a way that provides an appropriate level of deterrence e.g. at national, EU or international level

Not applicable

Clarity and consistency in defining the legal obligations of MSP, general and zonal use restrictions and the roles and responsibilities of different authorities and organizations, including the relationship between the MSP and existing plans/regulations for the management of individual sectoral activities.

At the end of 2003, the Minister of the North Sea Vande Lanotte took the initiative for the designation of certain zones in the BPNS. Marine spatial planning was initiated in 2005 with the Master Plan. Meanwhile, small adaptations were made, especially with regard to the area for renewable energy and the nature conservation areas. With an amendment of the law Marine Environment in 2012, a legal basis for MSP was provided. New visions on MSP and the MSP process are currently ongoing.

Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international level.

In Belgium, legal proceedings can be instituted for the Council of State. This is a special court that belongs to the executive power. On the one hand, it can draft an opinion on laws, royal decrees,

ministerial decrees etc. On the other hand, it can suspend and/or destroy legal acts when those are conflicting with the higher laws.

Scope for legal flexibility -subsidiarity, adaptive management and local discretionary action- maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of strategic objectives.

Not relevant

Legal or other official basis for coordination between different countries, between federal and subnational governments, and between different government agencies/law enforcement units, to address cross-jurisdictional and cross-sectoral conflicts in order to support the achievement of MPA objectives.

In Belgium there are two different governments (Flemish and Federal government) and each of them have their own domain and exclusive competences. In general the basis for coordination between both governments is to be found in cooperation agreements. If a topic is not covered by a cooperation agreement, then cooperation is not mandatory. There are several cooperation agreements with neighboring countries, e.g. fisheries with France; safety of shipping with The Netherlands , MPA consultation are often informal.

In the policy plans for marine protected areas, one of the action points is to ensure structural consultation between the Flemish government(Fisheries department) and the federal government. Currently there is some consultation between the two government but it is still not on a regular basis.

Participative incentives

Vlakte van de Raan

After earlier unsuccessful attempts in 2003, another strategy was chosen. The new minister promised to tackle the North Sea policy in a more integrated manner and presented the North Sea Master Plan to accomplish this. The demarcation of both the sand-en gravel extraction sites and the offshore windmill farms was now based on consultation rounds with stakeholders and on the basis of socio-economic and ecological studies. In the second phase, the Master Plan foresaw in concrete measures (list of 21 possible protective measures) for the demarcation of the marine protected areas, after consultation with all actors concerned. During the consultation phase, the minister chose to divide the actors according to the type of user (fisherman, coastal mayors, etc.). Confidential consultation moments were organized in the period January-March 2004 with civil servants of several departments (transport, sea fisheries,...), with scientists and the environmental movement (Cliquet et al., 2007). Each group was treated in a different way and the participants were explicitly asked for confidentiality of this meetings. Next to these consultation moments, the staff of the minister conversed directly (bilaterally) with the remaining actors. The draft texts for the demarcation were discussed one week before the minister presented it to the parliament. The consultation of the stakeholders in the preparatory phase of the policy process marks an important shift in policy style.

The fact that this consultation was conducted on a bilateral basis between the ministerial office staff and the various actors, meant that there was little transparency for the other sectors and specialized

administrative offices. The actors had no way of seeing the progress and content of the other bilateral talks, certainly not the actors who were not consulted such as the port authorities. In parts of the market and civil society sectors, there was the fear that the closed bilateral consultation had led to a form of background politics in certain cases. (Maes et al., 2005)

The government also opted for a mix of formal and informal rules, including the so called 'voluntary user agreements'. The law on the marine environment was altered in order to provide a legal basis for these agreements. These agreements contain engagements to make a maximum effort to respecting the legislation in relation to the maintenance of the natural habitat and the protection of species. The users also commit themselves to actively inform their members and customers. If the stakeholders repeatedly, intentionally or unintentionally, violate the agreements the minister can unilaterally cancel the agreement.

Vlaamse banken

In January 2010, information on additional marine protected areas in Belgium was provided on the website of FPS marine environment. Stakeholders were also individually informed by a personal email. Background information was provided, a roadmap and also the necessary information on the public hearing. This public consultation was organized between 25th of January until the end of February (and was extended to mid-March). It was clearly stated that only remarks on the scientific content could be made and that the socio-economic issues could only be addressed at a later stage.

During the period of the public hearing, also a number of information meetings were organized. There was always someone of the FPS Marine Environment present to give some more information on the scientific report. This process was quite transparent. People were aware of the process, they had a say on the scientific content and they also received a personal reply on their comments. It was also indicated whether their remarks had an impact on the report or not.

6 Cross-cutting issues

6.1 Combining top-down role of state and bottom-up participative approaches

6.1.1 Balance of the influence of stakeholders and the influence of national-local government in the existing initiative

For every attempt and also for the effective delineations of MPAs in Belgium, the federal government took the initiative. The main reason was to fulfill the obligations of the EC. No single stakeholder was asking for the designation of MPAs, on the contrary, they feared the consequences. Only the nature conservation movements were also in favor of this initiative. At the beginning, two NGO's (Natuurpunt & WWF-Belgium) played an important role in the agenda-setting on MPA's. In 1994, they launched the idea of 'integral coastal reserves' as part of a total strategy of integrated coastal zone management. (Bogaert et al, 2009). They also collaborated at creating a broader support for MPAs. Regularly they informed the public on North Sea issues on their website. In collaboration with

a number of scientists, some arguments were collected in a position paper in favor of delineating areas for nature protection⁴⁷.

Stakeholders did play a big role in the development of the process. The various failed attempts are a clear example of that. Under protest of the various interest groups, the government was obliged to change their policy style. At the beginning there was even no information provided but this has gradually evolved into a process with formal and informal consultation rounds. For the delineation of the Vlaamse Banken, no thorough consultation was held but everyone was informed and there was room for comments during the public consultation.

6.1.2 Degree of decentralization (*i.e.* level of autonomy of sub-national/local governments) and the relative influence of national/federal and sub-national/local governments on the existing initiative

The Belgian federal state structure is a complex of different government agencies with each their functions and responsibilities across the different territorial units. This complex makes up the federal state of Belgium. Since 2003, the federal government also has a Minister of the North Sea who is responsible for the protection of the marine environment and is also the initiator for the coordination of the federal policy in the North Sea.

Both the Flemish and the federal government have specific powers and full autonomy. The province of West Flanders and the 10 coastal municipalities have their own responsibilities with regard to the North Sea policy. With the distribution of all these competences, it is necessary that the different government departments work closely together. Some examples of this multilevel government: the federal government is responsible for the protection of the marine environment but fisheries and aquaculture falls under the Flemish competence. As a consequence, it has to be seen how fisheries can be managed in marine protected areas. The federal government has no authority to deal with fisheries matters. Another example is related to dredging. Permits for dredging are given by the Flemish government while dumping of dredged material falls under the jurisdiction of the federal government.

Vlakte van de Raan

The designation of marine protected areas was entirely initiated by the federal government. In the early, unsuccessful attempts the local government did play a role in the development of the process. For example: Shortly after the Act (1999) was approved, a proposal based on expert knowledge was made by the federal environmental Secretary of State for the delimitation of several marine reserves. This proposal fairly soon ran up against protest by all sorts of North Sea users. Local politicians and municipal authorities supported this. Only in reaction to this protest consultation was provided for users and local government officials. The governor of the province of West Flanders played an important role here as intermediary, with the necessary authority, especially legitimacy and trust. On the initiative of the governor, workshops were organized with the objective of making a stocktak of activities which overlapped with the ecologically valuable areas and to assess the conflicts with the actors in these areas. (Bogaert et al.,2009)

Vlaamse Banken

⁴⁷ See note 36

The federal government again initiated the process and clearly stated that socio-economic issues were not taken into account in this stage. As a consequence, it was unnecessary to discuss this matter with the other governments beforehand but everyone was informed (together with the other stakeholders). When management measures will be developed in order to reach the conservation objectives, close cooperation will be essential.

In the scheme below, a small overview of the different authorities with their competences at sea.

	At sea	Coastal zone	On land
Federal government	Environment protection		...
	Nature conservation		
	Concessions, permits and monitoring wind turbines		
	Designation aquaculture zones		
	Shipping		
	Sand and gravel extraction		
	Scientific research		
	Dumping dredged material		
	Military activities		
...			
Flemish government	Fisheries		the beaches
	Aquaculture		Coastal defence
	Permits for dredging		Tourism/recreation
	...		ports
			Pilotage
			Nature conservation
	...		
Province of West Flanders		coordination Integrated coastal Zone Management	
		Emergency planning	
		Polders	
		...	
10 coastal municipalities			

6.1.3 Role of EC in promoting MSP at national and ground levels, including promoting stakeholder participation to achieve strategic outcomes

The Birds and Habitats Directives as such do not provide any obligations with regard to participation in the designation of SPAs and SACs. This is left to the member states, in accordance with their own administrative systems.

6.1.4 Level of consensus, compromise and imposition in the existing initiative

6.1.5 Views of stakeholders from different sectors on the priority objective, eg validity, priority

Vlakte van de Raan

In the first designation period, the majority of the sectors were negative towards the designation of MPAs in Belgium. The economic sectors (sand & gravel extraction and renewable energy) already received certain zones for their activities (Master Plan phase I, 2003) so from this corner there was no major resistance. Only the energy company Electrabel instituted legal proceedings against the initiative but this is a consequence of the prehistory of the Vlakte van de Raan (see chapter conflicts above). With all sectors, formal and informal consultation rounds were held and that way confidence was rebuilt. Previous attempts failed as a consequence of big protest from several stakeholders. During the designation process, a number of management measures were proposed so that sectors were better aware of the possible consequences..

Vlaamse Banken

Most stakeholders responded fairly neutral on the plans for the designation of the extension Trapegeer-Stroombank (=Vlaamse Banken). They claimed that there was not much they could do because of the European obligations and because of the fact that only scientific aspects were taken into account. So far, marine protected areas have hardly an impact on other sectors. This may also be an explanation for their reactions. At the same time all stakeholders clearly stated that they want to be closely involved in the drafting of the management measures in this area. One stakeholder claimed that they were not informed about this new designation.

6.1.6 The existing initiative as a vehicle for promoting cooperation and collaboration between different levels of governments (eg national/federal, regional, and local) and different sectoral agencies in developing and implementing marine spatial plans

Although the Master Plan is not a marine spatial plan *sensu strictu* (no clear process, no legal basis,...); it has ensured that the delimitation of MPAs could be realized. By placing this delimitation in a broader light and to start with the zoning of some economic activities, it became possible to delineate the MPAs as well. In the Master Plan, several sectors are included and during the process all stakeholders were informed and consulted. Through this integrated approach, the conflicts became more clear for everyone involved. This way, the goal was achieved.

6.1.7 Transparency in decision-making processes

Vlakte van de Raan

Compared to the previous failed attempts to delineate areas, information was given clearly and beforehand. Formal and informal consultation sessions were organized but they were held bilaterally and behind closed doors. Participants were asked to consider all information confidential in order not to harm the process. Sectors didn't know what was discussed between the other stakeholders and the government (Bogaert & Maes, 2008)

Vlaamse Banken

The designation of the Vlaamse Banken was more transparent. During the public hearing, it was clearly stated why this area has been defined, based on which data and there was room for remarks & questions. Besides that a roadmap with respect to the designation was given. There were no bilateral consultations but 4 information meetings. At these meetings, some more information was provided and there was room for questions from the audience.

6.1.8 Role of NGOs *eg* promoting cooperation in fulfilling the priority objective; promoting the views of particular communities

Already in 1999, the NGOs did some efforts for the protection of the marien environment. The nature conservation movements (Natuurpunt & WWF-Belgium) were appointed as the real initiators of the first delineation attempt (in 1999). (Bogaert & Maes, 2008). After 1999 the nature conservation movements regularly wrote viewpoint papers for North Sea related matter. Often these position papers were written in collaboration with the scientific world. Some examples are: "The North Sea in Belgium: time to realize opportunities⁴⁸" and "Nature conservation in the North Sea: for nature and people⁴⁹"

6.2 *Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)*

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, *eg* employing fora, bilateral consultations *etc* in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new (*eg* renewables) and existing sectors (*eg* conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

The government chose for direct communication with the sectors and every time with one sector at the time. There were no bilateral consultations between different sectors.

6.2.2 Competition for space between sectors (*eg* renewables and conservation) and within sectors (*eg* between different renewable companies) as a source of influence on and drive for the existing initiative

With the arrival of two new sectors, the competition for space strongly increased. To solve this problem, the minister of the North Sea developed the Master Plan (2003) and in a first phase he

⁴⁸ De Noordzee in België: tijd om de opportuniteiten waar te maken. http://www.west-vlaanderen.be/provincie/beleid_bestuur/gebiedsgerichte_werking/kustbeheer_nl/eengreepuitonzerealizaties/Documents/kustbeheer_position_paper_2011_DEF.pdf

⁴⁹ Natuurgebieden in de Noordzee: voor natuur én mensen. Kustwerkgroep van Natuurpunt, Oostende (2008)

tackled some economic sectors. Various stakeholders had already a specific zone for their activities and that way, the North sea Minister avoided conflicts between & within sectors in relation to the delineation of MPAs. The only driving force for the initiative was the European legislation.

6.2.3 The development and implementation of the existing initiative as a vehicle for promoting integrated management of different sectors: influence of the existing initiative over the management of different sectoral activities

As described earlier, the Minister of the North sea opted for a more integrated approach with the Master Plan. The many failed attempts to designate MPAs between 1999 and 2003 showed clearly the necessity of a different approach.

6.2.4 Potential winners and losers in the existing initiative, power struggles and displacement issues

The commercial and recreational fisheries consider themselves as the losers in the Belgian zoning process. With the zoning they only lost fishing areas and did not gain anything. In the allocated zone for renewable energy it is forbidden to fish. Currently, they are still allowed to fish in the special areas for conservation but until now there is no management plan for the large SAC “Vlaamse Banken”. This will be established in the near future and it is unclear whether this plan will contain restrictions for fisheries.

Other sectors are not really affected by the demarcation of MPAs. The general rule is that all activities are allowed in SACs and SPAs unless they are prohibited by law. It is f.e. not allowed to do engineering tasks (like putting wind turbines), industrial activities (eg mariculture) or dredged material disposal in the SACs but these sectors have already special zones for their activities on other places in the BPNS.

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

Not appropriate.

6.3 *Cross-border issues between countries*

6.3.1 Cross-border issues regarding historical fishing access rights under ‘relative stability’

In 1978 Belgium installed a fishery zone, whose boundaries are adjusted by the law on the Belgian EEZ to coincide with the boundaries of the Belgian continental shelf. Fishing within the 12 nautical mile zone is exclusively reserved for Belgian fishermen and, under certain conditions also for French and Dutch fishermen. Outside the 12 nautical mile zone, the general principle of free access applies. In the area between 3 & 12 nautical miles, Dutch fishermen are allowed to catch all species of fish and French fishermen are allowed to catch herring (EC Regulation 2371/2002). The Treaty of the BENELUX Economical Union (1958) allows French fishermen to catch herring and sprat in the Belgian territorial sea, between 3 and 6 nautical miles for vessels whose gross tonnage does not exceed 60 tons or whose engines do not exceed 400 horse power. Within the 3 nautical miles zone for vessels whose gross tonnage does not exceed 35 tons or whose engines do not exceed 250 horse power (Maes et al.,2005).

Until now, no fisheries measures are taken in Natura2000 areas. It is therefore unclear what will happen with the historical fishing rights.

6.3.2 Effectiveness of transboundary cooperation and collaboration in the existing initiative, *eg* in designing, designating and managing adjoining MPAs for biogeographical features that cross national borders

In the presentation of the potential protected areas under the HD, the situation in the neighboring countries was also taken into account. Certainly, information was exchanged, there was however not really cooperation during the delineation. It is envisaged that more cooperation will occur during the drafting of the management measures. The Vlaamse Banken are adjacent to the protected area in the northern French waters (Bancs des Flanders).

For the preparation of the report on the conservation objectives (Degraer et al, 2010), information was also collected from neighboring countries (especially information from the Netherlands).

Although not clearly documented, the situation in the Netherlands might also have played a role in the designation of the Vlakte van de Raan in Belgium.

6.3.3 Sharing of data and information between different member states in the existing initiative

There are informal contacts between environmental administrations (between FOD Marine Environment Unit (BE), Marine protected areas agency (Fr), MEDD (minister in charge of environment (Fr)). They exchange information about implementation of EU legislation. Concerning the Habitats directive, the French administration has proposed to prepare a common methodology at EU-level to assess the impact of fisheries on Natura2000 sites. The EU with assistance of Member States is currently preparing a final draft. There are also some informal contacts between the Belgian Ministry of Environment and its French counterpart.

In Belgium, a decision has been taken to open 3 years VMS data concerning Belgian ships for research purpose. Concerning foreign data, there is an implicit rule of reciprocity in sharing data between two States. One can open its data if the other one open its own data too. (Queffelec B.,2012)

6.3.4 Role of the EC and the principle of subsidiarity: what can the EC say and not say about cross-border and cross-sector management in MSP?

See other case studies

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

There is no cross-border monitoring in place.

6.4 *Justice issues*

6.4.1 The provision of legal rights to appeal and effectiveness in the use of adjudication platforms at various levels (international, EU and national) in addressing justice issues

International: The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention - 1998)

EU: The provisions of the Aarhus Convention with respect to access to information have been implemented in EU law through Directive 2003/4/EC. Directive 2003/4/EC establishes the 'right' to access to environmental information, requiring 'the widest possible systematic availability and dissemination to the public of such information'; Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programs relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC. Both Directives contain provisions on access to justice.

Aarhus and above EU Directives have been implemented by Belgium and Flanders.

6.4.2 Environmental justice issues – conserving marine environment for indirect benefits (ecosystem services) of wider society

These issues are not incorporated in the Belgian legislation.

6.4.3 Social justice issues – rights of users to access areas/resources for their livelihoods and 'way of life'

Currently, there are areas closed for certain activities for conservation purposes. The future management measures might have some socio-economic influences. In Oostduinkerke (coastal city in the Natura2000 area Vlaamse Banken), there is a tradition of horseback shrimp fisheries. Shrimp fishermen on horseback wearing bright yellow slickers, tall rubber boots are seated in their wooden saddles on the back of their horses that drag the large nets behind them. This activity is also on the list of cultural heritage. If one of the management measure is to ban this activity, this would have an influence on the culture and tourism of this city and have a serious impact on the way of life of the fishermen.

6.5 Influence of different knowledges and of uncertainty in decision-making. eg different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in decision-making processes

Vlaamse Banken

During the designation of the Vlaamse Banken, only ecological information was taken into account. In preparation of this, a scientific report was produced. This was written by a broad scientific consortium. Uncertainty was not explicitly mentioned but it can sometimes be conducted from the vocabulary or from the chosen method. Because of the large group of scientists and the extended dataset, this report is more based on science-based knowledge rather than expert knowledge. There is no documentation of the use of local knowledge.

This report formed the basis for the final decision of the Secretary of State to designate the area Vlaamse Banken (May/June 2010). As a marginal remark we want to mention that it is not always possible to identify where certain decisions or insights come from. Personal experiences are not described and it is not possible to look in someone's head.

Vlakte van de Raan

On the delineation of the Vlakte van de Raan, no thorough scientific study preceded. It is mainly based on expert and local knowledge and the uncertainty is very large. The only specific justification is as follows "...Taking into account the indication of the Vlakte van de Raan as special area for nature conservation in the 'scenario 2010' proposal of the project board on 'the development plan Schelde estuary', and the cross border character of this sand bank...". Lack of certainty was also one of the reasons why the Royal Decree was annulled by the Council of State⁵⁰ (Feb 2008).

6.5.2 The power of information and innovative communication tools (*eg* mapping and innovative ways of display) in influencing people's perceptions and behaviour

About the delineation process of the Vlaamse Banken, information was clearly provided. Both through public hearing and in several information meetings. GIS and mapping was used but no innovative communication tools were applied.

In the Vlakte van de Raan there was a general lack of information so this power was not used.

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, *eg* uncertainties regarding the effects of key activities (*eg* wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

Generally, the precautionary principle was discussed in the Marine Environment Act. This law forms the basis for the delineation of marine protected areas in the BPNS.

For the area Vlaamse Banken, the precautionary principle was also applied in the sense that for most of the protected habitattypes more than the minimum percentage stated by Europe (minimum 20%) was delineated. The effect of uncertainty was not taken into account in the decision-making process.

Uncertainty on the effects of certain activities or the cumulative impact of multiple activities is not an issue here as only ecological data was considered.

6.5.4 Transparency on issues arising from uncertainty; *ie* how such issues are communicated, debated and accommodated, *eg* by scientific advisory bodies.

Vlakte van de Raan: not appropriate

Vlaamse Banken: Nowhere in the scientific report and in the later process, specific attention is given to uncertainty. It is sometimes shown in the choice of the wording but this is not transparent.

External scientific advisory bodies were not used later in de decision-making process.

6.5.5 Expanding role of scientific advisory bodies, *eg* ICES in gathering data and providing advice on marine management

The different types of habitats (EUNIS) are widely accepted in Europe. This makes the decision to delineate some habitats more powerful.

⁵⁰ According to the Belgian Council of State, only the most suitable sites of the Belgian Part of the North Sea had to be designated as an SPA/SAC. No proof was presented before the Council of State that the Belgian Part of the Vlakte van de Raan qualified as such (Cliquet et al.,2012)

6.5.6 Accessibility to and transparency of existing data and information held by expert bodies, within sectors and by different nations

For the scientific report in preparation of the designation Vlaamse Banken, a collaboration between various institutes made it possible to work with an extended dataset.

For the delineation only scientific ecological knowledge was taken into account. If they also had taken some socio-economic information into account (like for example in a Marxan analysis) maybe this would have led to another delineation. This was however not possible as this is not in line with the requirements of the European Habitats directive.

6.5.7 Uneven distribution of data and information between countries and regions; differences in capacity for gathering and providing of data and information

Not appropriate in this case study as the initiative only takes place in one single country (BPNS).

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Queffelec B. (2012) International workshop on Maritime Spatial Planning- cross-border issues at stake (Belgium/France case study)

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ANNEX I: Document overview

Press

“Visserij ongerust over uitbreiding beschermde gebieden voor Westkust” uit De standaard, 31/03/2010

“Beleidsplannen voor mariene gebieden goedgekeurd” uit De standaard, 29/09/2009

“Eerste Belgisch-Nederlands beschermd gebied klaar” uit De Morgen, 12/01/2011

“Vande Lanotte stelt offensiever milieubeleid voor Noordzee voor” uit De Morgen, 26/06/12

“Windmolens blijken hotspots voor mariene biodiversiteit” uit De Morgen, 06/09/2012

“Analyse: waarom er geen windmolenpark komt op de Vlakte van de Raan” uit De Standaard 17/08/2005

“Vande Lanotte bakent beschermde gebieden af. Concrete maatregelen voor duurzaam beheer Noordzee voorgesteld” uit De Standaard, 18/10/2004

“Reders vrezen beperking van visgronden” uit De Standaard, 20/09/2004

“Anders geen vis meer in Noordzee” uit De Standaard, 18/07/2008

“Beschermd natuurpark moet Noordzee erbovenop helpen” uit De Standaard, 17/07/2008

Position papers

- Visserij in de Noordzee, samen sterk voor een zee vol vis(sers). 2008. Kustwerkgroep van Natuurpunt
- Natuurgebieden in de Noordzee voor natuur én mensen. 2008. Kustwerkgroep van Natuurpunt.
- De Noordzee in België. Tijd om de opportuniteiten waar te maken. Deze positiepaper is opgesteld door de ad-hoc werkgroep Maritieme Ruimtelijke Planning in het kader van C-SCOPE (2007-2013) (combining Sea and Coastal Planning in Europe).

Plans

- Master Plan(2003)
- Beleidsplannen voor mariene beschermde gebieden in het Belgisch Deel van de Noordzee (2009)
- Actieplan Zeehond (2012)
http://www.samenaanhetwerk.be/media/uploads/johan/broch_plan_zeehond_nl.pdf

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Queffelec B. (2012) International workshop on Maritime Spatial Planning- cross-border issues at

Other documents

E-mail FOD marine Environment concerning the follow-up on the public hearing potential SAC in the BPNS dd. 17/03/11

Email FOD marine Environment: invitation for public hearing

FOD Marine environment (Evaluation of the public hearing and stakeholder meetings)

Advice as a result of the study from Degraer et al.(2009) from the Strategic Advisory board for Agriculture and Fisheries (SALV) dd. 26/03/10

Email FOD marine environment for the coastal stakeholders. dd. 25/01/10

List of contacted people as a result of the potential SACs

List of people present at one of the 4 information meetings with stakeholders

Belgische Staat (2012). Omschrijving van Goede Milieutoestand en vaststelling van Milieudoelen voor de Belgische mariene wateren. Kaderrichtlijn Mariene Strategie - Art 9 & 10. BMM/Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu: Brussel. 34 pp.,

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Belgische Staat (2012). Socio-economische analyse van het gebruik van de Belgische mariene wateren en de aan de aantasting van het mariene milieu verbonden kosten: Kaderrichtlijn Mariene Strategie – Art 8, lid 1c. Definitief rapport. Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu: Brussel. 137 pp.,

Interviews

Government (federal public service (2) & cabinet (1)marine environment, cabinet (1) agriculture and fisheries)

NGO(1)

Scientists (3)

Sector (recreational fisheries, commercial fisheries, sand & gravel extraction) (4)

Participation as independent observer:

21/09/11, Ostend. Workshop scientific project LECOFISH

17/10/11, Bredene. Sand and gravel symposium

10-13/01/12, Berlin. Baltseaplan. Final event

14/02/12, Ostend. Presentation of goals for the new federal legislation to ILVO (Marine Environment) (Cabinet)

23/03/12, Brussels. MSFD workshop

26/04/12, Ghent. International workshop Maritime Spatial Planning- Cross-Border Issues at Stake. Belgium/France case study

26/06/12, Ostend. Presentation of the plan “Actieplan Zeehond” from a defensive to an offensive environmental policy in the North Sea.

30/08/12, Ostend. Presentation of the procedure for a marine spatial plan to ILVO (Cabinet)

13/09/12, Ostend. Meeting between the federal public service Marine Environment & ILVO (MSP)

ANNEX II Link between researcher and the initiative described in the case study

Ellen Pecceu

Msc. Ellen Pecceu studied Biology (Ghent University, 2006) and a Master after master in Journalism (Ghent University, 2007). She works at the Institute for Agriculture and Fisheries Research since 2009.

Link between the researcher and the initiative: Not directly involved in the process. She attended several meetings and workshops as an independent observer and performed interviews with both stakeholders and the government. (more details see ANNEX I)

Frank Maes

Prof.dr. Frank Maes studied Diplomatic Sciences (Ghent University, 1984), Shipping law (UFSIA, 1986) and obtained a PhD in Law (Ghent University, 1996). He is a Professor of Public International Law in the Faculty of Law at Ghent University and has been guest lecturer at several foreign universities. His main field of research is international environmental law, protection of ocean and seas, law of the sea and freshwater law. He is research director of the Maritime Institute (Ghent University), promoter of various projects and PhD's, author of several publications and research reports.

Link between researcher and the initiative from the case study: Not directly involved with the initiative. His colleague, An Cliquet of the Maritime Institute was involved during the public hearing and information meetings. Indirectly Frank was involved via a research project independent from the policy process called Gaufre. He is also co-author from the book "Who rules the coast" where a governance analysis on marine protected areas in the BPNS was described until 2006.

Kris Hostens

Dr. Kris Hostens studied master of Biology (Ghent University, 1989) and obtained a PhD in Biology (Ghent University, 2003). Since 2004, Kris Hostens is group leader of the Bio-environmental research group at the Institute for Agricultural and Fisheries research (ILVO-Fisheries). As such, he carries the responsibility for the studies on the biological quality of the marine ecosystem and the biological impact of human activities mainly in the Belgian Part of the North Sea.

Link between researcher and the initiative: Not directly involved with the initiative. Nevertheless members of his research group contributed to several scientific reports in the framework of the designation processes.

Both ILVO and the Maritime Institute provided scientific advice (directly and/or indirectly through f.e. advisory bodies). They also contributed to numerous relevant scientific reports and projects.

A7.3 Case study report: The southern North Sea case study, Dogger Bank sub-case study

Basic details of the case study:

Initiative	The Dogger Bank <i>Natura 2000</i> sites
Description	Development of trans-boundary management measures in the SACs designated by three member states (UK, Netherlands and Germany) on the Dogger Bank, including the FIMPAS and MASPNOSE projects
Objectives	Nature conservation / MPAs: To design a scheme of management that is integrated across the three member state territories that provides for the restoration and maintenance of the natural features represented on the Dogger Bank to a favourable condition.
Scale	International, offshore
Period covered	2011 - 2012
Researchers	David Goldsborough (Van Hall Larenstein, University of Applied Sciences, Leeuwarden, The Netherlands)
Researchers' background	Marine policy, marine and coastal management, stakeholder facilitation
Researchers' role in initiative	Participant: David was the Dogger Bank case study coordinator in the MASPNOSE project (see case study report, appendix A7.3) where he facilitated and supported the NSRAC in developing a spatial management plan for the Dogger Bank taking into account fisheries, environmental and biodiversity aspects.

The next 45 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

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A paper on this case study analysis is in preparation for a special issue of Marine Policy.



Governance analysis

WP 6

Case study: Dogger Bank

By: David Goldsborough

April 2013



Contents

List of Acronyms and abbreviations.....	4
Introduction	6
1. Context.....	6
1.1 About the initiative	6
Initiative:	6
Location & Geographical boundary of the existing initiative	7
History of the existing initiative (how and why it was established)	7
Competent authority/authorities	17
Main sectors and stakeholder groups involved in the initiative.....	17
1.2 The socio-economic and political context of the case study	18
1.3 The regional policy framework within which your specific WP6 focus is ‘nested’, e.g. regional sea action plans.	23
2. Objectives and management measures.....	25
2.1 Objective	25
1.2 Relevant Dutch/German/UK Laws	25
2.3 Measures and actions	26
2.4 Other	26
3. Conflicts.....	26
4. Governance approach and effectiveness.....	28
4.1 Governance approach.....	28
4.2 Effectiveness of governance approach	28
5 Incentives	30
5.1 Economic incentives.....	30
5.3 Knowledge incentives	32
5.4 Legal incentives.....	33
5.5 Participative incentives.....	35
5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.	37

Engaging local stakeholders	37
Transparency in stakeholder involvement.....	37
Disconnections between key sectoral policies	37
6 Cross-cutting themes	38
6.1 Combining top-down role of state and bottom-up participative approaches	38
6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)	40
6.3 Cross-border issues between countries.....	40
6.4 Justice issues	41
6.5 Influence of different knowledge and of uncertainty in decision-making. <i>E.g.</i> different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships	41
Conclusions	42
References	43
IMAGES	45

List of Acronyms and abbreviations

ACOM	ICES Advisory Committee
BfN	German Federal Agency for Nature Conservation
CFP	Common Fisheries Policy
DBSG	Dogger Bank Steering Group
DEFRA	UK Department of the Environment, Food and Rural Affairs
DG	Directorate General
DG MARE	Directorate General for Maritime Affairs and Fisheries
DG ENV	Directorate General for the Environment
EC	European Commission
EU	European Union
EL&I	Former Dutch Ministry Economic Affairs, Agriculture and Innovation
EZ	Dutch Ministry of Economic Affairs
FG	Focus Group
FIMPAS	Fisheries Measures in Marine Protected Areas project
ICES	International Council for the Exploration of the Seas
IDON	Dutch inter departmental directors consultation North Sea
I & M	The Dutch Ministry for Infrastructure and the Environment
LNV	The former Dutch Ministry for Agriculture, Nature and Food security
MESMA	Monitoring and Evaluation of Spatially Managed Areas
MSP	Marine Spatial Planning
NFFO	National Federation of Fishermen's Organisations
NGO	Non-Governmental Organization
NSRAC	North Sea Regional Advisory Council

NSRAC ExCom	North Sea Regional Advisory Council Executive Committee
NSRAC FG	North Sea Regional Advisory Council Focus Group
NSRAC FG+	North Sea Regional Advisory Council Focus Group plus Dogger Bank Steering Group observers
SAC	Special Area of Conservation
SCI	Site of Community Importance
TOR	Terms of Reference
SPWG	NSRAC Spatial Planning Working Group
WWF	World Wildlife Fund for Nature

Introduction

The focus of the EU-FP7 project MESMA (=Monitoring and Evaluation of Spatially Managed Areas) is on monitoring and evaluation of spatially managed marine areas, and the emphasis of work package six (WP6) is on Governance. The Southern North Sea (SNS) is one of the MESMA cases studies and this case study is based on four subareas: the Belgium EEZ including their territorial waters, the international Wadden Sea, two selected areas in the Danish part of the Skagerrak, and the cross border Dogger Bank in the middle of the North Sea. This report contains a governance analysis of the cross border spatial planning process for three adjoining Natura2000 sites on the Dogger Bank, namely in the United Kingdom, The Netherlands and Germany. The presented analysis focuses on cross border fisheries management in relation to nature conservation but it also discusses the relationship with wind farm development in the Natura 2000 area of the UK. Emphasis of this study is on the years 2011 and 2012: during this period an extensive cross border marine spatial planning process took place. This cross border process has not yet led to an agreed on and implemented spatial management plan, but a proposal is expected to be sent to the European Commission (EC) by the summer of 2013. The author wrote this report on behalf of IMARES (Institute for Marine Resources & Ecosystem Studies), and in compiling this report the author has used available literature, material from the DGMARE funded project MASPNOSE (Marine Spatial Planning of the North Sea), and his personal experience from involvement in the Dogger Bank spatial planning process. The author was the project leader of the MASPNOSE Dogger Bank case study and an active participant, he facilitated and provided scientific support, in a stakeholder driven marine spatial planning process that is included in this governance analysis

1. Context

1.1 About the initiative

Initiative: Development and proposal to the EC of a cross border fisheries management plan in relation to nature conservation for the Dogger Bank Special Areas of Conservation (SACs) by the Dogger Bank Steering Group (DBSG).

Location & Geographical boundary of the existing initiative

The Dogger Bank is the largest sandbank in the North Sea, and it is divided among the Exclusive Economic Zones (EEZs) of the United Kingdom (UK), the Netherlands (NL), Germany (GER) and Denmark (DK), as shown in figure 1. The relatively shallow flat top of the sandbank is more dynamic than the surrounding slopes which are considered to be more stable. The sandbank is 300 km long with an east-northeast/ west-southwest orientation and the maximum width is approximately 120 km. The total surface area of the feature is 17,600 km² and the nearest land is the United Kingdom at a distance of 100 km.

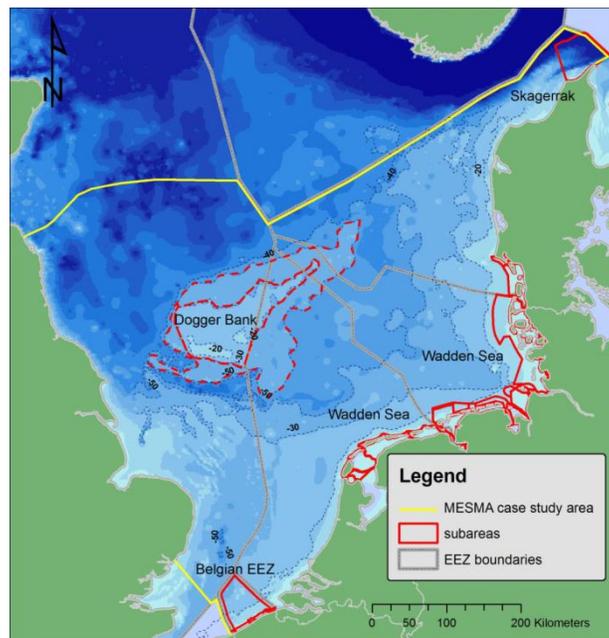


Figure 1. The Dogger Bank in relation to the English, Dutch, German and Danish Exclusive Economic Zones (EEZs) (Source: MESMA, 2011)

History of the existing initiative (how and why it was established)

As a submerged sandbank the Dogger Bank potentially qualifies as a special area of conservation (SAC), i.e. a Marine Protected Area (MPA) under the Habitats Directive. After proposed sites have been adopted by the EC as Sites of Community Importance (SCIs) it is the responsibility of the Member States to designate the sites as SACs, in accordance with the Habitats Directive this must be done within 6 years. Implementation of the Habitats Directive for the Dogger Bank SACs is therefore the sole responsibility of the individual Member States, and the focus is on conservation, and if required restoration, of the EU habitat H1110 ('sandbanks slightly covered by seawater all the time'). Bottom impacting fisheries are considered to be the main source of impact on the Dogger Bank habitat H1110, therefore conservation of the special Dogger Bank bottom habitat is considered to be only achievable through management of the bottom impacting fisheries. As fisheries management in the European Union (EU) falls under the legal realm of the Common Fisheries Policy (CFP), which is mainly the responsibility of the EU, this poses a problem regarding national fisheries management regulations in Member States' SACs – or, in other words, national fisheries management is hardly feasible.

The current status of the Dogger Bank is as follows: At different points in time, Germany (in 2004), the Netherlands (in 2008) and the United Kingdom (in 2010) have proposed their part of the Dogger Bank as a Site of Community Importance (SCI) under the Habitats Directive to the EC; Denmark has not assigned a specific status to their part of the sandbank. With the official designation of the UK part of the Dogger Bank as an SCI (12330 km²) in 2012 and the earlier designations of the Dutch and German parts of the sandbank, a large trans-boundary Natura 2000 site has been created covering over 18000 km². The cross boundary nature of the Dogger Bank SACs and their fisheries was recognized in January of 2011 at the third international FIMPAS (Fisheries Measures in Protected Areas) workshop, and in an attempt to resolve the challenges set by the Habitats Directive and the Common Fisheries Policy an inter-governmental Dogger Bank Steering Group (DBSG) was set up. This steering group initiated a process that should eventually lead to a cross border fisheries management plan for the Dogger Bank SACs, in order to enable/ facilitate reaching the set conservation objectives. Before describing FIMPAS and the DBSG joint management initiative, the three SCIs will be introduced in order of approval by the EC.

The German Dogger Bank

Germany can clearly be seen as the front runner in the implementation of offshore Natura 2000 sites in Europe, as they submitted their part of the Dogger Bank (cf. Figure 2) as a potential SCI to the EC already in 2004.

The general German conservation objectives are to maintain and restore:

- site specific ecological functions, biological diversity, natural hydrodynamics, and morphodynamics;
- favourable conservation status of habitat 1110 with its characteristic and endangered ecological communities and species;
- favourable conservation status of Harbour porpoise and common seal and their natural habitats.

The German Dogger Bank was recognized by the EU as an SCI in November of 2007 and official publication of this status was in January of 2008. This also marks the starting point for the legal designation of the site as an SAC by the German authorities. Despite the fact that they proposed the area as an SCI to the EC in 2004, and the conservation objectives were detailed in 2008 (Bundesamt für Naturschutz, 2008a) no management plan has been implemented up till now.

NATURA 2000 sites according to the EU Habitats and Birds Directives in the German Exclusive Economic Zone (EEZ) and in German territorial waters in the North Sea

Designed by: Federal Agency for Nature Conservation (BfN), Marine and Coastal Nature Conservation Unit, As of: July 2011

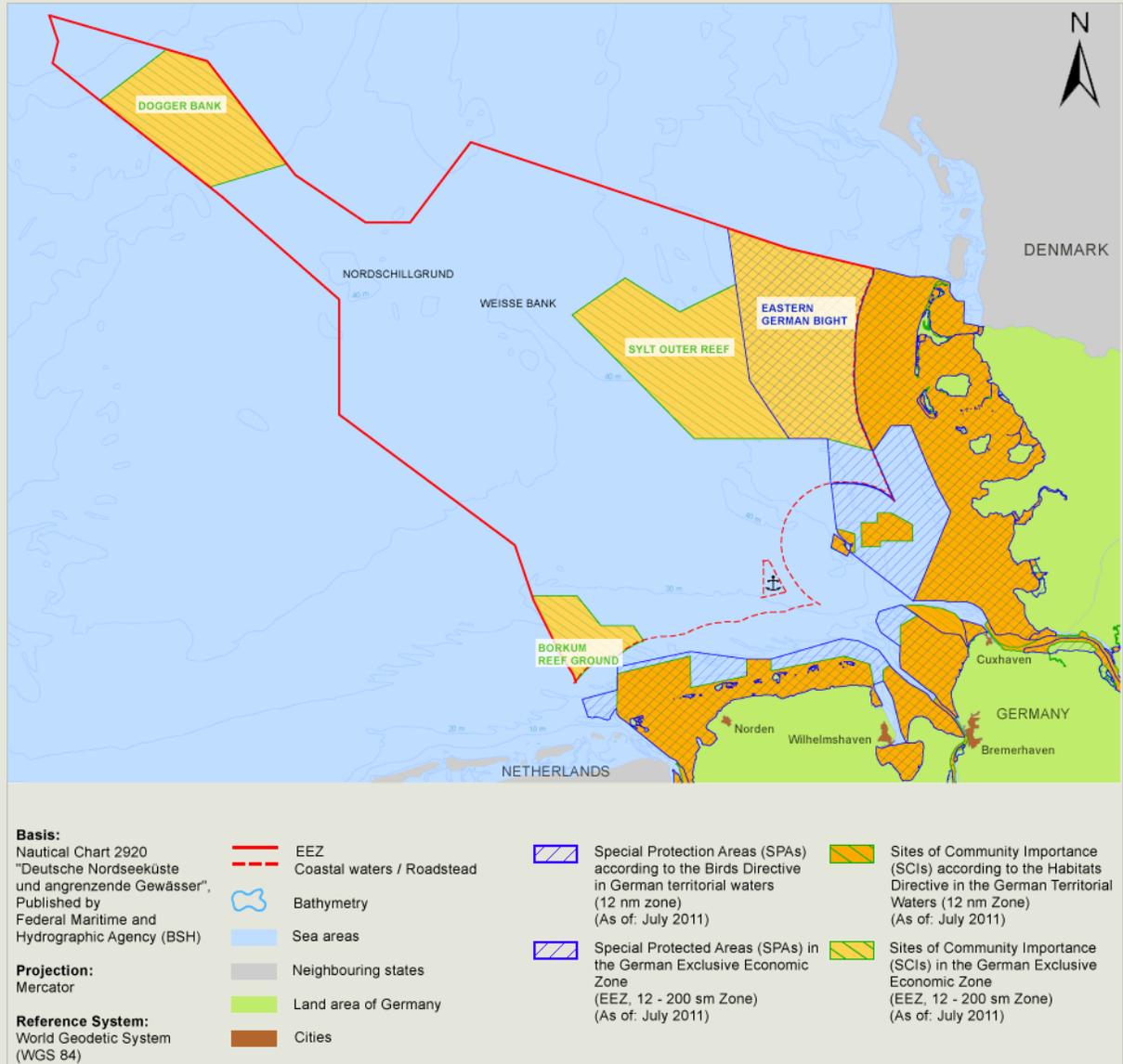


Figure 2. Delineation of the German Dogger Bank SAC (Source: BfN, 2011)

The Dutch Dogger Bank

In December of 2008 the Netherlands submitted their part of the Dogger Bank to the EC, see figure 3.

The general Dutch conservation objectives are to:

- Maintain the surface area and improve the quality of sandbanks covered all the time, tidal area (subtype C¹)
- Maintain the extent and quality of habitat in order to maintain the population of Harbour porpoise and Grey Seal
- Maintain the distribution, extent and quality of habitat for the purposes of maintaining the population of Harbour Seal

According to schedule the Dogger Bank was expected to be designated by the Netherlands as a Natura 2000 site in summer 2010, but this has not been carried out yet. Designation is now scheduled for the end of 2013. Within three years of designation a site management plan must be finalized. Due to the cross border nature of fisheries in general and in marine protected areas in particular, the Netherlands initiated the FIMPAS (Fisheries Measures in Protected Areas) project in October of 2009. As described previously an intergovernmental Dogger Bank steering group was formed in the spring of 2011. The Netherlands have the ambition to, jointly with the other involved Dogger Bank countries, propose a fisheries management plan to the EC by the summer of 2013.

Till date the Netherlands cannot designate a marine protected area outside its territorial sea as an SAC because the Dutch Nature Conservation Act and the Flora and Fauna Act do not yet apply to the Dutch Exclusive Economic Zone. The Dutch EEZ is the Dutch area outside Dutch territorial waters (12 nm). End of 2009 amendments to the Nature Conservation Act and the Flora and Fauna Act were submitted to the house of representatives (Lower House) but as a result of political changes they were never adopted. Only recently have these amendments been submitted again to the Lower House and restarted the process that should lead to their approval.

¹ Despite the fact that a specific profile document exists for habitat type 1110 the Netherlands have decided, based on the large variety of this habitat type in Dutch waters, to split the habitat type into three subtypes: H1110A Wadden Sea, H1110B North Sea coastal zone, and H1110C Offshore.

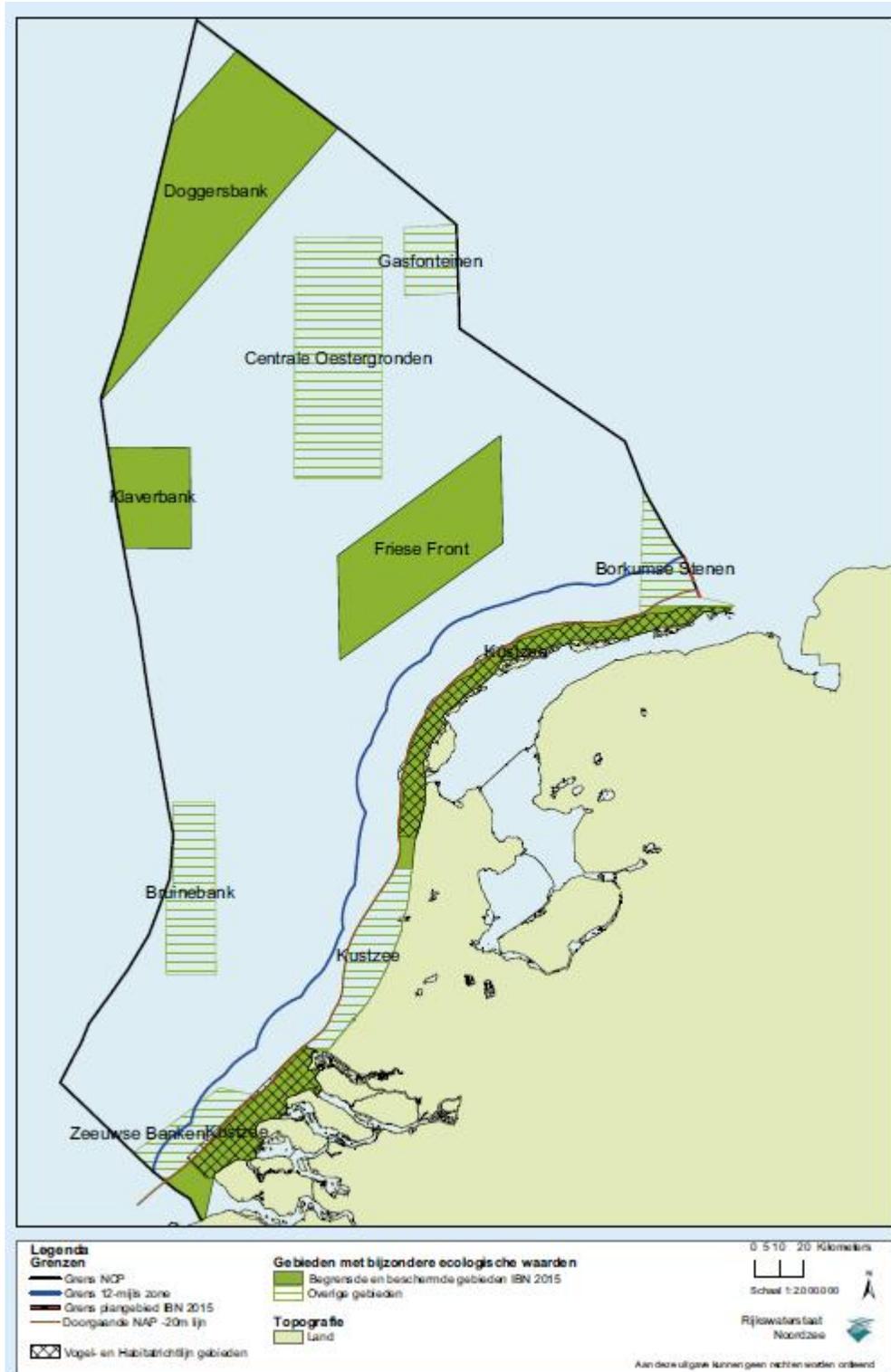


Figure 3. Delineation of the Dutch Dogger Bank SAC (Source: National Water Plan, 2009).

The UK Dogger Bank

In August of 2011 the UK proposed their part of the Dogger Bank to the EC, see figure 4. The UK part of the Dogger Bank was adopted by the EC as a Site of Community Importance (SCI) in 2012 and has since been added to the sixth updated list of sites of Community importance for the Atlantic biogeographical region (EC, 2012).

The general UK conservation objectives are:

- Subject to natural change, restore to favourable condition, such that:
 - The natural environmental quality is maintained;
 - The natural environmental processes are maintained;
 - The extent, physical structure, diversity, community structure and representative typical species are restored.

Currently there are no site specific fisheries management measures in place. The UK is participating in the cross border marine spatial planning process on the Dogger Bank Special Areas of Conservation as a member of the Dogger Bank Steering Group. ICES was asked to provide fisheries management advice for the UK section of the Dogger Bank in 2012. This UK fisheries management will be integrated with management in the German and Dutch sectors through the FIMPAS project.

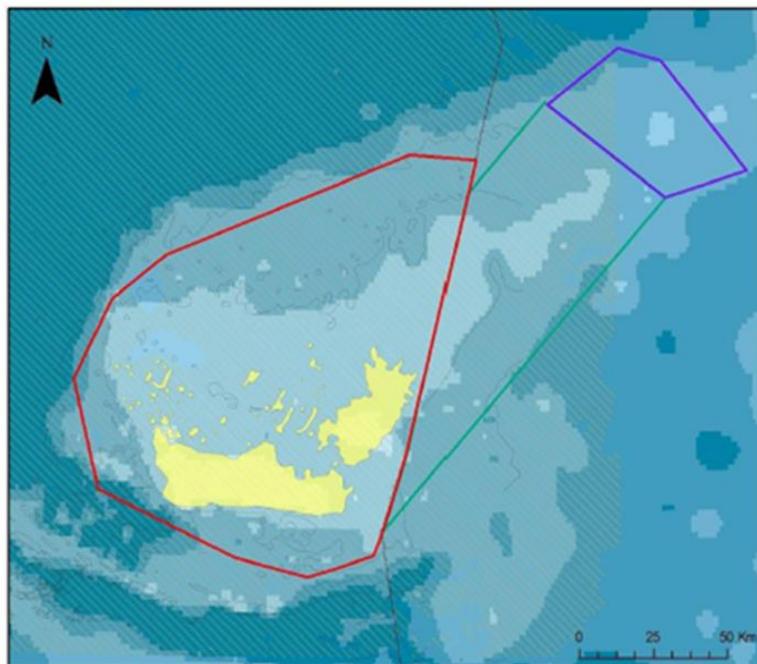


Figure 4. Delineation of UK Dogger Bank SCI, in relation to the Dutch and the German SCIs (Source: JNCC, 2011)

FIMPAS

The FIMPAS (Fisheries Measures in Marine Protected Areas) project was launched in October of 2009 and was initiated by the Dutch Ministry of Agriculture, Nature and Food Quality². The main objective of the FIMPAS project was to propose fisheries measures for the Dutch Natura 2000 areas in the North Sea. By agreement the responsibility for the project's content was placed in the hands of ICES (International Council for the Exploration of the Seas). ICES was to propose fisheries measures that would be consistent with the conservation objectives drawn up by the Dutch and the European government. All stakeholders were to be closely involved in the process of reaching agreement about the suitability of fisheries measures. The final proposal for fisheries measures would be the responsibility of the ICES Advisory Committee (ACOM). The FIMPAS project was set up to support the Dutch government to comply with European requirements concerning the management of Natura 2000 sites in the 12-mile zone and the Dutch Exclusive Economic Zone (EEZ). The Dutch government would base their policy decisions on the advice of ICES and the final report of the FIMPAS project. This report would be presented to the European Commission and it would form the basis for the Dutch proposal to the European Commission for fisheries measures within the Natura 2000 sites. The initial planning of the project was for the period 2009-2011 and five milestones were identified:

1. Kick-off (October 2009)
2. 1st Workshop: data gathering (First half of 2010)
3. 2nd Workshop: Conflict Analysis (Second half of 2010)
4. 3rd Workshop: Management measures + Socio-economic implications (Beginning of 2011)
5. ACOM Advice & Closing event – ICES (Second half of 2011)

As stated before it was at the 3rd FIMPAS workshop that the cross border nature of the Dogger Bank was recognized and consequently an intergovernmental steering group was proposed for the Dogger Bank.

Dogger Bank Steering Group (DBSG)

To achieve Dogger Bank specific goals the Dogger Bank Steering Group presented a process scheme, see figure 5, at the 3rd FIMPAS workshop in Den Helder, The Netherlands.

² In 2010 this ministry merged with the Ministry of Economic Affairs to form a new ministry named the Ministry of Economic Affairs, Agriculture and Innovation and in 2012 this ministry was renamed the Ministry of Economic Affairs.

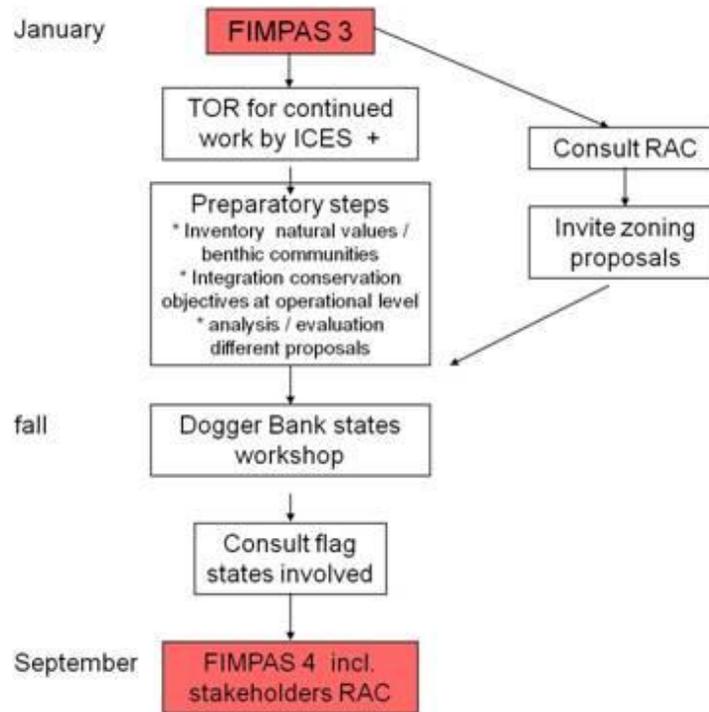


Figure 5. The Dogger Bank Steering Group process (source: ICES, 2013).

This process for the Dogger Bank was scheduled for the period from spring 2011 until September 2011 and was to be finalized at the FIMPAS 4 meeting. It was envisioned that the result of this 4th FIMPAS workshop, an agreed on proposal with fishery measures for the Dogger Bank, could then be sent to ICES ACOM for advice. The first step of the DBSG process was to invite the NSRAC to suggest zoning proposals. At that time the NSRAC was not officially involved in the DBSG process although individual members had participated in earlier FIMPAS workshops.

North Sea Regional Advisory Council

The Common Fisheries Policy (1983) provides the legal basis for management of fisheries in the European regional seas. In the 2002 reform of the CFP greater involvement of stakeholders in all aspects of policy development was ensured with the creation of the Regional Advisory Councils (RACs). RACs consist of members from the fishing sector and from other interest groups in the ratio 2/3 – 1/3. The North Sea RAC is the responsible advisory body for the North Sea.

As funding and scientific support was very limited, the NSRAC accepted an offer from the DGMARE funded MASPNOSE (Marine Spatial Planning in the North Sea) project to facilitate and support the NSRAC on their Dogger Bank zoning exercise. On behalf of the NSRAC the NSRAC Spatial Planning Working Group (SPWG) formed a so called NSRAC focus group which consisted of eight members representing: the English fishing sector (NFFO), the Dutch fishing sector, the Danish Fishermen’s Association, Seas at Risk, WWF, Birdlife International, FOREWIND (a liaison) and MASPNOSE.

The DBSG invitation to this NSRAC led to three stakeholder driven processes on management of the Dogger Bank that spanned a 12 months period. Four specific processes, three stakeholder driven and one driven by the DBSG, can be identified during this year:

1. May 2011 – October 2011
2. *Stakeholder workshop Dublin November 2011*
3. December 2011 – February 2012
4. March 2012 – April 2012

The second process, the stakeholder workshop in Dublin in November of 2011, represents the FIMPAS 4 workshop from the DBSG process as shown in figure 5.

MASPNOSE

MASPNOSE (marine spatial planning in the North Sea) was one of two EU funded 18-months preparatory actions on cross-border cooperation on MSP; both were completed in June 2012. The other “preparatory action” was ‘Plan Bothnia’, focussing on marine spatial planning in the Baltic Sea. Both projects involved bodies from different Member States and aimed to gain practical experience on MSP in cross-border areas. The MASPNOSE project addressed marine spatial planning in two areas in the North Sea, namely the Thornton Bank and the Dogger Bank. It included partners from the Netherlands, Belgium, Germany and Denmark, coordinated by Wageningen University (COM, 2012).

Four processes involving the NSRAC

Details on the four processes involving the NSRAC, mentioned above, can be found in the MASPNOSE final report (2012) and the MASPNOSE Report on cross-border Maritime Spatial Planning in two case studies (2012). A summary of each process is described here.

1. May 2011 – October 2011

The NSRAC Spatial Planning Working Group selected a Focus Group with members from the fishing sector, NGOs, FOREWIND liaison and MASPNOSE project team. The process started with a scoping meeting in May 2011 to agree on the terms of reference and a process. Agreement was reached to organise three workshops: Workshop 1 (June 2011), Workshop 2 (August 2011, also see figure 6) and Workshop 3 (October 2011). The overall objective was to jointly write a NSRAC position paper outlining a fisheries management plan, including a zoning proposal, for the combined area covered by the 3 national Natura 2000 sites (SACs) of the Dogger Bank. The position paper (NSRAC, 2011) was indeed finalized after workshop 3 in October 2011 and adopted unanimously by the NASRAC; however, instead of a clear zoning proposal it only contained a suggested modelling approach for the zoning with three examples.



Figure 6. MASPNOSE map-table session at Schiphol airport, 30 August 2011 (MASPNOSE, 2012)

2. Stakeholder workshop Dublin November 2011

The Dogger Bank Steering Group invited the NSRAC and a few other stakeholders to attend this two day workshop in Dublin. The meeting was facilitated by ICES. The main objective of the workshop was to reflect on a zoning proposal including three scenarios, developed with the assistance of ICES (led by Hans Lassen), drawing on some of the NSRAC's elements but also including new elements, and –if required- provide input for a new scenario four (Lassen, 2011). During the meeting it became apparent that the NSRAC FG was unhappy with the presented scenarios and wished to continue to develop their own zoning proposal. This wish was granted by the DBSG as long as the zoning proposal would meet strict terms of reference; the DBSG defined these terms of reference immediately after the workshop in Dublin in the presence of NSRAC FG representatives. Additionally, the NSRAC FG was asked to include DBSG observers in future meetings, resulting in the NSRAC FG+.

3. December 2011 – February 2012

The NSRAC FG+ met in December 2011 and in this scoping meeting agreed on two workshops in January 2012. Only very limited time was available for this process and no MASPNOSE facilitation was available. The NSRAC FG+ jointly agreed on a budget (DBSG Member States and fishing sector 50:50) and David Goldsborough (author of this report) was contracted for facilitation. Limited GIS support was ensured through GEODAN, a company specialized in dealing with geo-information. The objective of the renewed organisation of two workshops was to develop a draft proposal, this time jointly, including a jointly agreed on zoning proposal, for a fisheries management regime for the Dogger Bank. Although the NSRAC FG came close to reaching an agreement in this process, they could not bridge a gap of 5 %

between zoning proposals, and the outcome of the process was that there was no agreement on a joint zoning proposal. The NSRAC FG reported this failure, including how far they had gotten, to the NSRAC Executive Committee in a report (NSRAC, 2012).

4. March 2012 – April 2012

Much to their surprise the NSRAC FG received a continuance from the DBSG. Besides involvement of the DBSG observers, the chair of the NSRAC was also to be included in the process. Facilitation and the budget for this process was provided by the MASPNOSE project. The objective was still the same as in the previous process. To determine the chances of reaching an agreement in this process, the NSRAC FG, without DBSG observers, but with the guidance of the NSRAC chair and vice-chair, held a scoping meeting. They concluded that the gap between the fishing sector and the NGO's was too big to be resolved in such a short process. Nonetheless, the FG considered it valuable to report all findings and agreed on ideas to a wider audience including the DBSG. They agreed to write a joint position paper with two appendixes detailing the spatial plans and ideas that both groups (NGOs and fishing sector) had, including their justification and argumentation. This position paper was adopted unanimously by the NSRAC in April of 2012 (NSRAC, 2012).

Competent authority/authorities

The studied spatial planning initiative was led by the intergovernmental Dogger Bank Steering Group (DBSG). Members of this steering group are representatives of governmental authorities from the United Kingdom, The Netherlands, Germany and Denmark. The European Commission (EC) has observer status in the DBSG, and in the fall of 2011 the North Sea Regional Advisory Council received the status of active observer with two seats in the Dogger Bank Steering Group. Furthermore the group has received support and scientific advice from ICES. The DBSG was been initiated by the Dutch authorities and they also chaired the steering group. The objective of the DBSG is to jointly propose to the EC a cross border fisheries management plan, i.e. the outcome of the MSP process, for the three Special Areas of Conservation (SACs) of the Dogger Bank. Before any joint proposal can be presented to the EC, however, each individual Member State will first have to individually approve the agreed on cross border management plan. This implies that the DBSG only has the status of a voluntary steering group with no official mandate. Ultimately, the adoption of a cross border fisheries management plan is the competency of the EC, and not even of the individual Member States. Issues related to monitoring and enforcement have not yet been detailed.

Main sectors and stakeholder groups involved in the initiative

The main stakeholders and groups involved in the initiative are:

- Dogger Bank Steering Group (DBSG , 2012).
 - Dutch Ministry of Economic Affairs
 - German Federal Ministry for the Environment
 - UK Department of the Environment, Food and Rural Affairs
 - Denmark observer
 - EC DGMARE³ observer

³ As the DBSG was aiming for fisheries measures under the CFP DG MARE was represented in the steering group.

- EC DGENVI⁴ observer
- ICES observer
- ICES secretariat support
- NSRAC NGO observer
- NSRAC Fishing Industry observer
- NSRAC
- NSRAC FG
 - WWF
 - SDN
 - Birdlife International
 - NFFO
 - Danish Fisheries Organisation
 - VisNed
 - German Fishing Association
 - FOREWIND liaison (wind energy representative)
 - MASPNOSE
- NSRAC FG+ = NSRAC FG with DBSG observers

1.2 The socio-economic and political context of the case study

Netherlands statistics

Per capita GDP (2012) ⁵	\$42,300
Population density per km ² (2013)	405
GDP growth rate (2012)	-0.5
Economic structure (2005)	agriculture: 2%; industry: 18%; services: 80%
Contribution of maritime sectors to the national economy	Fishing, aquaculture, oil and gas extraction, maritime transport, harbours, recreation, renewable energy, marine aggregates (e.g. sand and gravel)
Unemployment rate (2012)	6.8
Administrative structure	Ministry of General Affairs Ministry of the Interior and Kingdom Relations Ministry of Foreign Affairs Ministry of Defence Ministry of Economic Affairs Ministry of Finance Ministry of Infrastructure and the Environment Ministry of Education, Culture and Science

⁴ The Habitats Directive falls under the competence of DG ENV

⁵ CIA Central Intelligence Agency. World fact book The online Fact book is updated weekly. ISSN 1553-8133 page last updated on March 26, 2013 <https://www.cia.gov/library/publications/the-world-factbook/fields/2172.html>

	<p>Ministry of Social Affairs and Employment Ministry of Security and Justice Ministry of Health, Welfare and Sport</p> <p>In the policy section, three Directorates-General are concerned with developing policy in the areas of mobility, water management, aviation and maritime affairs, spatial planning and the environment. The Directorate-General for Public Works and Water Management (Rijkswaterstaat, RWS) ensures that policy is implemented. Human Environment and Transport Inspectorate (ILT) oversees compliance with statutory regulations by private individuals and companies. The Royal Netherlands Meteorological Institute (KNMI) gathers information on the weather, climate and seismology and performs research. The Directorate-General for Public Works and Water Management, Human Environment and Transport Inspectorate (ILT), the Netherlands Emissions Authority, the Netherlands Environmental Assessment Agency and the KNMI are agencies of the ministry.</p>
Government effectiveness (2011) ⁶	1,79
Sustainable Governance indicator (2011) ⁷	6.3
Gini index (2007)	30.9

Germany statistics

Per capita GDP (2011)	\$39,100
Population density per km ² (2010) ⁸	235
GDP growth rate (2012)	0.7%
Economic structure (2012)	agriculture: 0.8% industry: 28.1% services: 71.1%
Contribution of maritime sectors to the national economy	Fishing, oil and gas extraction, maritime transport, harbours, recreation, renewable energy, marine aggregates (e.g. sand and gravel)
Unemployment rate (2012)	6.5%
Administrative structure	Germany is a federal parliamentary republic, and the government consists of a central Federal government and 16 states (<i>Länder</i>). Federal legislative power is divided between the <i>Bundestag</i> (directly elected by German people) and the

⁶ <http://info.worldbank.org/governance/wgi/index.asp>

⁷ Measuring if the government's decision-making backed by strategic planning and the advice of scholars?

⁸ <http://data.worldbank.org/indicator/EN.POP.DNST>

	<p><i>Bundesrat</i> (state governments). According to the German Basic Law, the states (<i>Länder</i>) are granted with all powers not specifically reserved to the federal government, and regional and local governments have extensive administrative power within their jurisdiction.</p> <p>The German federal government consists of 14 ministries. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is responsible for environmental policy, including international negotiation/cooperation in environmental affairs. In the Exclusive Economic Zone (EEZ) – from the outer edge of the 12-mile zone to the outer edge of the 200-mile zone bordering international waters – responsibility for Natura 2000 lies with the federal government as represented by the Federal Agency for Nature Conservation (BfN) and the Federal Environment Ministry (BMU).⁹ In addition, several other federal agencies and ministries also have responsibilities for the offshore marine environment.</p>
Government effectiveness (2011)	1.53
Sustainable Governance indicator (2011) ¹⁰	6.3
Gini index (2006)	27

United Kingdom statistics

Per capita GDP (2012)	\$36,700
Population density per km ² (2010) ¹¹	257
GDP growth rate (2012) ¹²	-0.1%
Economic structure (2012)	agriculture: 0.7% industry: 21.1% services: 78.2%
Contribution of maritime sectors to the national economy	Fishing, oil and gas extraction, maritime transport, harbours, recreation, renewable energy, marine aggregates (e.g. sand and gravel)
Unemployment rate (2012)	7.8%
Administrative structure ¹³	The UK is a parliamentary democracy. The UK has a unitary system of government (where power is held in the center), although some

⁹ <http://www.bfn.de/habitatmare/en/natura2000-in-der-deutschen-awz.php>

¹⁰ <http://sgi-network.org/index.php?page=criteria&criteria=M1>

¹¹ <http://data.worldbank.org/indicator/EN.POP.DNST>

¹² <http://data.worldbank.org/indicator/EN.POP.DNST>

	<p>powers have been devolved to the Scottish Parliament, the National Assembly for Wales and the Northern Ireland Assembly.</p> <p>The management of the marine environment involves multiple authorities in England, Wales, Scotland and Northern Ireland. The main government bodies responsible for the management of offshore marine environment are:</p> <ul style="list-style-type: none"> • Department for Environment, Food and Rural Affairs (Defra): Defra is responsible for biodiversity and environment in England and also generally leads on international negotiations. • Department of Energy and Climate Change (DECC): responsible for the promotion and regulation of offshore marine renewables • Crown Estate: The Crown Estate owns 55% of the foreshore (i.e. between mean high and low water) and the seabed out to the 12 nautical mile territorial seas limit, as well as rights vested in the Crown to explore and exploit the natural resources of the UK Continental Shelf out to 200 miles from the coast. • Marine Management Organisation (MMO): The MMO is responsible for the overall planning and management of the marine environment, including developing marine plans, marine license for different activities, and the management of MPAs. • Joint Nature Conservation Committee (JNCC): JNCC is a non-departmental public body responsible for advising the UK Government and devolved administrations on UK-wide and international conservation matters, including the designation of MPAs.
Government effectiveness (2011)	1,55
Sustainable Governance indicator (2011)	7.0
Gini index (2005)	34

Denmark Statistics

Per capita GDP (2012)	\$37,700
Population density per km2 (2013)	128
GDP growth rate (2012)	-0.4%
Economic structure (2012)	agriculture: 1.3%; industry: 22.1%; services: 76.7%
Contribution of maritime sectors to the national economy	Fishing, oil/gas, transport/harbours, recreation, renewable energy, marine aggregates (e.g. sand)

¹³ Based on pages 33-37 in Lieberknecht, L. M.; Qui, W.; and Jones, P. J. (2013) Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process. A report for work package 6 of the MESMA project. 328pp.

Unemployment rate (2012)	6.4 %
Administrative structure *	<pre> graph LR DP[Danish parliament] --> G[Government] G --> ME[Ministry of environment] G --> MFAF[Ministry of food, agriculture and fisheries] G --> MCEB[Ministry of climate, energy and building] G --> MBG[Ministry of business and growth] G --> MT[Ministry of Transport] G --> OM[14 other Ministries] ME --> NA[Nature Agency] MFAF --> AA[Agrifish Agency] MCEB --> EA[Energy Agency] MBG --> MA[Maritime Authority] MT --> DCA[Danish Coastal Authority] </pre>
Government effectiveness (2011)	2.17
Sustainable Governance indicator (2011)	7.2
Gini index (2011)	24.8 (ranked 133th out of 136 countries documented in CIA's World Fact Book)

* The Danish Parliament consists of 179 members chosen by the Danish people, 90 represents the Government. The Government has 19 ministries. 4 of these ministries are involved in the administration of the Marine environment: Ministry of Environment; Ministry of Food, Agriculture and Fisheries; Ministry of Climate, Energy and Building; Ministry of Business and Growth. Under the mentioned ministries lie The Nature, Agrifish, Energy, and Maritime Agencies, respectively, which are all involved in marine management. In addition, the Danish Coastal Authority under the Ministry of Transport is responsible for managing the Danish State's sovereignty over territorial waters: on a practical level this deals mainly with cables/pipelines and other constructions at sea, coastal erosion, maritime security, ports etc.

The four Dogger Bank countries all have a relative high per capita GDP, and relative high governance scores (measuring the quality of governance in a nation), compared to other EU countries. They share a similar administrative system (parliamentary democracy). Their sentiments about European influence on national issues clearly differ per country. The UK and the NL can currently be seen as the two countries that favour national influence over EU influence. The Netherlands and the UK have both been hit hard by the financial crisis and this has led to drastic governmental cuts. In the Dogger Bank process this became clear when finding just a small amount of national funding appeared to be problematic.

1.3 The regional policy framework within which your specific WP6 focus is 'nested', e.g. regional sea action plans.

Increased spatial demands on the North Sea lead to multiple use conflicts. The current expansion of offshore wind energy, fishing and aquaculture, dredging, minerals extraction and shipping activities are in most cases conflicting with international and national commitments to biodiversity conservation. Conservation of the North Sea can be achieved in different ways ranging from international legislation on the protection of biodiversity (e.g. OSPAR), to EU legislation on achieving a good environmental quality (Maritime Strategy Framework Directive) and the implementation of EU Directives by member states (e.g. Habitats and Birds Directives).

The OSPAR Convention on the protection of the marine environment of the North-East Atlantic was adopted in 1992 and entered into force in 1998 (OSPAR 1992). The OSPAR Convention has as main goal to prevent and stop the pollution of the marine environment and to protect the maritime area against the adverse effects of human activities in order to protect human health and the marine ecosystem. Furthermore, it aims to maintain and, when practicable, restore marine areas that are negatively affected.

The Habitats and Birds Directives form the basis of the Natura 2000 network, the goal of which is the realization of a coherent network of protected areas, in order to maintain or restore a favourable conservation status of all naturally occurring species and habitats in the EU.

Partly due to difficulties in obtaining scientific knowledge on the distribution and abundance of species and habitats, implementation of the Habitats and Birds Directives in the marine environment presents considerable challenges. Where the designation of Natura 2000 sites in coastal waters is fairly advanced, there are still considerable gaps in the offshore marine network of protected areas. With the signing of the Bergen Declaration by the Ministers responsible for the protection of the environment of the North Sea in 2002 they agreed that by 2010 a well-managed network of marine protected areas would be in place. To meet Natura 2000 obligations for marine areas, Member States are required to propose marine protected areas for conservation under the Habitats Directive or the Birds Directive. Under the Habitats Directive these sites are called Sites of Community Importance (SACs) and under the Birds Directive Special Protection Areas (SPAs). Although the European Council is committed to the set Natura 2000 objectives (European Council 2008), including a coherent marine network by 2012, this network currently only exists on paper and concrete conservation measures for several marine protected areas still need to be agreed on or implemented. This means that the desired goal of protection of the North Sea ecosystem is not yet in sight.

This study, focussing on the Dogger Bank, is limited to the implementation of the Habitats Directive. The Dogger Bank process has passed the first stage of the application procedure of the Habitats Directive, i.e. selection and delineation of sites, followed by nomination to the European Commission. Member State proposed sites are called possible Sites of Community Importance (pSCIs), and once they have been accepted by the EU, they become Sites of Community Importance (SCIs).

Germany, the UK and the Netherlands each have their own national policy frameworks which are linked to the Natura 2000 obligations.

Fisheries in the EU regional seas are managed through the Common Fisheries Policy. This policy is mainly the competence of the EU and not the Member States. All other activities in a Member States EEZ, such as renewable energy (e.g. wind farms) and oil and gas exploration fall under the jurisdiction and thus the national legislation of the Member State. Details on EU legislation and how they affect the emerging policy landscape for maritime spatial planning in Europe can be found in Qiu and Jones (2013).

2. Objectives and management measures

2.1 Objective

The three Member States each have their specific conservation objectives for their part of the Dogger Bank. The general conservation objectives per country are:

- For Germany to maintain and restore:
 - site specific ecological functions, biological diversity, natural hydrodynamics, and morphodynamics;
 - favourable conservation status of habitat 1110 with its characteristic and endangered ecological communities and species;
 - favourable conservation of Harbour porpoise and common seal and their natural habitats.
- For the Netherlands to maintain:
 - the surface area and improve the quality of sandbanks covered all the time, tidal area (subtype C¹⁴);
 - the extent and quality of habitat in order to maintain the population of Harbour porpoise and Grey Seal;
 - the distribution, extent and quality of habitat for the purposes of maintaining the population of Harbour Seal.
- And for the United Kingdom:
 - Subject to natural change, restore to favourable condition, such that the:
 - The natural environmental quality is maintained;
 - The natural environmental processes are maintained;
 - The extent, physical structure, diversity, community structure and representative typical species are restored.

1.2 Relevant Dutch/German/UK Laws

Characteristics of the Habitats Directive are described in Qiu and Jones (2013). They also provide an overarching framework linking this directive to the Integrated Maritime Policy and other relevant marine directives. Implementation of the EU Habitats Directive is achieved through relevant national legislation.

For Germany the legal framework for the Habitats Directive is the Federal Nature Conservation Act (2002) which was revised and updated in 2009. This new Federal Nature Conservation Act entered into force on the first of March 2010. In line with the reform of Germany's federal system in 2006, this legislation now applies and therefore protects nature and landscapes directly and on a uniform basis across Germany (BMU, 2009).

Till date the Dutch Nature Conservation Act and the Flora and Fauna Law do not apply to the Dutch EEZ. An amendment has been in preparation for several years now but till date it has not yet been approved.

¹⁴ Despite the fact that a specific profile document exists for habitat type 1110 the Netherlands have decided, based on the large variety of this habitat type in Dutch waters, to split the habitat type into three subtypes: H1110A Wadden Sea, H1110B North Sea coastal zone, and H1110C Offshore.

In the UK, the Habitats and Birds Directives have been transposed into UK national legislation by the Conservation of Habitats and Species (Amendment) Regulations, 2012 and Offshore Marine Conservation (Natural Habitats, &c.) (Amendment) Regulations, 2012, both of which entered into force on 16 August 2012. The latter was first enacted in 2007 to provide the legal mechanism for the designation of marine Natura 2000 sites in offshore waters (i.e. beyond 12 nautical miles) of the UK. Since then, twenty offshore Natura 2000 sites have been submitted to the European Commission by the UK government.

2.3 Measures and actions

So far no measures have been implemented for the Natura 2000 areas of the Dogger Bank. Although Germany already completed their EMPAS (Environmentally Sound Fisheries Management in Marine Protected Areas) project in 2008 (Bundesamt für Naturschutz, 2008b) no measures have been enforced (Bundesamt für Naturschutz, 2010). A key issue is that fisheries measures that also affect fishing vessels from other Member States can only be enforced by the EU. The status of the proposed measures, i.e. a fisheries management plan, is that ICES has evaluated the plan and that a final plan needs to be approved by the individual member states.

2.4 Other

The conservation objectives of the Dogger Bank mainly conflict with bottom impacting fisheries. Other activities in the area such as wind farm development and oil and gas extraction appear to have minimal impact on the conservation objectives of the sandbank. This is mainly due to the fact that these activities are point activities and hence only influence a very small surface area directly.

For the UK, the Dogger Bank is a strategically important area for the development of offshore wind energy. The UK government has published the UK Renewable Roadmap and the UK Renewable Energy Strategy, among other policy documents, to implement the EU Renewable Energy Directive and promote the development of the offshore renewable sector. The planned Dogger Bank Offshore Wind Energy Zone includes an area of 8660km², and spatially overlaps with the SAC proposed by the UK. The Dogger Bank Offshore Wind Energy Zone has an agreed target capacity of 9GW, which means that if it is built, it will become one of the largest offshore wind farms in the world.

Due to distance, and the related extra cost involved with cables to shore, the German and Dutch Dogger Bank areas are of less interest for wind farm development.

3. Conflicts

Primary conflicts:

The primary conflict on the Dogger Bank is the conflict between bottom impacting fisheries and nature conservation objectives. The fisheries are managed through the EU Common Fisheries Policy and the nature conservation is managed through Member State implementation of the Habitats Directive. The assumption is that the conservation objectives that are linked to H1110 can only be reached if the current bottom impacting fisheries are excluded from specific areas on the Dogger Bank. The development of the Forewind wind farm might lead to additional restrictions for the fishing sector. Although the Forewind consortium has the obligation to try to coexist with other uses of the area, coexistence seems to be impossible for fisheries. Theoretically several types of fishing are possible within a wind farm; but in practice it can be problematic, for example due to an increased chance of

collisions and high insurance rates. Therefore the fishing sector tends to see wind farms as no go areas, closed for fishing. Due to this reason the Forewind areas have been proposed by the fishing sector as potential areas to close for bottom impacting fishing.

Secondary conflicts:

Between Member States

The four Dogger Bank Member States all have their specific interests in fisheries and conservation of the Dogger Bank. In summary these are:

- Denmark has no direct interest in conservation of the Dogger Bank. Their main interest lies in protecting the Danish fisheries and the Sand Eel fisheries in particular, on the Dogger Bank.
- Germany has put a strong emphasis on conservation of the Dogger Bank and they appear to have less interest in protecting the German fisheries in this area.
- The Netherlands are very much looking for a compromise. They wish to ensure that the Dutch fisheries, predominantly on flat fish, on the Dogger Bank can survive but at the same time they are interested in conservation of the Dogger Bank.
- The UK is predominantly interested in ensuring that human activities on the Dogger Bank are still possible, and neglecting the fact that legal conservation objectives need to be met.

These specific interests of the Member States can be derived from the terms of reference, which were agreed on by the DBSG for the NSRAC after the Dublin meeting.

Between the Fishing Industry

The bottom trawling fisheries on the Dogger Bank mostly take place on the flat top of the sandbank whereas the Otter trawl fisheries for Sand Eel are mostly on the slopes of the Dogger Bank. This means that these two types of fisheries do not have the same spatial claims; this became apparent in the process of proposing suitable sites for banning bottom impacting gears.

The German fishing industry hardly participated in the NSRAC process, but became involved only in the final stage. They did not participate in the German EMPAS project, which ran until 2008, either. Their main argument for not participating was a feeling that participation would weaken their legal position. The absence of the German fishing industry in the Dogger Bank process led more than once to differences of opinion and controversies between fishing representatives on how to proceed: both from a technical as well as a legal perspective.

Between NGOs

The involved NGOs were mostly on the same page. During the process there were differences of opinion on the level of ambition and conservation objectives although these differences were never elaborated in different strategies. Before the NSRAC process really got on the way, WWF organized a two day international workshop to share knowledge and expertise on the Dogger Bank, which can be seen as an important stimulant for the joint NGOs. In preparation of this workshop WWF commissioned a desk study that details the ecological values of the Dogger Bank. For the NGOs the wind farm development on the Dogger Bank has not been a crucial issue. In line with the DBSG they focussed on the current impacts of bottom impacting fisheries on the benthic communities of the Dogger Bank and much less on possible future impacts of the projected wind farm development.

Between DBSG and NSRAC

During the first phase of the process the relationship between the NSRAC FG members improved with time. A key issue appeared to be trust and complete transparency. As time progressed the members of

the focus group appeared to become increasingly aware of all the stakes and different positions of the collaborating Member States in the DBSG. On more than one occasion the FG members were frustrated by the lack of clear direction and answers from the Member States. This frustration was aired by sending joint emails to the chair of the DBSG requesting clarification on issues.

4. Governance approach and effectiveness

4.1 Governance approach

The cross-border governance approach originated from the Dutch FIMPAS project. For this project the Dutch Ministry of Agriculture, Nature and Food Safety, now part of the Ministry Economic Affairs, signed an agreement with ICES in 2009 detailing the role of contract partners, the objectives and the planning of the process. Forming a Dogger Bank Steering Group was discussed and agreed on at the 3rd FIMPAS workshop and at this meeting a specific Dogger Bank process was presented. The relationship between the original FIMPAS process and the DBSG process was never officially clarified for a wider audience and even for the involved stakeholders it was also not always clear how the Dogger Bank process was embedded in the FIMPAS process. In retrospect it is clear that the Dutch Ministry viewed the Dogger Bank process as being part of the initially proposed (national) process, thus relying on ICES for scientific and secretarial support. From the proposed DBSG process, see figure 5, it is clear that only after the DBSG had invited the NSRAC to propose zoning plans for the cross-border fisheries management, did they define terms of reference.

The fact that no terms of reference had been given to the NSRAC enabled them to agree on their own terms of reference, including defining the objective for their first process “To develop a position paper on fisheries management in relation to nature conservation, including a zoning proposal, for the combined area covered by the 3 national Natura 2000 sites (SACs) of the Dogger Bank”. The NSRAC focus group was in full control of this process and with the financial and scientific support and facilitation from the MASPNOSE project they were able to work towards achieving their objective.

While successfully developing the first position paper it was crucial that the members of the FG were willing to take responsibility for specific components of the report. The division of labour was done mainly based on expertise and interests. The workshops were, in close collaboration with the NSRAC FG members, prepared by the MASPNOSE team. During the workshops the members of the FG were asked to take the lead in discussion elements of the position paper. This led to a strong sense of ownership and enabled open discussions based on arguments. Issues that could not be resolved were quite easily left out. The level of engagement was very high, and a positive factor in strengthening the mutual relationship was the fact that participants of the workshops had meals together and spent time together at the bar at night. All members of the focus group participated in writing text for the position paper. Initially the group was in favour of having a third party write the position paper, but the facilitator felt that the position paper would benefit from receiving direct input from focus group members.

4.2 Effectiveness of governance approach

The DBSG process was often not clear and transparent. This often led to confusion and frustration on the side of the involved stakeholders. Initially intergovernmental workshops were held behind closed doors, and this led to a certain level of speculation by the not invited stakeholders. Once the DBSG

opened their doors to the NSRAC observers, and members of the DBSG attended the NSRAC workshops, the dynamics changed. It became easier for all involved stakeholders to understand the various positions and procedures.

Based on these observations, it can be speculated that the cross border spatial planning process on the Dogger Bank could have been more effective if the NSRAC had participated in the DBSG from the beginning. On the other hand one could argue that both the member states and the NSRAC focus group members first needed time to discuss and agree on shared interests themselves, without having other parties at the table. Regardless of which procedure could have been more effective one can assume that the process would have been more effective if the DBSG had first agreed on terms of reference and then invited the NSRAC to suggest zoning proposals.

5 Incentives

5.1 Economic incentives

E1 Promoting and protecting the rights and entitlements of local 'customary' users, e.g. through assigning fishing rights to certain marine areas and fish stocks

The NSRAC suggested co-management of the Dogger Bank, a management in which the authorities share power and responsibilities with users of the area. The NSRAC wanted to be involved in the management of the Dogger Bank beyond just providing advice. This issue has not been officially addressed by the DBSG.

E2 Providing certainty to potential industries and their investors, e.g. through licensing and granting concessions to renewable energy developers in certain marine areas

The concept of licencing and an effort cap was suggested at one of the NSRAC workshops, but it was not picked up on. Mainly due to economic factors, mainly high oil prices, the fishing fleet on the Dogger Bank was relatively small in 2011, thus possibly enabling investigating a licensing system in combination with an effort cap. This option has not been pursued by the DBSG.

E3 Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority operational objective and can generate sustainable income for local people

In their first position paper the NSRAC proposed an experimental approach with three management zones: a no-take zone, a low-impact gear zone, and a zone with a cap on fishing effort. They also referred to ICES proposing four categories: no fishing, no fishing with bottom contacting gears, no fishing with heavy gears, and fishing with all gear types. Their rationale was that the low-impact gear zone would stimulate fishermen to make a transition to less impacting gears. This line of thinking was not adopted by the DBSG and they have proposed only two zones: no bottom impacting gears and all gears allowed.

The NSRAC also proposed a method for dealing with socio-economic effects of fisheries measures, i.e. closed or restricted areas. The current approach used by the Dogger Bank Steering Group has been to mainly select those areas as restricted fishing areas that have the least economic value for the fishing sector.

E4 Providing fair economic compensation for those users who carry costs as a result of restrictions on their activities that cannot reasonably be offset through compatible alternative livelihoods

Compensation of fishermen has not been addressed in the Dogger Bank process, but involved stakeholders have discussed scenarios that could result from closing specific areas of the Dogger Bank. One scenario is that closing specific areas will lead to displacement of the fisheries to other areas on the Dogger Bank but outside of the Dogger Bank Natura 2000 areas. Another scenario is that fishing with fishing gears that are allowed in the closed areas will increase.

E5 Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives

Funding of the spatial planning process has been a key issue. The overarching FIMPAS project and the resulting DBSG process were both well-funded. The NSRAC spatial planning processes on the other hand were not, or only very sparsely, funded. The first NSRAC Dogger Bank process was only possible because funding and support was available from the DGMARE funded MASPNOSE project. The third process received funding from the fishing industry and the DBSG Member States. The budget was only very

small, but it took a considerable amount of time to even agree on this amount of money. MASPNOSE funded the final NSRAC process.

The objective of the overarching FIMPAS process was agreeing on a cross border management plan including monitoring, enforcement and evaluation. Funding of these key issues has not yet been addressed but in evaluating options the member states have considered monitoring and enforcement costs.

E6 Seeking NGO and corporate funding through endowments to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot 'capture' governance through an inappropriate degree and type of influence

In their two position papers the NSRAC have expressed their willingness to take responsibility and be involved in all aspects of the management process on the Dogger Bank, including monitoring and evaluation. In the first NSRAC process these issues were discussed and debated between the NSRAC FG Members and invited workshop participants. Also new techniques for monitoring of fishing vessels were suggested by the industry. In the later stages of the spatial planning process these elements were left untouched and the sole focus was on agreeing on a zoning proposal that would meet the terms of reference set by the DBSG.

E.5 Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority objective, including surveillance and enforcement activities and the use of other economic incentives

Until an agreed on cross border management proposal is on the table we will not have insight in the issue of funding by Member States. Regarding the issue of monitoring and evaluation the DBSG have suggested that this requires further study and that ICES could possibly carry this out in the future.

5.2 Interpretative incentives

I1 Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority operational objective

The emphasis of the first NSRAC process was on gathering and discussing available data and expertise on the Dogger Bank. Key issues were: borders of the three Natura 2000 areas, data on the characteristics of the Dogger Bank, e.g. bathymetry, ecological data, fisheries data, and the wind farm development area. A two day workshop (August 2011) was organized to discuss relevant and available data with NSRAC members and invited guests. Two digital mapping tables (Matable) were used to support this process and enable participants to comment on data and add new spatial information. The key ecological data were compiled by an independent scientist on behalf of WWF, and this report included a map showing the spatial distribution of the five benthic communities of the Dogger Bank. This map became the main driver for the spatial planning exercise. Early on it became apparent that the available ecological data was very limited. The fisheries data was supplied by ICES, covering the period 2007-2009. During the Matable sessions fishermen added knowledge and insights from their own experience and available track data. They made use of data that they felt was most relevant, i.e. recent fisheries data and data from before 2007.

On several occasions areas outside of the Dogger Bank conservation zones were discussed. Recent publications indicate that some of these areas that are not inside the conservation zones potentially have high ecological value. Due to the legal constraints of Natura 2000 and the already delineated conservation sites the participants accepted that areas outside of the conservation zones could not be taken into account; it was noted, however, that closing specific areas to bottom impacting fisheries

could lead to displacement of these fisheries to other -potentially ecologically valuable- areas outside of the Dogger Bank.

I2 Promoting recognition of the potential resource development benefits resulting from the achievement of the priority operational objective, whilst being realistic about such potential benefits and not 'over-selling' them, e.g. displaying development zones to potential developers and investors, potential internal and spill-over/export benefits of MPAs

The Forewind wind farm development on part of the UK conservation zone was discussed at length during the second two day workshop (August 2011). Representatives from the Forewind consortium explained and elaborated how far they were in their planning process. Exact locations were not known at the time but nevertheless expected negative effects of the wind farm development were expressed by representatives of the fishing industry and fishermen. At that time the only available map was a map showing the whole Forewind concession area on the Dogger Bank and the proposed development tranches linked to this area. The benefits of offshore renewable energy to society are clear, but how a wind farm can coexist with other uses of the area is not at all clear.

I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions

Because the agreed on conservation objectives for the Dogger Bank are rather abstract and linked to the five benthic communities it was difficult to make the benefits of closed zones for bottom impacting fisheries explicit. Several discussions took place focusing on the desired ecosystem structure and the question whether restoration is feasible. Lack of hard evidence on both sides meant that these discussions were not resolved.

5.3 Knowledge incentives

K1 Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, e.g. establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge

Lack of data and knowledge has been an important issue from the start of the spatial planning process on the Dogger Bank. The Dogger Bank spatial management initiative/ process formed part of the FIMPAS process. The first FIMPAS workshop, 22-24 February 2010 in Scheveningen, the Netherlands, dealt with available and required data. IMARES prepared the report "Data availability for the assessment within the framework of the FIMPAS project" (van Hal et al., 2010). This report focuses on the Dutch part of the Dogger Bank, and several presented data sets, e.g. fisheries data, are limited to this area. Participants of this workshop noted that crucial fisheries data and information on ecological effects of the gillnet fishery was missing.

K2 Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

ICES played a key role in the spatial planning process. They were appointed the lead in the FIMPAS process and they supported, provided scientific advice and carried out the practical planning work for the DBSG. The fisheries management proposal prepared by the DBSG was then submitted to ICES-ACOM for scientific review. This double role of ICES made it difficult for some involved stakeholders to see ICES as an independent source of information. As a result the role of ICES as independent arbiter was not accepted by all stakeholders involved.

K3 Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, *etc.*, *e.g.* conducting studies in collaboration with users on the patterns of biodiversity and resource use in the existing initiative, including trends

The two 2-day workshops (June 2011 & August 2011) in the first NSRAC process played a key role in starting a dialogue between the involved stakeholders. In the August workshop invited scientists provided scientific input on demand. In writing up the first NSRAC position paper the NSRAC focus group members jointly wrote the text. This process involved discussing available data and knowledge and agreeing on accepted as well as disputed data and knowledge. Unfortunately this process of working together was less visible in the third and the fourth NSRAC process, thus leading to more debates on accepted data and knowledge.

K4 Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc.* to support the achievement of the priority objective while reducing conflicts

The mappable sessions played a crucial role in understanding the relationship between the available data, including ecological data, for the Dogger Bank and available fisheries data. During these sessions the experience and track data of participating fishermen provided invaluable extra insight. In the later stages of the Dogger Bank process almost all spatial exercises were about designating closed areas for heavy impacting fisheries. This meant that the fishing industry was not as open as before regarding sharing and discussing fisheries data.

K5 Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority objective

ICES was the only institute that had the means and the time to prepare supporting scientific papers for the decision making process. Regarding the available limited ecological data, the author of this report, in his role as facilitator of the NSRAC focus group, informally proposed to the chair of the DBSG to organize a separate workshop with ecological experts from the four involved member states to gain a better understanding of the available ecological data. This suggestion was declined and in the end only the report commissioned by WWF and papers written by ICES were available.

5.4 Legal incentives

L1 Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc.* in order to ensure the achievement of the priority objective, such as achieving environmental criteria and providing access rights for particular uses

The Natura 2000 areas of the Dogger Bank need to be protected under the Habitats Directive. It is the responsibility of the individual member states to reach the defined conservation objectives. Because bottom impacting fisheries are considered to have a significant impact on the benthic ecosystem these fisheries should be regulated in the Natura 2000 areas. However, regulation of fisheries outside of the 12-mile zone does not fall under the competency of individual member states but is the responsibility of the EC under the Common Fisheries Policy. Therefore fisheries measures can only apply to all fishermen (including foreign) if the EC sanctions these measures.

L2 International-regional-national-local legal obligations that require the fulfilment of the priority objective, including the potential for top-down interventions

Achievement of national Natura 2000 objectives on the Dogger Bank conflicts to a certain extent with agreed on cross-border conservation objectives of the three member states. For Germany these

objectives are not strict enough, whereas for the UK they are too restrictive. Other activities in the Natura 2000 areas, e.g. wind farm development and oil and gas extraction, are governed by national legislation.

On the UK part of the Dogger Bank the FOREWIND consortium must meet UK legal obligations to construct and operate their wind farm.

L5 Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *e.g.* at national, EU or international level

The current enforcement system for the fisheries on the Dogger Bank will have to be updated to deal with a fisheries management plan that excludes certain types of fishing from specific closed areas. Detailed information on the location of fishing vessels in time and the used fishing gears will have to be monitored closely.

L6 Clarity and consistency in defining the legal objectives of the existing initiative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority objective and existing plans/regulations for the management of individual sectoral activities

As the Dogger Bank is the first large scale cross-border marine spatial planning process in the EU it is uncharted territory for all involved. How a fisheries management plan approved by the EC will work and what the effect will be on the individual national and joint Habitats Directive conservation objectives is not fully clear. As this experimental process moves forward it is important that the lessons learnt are documented, including a clear description of the role and responsibilities of all involved in the process. This includes a clear description of the relationship between member states and the EU but also the role of stakeholders and regional advisory bodies in this process. Only by documenting and reflecting on this process will it be possible to learn lessons that can be applied to future situations.

L9 Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority objective.

At the national level each of the four involved countries has its own coordination between agencies. For the Netherlands, for example, North Sea coordination between sectoral ministries is assured through IDON. IDON (In Dutch: 'Interdepartementaal Directeuren Overleg Noordzee') is an abbreviation that can be translated as interdepartmental directors consultation North Sea. IDON has 10 members of which 4 are directly linked to the Ministry for Infrastructure and the Environment (I&M). The chair and the secretary are representatives of the Directorate General Water; other I&M related members represent the agency RWS North Sea, the Netherlands Coastguard, and the directorate general Accessibility. The Ministry of Economic Affairs provides three members: DG Energy, Telecom and competition, DG Agro and DG Nature and Region. The last three members represent the Ministry of Finance, the Ministry of Defence, and the Ministry of Foreign Affairs.

L10 Legal or policy basis for promoting cross-jurisdictional coordination between member states.

From a stakeholder perspective one would imagine that the collaborating Member States could really learn from each other and from tackling this cross-border issue. But from the discussions in the NSRAC FG+ it was not always apparent that this was the case. The NSRAC FG members mainly witnessed different viewpoints from the collaborating Member States.

L11 Establishing legal provisions to ensure the transparency in policy processes, *e.g.* statutory requirements for public access to information, appeals, public hearings, *etc.*

As described in the MASPNOSE reports the FIMPAS process often lacked transparency. Especially in the beginning it was not clear how the policy process would run. For the involved FG members, however, there were only few internal transparency issues. Early on they agreed that all information would be shared and the process and product would be shared by all. In the third and fourth NSRAC process the matter of transparency and of working together deteriorated.

5.5 Participative incentives

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *e.g.* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc.*, including training to support such approaches

The second workshop of the first NSRAC process was organized in such a way that all of the available data were shared and discussed with all participants. Participation by all during the workshops was a key issue. In the third and especially in the fourth process new maps and information was brought to the meeting that had only been generated by one group *i.e.* the fishing industry. This seriously damaged the initially shared feeling of working on a joint zoning proposal.

P2 Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority operational objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect.

As described earlier the NSRAC took full control of the first process. They could do so because no terms of reference were put forward by the DBSG. This led to the situation that the NSRAC FG went for gold, *i.e.* requesting co-management and full participation in the management of the Dogger Bank: now and in the future. Unfortunately this was not what the Member States had in mind and the expectations of the FG members needed to be toned down considerably. In a sense they only responded to a void that was left open by the DBSG. In the third and the fourth process it became very clear that the DBSG was mainly interested in a zoning proposal that had the support of the NSRAC and not in the actual effectiveness of a zoning proposal in achieving the conservation objectives.

P3 Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

In general it was clear to all who was allowed to participate in which meeting. On occasion the fishing industry brought expert help to meetings but this was never questioned by the other party (*i.e.* the NGOs). All in all the focus group was very open for outside participation. A distinction was made for Member States: they were not invited to the workshops in the first NSRAC process as the feeling was that their presence would be counterproductive at this stage.

P4 Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc.*, recognising that this can lead to an 'upward spiral' (Ostrom 1999¹⁵) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc.* can lead to a 'downward spiral'

The first NSRAC process was all about trust and starting a dialogue between involved stakeholders based on content. One can only speculate what the outcome would have been if the NSRAC had had the time to build on their initial position paper and the proposed zoning approach. Their proposed three zone

proposal (a no take zone, a buffer zone and an open zone) was aimed towards stimulating fisheries innovation. This concept and the concept of co-management were completely lost when the DBSG took over and presented their approach with only two zones.

P5 Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users.

Initially, in their first process, the members of the NSRAC spent time discussing strategy together and weighing options: What would happen if scenarios. As this close collaboration weakened the discussions were less frequent. During the scoping meeting of the fourth process it was all about strategy but from a negative perspective: if we do not reach an agreement we will have nothing to show for our efforts. This dilemma was resolved as mentioned before by adding two appendixes to the final position paper with zoning proposals/ideas.

P6 Providing for participative enforcement amongst users, e.g. peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of restrictions.

For both stakeholder groups it was often clear that their presence in meetings meant that they needed to be on the same page as their constituents. This required meetings in between and in preparation of the workshops. These meetings were important in ensuring that the FG members were speaking on behalf of large groups of stakeholders.

P7 Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfilment of the priority operational objective.

This was not a real issue in the Dogger Bank case. Most Dogger Bank fishermen and representatives at the table were not there on behalf of small scale traditional fishermen. Due to the location far from the mainland they are also not expected to be present here in any significant numbers.

P8 Promoting recognition & realisation of the potential for a the participative governance of the existing initiative to influence the higher-wider statutory framework, processes and obligations, i.e. that local users can have an influence on higher level institutions as well as being influenced by them – coevolution.

The NSRAC felt -and in general still feels- that they can have a very positive influence on fisheries management of the Dogger Bank to achieve the conservation goals. The Dogger Bank is just one example and the stakeholders believe that they can have a positive influence on other marine protected areas with concepts such as co-management and adaptive management.

P9 Bringing in 'neutral' facilitators to support governance processes and negotiations or training state employees to do so.

The MASPNOSE facilitation of the NSRAC process enabled easier communication and collaboration between NSRAC FG members. The emphasis of the facilitation was always on helping the NSRAC achieve their goal: a jointly agreed on management plan, including a zoning proposal, for the Dogger Bank Natura 2000 areas.

P10 Employing 'neutral' and widely respected panels to arbitrate on issues, conflicts, options, etc. and recommend decisions.

At the start of the FIMPAS project ICES was contracted to provide scientific and secretarial support. The proposed process also included asking scientific advice from ICES ACOM on proposed zoning proposals. For several involved stakeholders this meant that ICES was disqualified as a neutral and widely respected panel for providing scientific advice on a zoning proposal.

5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.

Engaging local stakeholders

A crucial limitation in the FIMPAS process regarding the Dogger Bank was that the NSRAC was not part of the Dogger Bank Steering groups and that the initial invitation to participate was not clearly stated.

Transparency in stakeholder involvement

The NSRAC proved with their first process that transparency is possible even in a very complex cross border setting. If the DBSG process had had the same transparency from the start it would have greatly enhanced the level of trust between the stakeholders and the Member States. And it possibly would have enabled a more effective joint process from the beginning.

Disconnections between key sectoral policies

The main disconnect in this case study is between the Common Fisheries Policy and the Habitats Directive. These policies and the involved authorities often appear to have difficulty in tailing the two together, which is required for effective fisheries management under the Common Fisheries Policy to achieve the conservation goals of the Habitats Directive for the cross border Natura 2000 areas.

6 Cross-cutting themes

6.1 Combining top-down role of state and bottom-up participative approaches

6.1.1 Balance of the influence of stakeholders and the influence of national-local government in the existing initiative

From the start the marine spatial planning process on the Dogger Bank lacked clear guidance on the role and influence of involved stakeholders in the process. With no terms of reference in place the NSRAC focus group went for maximum influence: in their position paper they proposed the contours of a fisheries management plan, including indicative zoning proposals, for the cross-border Natura 2000 areas of the Dogger Bank. They also described their desire for adaptive management and co-management. The NSRAC was initially even not included in the DBSG.

At the Dublin stakeholder workshop it became obvious that the DBSG had a different view about the influence of the NSRAC: they only wanted the NSRAC members to select one of three scenarios.

After the Dublin meeting the influence of the NSRAC became a bit clearer although it was never stated clearly: if the NSRAC could agree on a zoning proposal that met the terms of reference this proposal would stand a good chance of being the DBSG preferred option.

The role of the EC in the process was passive although on several occasions they did express their support of the cross-border spatial planning initiative.

6.1.2 Degree of decentralisation (*i.e.* level of autonomy of sub-national/local governments) and the relative influence of national/federal and sub-national/local governments on the existing initiative

In the DBSG it was not always clear if there was a level of decentralisation. For the Netherlands, the UK and Denmark this did not appear to be the case, but for Germany this was not always clear. Although Germany now has a Nature Conservation Act which applies to the whole of Germany, there appeared to be a certain level of disagreement between German stakeholders of different competent authorities or levels.

6.1.4 Level of consensus, compromise and imposition in the existing initiative

During the first NSRAC process the level of consensus was relatively high and stakeholders were willing to listen to each other's arguments and respond accordingly. This laid a solid basis for the first NSRAC position paper. In the later NSRAC processes when it was almost only about negotiating areas/zones, the willingness to seek consensus was low and reaching compromises difficult.

6.1.5 Views of stakeholders from different sectors on the priority operational objective, *e.g.* validity, priority

The views of the stakeholders on the validity of the available data was quickly shared. The general feeling was that only limited fragmented data was available on the ecology of the Dogger Bank. The fishing sector was more negative about the validity of this ecological data than the NGOs. The available fishing data posed a different problem. The validity of the fishing/ fisheries data was not challenged but especially the fishing sector felt that the data did not correctly represent fishing activities in time. Regarding the priority of conservation of the benthic communities the NGOs and the fishing sector had strong opposing views. The NGOs felt that it had a very high priority and the fishing sector felt that this was not the case.

6.1.7 Transparency in decision-making processes

The FIMPAS and DBSG decision making processes were not always clear and transparent. After the NSRAC received observer status in the DBSG this improved but till date the DBSG decision making processes and the link to national decision-making processes are still not very clear.

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, *e.g.* employing fora, bilateral consultations *etc.* in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new (*e.g.* renewables) and existing sectors (*e.g.* conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

In the first NSRAC process the Forewind consortium played a minor role. They were not directly involved in discussions on management of the UK Natura 2000 area. Later in the process it was clear that bilateral interactions did take place between the fishing industry and the renewable energy sector (=Forewind).

6.2.2 Competition for space between sectors (*e.g.* renewables and conservation) and within sectors (*e.g.* between different renewable companies) as a source of influence on and drive for the existing initiative

The main competition for space besides conservation areas closed for fishing is that between fisheries and wind farm development. Early on the fishing sector proposed to add the Forewind wind farm areas to the zoning proposals. This was discarded by the DBSG as the Forewind areas were still in the planning stages. In the latest discussions on zoning of the Dogger Bank the wind farm areas have been discussed but it is unclear what role they will play in the final proposal.

6.2.4 Potential winners and losers in the existing initiative, power struggles and displacement issues

In the view of the author the current process only has losers. A proactive stakeholder supported fisheries management plan would have helped all involved to better understand how to deal with nature conservation in the marine environment. In a data poor environment like the Dogger Bank it is important to select an acceptable starting point and use monitoring and evaluation to learn and improve the management system in time.

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

The involved NGOs played an important role in putting conservation of the Dogger Bank higher on the agenda. Especially the WWF commissioned report by Van Moorsel (2011) helped to understand what we know and especially don't know about the ecology of the Dogger Bank.

6.3 Cross-border issues between countries

6.3.2 Effectiveness of trans boundary cooperation and collaboration in the existing initiative, *e.g.* in designing, designating and managing adjoining MPAs for bio geographical features that cross national borders

The Dogger Bank cross-border marine spatial planning process is a first attempt to design and manage designated adjoining marine protected areas. The design process has been carried out by ICES under their FIMPAS agreement with the Dutch Ministry of Economic Affairs. A crucial factor in the design process has been getting stakeholder support through the NSRAC for the proposed design.

6.3.3 Sharing of data and information between different member states in the existing initiative

The fisheries data that were used for this process came from the ICES data call for the period 2007-2009. Other available detailed data from the member states on their part of the Dogger Bank was in most cases not included in the process. The rationale for this was that the used data should be available for all three Natura2000 areas. So by agreement only data sets covering the whole cross border feature were taken into account.

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

The DBSG has suggested that ICES study and propose a cross-border monitoring system

6.4 Justice issues

6.4.3 Social justice issues – rights of users to access areas/resources for their livelihoods and ‘way of life’

The DBSG proposed fisheries management plan only excludes certain types of bottom impacting fisheries from specific areas. The other areas of the Dogger Bank are open for all fishing gears. The total fishing effort on the Dogger Bank has not been set; therefore no Dogger Bank fishermen are constrained in their fishing effort apart from set quotas. So far the only limitation lies in the fact that some specified areas might be closed for them. The DBSG has aimed for closing predominately those areas with the lowest total catch value, thus trying to limit the socio-economic impact on the effected fisheries.

6.5 Influence of different knowledge and of uncertainty in decision-making. E.g. different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in decision-making processes

In the first NSRAC planning process the emphasis was on gathering the best available data, e.g. ecological and fisheries data, required for carrying out the planning exercise. In the later stages of the DBSG planning process it became clear that the emphasis was on areas of least total catch value. Fisheries experts representing the industry have since then been trying to exclude those areas from the DBSG that they feel are of high value for the fishing sector. Because the DBSG approach is limited to using fisheries data for the period 2007-2009 this leads to different views on the selected areas. A good example is the Danish Sand eel fisheries that has not always favoured the same areas: the fisheries has a dynamic nature and this is not fully represented in the 2007-2009 data sets.

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, e.g. uncertainties regarding the effects of key activities (e.g. wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

For the longest part of the DBSG process the FOREWIND wind farm development on the Dogger Bank was excluded from the process. The rationale was that the wind farm development was still in the planning stages and that actual construction and operation of the wind farm would be dealt with in the mandatory 6 year evaluation of the Natura2000 sites. It was only in the final stages of the planning process that the wind farm sites were included in an alternative proposal that was put forward by the fishing industry. Uncertainty about the available data and the effect of proposed measures, i.e. closure of areas for specific gears, has not been a key issue in the current planning process.

6.5.4 Transparency on issues arising from uncertainty; i.e. how such issues are communicated, debated and accommodated, e.g. by scientific advisory bodies.

The DBSG zoning proposal for the Dogger Bank was presented to ICES ACOM for scientific advice, and in November of 2012 ICES ACOM published their advice in response to the DBSG proposal.(ACOM, 2012).

Conclusions

The on-going marine spatial planning exercise on the Dogger Bank has revealed several critical issues for cross-border marine spatial planning in the North Sea. At the highest level, FIMPAS and specifically the inter-governmental Dogger Bank Steering Group, clear terms of reference and a formal collaboration platform had been missing at the start of the process.

The first NSRAC process clearly illustrated that defining clear and accepted terms of reference at the start of the process, with agreed on activities, roles and budget, helped to ensure that the process could be successful. Although the NSRAC did not reach its final goal of agreeing on ONE joint zoning proposal, the members were surprised by the amount of progress they had achieved together. The NSRAC process was the start of a cross-sectoral collaboration with emphasis on dialogue on content! This led to improved fisheries-NGO relationships including joint learning about different perceptions on fisheries and nature conservation.

Although an important scientific platform was present with ICES supporting the DBSG process, the focus was not always on science but on practical rules of thumb, e.g. select areas with the least fishing value for the period 2007-2009.

Although the objective was clear: to achieve the conservation objectives with fisheries management, the process that would lead there was not clear at all.

The terms of reference set by the Member States, e.g. 25 to 55% of the SAC areas of the Dogger Bank were set so wide that they did not help the stakeholders in their search for a joint zoning proposal.

The MASPNOSE facilitation and funding was critical, without this support the NSRAC process would not have taken place.

In both the NSRAC process and the DBSG process there were meetings where it was clear that participants did not have a mandate.

Although the UK, the NL, and GER have designated their part of the Dogger Bank as Natura 2000 sites they do not have equal conservation goals and ideas about fisheries measures. Economic incentives that are related to the national fishing fleets appear to be an important driver for Denmark and to a lesser extent the Netherlands.

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IMAGES

Figure 1. The Dogger Bank in relation to the English, Dutch, German and Danish Exclusive Economic Zones (EEZs) (Source: MESMA, 2011). MESMA (2011). MESMA D3.6: Zoning plan of case studies: Evaluation of spatial management options for the case studies.

Figure 2. Delineation of the German Dogger Bank SAC (Source: BfN, 2011). BfN (2011). BfN website (April 2013) <http://www.bfn.de/habitatmare/en/karte-schutzgebiet-nordsee-uebersicht.php>.

Figure 3. Delineation of the Dutch Dogger Bank SAC (Source: National Water Plan, 2009). National Water Plan (2009). Ministerie van Verkeer en Waterstaat, Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer en het Ministerie van Landbouw, Natuurbeheer en Voedselkwaliteit.

Figure 4. Delineation of UK Dogger Bank SCI, in relation to the Dutch and the German SCIs (Source: JNCC, 2011). JNCC (2011). Offshore Special Area of Conservation: Dogger Bank SAC Selection Assessment Document. Version 9.0 (26th August 2011).

Figure 5. The Dogger Bank Steering Group process (source: ICES, 2011). ICES (2011). Report of the FIMPAS Workshop 3 Management proposals for Dogger Bank, Cleaver Bank and Frisian Front, 24 - 26 January 2011, Den Helder, The Netherlands. ICES Advisory Committee. 45 pp.

Figure 6. MASPNOSE map-table session at Schiphol airport, 30 August 2011 (source: MASPNOSE, 2012). MASPNOSE (2012). MASPNOSE final report. Deliverable D1.3.3 Submitted June 2012.

A7.4 Case study report: The southern North Sea case study, Wadden Sea sub-case study

Basic details of the case study:

Initiative	Environmental governance of the Wadden Sea (focusing on the Trilateral Wadden Sea Co-operation)
Description	To provide a framework for the integrated management of the Wadden Sea Area as an ecological entity, as well as its landscape and cultural heritage, within the cultural entities. The main focus of this analysis is on the Trilateral Wadden Sea Cooperation (between Denmark, Germany and the Netherlands), though the analysis also covered relevant aspects of the <i>Natura 2000</i> process within the area.
Objectives	Nature conservation / MPAs: To restore and maintain the natural features represented in the SACs and SPAs in the Wadden Sea
Scale	International, coastal
Period covered	1978-2013
Researchers	Adriaan Slob, Tara Geerdink (TNO Netherlands); Christine Röckmann (IMARES Netherlands); Sandra Vöge (Senckenberg Germany)
Researchers' background	Governance of complex systems, Natural Science
Researchers' role in initiative	Independent observers

The next 68 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Slob, A.; Geerdink, T.; Vöge, S.; Jonkhoff, W.; Röckmann, C. (2013) *Governance of the Wadden Sea*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 68pp.*

A paper on this case study analysis is in preparation for a special issue of Marine Policy.



Monitoring and Evaluation of Spatially Managed Areas

Governance of the Wadden Sea

A case study report for Work Package 6 of the MESMA project

18-10-2013

Authors: Adriaan Slob, Tara Geerdink, Sandra Voegelé, Wouter Jonkhoff, Christine Röckmann

Contents

1 Context.....	2
1.1 The existing initiative	2
1.2 The socio-economic and political context	5
1.3 The regional policy framework	9
1.3.1 The development of the protection of the Wadden Sea.....	9
1.3.2 The Trilateral Wadden Sea Cooperation.....	10
1.3.3 The Wadden Sea Forum.....	18
1.3.4 The Unesco World Heritage Site Wadden Sea.....	22
2. Objectives and management measures.....	23
2.1 Priority objective.....	23
2.2 Key management measures.....	23
2.2.1 The Seal Management Plan	23
2.2.2 Fisheries management.....	25
3 Conflicts.....	28
3.1 A major conflicting issue: fisheries	30
4 Governance approach and effectiveness.....	33
4.1 Governance approach.....	33
4.2 Effectiveness	33
5. Incentives	35
5.1 Key incentives	35
5.2 Discussion on improving governance	36
6 Cross cutting themes.....	37
6 Conclusions	39
References	42

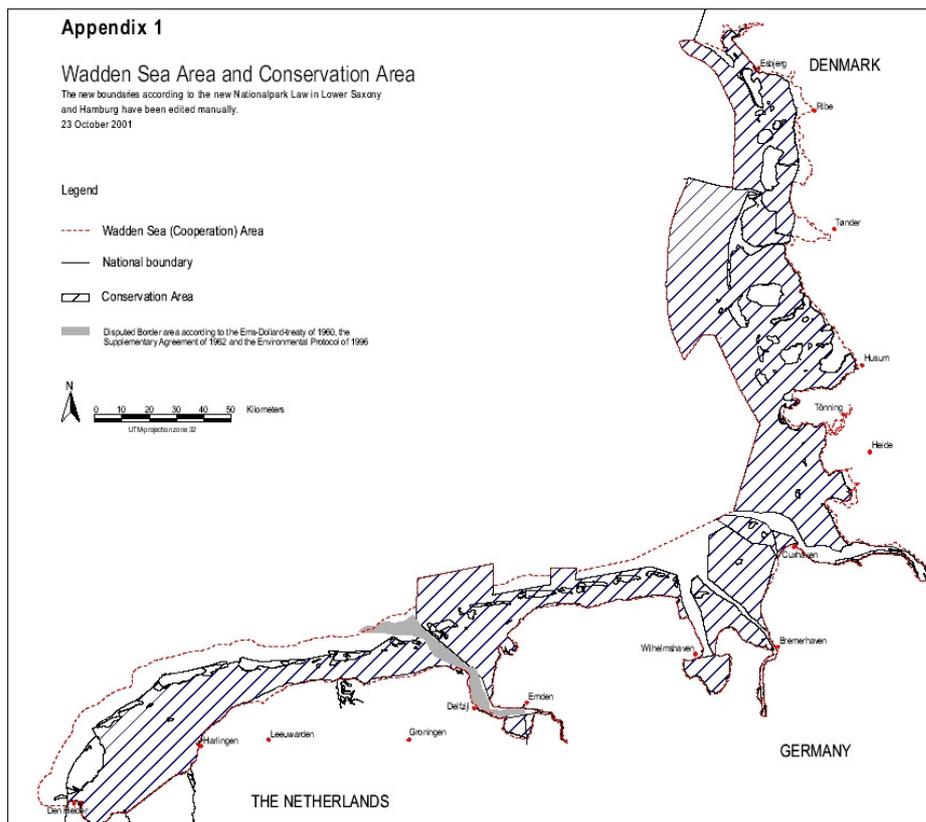
1 Context

1.1 The existing initiative

In the frame of the FP7 project MESMA, Monitoring and Evaluation of Spatially Managed Areas, Work Package 6 is focused on governance issues. “Governance” is in this context defined as ‘steering human behaviour through combinations of people, state and market incentives in order to achieve strategic objectives’ (Jones et al. 2011). Governance, including in the context of implementing the ecosystem approach through marine spatial planning (MSP), involves a combination of different institutions - state, market and people-focused. Governance evaluations often involve conducting institutional analyses aiming to assess how different institutions interact to achieve certain policy outcomes, e.g. good environmental status (GES) as set out in the Marine Strategy Framework Directive (MSFD).

Location

The Wadden Sea is an intertidal zone in the southeastern part of the North Sea (Reise et al., 2010). It lies roughly in the northern part of the Netherlands (From Den Helder....), North-West part of Germany and the South-West part of Denmark (....to the Varda Estuary and Skallingen) (Reise et al., 2010).



The Wadden Sea Area which falls within the mandate of the Trilateral Wadden Sea Cooperation (Common Wadden Sea Secretariat, 2013c).

It is widely regarded as a unique area from ecological, geological and socio-cultural points of view (Wolff et al., 2010). “The Wadden Sea is one of the largest wetlands in the world. It consists of islands, channels, gullies and flats, which are continually changing shape and sometimes even location. The Wadden Sea is unique. It is the only tidal and coastal island system in the world with a temperate climate that is so large and contains such an enormous variety of plants and animals.”(Unesco World Heritage, 2012).



The Wadden Sea a tidal mudflat system (Unesco World Heritage, 2012).

Development of the existing initiative

The Wadden Sea lies within the borders of three EU-countries, the Netherlands, Germany and Denmark, that have built up a Trilateral Cooperation on the protection of the Wadden Sea: the Trilateral Wadden Sea Cooperation (TWSC) (Wolff et al., 2010). “Already in the beginning of the 1970s environmental scientists stated that the ecosystem of the Wadden Sea cannot be divided according to national borders. The Wadden Sea is, from an ecological point of view, one system. The politicians from the three Wadden Sea countries were called upon to work together in the protection and conservation of the area. The first trilateral governmental conference on the protection of the Wadden Sea was held in 1978 in The Hague, The Netherlands.” (CWSS, 2013a). In this first trilateral governmental conference the decision was taken to strengthen the trilateral cooperation .” (CWSS, 2013a).

Since then the protection of the Wadden Sea has developed and different governance mechanisms with different governance areas and goals have been implemented (Marencic, 2009). The successive Wadden Sea Conferences that are held roughly every 4 years, act as important events where decisions are taken that push the development further. In the timeline the main developments are sketched (see Figure 1). These developments will be explained and discussed further in the report. From a perspective of international cooperation on the governance of a sea, the Wadden Sea case contains more than 30 years of experience and development, which is in the frame of MESMA relevant to analyze: how did it develop over time?, how is the common management taking shape and what are dilemma’s and hurdles that have been overcome or are still to overcome?, how is scientific information dealt with?, what are the mechanisms to involve stakeholders?, what are conflict regulating mechanisms that are in place?, etc. These are important questions for the MESMA project. In this report we will highlight these questions.

We focus on three issues. The first one is the governance of the Wadden Sea in general. The second one is the Seal Management Plan, as an example of a joint (trilateral) management effort.

The third one is the fishery in the Wadden Sea, as a potential conflicting topic, where opinions are diverging. From the last two examples we want to learn what mechanisms are in place to deal with management and conflicting issues.



Figure 1: The timeline of development of the governance of the Wadden Sea.

Competent authorities

The *Trilateral Wadden Sea Governmental Council* is the politically responsible body (i.e. ministers) for the Cooperation (TWSC, 2010). It gives political leadership, assures international policy development, harmonisation and decision-making between the three governments (TWSC, 2010).

The following national ministries are involved:

- Netherlands: The ministry of Economic affairs is responsible for the fishery and nature policy in the Wadden Sea and responsible for the national N2000- management plan. The ministry of Infrastructure and environment is responsible for the management of the Wadden Sea waterbody (CWSS, 2013b).
- Germany (LS, SH): The Federal Minister for the Environment, Nature Conservation and Nuclear Safety, Germany (CWSS, 2013b).
- Denmark: Danish Ministry of the Environment, Denmark (CWSS, 2013b).

Main sectors and stakeholder groups

The main sectors that play a role in the Wadden Sea are (Wolff et al., 2010):

- Policy: national/state/local/regional government/Wadden Sea Municipalities

- Tourism and recreation
- Nature and environment protection
- Fishery
- Energy
- Agriculture
- Research
- Culture and regional (sustainable) development

The main activities and impact of the Wadden Sea Area relate to (Wolff et al., 2010):

1. Agricultural use
2. Civil air traffic
3. Coastal protection
4. Dredging and dumping
5. Energy resources: Gas and oil, pipelines, wind energy
6. Extraction of sand and clay
7. Fisheries
8. Shellfish farming
9. Harbour and industry
10. Hunting
11. Infrastructure
12. Military activities
13. Nature and landscape management
14. Pollution
15. Public awareness
16. Recreation and tourism, water sports, other tourist activities
17. Shipping
18. Species/site protection (several Natura 2000 features)

1.2 The socio-economic and political context

The Wadden Sea is part of the territory of Denmark, Germany and the Netherlands. The Eurostat database (Eurostat, 2013) has been used to describe the economic performance of the Wadden region and its three mother countries (Table 1.1). This database contains rather detailed data on NUTS-3 level which enables us to present also some figures for the characteristics of the Wadden Sea Area (corresponding with the area on the map of the WSF; see Fig. 1.4). The methodology to derive these figures is presented in Annex 3. The Wadden Sea Area characteristics are presented in Table 1.2.

The three countries are relatively prosperous (2010) compared to the EU average, featuring high GDP figures, high average income per capita and high labour participation. The countries have very different sizes of population and areas they cover, leading to quite different population densities. The Netherlands has the highest population density and Denmark the lowest of the three countries.

	Denmark	Germany	Netherlands	EU27
GDP (mln. €, current market prices)	223.985	2.374.500	571.145	11.751.419
Income per capita (x1.000 €, current market prices)	40,6	29,0	34,6	23,5
Population (mln.)	5,5	81,8	16,5	499,7
Population density (pop/km ²)	128	229	491	116
Unemployed (x 1.000)	156	2.094	283	21.439,5
Gross labour participation (%)	81,4	77,6	80,2	71,2

Table 1.1: Socio-economic core data of the three countries, 2009 (Eurostat, 2013).

	Wadden Denmark	Wadden Germany	Wadden Netherlands	Wadden total	EU27
Gross Regional Product (mln €, current market prices)	27.618	49.497	53.286	130.401	11.751.419
Income per capita (x € 1.000. current market prices)	38,6	24,9	33,5	30,4	23,5
Population (x 1.000)	715,4	1.986,0	1.590,2	4.291,6	499,7
Population density (pop/km ²)	82	149	147	130	116
Labour participation ¹ (%)	80,7	76,0	80,0	78,3	71,2

Table 1.2: Economic and demographic indicators of the Wadden Sea Area, 2009 (Eurostat, 2013).

The data on regional level indicate the relative rural character of the Wadden Sea area. Population density is significantly lower compared to the country averages. This especially counts for the Netherlands, where population density is on the country level 491 person per km² on country level, and 147 at the regional level. It is more or less comparable to the number for the German part (148,8), while the Danish Wadden area is thinly populated compared to its German and Dutch counterparts. The economic indicators for the area point to a similar level of prosperity at the regional level as on country level. Average income per capita and labour participation are slightly lower for the Wadden Sea area if compared to the country figures. However, these differences are not very dramatic (Table 1.2). Moreover, the economic performance of the Wadden Sea region seems above EU27 level, which appears especially favorable considering that the region is peripherally located.

The database on regional level enables us to look a bit deeper into the regional economy of the Wadden Sea area. In figure 1.2 the economic sectors of the Wadden Sea region are depicted relative to their average performance for the 27 EU-countries. The horizontal dotted line indicates the average economic growth rate of all sectors of the economy in the 27 EU-countries in the period 1996-2009. Everything above this line grows faster than the EU27-average, while everything underneath it has a slower growth than average (or even shrinks). The vertical dotted line indicates the average economic size of the sector for the 27 EU-countries. A position on the right side of the line indicates an industry is larger than EU27-average (indicating specialization), while a position on the left implies a smaller than average size of the industry. The figure thus features four quadrants, bounded by dotted lines. Every sector in the quadrant on the lower right side is larger than average, but shows relatively unfavourable growth. The quadrant on the upper

left side indicates the sectors that are smaller than average, yet becoming more important for the region because they show above average growth.

The surface of the circles indicates the size of the value added generated by the sectors relative to the total value added for the Wadden Sea area. Large circles indicate sectors with a large contribution to value added.

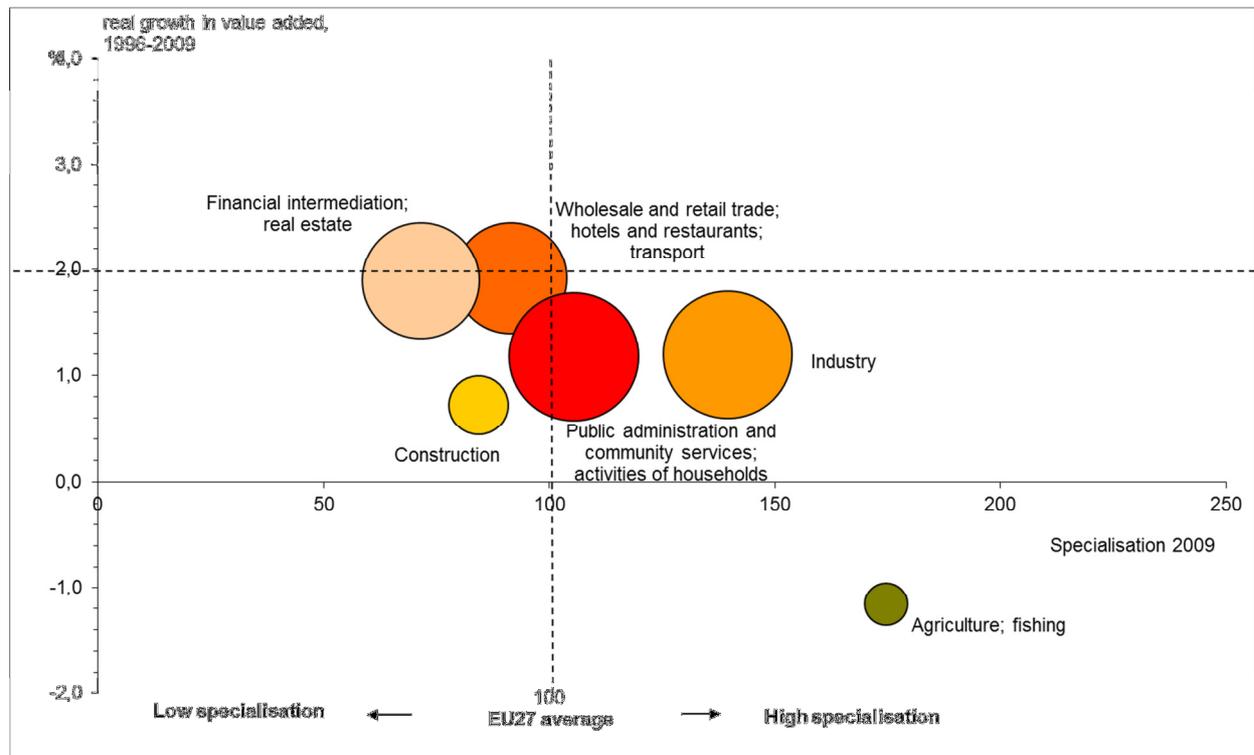


Figure 1.2: Real growth in value added and specialization of economic sectors in the Wadden Sea Region, 1996-2009.

All in all one can see that the region doesn't have many economic sectors which show above average performance. Sectors in which the Wadden region shows a specialization (i.e. which are larger than average in the EU27) show below average growth and hence cannot be expected to be growth engines for the future. The opposite holds equally: sectors which grow above average in the region are usually small. Public administration and industry are amongst the largest sectors for the Wadden Sea region. As they are positioned in the lower left side quadrant, these sectors are losing relative importance. Financial intermediation, real estate, retail and trade, hotels, restaurants and transport are gaining relative importance (over the 1996-2009 period). Construction, agriculture and fishing are becoming less important. Agriculture and fishing has been shrinking over the 1996-2009 period, indicating that this industry is declining. Some of the more important sectors for the region are more or less on or just under the average EU-27 growth rate. This indicates that the economic performance of the region is quite moderate, and relatively favourable considering the peripheral location. The Wadden Sea region is located in three prosperous EU member states and benefits from the generally high price and wage levels, and from national income redistribution mechanisms.

The governance indicators as developed by the World bank point at a high level of (public) organization for the three countries (see Table 1.1).

Denmark

Governance Indicator	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Voice and Accountability	99.1	+1.57
Political Stability/Absence of Violence	85.8	+1.04
Government Effectiveness	99.0	+2.16
Regulatory Quality	100.0	+1.90
Rule of Law	98.6	+1.88
Control of Corruption	100.0	+2.38

Germany

Governance Indicator	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Voice and Accountability	92.4	+1.32
Political Stability/Absence of Violence	75.0	+0.81
Government Effectiveness	91.9	+1.55
Regulatory Quality	93.8	+1.58
Rule of Law	92.4	+1.63
Control of Corruption	93.3	+1.70

Netherlands

Governance Indicator	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Voice and Accountability	96.2	+1.49
Political Stability/Absence of Violence	80.2	+0.93
Government Effectiveness	94.3	+1.73
Regulatory Quality	98.1	+1.79
Rule of Law	97.2	+1.81
Control of Corruption	97.6	+2.15

Table 1.1: Governance indicators for the three countries (Worldbank, 2012).

Summarizing this analysis, the region can be characterized as a quite rural region, not heavily populated, performing economically moderate, with a very good governance capacity.

1.3 The regional policy framework

1.3.1 The development of the protection of the Wadden Sea

The development of the governance of the Wadden Sea can best be described with the main decisions taken in the Wadden Sea Conferences. See the table below (CWSS, 2013c).

1978	1st Wadden Sea Conference, The Hague, NL	Decision to strengthen the cooperation on the protection of the Wadden Sea.
1980	2nd Wadden Sea Conference, Bonn, FRG	Coordination of scientific research.
1982	3rd Wadden Sea Conference, Copenhagen, DK	Adoption of the Joint Declaration on the Protection of the Wadden Sea
1985	4th Wadden Sea Conference, The Hague, NL	Decision to establish a common secretariat.
1988	5th Wadden Sea Conference, Bonn, FRG	Adoption of the Agreement on the Protection of Seals.
1991	6th Wadden Sea Conference, Esbjerg, DK	Adoption of the guiding principle, common management principles and objectives for human use.
1994	7th Wadden Sea Conference, Leeuwarden, NL	Adoption of a common delimitation and common ecological targets.
1997	8th Wadden Sea Conference, Stade, FRG	Adoption of a Trilateral Wadden Sea Plan and a common package of monitoring parameters.
2001	9th Wadden Sea Conference, Esbjerg, DK	New delimitation of the Wadden Sea Area, PSSA Wadden Sea, Seal Management Plan, World Heritage, Wadden Sea Forum
2005	10th Wadden Sea Conference Schiermonnikoog, NL	Decisions on the further development of the Wadden Plan, the nomination of the Wadden Sea as World Heritage, the Wadden Sea Forum report, shipping safety and the International Wadden Sea School (IWSS)
2010	11th Wadden Sea Conference Westerland / Sylt	Revised Wadden Sea Plan 2010, Joint Declaration 2010, new Governance Structure.

The conference of 1982 marks the formal start of the Trilateral Cooperation (CWSS, 2013c). In 1985 the Secretariat was founded and in 1988 the Agreement on the protection of seals was adopted (CWSS, 2013c). Then in 1997 the Trilateral Wadden Sea Plan was adopted and in 2001 followed the decision on the Wadden Sea Forum (CWSS, 2013c). In 2005 the decision was taken to nominate the Wadden Sea as a Unesco World Heritage site (CWSS, 2013c). In 2010 the revised Joint Declaration was adopted and the new governance structure (CWSS, 2013c). In fact there are now three governance mechanisms that are partly complementary and overlapping: the Trilateral Wadden Sea Cooperation, the Wadden Sea Forum and the UNESCO World Heritage site Wadden Sea (CWSS, 2013c). In the next sections we will explore these three mechanisms more in depth.

1.3.2 The Trilateral Wadden Sea Cooperation

The formal basis for cooperation: the Joint Declaration

The basis of the Trilateral Cooperation is the Joint declaration on the Protection of the Wadden Sea that was signed in 1982 and revised in 2010 (Marencic, 2009; TWSC, 2010). The Joint declaration on the protection of the Wadden Sea can be found in Annex 2. It is a formal agreement to cooperate on the protection of the Wadden Sea that is not legally binding. The cooperation is based on voluntary agreements on issues concerning *the protection of the Wadden Sea* and the implementation of these agreements is done on a national level (Marencic, 2009). The Joint Declaration is aimed at this protection (conservation) goal (CWSS, 2010b; CWSS, 2013d). The Joint Declaration respects the sovereignty of each individual country and relies on the implementation of measures by each country and doesn't contain sanctions if measures are not implemented (CWSS, 2010b; CWSS, 2013d). The new Joint Declaration that was signed in 2010 did not change the legal status of the cooperation. It reconfirmed the global biological, scenic and scientific importance of the Wadden Sea and its protection (CWSS, 2010b; CWSS, 2013d). It recognizes the comprehensive nature of the national and international legal regimes affecting the Wadden Sea and highlights some of the more significant challenges ahead (CWSS, 2010b; CWSS, 2013d). The new Joint Declaration identifies the essential need for active support and involvement of public and private sectors, non-governmental organisations and civil society in the future management of the area (CWSS, 2010b; CWSS, 2013d). It contains the objectives of the Trilateral Cooperation, the Guiding Principle, a vision and the precautionary principle (CWSS, 2010b; CWSS, 2013d). The Guiding Principle for the three countries is: "To achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way" (Marencic, 2009, pp 7). The Joint Declaration also contains the new governance arrangements for the Wadden Sea (CWSS, 2010b; CWSS, 2013d).

The area for the cooperation (and the conservation area) is mentioned in the Joint Declaration (See Annex 2).

"The Wadden Sea Cooperation Area in short 'Wadden Sea Area' (CWSS, 2010b):

- the area seaward of the main dike, or where the main dike is absent, the spring-high-tide waterline, and in the rivers, the brackish water limit;

- an offshore zone 3 nautical miles from the baseline as fixed nationally or where the Nature Conservation Area exceeds the 3 nautical mile, the offshore boundaries of the Nature Conservation Area;
- corresponding inland areas to the designated Ramsar and/or EC Bird Directive areas being the adjacent inland marsh areas of
- the Danish Wadden Sea Region designated as international nature protection areas and the Bird Directive Areas of Schleswig-Holstein adjacent to the Nature Conservation Area;
- the islands.

The 'Nature Conservation Area' (CWSS, 2010b):

- In the Netherlands, the areas under the Key Planning Decision Wadden Sea;
- In Germany, the Wadden Sea national parks and the protected areas under the Nature Conservation Acts seaward of the main dike and the brackish water limit;
- In Denmark, the Wildlife and Nature Reserve Wadden Sea.

1.2 The current extent of the Wadden Sea Area and the Nature Conservation Area are shown in Annex 1 to this Declaration and this may be amended from time to time by the responsible authorities.

1.3 The protection and management of the Wadden Sea Area and the Nature Conservation Area require consideration of impacts which may arise outside these areas and these should be addressed as necessary (CWSS, 2010b).

1.4 For the specific purposes of cooperation on landscape and cultural heritage the Wadden Sea Area, and an area beyond, has been identified to include the main cultural entities and is shown in Annex 2 to this Declaration. Activities on landscape and cultural heritage should be carried out by, or in close cooperation with all relevant administrative levels and with support of the people living and working in the region (CWSS, 2010b).

The map of the trilateral cooperation area of the TWSC is shown in the introduction of this report. Interesting is the notion that impacts within the TWSC-area may come from activities outside this area and in that case should be considered (CWSS, 2010b).

The organizational structure

The organizational structure consists of the Trilateral Wadden Sea Governmental Council (TWSGC), the Wadden Sea Board, Task Groups, Wadden Sea Conferences and the Secretary (see Figure 3.1). Decision making in the TWSC is on two levels: the Trilateral Governmental Council and the Wadden Sea Board (TWSC, 2010). The Governmental Council is responsible for the political body, ministers, and establishes and oversees the TWSC by giving political leadership, guaranteeing development of international policy, harmonization and decision making between the three governments (TWSC, 2010). The responsible ministers of the three countries have a seat in the TWSCG.

The Wadden Sea Board is the governing body of the TWSC by preparing, adopting and implementing the Strategy, overseeing the operational and advisory bodies and securing relations with key stakeholders (TWSC, 2010). The Wadden Sea Board contains 13 members: the chairman and 12 representatives from the countries (TWSC, 2010; CWSS, 2013D):

- Denmark
 - o Chief Forester, Ministry of the Environment
 - o Chairman of the Danish Wadden Sea National Park Board
 - o Secretary, Danish Municipal Wadden Sea Secretariat
 - o Chief Consultant, Ministry of Culture
- Germany
 - o Director Nature Conservation, Federal Ministry for the Environment, Nature Protection and Nuclear Safety
 - o Deputy Director General, Ministry of Energy Transition, Agriculture, Environment and Rural Areas, Schleswig-Holstein
 - o Ministry of Environment, Energy and Climate Protection, Niedersachsen
 - o Director, Ministry of Urban Development and the Environment, Hamburg
- The Netherlands
 - o Director, Ministry of Economic Affairs
 - o Ministry of Infrastructure and Environment
 - o Deputy, Province of Fryslân, Wadden Sea Provinces
 - o Alderman, Municipality of Marne, Wadden Sea Municipalities

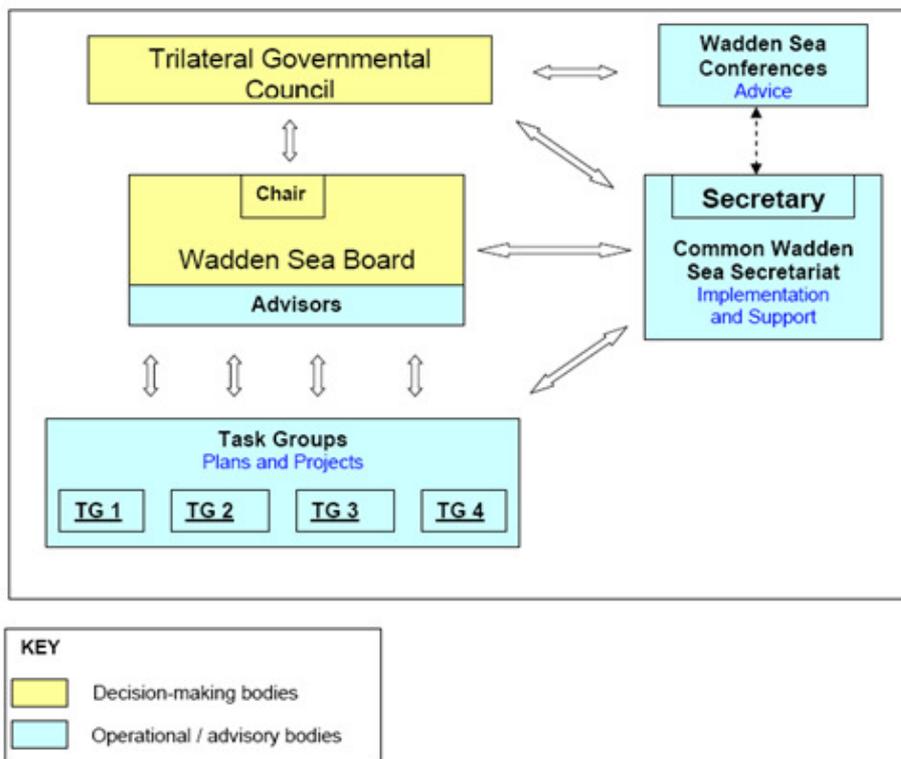


Figure 1.3: Organizational structure of the TWSC (TWSC, 2010).

In 1987, the Common Wadden Sea Secretariat (CWSS) was established at the 4th Wadden Sea Conference. The CWSS is the secretariat for the TWSC located in Wilhelmshaven (TWSC, 2010). The main tasks are to support the Board and the Council, initiate, facilitate and coordinate the activities of the collaboration (Marencic, 2009). The CWSS is also collecting and assessing scientific information (TWSC, 2010).

The TWSGC and the Wadden Sea Board are supported and advised by three operational and advisory bodies: the advisors, the task groups and the Wadden Sea Conferences (TWSC, 2010). The advisors are experts of the relevant issues of the TWSC and participate as “observers” in the meetings of the Wadden Sea Board (TWSC, 2010). Two advisors come from the Wadden Sea Forum. Currently the advisors are the Chairman of the Wadden Sea Forum, a representative of the German WWF – Wadden Sea Office, a representative of the Dutch Wadden Society and the Mayor of Ameland, member of the Wadden Sea Forum (CWSS, 2013D).

The task groups selected by the Board, undertake specific tasks or projects and report to the Board (TWSC, 2010). Usually, these Task Groups will be time limited. Task groups that have been appointed are: Management, Climate, Shipping, World Heritage, and Sustainable Tourism Strategy (TWSC, 2012). Whether or not a Task Group Fisheries will be established is not yet decided (TWSC, 2012; TWSC, 2010).

The objective of the Wadden Sea Conferences is to inform the key stakeholders, ministers and the Cooperation in its work (TWSC, 2010). The conferences are held every three to four years in combination with the meetings of the Trilateral Governmental Council (TWSC, 2010). The Board can decide to hold thematic workshops (TWSC, 2010).

Wadden Sea Plan (WSP)

The Wadden Sea Plan is since 1997, the policy and management plan for the Wadden Sea Area (Marencic, 2009). The WSP consist of the objectives and principles of the TWSC for the protection and sustainable management of the Wadden Sea (Marencic, 2009). The targets in the WSP 2010 are mentioned for Landscape and Culture, Water and Sediment, Salt Marshes, Tidal Area, Beaches and Dunes, Estuaries, Offshore Area, Rural Area, Birds, Marine Mammals and Fish (CWSS, 2010a). It is also the management plan for the Wadden Sea World Heritage Site (CWSS, 2010a).

The key message of the most recent WSP (2010) is: “the Wadden Sea states will continue to manage the Wadden Sea as a single ecological entity for its natural, landscape and cultural heritage values, for the benefit of present and future generations” (CWSS, 2010a, pp 13). The objectives of the TWSC are specifically applicable for an integrated ecosystem approach (CWSS, 2010a). The key essence of an integrated ecosystem approach towards human activities is: conservation and protection of ecosystem systems, sustainable use and cultural diversity (CWSS, 2010a). Integrated ecosystem management should evolve these three elements (CWSS, 2010a).

The term “sustainable use” is important in Wadden Sea management, especially as this relates to marine spatial planning instruments and issues. In the WSP the definition of the Convention on Biological Diversity was used to define “sustainable use” in the following way for the Wadden Area: “protecting and conserving the ecological integrity of the Wadden Sea ecosystem,

supporting lasting economic prosperity and social well-being” (CWSS, 2010a, pp18). Sustainable use is developed and promoted in several approaches and instruments applied in the Wadden Sea Area including Integrated Coastal Zone Management (ICZM), zoning instruments and the Man and Biosphere (MAB) approach (CWSS, 2010a). These are spatial approaches and instruments and thus relevant for Marine Spatial Planning in the area.

The Trilateral Monitoring and Assessment Program (TMAP)

The Trilateral Monitoring and Assessment Program (TMAP) is a coordinated monitoring program of the Wadden Sea by the Denmark, Germany and the Netherlands (Marencic, 2009). The aim of the TMAP, initiated by the TWSC, is to produce scientific information to assess the quality status of the Wadden Sea Ecosystem and to evaluate the status of the implementation of the assigned targets of the Wadden Sea plan (Marencic, 2009). There are currently joint monitoring programs for seals, migratory birds, breeding birds, bird eggs and eutrophication (Wolff et al., 2010). The results of the TMAP are published every 5-6 years in Quality Status Reports (QSR) and thematic reports (TWSC, 2010). The TMAP includes fish monitoring since the QSR 2004, an important step in the analysis of the state of the Wadden Sea fish fauna (Wolff et al., 2010).

From the interviews we understood that the QSR’s are put together with relatively little money and are based sometimes on the voluntary input of scientific information that has been gathered. In this sense it is dependent on the available research projects and reports, and the “goodwill” of the scientists.

Marine Spatial Planning issues

Integrated Coastal Zone Management (ICZM)

The recommendation in 2002 by the European Parliament and the Council on ICZM strategies has the aim to achieve sustainable use in the coastal area and requests the member states to develop national ICZM strategies (CWSS, 2010a). It is based upon 8 principles (CWSS, 2010a) that include long term perspectives and processes, involvement of stakeholders and all layers of government, taking into account natural processes and local and regional conditions (CWSS, 2010a).

Denmark, Germany and the Netherlands agreed to develop national strategies for ICZM in a trilaterally coordinated way, in consultation with the WSF (CWSS, 2010a). A great part of the principles of ICZM have been implemented in the three countries through already existing legal instruments (Schuchardt, 2010; Marencic et al. 2010). Even though several principles of the ICZM are implemented, it might not be explicitly mentioned as such (Schuchardt, 2010; Marencic et al. 2010). Several of the principles of ICZM overlap with the objectives of the WSP, and thus are already carried out within the Trilateral Cooperation (Schuchardt, 2010; Marencic et al. 2010). There are obstacles in the implementation process in the trilateral cooperation area (Schuchardt, 2010; Marencic et al. 2010). These obstacles are caused by unclearness how to implement the ICZM principles, stakeholders are scared for additional restrictions, unclearness of the difference with spatial planning, the added value is difficult to identify or quantify (Schuchardt, 2010;

Marencic et al. 2010). The development and implementation of ICZM can be seen as a voluntary, cooperative approach whereas spatial planning is a tool for achieving ICZM (Schuchardt, 2010; Marencic et al. 2010).

There has been a shift in focus from “the protection of the natural (cultural) resources to “sustainable development” in the trilateral cooperation since the governmental conferences in 2001 and 2005 , which has been indicated as a dilemma for the TWSC (Schuchardt, 2010). On the one hand there is political will to strengthen integrated management, while on the other hand nature protection might be weakened (Schuchardt, 2010).

Spatial zoning

Spatial zoning is an instrument to manage conflicting interests of nature protection and human activities of the Wadden Sea (CWSS, 2010a). It is a way to balance multiple interests in the Wadden Sea by protecting a specified area. Conflicting interests evolve for the sectors agriculture, hunting, fisheries, nature and tourism. This instrument is partially put into practice by law and includes temporal or permanent closure areas (CWSS, 2010a). Denmark, the Netherlands and the three German Federal States have different approaches to zoning in the Wadden Sea, this will be discussed in section 6.

Man and Biosphere (MAB)

Man and Biosphere (MAB) Reserves are protected areas which are nominated by the UNESCO “Man and Biosphere” program for the worldwide net of Biosphere Reserves (CWSS, 2010a). MAB are representing terrestrial and coastal environments wherein human activities are in balance with nature (CWSS, 2010a). The Dutch and German parts of the Wadden Sea Area are nominated as MAB reserves (CWSS, 2010a). Denmark is not part of the Man and Biosphere Program (CWSS, 2010a).

Danish National Park

The Danish part of the Wadden Sea has been appointed as a National Park. The main aim of the National Park designation is to conserve nature, preserve the cultural and landscape heritage and stimulate and promote commercial but sustainable economic activities i.e. agriculture, fishery, tourism, recreation (CWSS, 2010a). The purpose of appointing the Danish Wadden Sea Area as a national park site is the added value to regional development and serving as an example of ICZM (CWSS, 2010a).

Particular Sensitive Sea Areas (PSSA)

The Wadden Sea Area is since 2002 designated as Particularly Sensitive Sea Area by the International Maritime Organization (IMO) (CWSS, 2002). The Wadden Sea is designated as an PSSA because it is a unique ecosystem and its vulnerability to damage of international shipping and other human activities (CWSS, 2002). The PSSA in the Wadden Sea covers essentially the marine area of the conservation area, an area of approximately 13,000 km². The designation of the PSSA of the Wadden Sea Area does not result in new measures or effect the major shipping routes (CWSS, 2002). It does increase the value of the Wadden Sea by increasing the awareness of the particular sensitivity of the area of the shipping sector. The objective of the PSSA is to increase the protection and increase the sustainable use of the of the Wadden Sea (CWSS, 2002).

Reflection from the interviews

TWSC

According to most interviewees the TWSC has accomplished a lot. The TWSC achieved more alignment of the three countries and widened the level of cooperation of Denmark, Germany and the Netherlands. The TWSC is based on voluntary cooperation and coordination. The structural and organizational differences between Denmark, Germany and the Netherlands) result in differences how the countries are represented in the TWSC and influence their negotiating abilities. Implementation of agreements is done on the national scale and as the countries have different legal systems and “governmental cultures and habits”, this leads often to differences in implementation. These differences are only problematic when they affect the trilateral objectives of the cooperation. So sometimes implementation problems are framed as “a national matter”, sometimes they are seen as not important enough as they will not impact the objectives so much.

This bounds the ability of the TWSC to deal with conflicting and complex issues. Probably this is the reason why some interviewees are more critical about the accomplishments of the TWSC. According to some interviewees the TWSC does not discuss complex issues and is not able to reach an agreement on conflicting issues in the Wadden Sea, such as fisheries.

Implementation issues

The implementation of agreements depends on: awareness of the concerning issue, whether it is a political issue, the availability of resources and the feasibility of the agreement (from one of the interviews). There is no mechanism enforcing trilateral decisions, but there is an obligation to implement EU-regulations at the national level. So if the topic of the trilateral decision coincides with EU-regulations, a mechanism does exist.

If this is not the case, each country implements the agreements in its own way and makes them fit to the existing national or regional regulatory frameworks. This can easily lead to differences in implementation. For instance, the regulatory frameworks for implementing certain restrictions in areas differ between the three countries. Germany and Denmark have the “National Parks”, while

the Netherlands have two instruments: the Law on Nature Conservation (Natuurbeschermingswet) and the PKB Waddenzee. The law on Nature Conservation is protecting natural areas in the Netherlands, Natura 2000 areas, protected nature monuments and wetlands (Overheid.nl, 2013). The PKB Waddenzee is the spatial plan for the management of the Dutch Wadden Sea (RIKZ, 2006).

The differences between the regulatory frameworks and related implementation and enforcement mechanisms lead to differences between the countries with respect to how these restrictions are being implemented (Smardon, 2009). The differences in implementation lead sometimes to delay, but are never that big that they become a highly conflicting issue for the TWSC. Conflicting issues, for instance about interpretation and implementation of EU-directives between countries (f.i. N2000, WFD) are dealt with on a bilateral scale.

Not all three countries have to agree to be able to implement an agreement. The nomination of the UNESCO World Heritage site is an example of that, as Denmark didn't agree with this.

Balance between nature protection and human activities

According to some interviewees conservation of nature is dominant in the Wadden Sea management, resulting in limitations for other activities in the Wadden Sea. An example is spatial zoning. Areas are closed for activities, to protect and conserve the nature while other interests are less important. The shift from nature conservation to sustainable or more integrated management is not recognized by all interviewees. Ecology and economy are according to some interviewees unbalanced. One respondent said: "there is no real consensus between the three countries on the goal of the trilateral cooperation: is it to protect the Wadden Sea or is it the development of the area including the sustainable use, or the use in general?"

The basis for the TWSC is nevertheless still *nature conservation*. According to the CWSS this is the priority objective and all measures should be in accordance with this. The tendency towards sustainable management or more integrated management in the TWSC seems to confuse the interviewees a bit. It can also be seen as dealing with the dilemma between conservation and development in which every stakeholder makes his own choice.

Scientific information

The origin of the protection of the Wadden Sea comes from initiatives in the scientific community in the sixties from last century. In general, the scientific community still is a strong driver for the conservation and protection of the Wadden Sea. From the development of the management of the Wadden Sea, one can see that the science base is important as a driver for many policy actions and interventions. Striking is that the collection and availability of data and input of expertise has quite a voluntary character as there are limited financial resources. The best available science for the management of the Wadden Sea is more or less dependent on the (accidentally or not) running research projects that have been funded by others (EU, national governments, etc.) and on the "good will" of the scientists.

The QSR is a policy advisory report that is delivered every 6 years. It is thus not synchronized with the timeline of the Ministerial Conferences (every 4 years).

Several interviewees mentioned the tendency towards more interference of and consultation with stakeholders and politicians in the scientific process. Clear mechanisms for how to deal with the science policy boundary (and how to cross it) or appointments on this seem to be lacking.

Another issue according to several interviewees is the limitation of the translation from the scientific information to policy actions. There is lack of communication between scientists and politicians to orderly translate scientific information into political advice. This can lead to scientific results not being used or even misused by politicians. According to several interviewees, not much is done with the results of scientific research. Clearly, the science-policy interface needs more attention and structure. According to an interviewee attempts have been made by the TWSC to improve the science-policy interface.

1.3.3 The Wadden Sea Forum

The Wadden Sea Forum (WSF) is an independent stakeholder platform related to Wadden Sea management with participants from economic sectors, regional authorities, ngo's and other stakeholder groups from the Wadden Sea region of the three countries (Vollmer, 2010). It was formed in the beginning of this century with an Interreg project "Trilateral Wadden Sea Forum" (WSF, 2005). The Wadden Sea Forum report "Breaking the Ice" is a sustainable development strategy for the Wadden Sea region, containing policy recommendations and project proposals (WSF, 2006). The interreg project is a cooperation of the seven countries around the North Sea to solve shared problems related to spatial development. Partners are ministries of these countries (WSF, 2006).

The reason to start the Wadden Sea Forum is described as follows in the "Breaking The Ice"-report: "The trilateral Wadden Sea Forum (WSF) is a platform of stakeholders from the Wadden Sea Region". "The main reason for establishing a Forum was the wish of many inhabitants of the Wadden Sea Region to become more actively involved in the activities of the trilateral cooperation on the protection of the Wadden Sea" (WSF, 2005, pp 8). After the adoption of the Wadden Sea Plan in 1997, the region acknowledged the possible impacts from the WSP on the socio-economic aspects in the region (WSF, 2005). "It was felt that there was an imbalance between nature protection and the social and economic development of the Region and that nature protection rules and regulations would hamper socio-economic developments". "On the other hand it was felt that the development of the Region is not yet sustainable and that there are still economic developments, which are inconsistent with the protection goals for the Wadden Sea" (WSF, 2005, pp 8). The WSF management of the Wadden Sea area is a sustainable management approach that wants to balance the social, economic and ecological qualities in the area (WSF, 2005).

In the 9th Wadden Sea Conference in Esbjerg (2001) the decision was taken to establish the Wadden Sea Forum (WSF, 2005). This is, however, the only formal link between the TWSC and

the WSF. The TWSC “founded” the WSF, but relations between the TWSC and WSF are merely informal, most of the time via people who act as linking pins between the two governance structures. The WSF has two advisors in the Wadden Sea Board who give recommendations on trilateral policies (WSF, 2010b).

When the WSF was established it was seen as “a consultation project, with the participation of the governmental and non-governmental stakeholders, with the task of developing proposals for sustainable development scenarios and strategies for their implementation, respecting the existing protection levels and ensuring economic development and quality of life” (WSF, 2005, pp 8). “This will be done on the basis of the Shared Vision, the Wadden Sea Plan Targets and the Shared Principles, and as a contribution to the further development of the Wadden Sea Plan”. The results of the work of the Forum will be presented to the 10th Trilateral Governmental Conference (WSF, 2005, pp 8).” The work of the Wadden Sea Forum has been carried out in the first period (2002-2005) as a project with support from the Interreg IIIB programma (WSF, 2005).

The area that is involved is depicted in the map in Figure 1.4. As clearly can be seen from this map, the area is much bigger than the TWSC area and involves the “land areas (WSF, 2005).

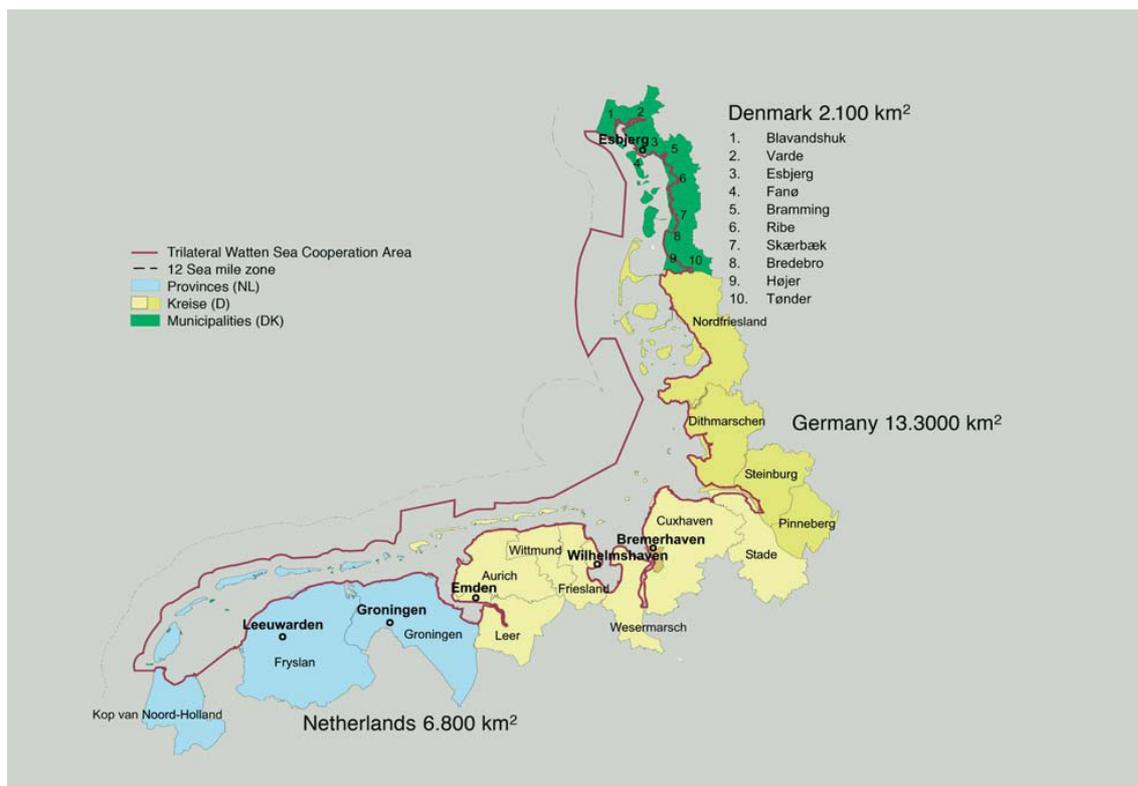


Figure 1.4: The WSF area (WSF, 2005).

Organisation

According to Vollmer (2010) stakeholders are involved from the sectors: agriculture, energy, fisheries, industry and harbor, nature protection and tourism. According to the Wadden Sea Forum website there are currently six working groups: shipping & harbor, fisheries, agriculture,

tourism, EII (Energy, Industry and Infrastructure) and ICZM (Integrated Coastal Zone Management) (WSF, 2012a).

The WSF is a consultation body for local and regional governments (Vollmer, 2010). The stakeholders are represented by the sectors, from local and regional governments and national governments are represented as observers (Vollmer, 2010). Tasks of the WSF are (Vollmer, 2010):

- Stimulating sustainable development in the Wadden Sea Region;
- Collecting the stakeholders interests;
- Exchanging opinions on Wadden Sea issues and themes;
- Initiating and implementing projects and actions on Wadden Sea issues;
- Preparing advice on issues linked to sustainable development and integrated coastal zone management;
- Functioning as a consultation body for governments.

The WSF and all its members agreed upon a perspective on the protection of the Wadden Sea Area, which includes the recognition of the strong identity of the Wadden Sea Region containing cultural heritage, typical landscape features and a unique natural area and additionally is characterized by urban centers, communities, economic activities and the natural potentials of the region (WSF, 2005). The trilateral cooperation protects the Wadden Sea with trilateral targets, with ecological objectives, which are respected by all sectors (WSF, 2005).

The WSF contributes to sustainable use of the Wadden Sea Region by identifying sustainability objectives, sector specific strategies and developing a set of sustainability indicators. By means of a set of sustainability indicators (Figure 1.5), the sustainable development of the Wadden Sea region is monitored (WSF, 2010a). The set of sustainability indicators is a tool for the WSF to value the actual status of sustainable development in the Wadden Sea Region and to communicate the sustainable development trends in the Wadden Sea Region to WSF members, politicians and decision-makers (WSF, 2010a).

Social Indicators	Economic Indicators	Ecological Indicators
Demography	Value Added Growth	Breeding birds
Education, R&D	Harbour	Migratory birds
Employment	Infrastructure	Mammals
Health	Rural development	Meadow birds
Housing	Sea traffic	Water quality
Recreation	Tourism	Contaminants in bird eggs
Welfare		Air quality

Figure 1.5: The set of sustainability indicators of the WSF (WSF, 2010a).

On the website of the WSF the development of the indicators between 2003 and 2010 is shown (Figure 1.6). We could not check, however, whether this has a sound basis in (scientific) data.

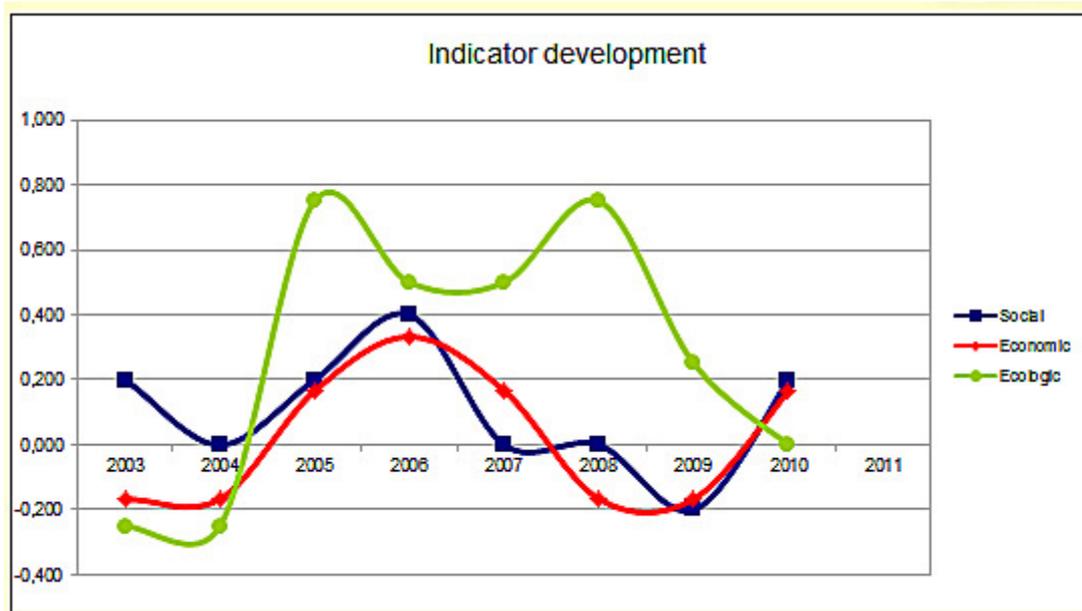


Figure 1.6: Sustainable development in the Wadden Sea region (Wadden Sea Forum, 2012b).

Reflection from the interviews

The WSF is an independent body and has rather informal relationships with the TWSC. This leads to an unclear situation for the stakeholders, which is reflected in the interviews.

To many interviewees the influence of the WSF on the TWSC remains unclear. WSF has an advising role for the TWSC. Topics and discussions run often in both institutions parallel. The WSF tries to strengthen the contact also to other ministries than the environmental ministries to foster horizontal cooperation.

The key stakeholders discuss and share information with each other in the WSF, which has no visible effect on the decisions made in the TWSC. According to an interviewee, important drivers for stakeholders to participate in the WSF are: influence, visibility and identity with the Wadden Sea Area. However, large companies can most likely effort themselves to take part in the WSF and their intention is primarily, to be aware of what other stakeholders are doing. The impacts of the WSF are according to an interviewee more open communication between different stakeholders and an increased acceptance between stakeholders from different sectors. According to other interviewees the impact of the WSF is hard to measure.

The fishery sector does not show up anymore in the WSF because the benefits of involvement are for them unclear, while it takes considerable time investment, according to many interviewees.

1.3.4 The Unesco World Heritage Site Wadden Sea

Since 2009, the Dutch and German Wadden Sea Areas are designated as UNESCO World Heritage Sites (Figure 1.7). It embodies an area of approximately 10,000 km² with a combination of unique characteristics of natural criteria, geomorphology, ecological and biological processes, and biological diversity (Marencic, 2009). It is additionally valued as an “Outstanding Universal Value” by the World Heritage Committee (Marencic, 2009). The Danish part of the Wadden Sea Area is not yet a UNESCO World Heritage Site. However the nomination of the Danish part of the Wadden Sea has taken place in January 2010, and a decision about the inscription is expected in 2014.

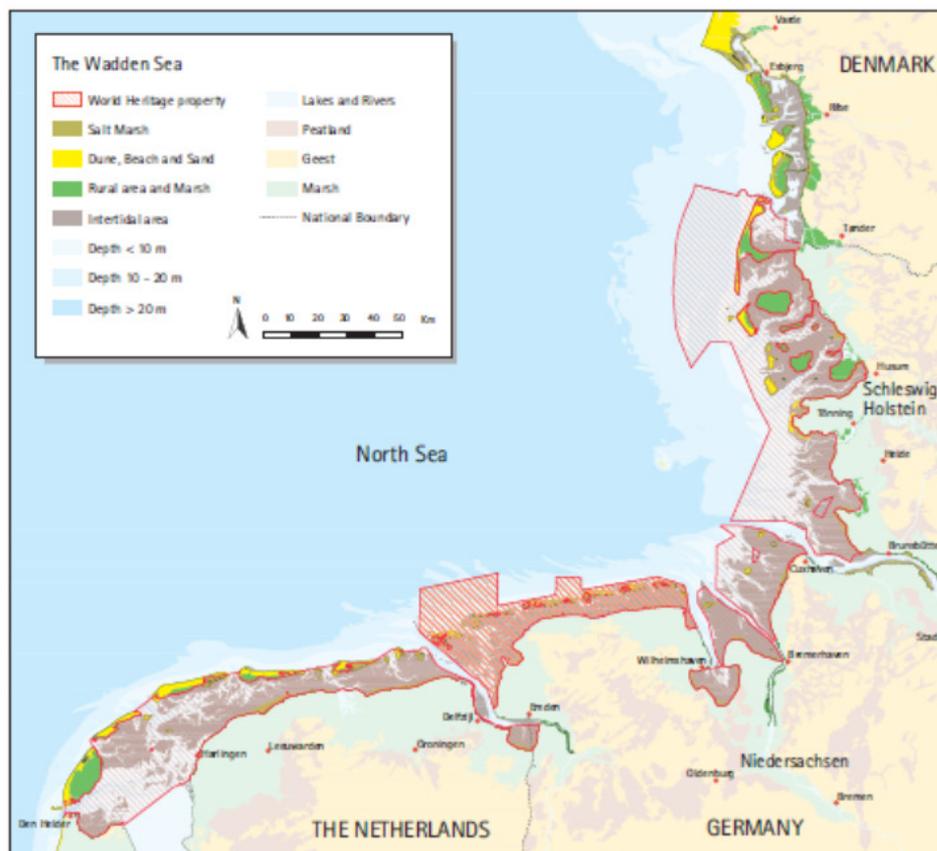


Figure 1.7: Map of the Wadden Sea World Heritage sites (CWSS, 2009).

The area of the World Heritage site is at his moment (October 2012) the TWSC area minus the Danish area. The World Heritage sites fall under the jurisdiction of the UN Convention Concerning the Protection of the World Cultural and Natural Heritage of 1972 (UNESCO, 2005). Countries have obligations when a site is established as World Heritage site, for instance “to ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory,” and there are also some monitoring and reporting obligations (UNESCO, 2005, pp 3). These are already fulfilled with the Wadden Sea Plan and TMAP. The World Heritage obligations are, thus, highly parallel with the TWSC goals and activities.

The inscription of the Wadden Sea as an UNESCO World Heritage Site is seen as an important step forward in the governance of the Wadden Sea and has given a boost to the TWSC according to some interviewees. It is of high political importance due to the world-wide recognition of a unique area. The inscription is seen as an important reason for the fact that TWSC-budgets have not been cut in the last years, while many other governmental budgets have gone down because of the financial crisis. Additionally it has created a marketing value. The World Heritage Status leads to less competition between stakeholders in tourism, due to the increase of regional identification. Additionally, tourist and conservation sectors find common goals under the World Heritage label, and conflicts between these sectors decreased.

2. Objectives and management measures

2.1 Priority objective

The priority objective is to restore and maintain the natural features represented in the Wadden Sea Area. In this report we will focus on two aspects of this objective and how they are being managed in practice: seal management and fisheries.

2.2 Key management measures

2.2.1 The Seal Management Plan

The first Trilateral Seal Agreement, as defined in Article 4, of the Convention on the Conservation of Migratory Species of Wild Animals (CMS, Bonn Convention) was concluded between Denmark, Germany and the Netherlands on 16 October 1990 in Bonn, Germany, and entered into force in October 1991 (Marencic, 2009). The agreement is the response to a virus epidemic in 1988, which greatly reduced the common seal population in the Wadden Sea (CWSS, 2003). The aim of the seal agreement is a close cooperation between the three countries to reach and maintain a favorable conservation status for the common seal population of the Wadden Sea (Marencic, 2009).

The Seal Management plan (SMP) is an agreement between the Netherlands, Germany and Denmark on the research and monitoring, taking, and protection of habitats of seals in the Wadden Sea (CWSS, 2003). The first SMP was adopted at the 6th Trilateral Governmental Conference on the Protection of the Wadden Sea in November 1991 (Esbjerg Declaration), for the period 1991-1995 (CWSS, 2012). The second SMP was adopted in 2001 at the second Esbjerg Conference, for the period 2002-2006 (CWSS, 2012). Noteworthy is that in 2002 there was a new outbreak of the virus epidemic with high mortalities among the common seal population in the Wadden Sea (CWSS, 2003). The third SMP is active for the period 2007 – 2010. The fourth SMP, for the period 2012 – 2016, has not yet been approved (at the moment of writing: October 2012) by the responsible ministries in the three countries (CWSS, 2012).

Main actions of the first SMP were: the legal protection of the seals, habitat protection by closed areas, stricter policies on water pollution, research and monitoring, public information to raise public awareness and taking and exemptions of taking (i.e reducing numbers of taking and releasing seals) (CWSS, 2003). All these actions have been undertaken, with the exception of reducing the number of taking and releasing seals (CWSS, 2003). Since the first SMP, the seal population in the Wadden Sea has greatly increased (CWSS, 2003). The SMP is seen as a successful agreement (CWSS, 2003).

The second SMP continued the main activities of the first SMP (CWSS, 2001). A noteworthy revision in this SMP was the addition to the agreement on diminishing the rehabilitation rate; "...taking into account ethical considerations..." (CWSS, 2001). This revision is still accurate in the newest version of the SMP (CWSS, 2012).

The Trilateral Seal Expert Group (TSEG), consists of five seal experts of the three countries (Wageningen UR, 2011). The main task of the TSEG is the coordination and supervision of the monitoring activities and the assessments of results (Wageningen UR, 2011). Additionally, the TSEG can give advice regarding seal management, when requested by the trilateral cooperation. Activities of the TSEG involve the annual monitoring and reporting to the Trilateral Working Group (TWG), annual publishing of the monitoring results and every 5 years publication of a scientific report on the development of the seal population in the Wadden Sea (Wageningen UR, 2011). Additionally the TSEG evaluates the progress and implementation of the SMP and reports this to the TWG, and evaluates the old and new SMPs (Wageningen UR, 2011).

The TSEG is an intermediary between policy and science. The scientific reports of the TSEG (QSR, (aerial) counts of seals) are internally reviewed by the group itself which is composed of most of the seal experts from the three countries. There is no external 'peer review'. The TSEG gives advice to the TWSC but only within the limits of their mandate and the questions from the TWSC.

The following measures have been taken (Röckman et al., 2012):

Interpretative measures

- information on seals in brochures, websites and on boards for the public ("to achieve and maintain a public understanding and awareness of the Wadden Sea seal population as an entity and as an integrated part of the ecosystem." SMP 2007-2010)
- Seal nursery stations in The Netherlands and Germany take care of public information.

Legal measures

- No hunting the whole year
- Seal reserves

In the Netherlands, based on the Nature Conservation Act, the accessibility of some specific areas that are of importance for birds (resting places on high tides), and for resting and reproduction for seals is further limited (in space and time). The number and boundaries of these areas are adjusted every year, mainly on the basis of the abundance of these species (especially seals) as observed from airplane counts and shipboard observations. Areas may change because of morphological changes on the position and emersion regime of tidal flats. Whereas the

establishment of these so-called Article 20 areas (referring to article in the NL Nature Conservation Act) used to be mainly based on scientific input, nowadays the input of stakeholders is also taken into account. In practice this means that the interest of tourism is reducing the proportion of article 20 areas. Thus both scientific and user knowledge is used in decision making. The areas are only accessible on the basis of permits to professional users only, and under strict conditions. The areas are indicated on hydrography maps for shipping, and by markers (buoys) and signs in the field (Röckman et al., 2012, pp 23).

Reflection from the interviews

Because the conservation objective has been reached, seal management is not a priority any longer in Wadden Sea management, according to an interviewee. This change of priority is seen as a threat for seals in the Wadden Sea.

According to several interviewees there are differences in seal rehabilitation in the countries and the SMP is implemented differently in the countries. In the SMP is agreed that the rehabilitation centers have a negative effect on the seal population and should be minimized. In the Netherlands, though, one of the seal rehabilitation centers, Pieterburen, is a private initiative that cannot be closed so easily. Furthermore, it may count on the sympathy of the Dutch public and from politics. The Dutch Parliament, for instance, has asked to support the Pieterburen Centre financially. The Secretariat treats this as a national matter. As long as it doesn't interfere with the agreement and Trilateral goals, differences in implementation can exist. They can put the topic on the agenda of Wadden Sea Board or of the ministerial conferences.

According to an interviewee, the decision making process concerning the seal management plan is until now transparent. This transparency can be put under pressure if political interference will become stronger and the science and political fields will become more intertwined and "blurred".

The SMP is the only agreement on species of the TWSC and the only international legally binding document that has emerged from the trilateral cooperation so far: "Agreement on the conservation of Seals in the Wadden Sea" under the "Convention on Migratory Species". If one could prove a state violates the agreement of migratory species, the case could be brought before an international tribunal.

According to several interviewees, the SMP is regarded as a success of the cooperation between Denmark, Germany and the Netherlands, while there exists a continuous cross-border discussion on common objectives and the fact that the seal population has completely recovered.

2.2.2 Fisheries management

The environmental regulations of the European Union have an important meaning for the Wadden Sea (Wolff et al., 2010). The legislation is transboundary, and has direct implications for the legislation of the Member States (Wolff et al., 2010). The main EU directives having

implications for the Wadden Sea area are the Habitats and Birds directive, the Water Framework Directive and the Marine Strategy Framework Directive (Wolff et al., 2010).

The main fisheries in the Wadden Sea are mussel and shrimp fisheries (Jager et al., 2009) and their management differs greatly among the countries and are therefore described individually (Nehls et al., 2009).

Mussel fisheries

Blue mussel fisheries are regulated differently in the three countries (Nehls et al., 2009). Regulations involve the number of permits, the size of culture lots, zoning, fishing periods and other regulations. In the 1990s, the strong decrease in intertidal mussel beds in the Wadden Sea led to the designation of permanently closed areas (Wolff et al., 2010). Hence, parts of the Wadden Sea area are closed for blue mussel fisheries for the protection of intertidal mussel beds (Nehls et al., 2009). Moreover, the impact of mussel fisheries on the Wadden Sea environment is limited and a sufficient amount of mussels is reserved for birds (CWSS, 2010a).

In 2008 a “Covenant transition mussel sector and nature recovery Wadden Sea” was reached between the ministry of Agriculture, Nature and Food quality, the Dutch mussel farmers, and four nature protection organizations in the Netherlands (Waddenvereniging, Natuurmonumenten, Dutch Society for the protection of Birds, and Stichting Wad); (Program towards a Rich Wadden Sea, 2010). The covenant was the result of a dissipation of the conflicts between the mussel sector and the nature organizations. Consensus was reached that there was no future perspective for the mussel sector due to closed areas in the Wadden Sea. The main objective of the transition is to give the mussel beds the possibility to develop undisturbed, while the mussel sector can continue to produce. The objectives of the covenant are two folded: transition of the mussel sector towards a sustainable fishery sector and draw up of a nature recovery program (Program towards a Rich Wadden Sea, 2010). The target has to be reached by 2020. The agreements of the covenant are elaborated in the Plan of Execution Transition mussel sector in 2010. To create the possibility for the mussel sector to survive, it was agreed in the covenant to harvest mussel seed in a different way. Mussel seed collectors should replace the other techniques that disturb the seabed (rope culture and other methods) in the Wadden Sea by 2020 (Program towards a Rich Wadden Sea, 2010).

Shrimp fisheries

Brown shrimp fisheries are one of the least regulated fisheries in the EU (Aviat et al., 2011). The amount of vessel licenses is limited by EU regulations, and there are regulations for beam length (24 m) maximum mesh size (16-32 mm) and fishable areas. For example oil exploration sites, pipelines, shipping routes and wind farms are no-go areas. Furthermore the EU regulates the commercial size of brown shrimps after landing, with a minimum of 6.8 mm for size-1 shrimps and a minimum of 6.5 mm for size-2 shrimps (Aviat et al., 2011). Hence, brown shrimp fisheries are not regulated by quota, shrimp size, fishing effort or by vessel size. Therefore the production of brown shrimps in the Wadden Sea depends on fishing effort, catch size and the availability of brown shrimps (Green et al., 2012). Currently there is no sign of overfishing in the Wadden Sea,

therefore further restrictions such as maximum allowable catch are considered not necessary (Aviat et al., 2011). In all three countries, areas exist that are closed for brown shrimp fisheries in the Wadden Sea (Nehls et al., 2009; Overzee et al., 2010).

Reflection from the interviews

This section is for the greater part based on the interview results. Fisheries is by most interviewees seen as one of the priority issues for Wadden Sea Management. For some of the interviewees, the present fishery management of the Wadden Sea (or lack of it) is not seen as aimed at multi-functional and sustainable use of the Wadden Sea. Until now, no good way has been found to deal with the sustainability issue of the fishery sector. The countries have different rules and regulations in place and manage fisheries differently.

The TWSC has difficulties to reach consensus on this issue and does not make much progress. In the Sylt declaration (2010) it is explicitly addressed: “the Board (is asked) to develop Wadden Sea wide trilateral policy principles for a further development of sustainable fisheries, inter alia aiming at the consistent implementation of the Natura 2000 objectives, in close cooperation with the fisheries sector and nature NGOs”. A first draft of a comprehensive report is in preparation for the development of the trilateral principles for the development of sustainable fisheries, but it is not clear yet if it will be published and if it will be discussed in the next Ministerial Conference. This resembles the sensitivity of the issue and the difficulties for the TWSC to reach consensus (as this is the only mechanism that the TWSC has).

Attempts to include the fishery sector in the TWSC have failed. According to many interviewees, fisheries have no interest in being actively involved in the TWSC. The fishery sector does not attend the WSF anymore as they have lost interest in being involved, not knowing what their benefit is. The fisheries sector acts independently since three years now. Attempts have been made by the trilateral cooperation and the WSF to involve the fisheries sector. Examples are a fishery workshop and support for the fishery sector. WSF offered support for fisheries sector, e.g. study on perspectives for fisheries. A study has been commissioned by fisheries sector itself two years ago, not in cooperation with WSF. The results (e.g. plans on how continue with the MSC certification process) were planned to be discussed within WSF, but this did not happen until now (October 2012). According to an interviewee, the TWSC organized a fisheries workshop to support the improvement of the quality of the Wadden Sea with the key stakeholders. In the fisheries workshop the government, NGO's and the fishery sector were involved aiming to develop a future goal for the fishery sector, striving for sustainability. The fisheries workshop did not proceed well. During the workshop it became evident that there was a communication gap between the three parties. The Netherlands was already further in the communication with the three parties, than Germany. In short, there is no consensus on this issue between and within the three countries. According to most interviewees fishery is one of the most conflicting issues in the Wadden Sea management. We will discuss the interview results about fisheries more in detail in the following section.

3 Conflicts

Based on the results of the interviews, main issues in Wadden Sea management (according to the interviewees) will be discussed, the main cross border issues are presented and the different issues and conflicts for the Wadden Sea of the Netherlands, Germany and Denmark are discussed. In Table 3.1 results from the interviews are summarized.

	CROSS-BORDER	THE NETHERLANDS	GERMANY	DENMARK	TOTAL
UNESCO World Heritage site	1	2	1		4
Shipping		1	1		2
Climate change	1	2	3	2	8
Nature		2	1		3
Economic interests		1			1
Complexity of management		2			2
Nautical affairs		1			1
Differences in management	3	2			5
Spatial Planning	2	2			4
Competing claims	3	1	1		5
Fisheries	4	2	3	1	10
Seal rehabilitation centers	2	1			3
Political changes in TC	1	1			2
Energy supply			1		1
Harbor development			1		1
Coastal protection			1		1
Tourism			1		1
Industrialization(incl energies)			1		1
Alien Species			1		1
Total frequency	17	20	16	3	

Table 3.1: Main Wadden Sea management issues according to the interviewees on cross border level and on the level of the different countries. In the cells is indicated how many times it was mentioned by the respondents.

According to the majority of the interviewees, the main cross-border issues are: the UNESCO world Heritage Site, climate change, differences in management schemes in the three countries, spatial planning, competing claims, fisheries, seal rehabilitation centers and political changes in TWSC. These main cross-border issues will be briefly elaborated.

The UNESCO world heritage site is an important issue because it has the role of ultimate recognition of the Wadden Sea by putting a label on the Dutch and German parts of the Wadden Sea. With this label the economic side of the Wadden Sea is strengthened as well. Climate change is seen as one of the major issues due to the uncertainties regarding the increase of temperature and sea level rise and its effect on the Wadden Sea (e.g coastal protection). The differences in management and governance in Denmark, Germany and the Netherlands can lead to conflicts, according to an interviewee. The institutional differences between Denmark, Germany and the

Netherlands result in differences how the countries are represented in the TWSC and influence their negotiating abilities. According to several interviewees (5 of the 17) unfairness is created due to differences in management between the three countries. Some economic activities meet stronger limitations in one than in other countries. In addition, competing claims arise due to the involvement of many parties with different interests in the Wadden Sea, all competing for space. Nature management, recreation and fisheries are all competing for space.

Fisheries is seen as one of the major issues in the Wadden Sea Management by most interviewees, since it is being mentioned 10 times. The present management of fisheries in the Wadden Sea is not seen as sustainable use of the Wadden Sea. Until now, no appropriate way has been found to deal with the sustainability issue of the fishery sector.

Main issues according to Dutch interviewees

In the Dutch Wadden Sea management thirteen main issues have been identified, mostly perceived as conflicts (Table 3.1). Most cross border issues are seen as issues in the Netherlands too: new major issues are nature and complexity of management. Nature is seen as an issue because the Wadden Sea management is focused on nature, limiting other activities in the Wadden Sea. In the Netherlands, the complexity of the Wadden Sea management is seen as an issue by two of the nine interviewees. Examples mentioned in the interviews are the limitations on the economic activities in the Wadden Sea. Economic activities are limited by regulations and high costs. The high costs are a result of the many mandatory requirements, i.e. permits and insurance. According to an interviewee these limitations result in a high burden for economic activities in the Wadden Sea, such as fisheries. The economic activities in the Dutch Wadden Sea have been restricted more strongly than in Denmark and Germany: it is considered unfair competition for the Netherlands compared to Germany and Denmark.

It should be noted here that we interviewed relatively more fisheries representatives (4 of the 8) in the Netherlands, possibly leading to the bias towards economic reasoning in the Dutch interviews.

Main issues according to German interviewees

There are twelve main issues in the German Wadden Sea management (Table 3.1). The driver for the top issues in the Wadden Sea is the economy. Cross border issues that are not seen as conflicts by the German interviewees are differences in management, spatial planning and seal rehabilitation centers. New issues mentioned by German interviewees are energy supply, harbor development, coastal protection, tourism, industrialization and alien species (Table 3.1). Tourism is seen as an issue due to the conflicts of this sector with nature conservation. According to one interviewee communication is needed to organize the protection of the Wadden Sea area together, including discussions on how to organize harmonization.

Main issues according to Danish interviewees

It should be mentioned here that these results are only based on one interview (Table 3.1). The main issues according to the Danish interviewee are climate change and climate change adaptation. Climate change has great relevance to changes in overall Wadden Sea ecology (biodiversity, habitats, migratory species, birds, and invasive species) as well as consequences for coastal areas (e.g. sea level changes).

The Danish part of the Wadden Sea does not have the same intensity of human use as the German and Dutch parts. For instance, there is no mussel fishery in the Danish part and fishery is regulated very strongly. Furthermore, there are no major international ports. There will always be some conflicting uses to manage within the Danish area such as e.g. recreational uses but these issues are small in scale and range.

3.1 A major conflicting issue: fisheries

As mentioned before, fisheries is seen by most interviewees as one of the major issues in the Wadden Sea Management (Table 3.1). Issues according to the interviewees in this sector are: the competition for space, different regulations between countries, lacking horizontal cooperation among ministries and there exists no consensus on this issue between and within the three countries. Furthermore fishery stakeholders see themselves troubled by the current developments in the Wadden Sea. The fishery sector is competing for space with the nature sector and recreation. This is particularly the case for the two major fisheries, those for mussels and shrimp.

According to one interviewee, a major problem is the horizontal cooperation of the ministries/agencies. While TWSC acts for the environmental ministry, fishing is regulated by fisheries laws and the fisheries ministries. The cooperation between these different ministries is imperfect due to different competences and claims of power.

The fishery sector is negatively affected by the current developments in the Wadden Sea. In dialogues they do not see a chance to change the development in the Wadden Sea. Fishermen are affected by diverse developments, but in many cases they do not represent their interests in meetings. According to several interviewees, the fisheries have no interest in being actively involved in the TWSC. From the interviews it appeared that the fishery sector does not show up anymore in the WSF. Fisheries representatives are not interested in being involved because uncertain benefits do not balance the costs of participation. The fisheries sector acts independently since three years now, fisheries stakeholders want to solve their problems by themselves. Attempts have been made by the trilateral cooperation and the WSF to involve the fisheries sector. Attempts to include the fishery sector in the TWSC have failed.

According to two interviewees no consensus exists on the fisheries issue between and within the three nations and this conflict is always present behind the scene. Because there appears no consensus on this issue between the countries, the results of the interviews is discussed for each country on this topic.

Fisheries in the Netherlands

The complexity of fisheries management is seen as the biggest problem in the Dutch Wadden Sea by the majority of the interviewees. According to the interviewees the fisheries management is complex because of a defensive approach and limitations such as regulations, the Netherlands competition authority (NMa) and high costs of activities in the Wadden Sea. With this defensive approach, namely the focus on prohibiting activities in the Wadden Sea which have (possible) negative effects on the Wadden Sea, most interviewees think that it is impossible to manage the Wadden Sea with all parties involved.

Shrimp fishery

According to the interviewed fishery experts, the shrimp fishery sector is not well organized. Issues in the shrimp fishery sector are: internal conflicts (i.e. disagreement, competition and distrust), overproduction, the NMa, the unknown ecological value, the closed market, the lack of scientific information and the lack of a management plan. The main reasons that the shrimp fishery sector cannot achieve sustainability in the Netherlands are the high costs for the fishery sector and the difficulty to establish a unique Wadden Sea fish product. The high costs are seen as caused by the government by the many mandatory requirements, i.e. permits and insurance. These requirements complicate any activity in the Dutch Wadden Sea. The shrimp fishermen cannot stop fishing due to the high costs and continue to fish intensively. According to several interviewees, the burden is high for the fishers in the Netherlands due to high costs and high regulations, resulting in unfair competition for the Netherlands and generating an unlevel playing field compared to their German and Danish competition. Additionally, the shrimp fishery sector is not able to distinguish themselves with a unique Wadden Sea fish product, as a result of low market prices. To achieve a sustainable fishery sector, with a unique Wadden Sea fish product, the fisheries should cooperate. However, the NMa prohibits cooperation in the fishery sector: the demand side of the market has apparently the power to adjust fish market prices causing a low shrimp market price, and resulting in the overproduction of shrimp. The NMa imposed fines due to violation of European competition rules on the eight shrimp producer organizations of the Netherlands (four), Germany (three) and Denmark (one) and the eight wholesalers of the Netherlands in 2003 (Aviat et al., 2011). The violation consisted of initiating agreements about minimum prices and catch limits which took place during 1998-2000 (Aviat et al., 2011). There is a continuing cycle of overproduction (supply > demand) which results in continuously decrease of shrimp prices. According to one interviewee, the following should be done to reach sustainable fisheries: fewer vessels, better fishing methods, increase in transparency in the fishery sector (e.g. marketing and licensing), more MSC certification and an increase in the cooperation and communication in the fishery sector with stakeholders.

Mussel fishery

The situation of the mussel fisheries in the Netherlands is completely different from the shrimp fisheries. The mussel sector is well organized and has reached an agreement with the nature organizations. The relation between mussel culture and nature management is now organized in a trilateral group of NGO's, mussel farmers and government, the so-called transition group. Also other issues related to mussel culture and nature management are on the agenda, and by this cooperation, conflicts are resolved internally. According to one interviewee mussel cultures have a concrete possibility to achieve a sustainable fishery sector.

Fisheries in Germany

The main fishery issues in Germany according to several interviewees are the conflicting demands with nature organizations, and the competition for space. They are negatively affected by the current developments in the Wadden Sea and the MSC certification.

The conflicts with nature conservation agencies are not new, due to the fisheries impact on the Wadden ecosystem. Fishery is an old, important sector in Germany, it has a powerful lobby and it is policy-oriented, although relatively few people work in the fisheries sector and the contribution to the national income is low, according to one interviewee. The fishery fears the loss of fishing grounds through other activities, such as closed zones for fishery as a demand of nature conservation, power stations, cables and offshore facilities, brine discharges from land and port constructions that could cause change in currents and sedimentation.

According to one interviewee, the collaboration of the National Park Authority with the fishing sector is well organized in Lower Saxony, where fishery is clearly regulated in the national park law, both mussel and shrimp fishery included. However, the coastal fisheries are in conflict with the nature sector. The nature sector demands increased conservation requirements, while the coastal fisheries claim that this is not possible due to economic problems in the sector. Here economic problems outweigh nature sector demands.

Almost all forms of fishing are currently participating in a MSC certification process, individual fisheries are already approved. The Marine Stewardship Council (MSC) has become a worldwide fishery standard for principles and criteria for sustainable fishing (MSC, 2010a). The MSC certification is seen as an issue in the Wadden Sea management in Germany because the certification does not guarantee sustainability, as the protected areas are not taken into account in the sustainability assessment. In Appendix 4 background information on the MSC is presented.

Shrimp fishery

According to the interviewed fisheries experts, the main issues in the shrimp fishery sector in Germany are the MSC certification process, the low prices, overproduction, no restrictions and different management schemes in the three countries. According to an interviewee the main concern of the shrimp fishers is the low price. The shrimp fishery has no quota and there are virtually no restrictions, according to one interviewee. Any further restriction for the fisheries is considered as a political taboo.

Mussel fishery

According to the interviews, the main issues in the mussel fishery are seed mussel imports from other parts of the North Sea, the management plan and the conflicts with the nature sector. The management of the mussel fishery in Schleswig-Holstein is not without conflictive objectives. Issues at stake are a controversial dialogue between nature conservation agencies and fishery agencies and lawsuits against seed mussel imports. The management plan is about mussel seed fishery. A current topic is the seed mussel import. If the fishers do not have sufficient mussel seed, they wish or attempt to import them from other areas. In Lower Saxony this conflict is not so much on the surface.

The overall Wadden Sea management follows the blue fisheries interests too much, and does not take into account that it is taking place in a protected area. This can be changed only by court law-

suits. Internally, there is a massive conflict of authority between the administrations of the Fisheries and Nature Conservation Department in Germany . Fishery is supported in all its interests by the Fisheries Department. The National Park Authority is completely sidelined in terms of fishery management questions, although it should be involved in all matters relating to the National Park, as one interviewee phrased it.

Fisheries in Denmark

Only commercial shrimp fisheries take place within the Danish part of the Wadden Sea agreement area. According to one interviewee this is mainly due to the Danish ecosystem approach, which primarily ensures that birds have enough food. However, fisheries do enter the agenda regularly in the context of invasive species. According to one interviewee there is a general mutual acceptance of the individual strategies of other countries regarding fishing.

4 Governance approach and effectiveness

4.1 Governance approach

The main governance approach dominating the decision-making processes in the Wadden Sea management is a combination of top-down and bottom-up approaches. The top-down, hierarchical, approach is the exclusive domain of the involved countries. Within the national approaches regional authorities and municipalities play also a role, sometimes formal, sometimes informal. The Trilateral Wadden Sea Cooperation doesn't have any power and relies for the regulatory power and implementation of agreements on the countries. The TWSC in itself can be seen as a "bottom-up" approach. As different government approaches have to be aligned, this makes it a highly complex decision making model. Furthermore, it is clearly visible that the informal "bottom-up role" is fulfilled by the Wadden Sea Forum. There are no formal relationships between the TWSC and WSF, they only influence each other through information exchange and people acting as "linking pins". According to people we have interviewed the connection between the two should be strengthened. The situation now is for many interviewees unclear and the WSF bottom-up dialogue with stakeholders will meet its boundaries. "Sitting at one table in the WSF is no new tool to help solving the conflict. A more "top-down" -approach might then be needed".

4.2 Effectiveness

Seal Management

This section is based on (Röckmann et al., 2012). With regard to the Wadden Sea seal management, overall the objectives are (partly) reached and the trilateral cooperation on seal management is successful on national and trilateral scale. As most of the objectives have been (partly) reached, we do not focus on the effectiveness of management measures themselves, but

on the process of evaluation of the management measures. This process seems not to be very transparent. Here under, a description of the evaluation process is summarized and commented upon (Röckmann et al., 2012, pp 39).

The TWSC does monitoring, assessment and research for two aims: to provide a scientific assessment of the status of the ecosystem, and to assess the status of implementation of the objectives (targets) of the Wadden Sea Plan. The TWSC sees both categories of information as essential for the development and evaluation of the trilateral Wadden Sea conservation policies and management in line with the relevant EC directives, the inscription on the World Heritage list and other international obligations (WSP 2010) (Röckmann et al., 2012, pp 39).

While the objectives of the WSP, as well as the objectives of the Seal Agreement, are higher level objectives, the management is laid down in the SMP, therefore it includes operational objectives and corresponding management measures, which are regularly assessed and adopted in the revised SMP. Scientific information on seals is collected and processed per country. In the meetings of the TSEG, which are organised by the CWSS, the information per country is merged on trilateral level. The TSEG discusses the information and produces the yearly published reports on harbor seal stocks (harmonized TMAP data based on aerial counts), the SMPs, and the thematic Quality Status Reports (QSR) on marine mammals. All these documents are internally reviewed and published on the CWSS homepage (Röckmann et al., 2012, pp 39).

The QSRs are prepared at regular intervals related to the Trilateral Governmental Conferences, the last one has been published in 2009. The TSEG describes and evaluates the current ecological status of the marine mammals in the WS in these reports. As described in the WSP 2010, the reports need to identify changes in this status and their possible causes, identify issues of concern and indicate possible measures of redress, including evaluation of the likely effectiveness of these measures, identify gaps in knowledge. The evaluation of the effectiveness of management measures is largely based on the results of the aerial surveys, which give information on the number and distribution of the seals, and the interpretation of the reasons of changes, including disturbance, food availability, and shifts in population characteristics (age and sex classes). These assessments are carried out together with experts and relevant national institutions in charge of the national assessment. Recommendations are developed from the available scientific data and discussed within the TSEG. The final recommendations are written down in the QSR and SMP, in consensus of all TSEG members. The TSEG hands the revised SMP draft to the “Trilateral Task Group Management” for consideration in the decision making process (Röckmann et al., 2012, pp 39).

However, there is no clear evaluation of the information on spatial distribution of seal numbers and local areas of importance. In the SMP actions are defined, but it is not completely transparent how they refer to an evaluation process (Röckmann et al., 2012, pp 39).

5. Incentives

5.1 Key incentives

Interpretative incentives

Interpretative incentives are the use of maps by the TWSC, the WSF and UNESCO World Heritage Site to display boundaries of the Wadden Sea Area and permanent closed zones in the Wadden Sea to support awareness and implementation of management measures related to the priority objective (CWSS, 2010a). Furthermore, the Wadden Sea is widely regarded as a unique area from ecological, geological and socio-cultural points of view (Marencic, 2009). This recognized value is promoted by the UNESCO World Heritage site (Marencic, 2009).

Knowledge incentives

The Trilateral Monitoring and Assessment Program (TMAP) is a coordinated monitoring program of the Wadden Sea by the Denmark, Germany and the Netherlands (Marencic, 2009). The aim of the TMAP, initiated by the TWSC, is to produce scientific information to assess the quality status of the Wadden Sea Ecosystem and to evaluate the status of the implementation of the assigned targets in the Wadden Sea plan (Marencic, 2009). There are currently joint monitoring programs for seals, migratory birds, breeding birds, bird eggs and eutrophication (Wolff et al., 2010). The results of the TMAP are published every 5-6 years in Quality Status Reports (QSR) and thematic reports (TWSC, 2010). The TMAP includes fish monitoring since the QSR 2004, an important step in the analysis of the state of the Wadden Sea fish fauna (Wolff et al., 2010).

At the Wadden Sea Conferences of the TWSC, the objective is to inform the key stakeholders, ministers and the Cooperation in its work (TWSC, 2010). The conferences are held every three to four years in combination with the meetings of the Trilateral Governmental Council (TWSC, 2010). The Board of the TWSC can decide to hold thematic workshops (TWSC, 2010).

Participatory incentives

The Wadden Sea Forum (WSF) is an independent stakeholder platform related to Wadden Sea management with participants from economic sectors, regional authorities, ngo's and other stakeholder groups from the Wadden Sea region of the three countries (Vollmer, 2010). After the adoption of the Wadden Sea Plan in 1997, the region acknowledged the possible impacts from the WSP on the socio-economic aspects in the region (WSF, 2005). "It was felt that there was an imbalance between nature protection and the social and economic development of the Region and that nature protection rules and regulations would hamper socio-economic developments" (WSF, 2005, pp 8). "On the other hand it was felt that the development of the Region is not yet sustainable and that there are still economic developments, which are inconsistent with the protection goals for the Wadden Sea" (WSF, 2005, pp 8). From this quote it is very clear that the WSF management approach of the Wadden Sea is a sustainable management approach that wants to balance the social, economic and ecological qualities in the area (WSF, 2005).

In the 9th Wadden Sea Conference in Esbjerg (2001) the decision was taken to establish the Wadden Sea Forum (WSF, 2005). This is, however, the only formal link between the TWSC and the WSF (WSF, 2005). The TWSC “founded” the WSF, but relations between the TWSC and WSF are rather informal, most of the time via people who act as linking pins between the two governance structures). The WSF has two advisors in the Wadden Sea Board (WSF, 2010b).

When the WSF was established, according to the wording of the decision it was seen as “a consultation project, with the participation of the governmental and non-governmental stakeholders, with the task of developing proposals for sustainable development scenarios and strategies for their implementation, respecting the existing protection levels and ensuring economic development and quality of life” (WSF, 2005, pp 8). “This will be done on the basis of the Shared Vision, the Wadden Sea Plan Targets and the Shared Principles, and as a contribution to the further development of the Wadden Sea Plan” (WSF, 2005, pp 8).

Legal incentives

Spatial zoning is an instrument to manage conflicting interests of nature protection and human activities of the Wadden Sea (CWSS, 2010a). It is a way to balance multiple interests in the Wadden Sea by protecting a specified area (CWSS, 2010a). This instrument is partially put into practice by law and includes temporal or permanent closure areas (CWSS, 2010a). Denmark, the Netherlands and the three German Federal States have different approaches to zoning.

5.2 Discussion on improving governance

The structure of the governance of the Wadden Sea has some unclarities (in roles, in scientific evidence procedures, etc.) which have been indicated in this report. The governance has its limits as it is being bound by the limits of political will of the countries, the national policy approaches, and their regulatory frameworks. On the other hand the governance seems to deal with the important issues and obviously makes progress, which is not only confirmed by the interviews, but is also internationally recognised (World Heritage Site). The governance resembles a kind of “emergent governance” and “adaptive management”: the governance develops during the exploration of new issues and from its management is being learned how to deal with these new issues.

One of the interesting points for the development of the governance of the Wadden Sea is the future choice on the dilemma between nature protection and sustainable management. The first one is the exclusive domain of the TWSC, while sustainable management of the Wadden Sea lies more in the competence of the WSF. Is it possible to integrate nature conservation with sustainable management of the Wadden Sea or not? And if so, will this lead to a clearer role of the WSF in relation to the TWSC?

6 Cross cutting themes

In the governance analysis of the Wadden Sea, five main cross-cutting themes have been identified.

Combining top-down role of state and bottom-up participative approaches

In Wadden Sea governance top-down approaches are often combined with bottom-up approaches, but the approaches don't seem to be very well connected. The top-down, hierarchical, approach is the exclusive domain of the involved countries. The Trilateral Wadden Sea Cooperation doesn't have any power and relies for this on the countries. The TWSC in itself can be seen as a "bottom-up" approach. It is clearly visible that the informal "bottom-up role" is fulfilled by the Wadden Sea Forum. The relationship between the TWSC and WSF is rather informal, relying on influence through information exchange and people acting as "linking pins". According to people we have interviewed the connection between the two should be strengthened. The situation now (October 2012) is for many interviewees unclear and the WSF bottom-up dialogue with stakeholders will meet its boundaries. "Sitting at one table in the WSF is no new tool to help solving the conflict. A more "top-down" -approach might then be needed".

Inter-sectoral integration and related power issues including compensation

From the analysis it is clear that inter-sectoral integration is an important issue for the management of the Wadden Sea that still needs to be addressed. Although "integrated management" is often mentioned, governmental bodies are still struggling with this issue. This is the case for many issues, but very clear for the fisheries issue. The governance mechanism for the Wadden Sea relies very much on coordination and not on "power".

Economic compensation is sometimes given for instance for the fisheries in Germany, as a mechanism to compensate for loss of income as they are not allowed to fish in certain areas.

Cross-border issues between different countries

The differences in management schemes of the Wadden Sea management between the countries has been often mentioned as a problem. The implementation of agreements is done by every country itself within their own regulatory mechanisms and traditions, which often lead to differences. Other cross-border issues that were mentioned are: competing claims, communication problems, fisheries, seal rehabilitation centers and climate change.

Environmental and social justice issues

As nature conservation is an important goal for the TWSC and is set within the frame of Natura 2000, “violations of the stipulations of the directives can be made subject to decisions by the European Court of Justice on the initiative of the European Commission” (Burbridge, 2000, pp7). This can be illustrated with the controversy about mechanical cockle fisheries in the Netherlands. In July 1999 and 2000 the Dutch government permitted mechanical cockle fishery for certain quota in the fall of these years. Two NGO’s appealed to these decisions because of long-term and irreversible impacts on the ecosystem of the Wadden Sea (European Court of Human Rights, 2009). The Dutch Deputy Minister disallowed this appeal because the irreversible impacts on the Wadden Sea could not be shown. Consequently, the Dutch NGO’s appealed with the Dutch Council of State (Raad van State) and the Council accepted that questions arose concerning the interpretation and application of the Dutch Nature Conservation Act in the light of the Habitats Directive (Article 6) and sought a preliminary ruling from the Court of Justice of the EC (ECJ) (,European Court of Human Rights, 2009 , Veerman C. 2004). In September 2004 the judgment of the ECJ was that “mechanical cockle fishing carried out for many years but for which a licence was granted annually for a limited period should only be authorised if the competent national authorities had made certain that the project’s activity would not adversely affect the integrity of the site” (European Court of Human Rights, 2009, pp2). With this judgment the ECJ enforced the precautionary principle. Based on this judgment the Council of State annulled the cockle-fishing licenses in December 2004, on the ground that there was no scientific proof that cockle fishing did not have a significant impact on the natural habitat (Veerman C. 2004). The cockle fisheries appealed for the European Court of Human Rights in April 2005 on the ground of Article 6.1 (right to fair hearing) of the European Convention on Human Rights. In September 2009 the Court rejected the appeal as “manifestly ill-founded” (European Court of Human Rights, 2009, pp3).

Influence of different knowledges and of uncertainty in decision-making

One of the important achievements of the TWSC (and WSF) is the shared “knowledge base” as a result of many actions like the Trilateral Monitoring and Assessment Programme which is the sound basis for Wadden Sea management. It is impressive that this has been achieved with relatively small budgets, mainly through good coordination of existing projects and other research activities.

The problems are still in the fishery sector, but this is more a problem of political will and clear decision making than a “knowledge” problem.

6 Conclusions

The timeline of the development of the governance of the Wadden Sea shows how events follow-up on each other or enforce one another. The Wadden Sea Plan for instance was the main reason to start a stakeholder consultation, from which the WSF emerged. The establishment of the Wadden Sea as an Unesco World Heritage site enforced the TWSC.

There are at this moment three partly complementing and overlapping governance mechanisms in the Wadden Sea: TWSC, WSF, and Unesco World Heritage site. These three have different obligations, “influences and powers”, approaches and govern different areas. They influence and complement each other, all concerning the protection of the Wadden Sea. There are, however, weak connections between the TWSC and WSF, which can become a treat for the WSF in future. TWSC and World Heritage Site have a logic connection, as their goals are very similar and they can use the same science base. The achievements of the TWSC are seen by most of the people we have interviewed as an important success.

The TWSC has no “power” itself as the basis for the cooperation is an agreement (the Joint Declaration on the protection of the Wadden Sea). The power remains in the three countries. The TWSC therefore relies heavily on dialogue and coordination. The role of the CWSS (Common Wadden Sea Secretariat) in this is very important. Issues will only be discussed in the TWSC when they are related to the *protection* of the Wadden Sea, when it is an issue for all three countries, and all countries agree to discuss it. This explains why some of the issues are not discussed in the TWSC and are not acted upon. Fishery issues are difficult to discuss because the countries have different interests and implementation difficulties are not discussed as they are seen as a matter for the national level.

The implementation of the agreements from the TWSC is done on the national level, which leads sometimes to differences in implementation between the countries. These are highly sensitive issues for the TWSC, we discovered. The TMAP monitors the development of the Wadden Sea ecosystem, and can point at issues that are important for the trilateral goals (protection goals), from which real big issues can become visible. Until now this has not happened.

The Wadden Sea Forum is an independent stakeholder platform related to Wadden Sea management with participants from economic sectors, regional authorities, ngo’s and other stakeholder groups from the Wadden Sea region of the three countries. The connection between WSF and TWSC is rather informal, but WSF plays an important role for the TWSC. This role is not visible for all stakeholders, which leads to dissatisfaction among the stakeholders, we discovered from the interviews. WSF covers the area that influences the protection area and discusses the relation between the economic and social development of the area in relation to Wadden Sea protection. For this the WSF has chosen the sustainability approach: find the balance between social, economic and ecological development. The other approach that WSF relies on is the bottom-up approach through dialogue between all stakeholders from the area.

The establishment of the Wadden Sea as World Heritage site has enforced the TWSC enormously. It is an international recognition of the uniqueness of the area.

Science (scientific information and data) is an important driver for Wadden Sea management. The TWSC has acted as an important platform for sharing scientific information, which has been taken up in the respective management plans. The TMAP and other monitoring reports are made with quite small budgets, mainly through coordination of existing research projects and “goodwill” of scientists. From the interviews we see some issues popping up that relate to absence of clear mechanisms for the science-policy interface. Researchers feel that stakeholders and policy makers are involved in too early stages of the research, which leads to “interference” as they call it. On the other hand, politicians and stakeholders complain that it is unclear for them how they should act on the scientific information: too many recommendations given, or the language requires too much expertise. We recommend therefore that the developed mechanisms for sharing information, should be complemented in future by clear mechanisms to produce the information (including quality control) and mechanism to make this available for use in policy. This will require extra costs probably.

The Seal Management plan (SMP) is an agreement between the Netherlands, Germany and Denmark on the research and monitoring, taking, and protection of habitats of seals in the Wadden Sea. It is the only agreement on species of the TWSC and the only international legally binding document that has emerged from the trilateral cooperation so far. If one could prove a state violates the agreement the case could be brought before an international tribunal. The SMP was the response to a decline of the seal population because of a virus outbreak in the Wadden Sea. As the seal population has now completely recovered, it is seen as a success of the TWSC. It shows that the TWSC can respond adequately to threats for species in the Wadden Sea.

Fishery is a highly controversial issue in Wadden Sea management. It is a main priority according to many people we have interviewed. On the other hand, the TWSC has difficulties in addressing it, as the countries don't want to discuss it or don't want to take measures in the frame of the TWSC. Fisheries don't take part themselves in the discussions, for instance they don't attend the WSF-meetings. Probably they think they can gain more if they discuss it within their own countries. This is enforced by the fact that the fishery methods and cultures are very different in the three countries. As the fisheries don't want to discuss it on the trilateral level, country governments are being brought in a difficult position to discuss it trilaterally. According to many interviewees especially shrimp fishery should receive more attention as this fishery could have negative impacts on the Wadden Sea because of its bigger scale.

The fishery issues show the weak spot in the TWSC. There exist many difficulties of addressing this within the TWSC-frame as there is no consensus on this issue, even no consensus to discuss it. The agreed action on the development of Wadden Sea wide trilateral policy principles for a further development of sustainable fisheries, that was agreed upon in the TWSC, could change this.

In the Wadden Sea many spatial reservations have been made for nature protection, mainly within the frame of EU-directives (Natura 2000, Birds Directive, Habitats-directive, etc.). This leads to some tensions with other more human driven uses of the Wadden Sea. Some economic sectors find the restrictions for use too hard. New issues and spatial claims are still emerging, like spatial reservation for cables for electricity transport through the Wadden Sea (because of off-shore windfarms), harbor development in the area (Eemshaven, and plans for a deep harbor in

Wilhelmshaven), etc. Many spatial issues in which the TWSC and WSF can have an important role in guiding the process.

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Annex 1 List of interview questions and List of interviewed persons

List of Interview questions Waddensea case

Introduce yourself and MESMA. Introduce how we are dealing with the Waddensea case.
Why do we organize the interviews and why did we select you for the interview?
Check the available time for the interview: from xx till yy hrs.
Introduce the questions: general, case specific (seals, fishery)

General questions

1) Personal Information

Name:
Institution:
Country:
Role in institution:

2) What is your role in Waddensea management? (trilateral cooperation, WSF, UNESCO heritage site)

Check the following questions:

- Are you involved in the *preparation* of the Trilateral conferences? If yes, how?
- Do you take part in the Trilateral conferences and on which level? (ministry level, working group, other?)
- Any specific projects and/or expertises?

3) What are to your opinion the “top-3 issues” in Waddensea management?

Review them critically with the interviewee:

- Why these issues?
- **What are the main marine spatial planning issues?**

4) Can you tell something about how agreements are made in the Trilateral Conferences and/or Waddensea Forum

- How are issues selected; brought to the agenda?
- How are agreements/decisions reached?
- What is the influence of the WSF in decision making **in practice?**

5) Use of scientific information in the Trilateral Conferences and Agreements and/or Waddensea Forum

- How is scientific information produced?
- How is scientific information used?
- How is the science secured/ consolidated? Is there a scientific review of the information?
- Is there a specific scientific steering committee? What is their role and influence **in practice**?

6) Implementation and monitoring

- How are agreements implemented?
- Are there any differences in implementation between the three countries?
- Is the implementation related to Natura 2000 and how?
- The role of the Trilateral Monitoring and Assessment Program (TMAP)?
- Are there any mechanisms for enforcement and how do they look like?(subsidies?, laws?, sanctions?, etc)

Specific questions on the Seal Management Plan

7) Seal management Plan

- Why was a specific Seal Management Plan designed? What was the “sense of urgency”?
- How was the cross-border seal management plan developed?
- Which actors played a role in it?
- What does “management” mean for this issue? (which decisions are taken?; who takes the decisions?; how?; etc.)

8) Scientific information and uncertainty related to the seal management plan

- Is scientific information available and how is it being produced?
- Is the scientific information reviewed and by whom?
- What are the main uncertainties and how are issues of uncertainty addressed in the seal management plan?
- How is uncertainty addressed at the decision making level/ the trilateral cooperation?
- Is the decision making process transparent? Is information equally shared?
- Are there different approaches to uncertainty in different countries?

9) Which cross border issues can you identify?

- What are the main cross-border issues and how are they dealt with?
- What is the role of Waddensea trilateral cooperation in this respect and what is the role of the Common Waddensea Secretariat?
- What is the relation with national strategies and rules related to the seal management plan?
- How do different approaches of EU- member states to EU-rules and directives complicate or raise cross-border issues in the Waddensea Area related to these

issues(e.g. differences in conservation objectives; management plans for Natura 2000, etc.)?

10) Which conflicts can you identify? What mechanisms are in place to deal with these issues?

- Which (potential) conflicts can you identify?
 - How do these conflicts appear (how are they visible?)
 - Is there a trilateral approach in dealing with (potential) conflicts?
 - What are the mechanisms providing access to justice at various levels (national level and/or Wadden Sea)? Are there any differences per country?
-

Specific questions on Fisheries

11) Fishery

- What are the main issues on fishery in the Waddensea?
- Which issues are/were dealt with in the Trilateral Cooperation? How are they or have they been discussed??
- What are the main *dilemmas* in the discussion?

12) Involvement in discussions/ activities

- Have you been involved in any discussion or activities about fisheries in the Waddensea related to the trilateral cooperation or Waddensea Forum? If yes, which discussions/ activities?
- Are you still involved?
If yes: in what specific activities/ discussions?
If not: why not?; any specific problems?

13) Scientific information related to fisheries

- What scientific information about fisheries plays a role in the Trilateral Waddensea cooperation or Waddensea Forum? By whom was it produced?
- Are there any problems in accepting the scientific information? On what topics specifically?
- Is the decision making process transparent? Is information equally shared?
- Are there different approaches/policies to deal with the fisheries in different countries?

14) Which cross border issues can you identify?

- What are the main cross-border issues and how are they dealt with?
- What is the role of Waddensea trilateral cooperation in this respect and what is the role of the Common Waddensea Secretariat?
- What is the relation with national policies and regulations related to fisheries?
- How do different approaches of EU- member states to EU-policies and directives complicate or raise cross-border issues in the Waddensea Area related to fisheries(e.g. Common Fisheries Policy; Marine Strategy Framework Directive; management plans for Natura 2000, etc.)?

15) Which conflicts can you identify? What mechanisms are in place to deal with these issues?

- Which (potential) conflicts can you identify?
- How do these conflicts appear (how are they visible?)
- Is there a trilateral approach in dealing with (potential) conflicts?
- What are the mechanisms providing access to justice at various levels (national level and/or Wadden Sea)? Are there any differences per country?

List of interviewees

Interviewee	Organisation	Role	Date of interview
Herman Verheij	Waddenzee Vereniging	WSF, observer WSB	27-7-2011
Jens Enemark	CWSS	Secretary of TWSC, head of CWSS	12-4-2012
Sophie Brasseur	IMARES	Marine mammalogist, member of TSEG	10-5-2012
Jan Rotgans	Mudflat fisherman guild	Chairman of Mudflat fisherman guild, sport fisher for 10 years	16-5-2012
Aad Smaal	IMARES	Sustainable shellfish culture expert	22-5-2012
Johan Nooitgedagt	Dutch Fisherman's association	President of Dutch Fisherman's association	23-5-2012
Janny Du Bois – Minholts	Royal Dutch Sailing Association	Regional representative of Royal Dutch Sailing Association	29-5-2012
Bernard Baerends	Ministry of Economic affairs and Agriculture, Regional Policy	Project leader TWSC, observer of WSF	30-5-2012
Josien Steenbergen	IMARES	Fisheries researcher	27-6-2012
Floor Quirijns	IMARES	Senior Fisheries scientist	27-6-2012
Hubertus Hebbelmann (and Margrita Sobottka)	Ministry for Environment, Energy and Climate Protection Niedersachsen	Member of WSB, observer of WSF	11-5-2012
Manfred Vollmer	WSF	Managing director of	08-5-2012

		WSF	
Hans Ulrich Rösner	WWF	Head of WWF Wadden Sea office, observer WSB, member of WSF	20-5-2012
Richard Czeck	Wadden Sea National Park Authority of Lower Saxony	Member of TSEG	13-7-2012
Klaus Koßmagk- Stephan	National Park Authority Schleswig- Holsteinisches Wattenmeer	Member of TG-M, observer of WSF	15-5-2012
Gerald Millat	Wadden Sea National Park Authority of Lower Saxony	Coastal fisheries expert	14-5-2012
Bernd Scherer (and Vera Knoke)	Ministry of Agriculture, Environment and Rural Areas of the State of Schleswig- Holstein	Member of WSB, observer of WSF	16-5-2012
Anne Husum Marboe	Danish Nature Agency, Ministry of Environment	Project coordinator TWSC, observer of WSF	
Norbert Dankers		Researcher who was involved from the beginning	21-12-2011

Joint Declaration on the Protection of the Wadden Sea

9th December 1982

The Netherlands Germany Denmark

THE GOVERNMENTS of the Kingdom of Denmark, the Federal Republic of Germany and the Kingdom of the Netherlands;

CONSIDERING that the Waddensea region is a unique natural area whose biological, scenic and scientific significance is of international importance;

RECOGNIZING the special importance of the Waddensea region as a natural entity, as a vital element in the west-paleartic flyway for migratory birds and as a nursery for marine organisms;

RECOGNIZING their responsibilities for the conservation of the ecosystem and the biological values of this region and its components as well as its natural beauty;

BEARING IN MIND the obligations resulting from international legal instruments relevant in the field of natural environment protection, in particular:

- the Convention on Wetlands of international importance especially as Waterfowl Habitat (Ramsar, 2 February 1971);
- the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 23 June 1979);
- the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19 September 1979);
- the relevant EEC-Council Directives, especially that of 2 April 1979 on the protection of wild birds (supplemented by the council resolution of 2 April 1979);

DECLARE THEIR INTENTION

1 to consult each other in order to coordinate their activities and measures to implement the above mentioned legal instruments with regard to the comprehensive protection of the Waddensea region as a whole including its fauna (marine, terrestrial and avian) and flora with special emphasis on

- resting and breeding areas for seals,
- areas being important as resting, feeding, breeding, or moulting grounds for waterfowl, both in themselves and in their interdependencies;

2 to this end to intensify and broaden the contacts between their responsible administrations. The results of these consultations will be examined and, as appropriate, decided upon at Dutch-German-Danish meetings on governmental level about the Waddensea.

Done at Copenhagen in English this 9th day of December 1982 in three original copies each being authentic.

For the Government of the Kingdom of Denmark
Christian Christensen

For the Government of the Federal Republic of Germany
Hans Jürgen Rohr

For the Government of the Kingdom of the Netherlands
G.J.M. Braks

Cover note Joint declaration 2010

A refreshed Joint Declaration for the Wadden Sea Trilateral Cooperation between Denmark, Germany and the Netherlands

Cover Note

A refreshed Joint Declaration for the Wadden Sea Trilateral Cooperation between Denmark, Germany and the Netherlands

The original *Joint Declaration on the Protection of the Wadden Sea*, which established the Trilateral Cooperation between Denmark, Germany and the Netherlands was signed in 1982. It has served the Cooperation well and, as a result, the Wadden Sea now enjoys a level of environmental protection and wise management that is unprecedented throughout Europe for a transboundary wetland of international importance.

The New Context

Since the original agreement was signed in 1982 many environmental, political, economic and social changes have taken place and the work of the Cooperation has developed. This means that the Joint Declaration has become progressively “dated” as a fundamental document to underpin the Cooperation. Indeed, today, the activities of the Cooperation have progressed well beyond the rather limited scope defined in 1982. Of particular significance are:

- The achievements as well as the need for nature protection in the Wadden Sea, particularly with regard to maintaining the vast and to a large extent undisturbed wilderness and beauty of the ecosystem and the ongoing loss of biodiversity.
- The increased number of legal obligations relating to the Wadden Sea, in particular with regard to EU legislation.
- Commitments made by the countries as parties to international conventions, in particular the Convention on Biological Diversity and the Ramsar Convention on Wetlands.
- The application of an ecosystem approach.
- The strength of scientific evidence about the scale and pace of climate change and the associated rise in sea level.
- The increased attention to the importance of landscape and cultural heritage.
- The increased efforts of public awareness and education of school children, for example the International Wadden Sea School.
- The support for wise use of natural resources and sustainable development.
- The devolution of governmental responsibilities to regional and local levels.
- The improved interest of civil society in the environment and the need to involve stakeholders in decision-making processes that affect them.
- Co-funding of projects from international sources.

The 2007 Evaluation of the Cooperation

In recognition of these and other developments, the Ministerial Declaration of the Tenth Governmental Conference on the Protection of the Wadden Sea held in Schiermonnikoog 2005 agreed that over the next period the Cooperation should be evaluated, including the organisational structure. This work was undertaken in 2007 by two external consultants,

Dr Mike Moser and Dr Andy Brown, who have extensive experience of environmental governance, wetlands and protected area management. This evaluation was wide ranging and identified the need to clarify the strategic direction of the Cooperation, improve the governance and produce a refreshed Joint Declaration designed to meet the present and future needs of the Cooperation. The results of the Evaluation were generally welcomed by the Cooperation, and a decision was made to prepare a refreshed Declaration.

Main differences between the 1982 Declaration and the 2010 Declaration

The refreshed Declaration will not alter the spirit or legal status of the Cooperation. This will remain a formal (but not legally binding) Cooperation between the governments of the three countries who have responsibilities for the internationally important marine and coastal environment of the Wadden Sea.

The 1982 Declaration:

- Recognised the biological, scenic and scientific importance of the Wadden Sea and its protection.
- Declared their intention to consult each other in order to coordinate their activities and measures, and to intensify and broaden contacts between administrations.
- Specifically emphasised resting and breeding areas for seals and migratory wildfowl.
- Identified specific international legal instruments.

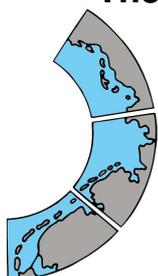
The 2010 Declaration:

- Reconfirms the global biological, scenic and scientific importance of the Wadden Sea and its protection.
- Notes the achievements of the Cooperation to date.
- Recognises the comprehensive nature of the national and international legal regimes affecting the Wadden Sea.
- Highlights some of the more significant challenges ahead, including the continued and severe pressure on biological diversity, the effects of climate change, sea level rise and the preservation of landscape and cultural assets.
- Identifies the essential need for active support and involvement of public and private sectors, non-governmental organisations and civil society in the future management of the area.
- Recognises the increased attention to the importance of landscape and cultural heritage.
- Establishes the objectives of the Cooperation.
- Includes the Guiding Principle, a vision and the precautionary principle.
- Identifies the application of Integrated Coastal Zone Management.
- Defines the geographical basis of the Cooperation.
- Establishes the governance arrangements.

The Netherlands

Germany

Denmark



2010 Joint Declaration on the Protection of the Wadden Sea

Working together to meet present and future challenges

THE GOVERNMENTS of the Kingdom of Denmark, the Federal Republic of Germany and the Kingdom of the Netherlands:

REALISE that the Wadden Sea, encompassing the coastal zone from Den Helder in the Netherlands to Blåvands Huk in Denmark, is an exceptional ecosystem of world importance, and also together with its cultural landscapes, is a shared responsibility of the three countries;

RECALL their Joint Declaration in 1982 to cooperate on the Protection of the Wadden Sea, and the many achievements of their cooperation and in particular the high level of nature protection and wise management unprecedented throughout Europe for a transboundary wetland especially with regard to legal protection, harmonised targets, common policy and management, integrated monitoring and assessment procedures and involvement of civil society;

CONSCIOUS that the precious ecosystem of the Wadden Sea and its remarkable biodiversity deserves world class conservation measures;

CONSCIOUS ALSO of the unique landscape and cultural heritage of the Wadden Sea, which complements the natural heritage, and on which an extensive cooperation has developed;

REALISE that the Wadden Sea is an area where people live, work and recreate and whose interests and benefits are an integrated part of our common policy;

RECOGNISE that the safety of inhabitants from flooding must be secured through appropriate coastal defences;

NOTE that since their 1982 Joint Declaration the Wadden Sea has benefited from a comprehensive national and international nature conservation regime, including protection under European legislation, in particular the Birds and Habitats Directives and the Water Framework Directive and that there is a need to further coordinate and harmonise their efforts to ensure effective and consistent implementation of these obligations;

ACKNOWLEDGE the progress which has been made on other issues related to the protection of the Wadden Sea including the designation of a number of National Parks and Biosphere Reserves, education and the sustainable development of the Wadden Sea Region, and the designation by the International Maritime Organization (IMO) as a Particularly Sensitive Sea Area (PSSA) because of its vulnerability to damage by international maritime activities.

AWARE of the many present and future challenges to the protection, restoration and sustainable use of the Wadden Sea, in particular the long term impacts of pollution, climate change and sea level rise and the loss of biodiversity and of the necessity of raising awareness for these challenges on the basis of this declaration;

CONCERNED to ensure that further progress is made in restoring the natural ecosystem functions, improving water quality, integrating cultural and landscape heritage, and reducing the negative environmental impacts of developments;

RECOGNISE the need to continue to enhance their efforts to protect and conserve the Wadden Sea as an ecological entity and its landscapes and cultural heritage and to promote Integrated Coastal Zone Management;

RECOGNISE ALSO the essential need for active support and involvement of all relevant stakeholders in the future protection and management of the area;

REAFFIRM their intention to consolidate the existing cooperation between the States in consultation with the other governmental bodies involved, and to continue to manage the Wadden Sea as a single ecological entity for its natural, landscape and cultural heritage values, for the benefit of present and future generations.

THE PARTICIPATING GOVERNMENTS SHARE THE VIEW ON THE FOLLOWING

1. Geographical Area of Cooperation

1.1 The participating Governments have previously identified a Wadden Sea Cooperation Area and within this a Nature Conservation Area as the geographical basis of their Cooperation:

The Wadden Sea Cooperation Area in short 'Wadden Sea Area':

- the area seaward of the main dike, or where the main dike is absent, the spring-high-tide waterline, and in the rivers, the brackish water limit;
- an offshore zone 3 nautical miles from the baseline as fixed nationally or where the Nature Conservation Area exceeds the 3 nautical mile, the offshore boundaries of the Nature Conservation Area;
- corresponding inland areas to the designated Ramsar and/or EC Bird Directive areas being the adjacent inland marsh areas of the Danish Wadden Sea Region designated as international nature protection areas and the Bird Directive Areas of Schleswig-Holstein adjacent to the Nature Conservation Area;
- the islands.

The 'Nature Conservation Area':

- In the Netherlands, the areas under the Key Planning Decision Wadden Sea;
- In Germany, the Wadden Sea national parks and the protected areas under the Nature Conservation Acts seaward of the main dike and the brackish water limit;
- In Denmark, the Wildlife and Nature Reserve Wadden Sea.

1.2 The current extent of the Wadden Sea Area and the Nature Conservation Area are shown in Annex 1 to this Declaration and this may be amended from time to time by the responsible authorities.

1.3 The protection and management of the Wadden Sea Area and the Nature Conservation Area require consideration of impacts which may arise outside these areas and these should be addressed as necessary.

1.4 For the specific purposes of cooperation on landscape and cultural heritage the Wadden Sea Area, and an area beyond, has been identified to include the main cultural entities and is shown in Annex 2 to this Declaration. Activities on landscape and cultural heritage should be carried out by, or in close cooperation with all relevant administrative levels and with support of the people living and working in the region.

2. Guiding Principle and Vision

2.1 The participating Governments reconfirm the guiding principle for the Nature Conservation Area:

To achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way.

The principle aims at:

- i. maintaining the water movements and the attendant geomorphological and pedological processes;
- ii. improving the quality of water, sediment and air;
- iii. safeguarding and optimizing the conditions for flora and fauna including:
 - a. preservation of the Wadden Sea as a nursery area for North Sea fish;
 - b. conservation of the feeding, breeding and roosting areas of birds, and the birth and resting areas of seals as well as the prevention of disturbances in those areas;
 - c. conservation of salt marshes and dunes;
- iv. maintaining the scenic qualities of the landscape, in particular the variety of landscape types and the specific features of the wide, open scenery including the perception of nature and landscape.

2.2 Recognising the fundamental nature of the guiding principle the participating Governments have developed a vision for the Wadden Sea

The Wadden Sea is a unique, natural and dynamic ecosystem

with characteristic biodiversity, vast open landscapes and rich cultural

heritage, enjoyed by all, and delivering benefits in a sustainable way to present and future generations.

2.3 In the measures they take the participating Governments will allow themselves to be guided by the Precautionary Principle and Article 6 of the Habitats Directive.

3. Objectives for the Cooperation

3.1 The participating Governments aim to achieve:

- a. A natural ecosystem, its functions and characteristic biodiversity.
- b. Resilience to climate change and other impacts.
- c. Maintenance of the landscape and cultural heritage.
- d. Sustainable use as defined by the Convention on Biological Diversity and as referred to in the Habitats Directive.
- e. Public support for the protection of the Wadden Sea.

3.2 The participating Governments share the view that unreasonable impairment of the interests of the local population and its traditional uses in the Wadden Sea Area have to be avoided and that any user interests have to be weighed on a fair and equitable basis in the light of the purpose of protection in general, and the particular case concerned.

4. Areas of Cooperation

The participating Governments will pursue these objectives through:

- a. The development and implementation of plans, policies and projects to maintain and enhance the natural values, landscape and cultural heritage of the Wadden Sea.
- b. Coordinated and consistent management, including the production and implementation of a periodically updated Wadden Sea Plan as a joint management plan to address the requirements of EC Directives and other future needs.
- c. Applying the concept of Integrated Coastal Zone Management.
- d. Contributing to secure sustainable development possibilities for the Wadden Sea taking account of the natural and cultural values.
- e. Coordinating and commissioning research and monitoring to improve understanding of the Wadden Sea ecosystem and changes to it.
- f. Providing further opportunities for the public, with a specific focus on young people, to learn about, enjoy and experience the Wadden Sea, including the cross border context.
- g. Involving all relevant stakeholders and considering their concerns in an adequate manner.
- h. Intensifying international cooperation in relevant fields.
- i. Raising the international profile of the Wadden Sea.

5. Institutional and Financial Arrangements

5.1 The participating Governments will, in order to modernize the organisational structure of the Cooperation, establish a Trilateral Wadden Sea Governmental Council, composed of the responsible ministers of the participating Governments to oversee the Cooperation, provide political leadership and strategic guidance.

5.2 They will also establish a Wadden Sea Board as the governing body of the Trilateral Wadden Sea Cooperation to be responsible for the implementation of the Joint Declaration and other Council decisions, preparation, adoption and implementation of the Strategy of the Cooperation, trilateral measures and activities, monitoring performance and accountability, and for ensuring strong relations with key stakeholders.

5.3 The Board will adopt rules of procedure and financial regulations for the organisation and management of its activities, and in particular:

- a. Each of the participating national Governments will continue to fund one third of the costs of the Secretariat.
- b. Projects may be funded on a unilateral, bilateral or trilateral basis.
- c. Other sources of funding will be pursued as necessary and the appropriate arrangements established to manage such funds.

5.4 The Common Wadden Sea Secretariat (CWSS) will be supervised by the Board, and will support the Council and the Board and the implementation of the policies and projects agreed by them in accordance with the Administrative Agreement on a Common Secretariat for the Cooperation on the Protection of the Wadden Sea.

This Declaration supersedes the original 'Joint Declaration on the Protection of the Wadden Sea' signed in 1982.

Signed in English this [add date] in three original copies each being authentic.

For the Government of the Kingdom of Denmark

[insert name and signature]

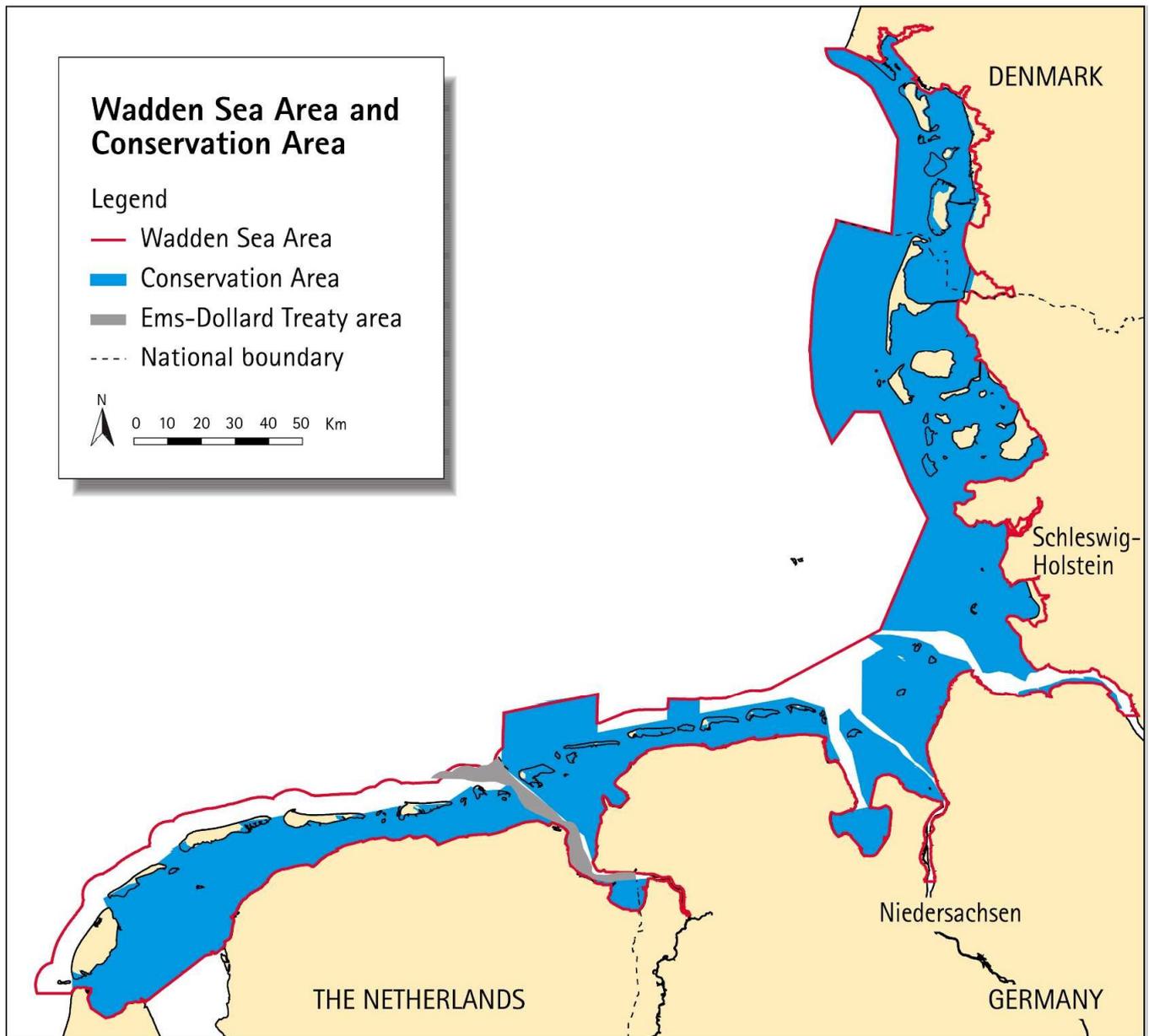
For the Government of the Federal Republic of Germany

[insert name and signature]

For the Government of the Kingdom of the Netherlands

[insert name and signature]

Annex 1 Wadden Sea Area and Nature Conservation Area
Annex 2 Cultural Entities



Annex 3: Establishing economic performance indicators

Regional definition of the Wadden region

The following NUTS3-regions have been selected for inclusion in the Wadden region:

Table A3.1 Regional classification of the Wadden region

Denmark	Syddjylland
Germany	Bremerhaven, Kreisfreie Stadt
	Cuxhaven
	Stade
	Emden, Kreisfreie Stadt
	Wilhelmshaven, Kreisfreie Stadt
	Aurich
	Friesland (DE)
	Leer
	Wesermarsch
	Wittmund
	Dithmarschen
	Nordfriesland
	Pinneberg
	Steinburg
Netherlands	Groningen
	Friesland (NL)
	Kop van Noord-Holland

Source: TNO based on Eurostat

This regional classification roughly follows the definition by the Wadden Sea Forum (Wadden Sea Forum, 2010), with the exception of the Danish Wadden area. The WSF identifies the municipalities of Blavandshuk, Varde, Esbjerg, Fanø, Bramming, Ribe, Skærbæk, Bredebro, Højer and Tønder (Figure 3.2; Wadden Sea Forum, 2010). However corresponding economic data for these were not found – neither on Eurostat, the Danish statistical office’s website (www.statbank.dk) or on municipality websites. There we followed the classification on Eurostat which identifies Syddjylland as the encompassing NUTS3-label for the Danish area. The implication is the Danish part of the Wadden region is taken too large.

Data were collected for the resulting Wadden classification. These were supplemented with country data for Denmark, Germany, the Netherlands and the EU27 for the sake of comparison.

The following indicators were collected, where possible over the 1996-2009 period:

- Value added: current market prices and constant market prices 2005, using a division in 6 NACE 1.1. sectors: Total - all NACE activities
 1. Agriculture; fishing
 2. Industry (except construction)

3. Construction
 4. Wholesale and retail trade; hotels and restaurants; transport
 5. Financial intermediation; real estate
 6. Public administration and community services; activities of households
- Population: total, 0-15, 15-64 and 65+
 - Surface area
 - Economically active population. There were not enough regions and years covered to present useful information.
 - Unemployment (insufficient data at NUTS-3 level)
 - Labour productivity: employed persons, average hours worked by country

These source data enabled us to establish a number of composed indicators as well: population density, income per capita and labour productivity. Average annual growth figures for value added were combined with relative sector shares to identify relatively large and growing sectors.

Annex 4: Marine Stewardship Council

The Marine Stewardship Council (MSC) has become a worldwide fishery standard for principles and criteria for sustainable fishing (MSC, 2010a). MSC is an independent, non-profit organization (MSC, 2011a). The certification program and eco-label of the MSC recognizes and rewards sustainable fisheries worldwide (MSC, 2010a). This MSC collaborates with fishermen, fish industries, scientists, nature organizations and the consumer to promote environmentally friendly fishing and fish products (MSC, 2010a). The MSC has two standards: the environmental standard for sustainable fishing and the chain of custody for seafood traceability (MSC, 2010a).

All fisheries can apply for an MSC assessment (MSC, 2011a). The assessment of the fisheries is guided by a MSC standard for sustainable fishing, including principles and criteria for sustainable fishing (MSC, 2010a). These principles and criteria reflect the meaning of a sustainable fishery, which includes:

- The conservation and the improvement of effective fisheries management systems;
- Taking into consideration all important biological, technological, economic, social, environmental and commercial conditions;
- Agreement with relevant local, national and international laws and standards

The MSC standard for sustainable fishing can be attained by wild-capture fisheries, meeting three principles (sustainable fish stocks, minimized environmental impact and effective management) assessed by 31 criteria (MSC, 2011a). When a fishery receives the MSC standard for sustainable fishing, this is valid for 5 years, but will be evaluated annually (MSC, 2010a).

The MSC chain of custody standard for seafood traceability is developed to ensure seafood products with a MSC eco-label are from a certified sustainable fishery (MSC, 2011b). This certification is just valid for 3 years, with evaluations during that period (MSC, 2011b). Also this assessment is based on principles and criteria, such as a management system, operation of traceability system, no substitution of certified products with non-certified products and a system to ensure identification of all certified products (MSC, 2011b).

The costs can be divided in costs for use of the MSC eco-label and the MSC status assessment (MSC, 2011a; MSC, 2011c). Use of the MSC eco-label by retailers, foodservice companies and suppliers (of the supply chain) incurs cost: an annual fee with a range of \$250 - \$2,000 depending on the value of MSC certified seafood purchased/sold (MSC, 2011c). For the use of the MSC eco-label on consumer products or on menus, royalties (0.5% on the value of seafood that is sold/purchased) have to be paid in addition to the annual fee (MSC, 2011c). The costs of the MSC assessment are approximately \$15,000-\$120,000, depending on the case (MSC, 2011d). Grants are available to partly cover the costs (MSC, 2011d). The average time for an MSC assessment is 18 months but this has a great variance, depending on the fishery (MSC, 2011d).

According to the MSC (2011e), the status of the MSC eco-label is its confirmation of sustainability, an assurance for buyers that the fish comes from a well-managed and sustainable source and a competitive advantage at the market. Benefits of the MSC eco-label are access to new markets and secure contracts, conservation and protection of fish species and their habitats, potential for higher

fish product prices, credible sustainability chain (trust mark) and an improved reputation (MSC, 2011e).

Evaluations of the Marine Stewardship Council certification scheme conclude that this fishery certification does not solve problems like overfishing and depletion of fish stocks but nonetheless environmental impacts of certified fisheries declined in general (Martin et al., 2012; Gulbrandsen, 2009). According to Ponte (2012), the MSC created a market for 'sustainable fisheries' rather than the 'sustainable fisheries' themselves.

A7.5 Case study report: The southern North Sea case study, Skagerrak sub-case study

Basic details of the case study:

Initiative	The conservation of porpoise in SACs in the Danish Skagerrak
Description	Conservation of harbour porpoises within and around SACs in the Danish part of the Skagerrak; and reducing impacts of fishing
Objectives	Nature conservation / MPAs: To restore and maintain the harbour porpoise conservation features represented in the SAC
Scale	Two specific <i>Natura 2000</i> sites (combined area just under 3000 km ²)
Period covered	1998-2013
Researchers	Thomas Kirk Sørensen, Lotte Kindt-Larsen (National Institute of Aquatic Resources, Technical University of Denmark)
Researchers' background	Natural Science
Researchers' role in initiative	Scientific advisers to stakeholders and government within the initiative

The next 26 pages reproduce the case study report in full, in the format presented by the authors.

The report should be cited as:

Kirk Sørensen, T; Kindt-Larsen, L. (2012) *Governance analysis, WP6. Case study: Skagerrak Sea. A case study report for Work Package 6 of the MESMA project* (www.mesma.org). 26pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.



Governance analysis

WP 6

Case study: Skagerrak Sea

By: Thomas Kirk Sørensen & Lotte Kindt-Larsen

December 2012



Introduction

This report represents a governance analysis contributing to the EU-FP7 project MESMA which focuses on the monitoring and evaluation of marine spatially managed areas. The governance analysis represented within this report focuses on two areas which have been selected as Natura 2000 sites for protection of harbour porpoises in Danish waters. The process of implementing the Natura 2000 sites is just in its beginning phase and the report therefore only analyzes the first steps of an ongoing process.

The report is made by the Technical University of Denmark (DTU Aqua). DTU Aqua has not played a role in the selection of the sites but does support the implementation processes by delivering scientific data for stakeholder meetings and data requests from the involved ministries. The report therefore draws on personal experiences from the authors, but also contains stakeholder views based on interviews and information from available literature.

1. Context

1.1 About the initiative

Initiative: Conservation of harbour porpoise populations within and around Natura 2000 SACs in the Danish part of the Skagerrak; and reducing impacts of fishing

Location & Geographical boundary of the existing initiative

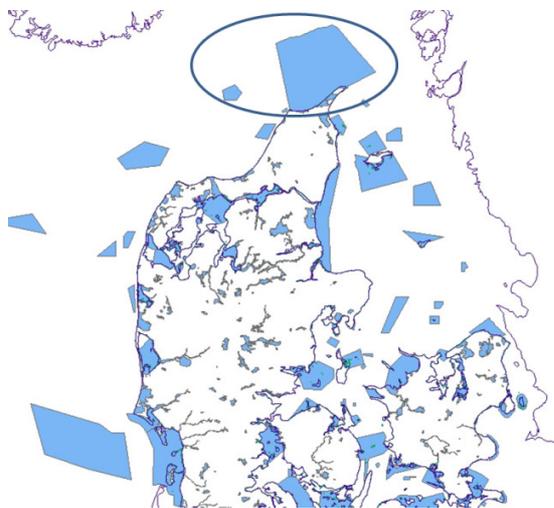


Figure 1 Danish SACs. Study area encircled.

The Danish part of the Skagerrak Sea is a transition zone between the North Sea and the Kattegat Sea and inner Danish waters. The area of interest consists of two large Natura 2000 SACs off the northern tip of Denmark: Skagens Gren & Skagerrak and Store Rev. Skagens Gren is approximately 117 km² (268.500 ha) in size and is designated to protect especially harbour porpoises, although sandbanks are also included as a habitat to be protected. Store Rev is also designated to protect harbour porpoises, along with reefs and bubbling reefs (focus of case study is on harbour porpoises). The boundaries of both SACs are clearly defined in Danish legislation and reported to the European Commission.

History of the existing initiative (how and why it was established)

Increases in human activities in the marine environment have led to a need for protection of vulnerable areas, bird-, fish-, and marine mammal species. The Birds Directive and the Habitats Directive have been the motivating forces for EUs nature conservation and protection plans. Both directives attempt to protect biodiversity on land and at sea within the EU. Under both directives Member states are obliged to designate areas in their marine environments to protect the threatened species and habitats. The

protected areas of both the Bird Directive and Habitats Directive together make up the protected area network called Natura 2000.

Skagens Gren & Skagerrak

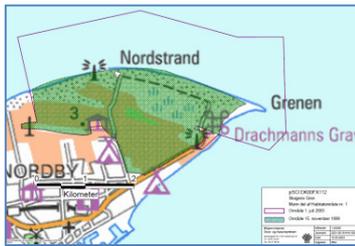


Figure 2: Original area of Skagens Gren

Originally designated under the Habitats Directive in 1998 (legislation: A) the site included only terrestrial habitats (approx. 580 ha, Figure 2). In 2003 the site was expanded to include approx. 740 ha of adjacent coastal waters (legislation: B). However, no specific marine Natura 2000 species or habitats were included in this designation.

In 2010 the site was expanded to include the marine areas that currently make up the majority of the site (Figure 3; legislation: C). The expansion led to a name change for the site from *Skagen Gren* to *Skagens Gren & Skagerrak* and now included protection of both sandbanks (not yet mapped) and harbour porpoises.

- A. Departmental order number. 782, 1. November 1998
- B. § 5 Departmental order number. 477, 7. June 2003)
- C. § 1 Departmental order: BEK nr 63 of 11/01/2010 Gældende

Store Rev

Sidescan and video surveys have in 2007 revealed the presence of boulder reefs and bubbling reefs in the *Store Rev* area. As a result, Store Rev was designated as an SAC in 2010 to protect these habitats along with harbour porpoises.

Competent authority/authorities

The Danish Ministry of the Environment has the overall national responsibility for the proper implementation of the Habitats Directive. This responsibility is in this case lifted by the Ministry's Nature Agency (<http://www.naturstyrelsen.dk/International/English/>). However, the Ministry of the Environment has delegated responsibility to the various sectoral ministries.

The Ministry of Food, Agriculture and Fishery has the responsibility to ensure that the fisheries and aquaculture sectors are not a hindrance to the achievement of favourable conservation status for species and habitats. If it is deemed necessary, the Ministry of Food, Agriculture and Fishery and its AgriFish Agency (<http://agrifish.dk/home.aspx?ID=16472>) must carry out measures to protect the species and habitats from any threats originating from fishing activity. This legal obligation is written into Danish fisheries legislation (LBK nr 978 of 26/09/2008). (See also 1.2)

Main sectors and stakeholder groups involved in the initiative

The main sectors involved in the Skagens Gren & Skagerrak initiative are:

- Danish Ministry of the Environment incl. Nature Agency
- Ministry of Food, Agriculture and Fisheries incl. AgriFish Agency
- Fishing sector
- Environmental NGOs such as WWF, Greenpeace, Levende Hav, Danmarks Naturfredningsforening, Oceana



Figure 3: The new designation of Skagens Gren and Skagerrak.

1.2 The socio-economic and political context of the case study

Denmark Statistics

Per capita GDP (2011)	\$37,600
Population density per km2 (2010)	130,67
GDP growth rate (2011)	1.1%
Economic structure (2011)	agriculture: 1.3%; industry: 22.1%; services: 76.7%
Contribution of maritime sectors to the national economy	Fishing, oil/gas, transport/harbours, recreation, renewable energy, marine aggregates (e.g. sand)
Unemployment rate (2012)	7,7 %
Administrative structure *	<pre> graph LR DP[Danish parliament] --- G[Government] G --- ME[Ministry of environment] G --- MFA[Ministry of food, agriculture and fisheries] G --- MCEB[Ministry of climate, energy and building] G --- MBG[Ministry of business and growth] G --- MT[Ministry of Transport] G --- OM[14 other Ministries] ME --- NA[Nature Agency] MFA --- AA[Agrifish Agency] MCEB --- EA[Energy Agency] MBG --- MA[Maritime Authority] MT --- DCA[Danish Coastal Authority] </pre>
Governance capacity index (2010)	1.82
Gini index (2011)	24.8 (ranked 133th out of 136 countries documented in CIA's World Fact Book)

* The Danish Parliament consists of 179 members elected by the Danish people. The current Government has 19 ministries. Five of these ministries are involved in the administration of the marine environment: Ministry of Environment; Ministry of Food, Agriculture and Fisheries; Ministry of Climate, Energy and Building; Ministry of Business and Growth; Ministry of Transport. Under the mentioned ministries lie The Nature, Agrifish, Energy, and Maritime Agencies, respectively, which are all involved in marine/maritime management. The Danish Coastal Authority under the Ministry of Transport is responsible for managing the Danish State's sovereignty over territorial waters: on a practical level this deals mainly with cables/pipelines and other constructions at sea, coastal erosion, maritime security, ports etc.

1.3 The regional policy framework within which your specific WP6 focus is 'nested', eg regional sea action plans.

The specific focus within MESMA of the Skagens Gren & Skagerrak and Store Rev case study is to *restore and maintain the harbour porpoise conservation features represented in the SAC*. This relates mainly to the following policy frameworks (of which the Habitats Directive is most central).

Habitats Directive

The Skagens Gren & Skagerrak SAC is nested primarily in the Habitats Directive. In relation to the Habitats Directive *favourable conservation status* is the only stated benchmark.

The EC Common Fisheries Policy (CFP)

The EC Common Fisheries Policy (CFP) aims among other things to ensure sustainable exploitation of living aquatic resources. Meanwhile, the Habitats Directive obliges Member States to provide strict protection to certain cetaceans (incl. the harbour porpoise) and to monitor the conservation status of these species. The CFP addresses this issue through CFP Regulation 812/2004 *Council Regulation laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98*. Regulation 812/2004 states that Member States should establish a monitoring system to register the *incidental catches* of these species. The Member States should also take action and do further research to ensure that the incidental catches do not have a significant impact on the species concerned and the marine ecosystem (EC 2004). The Regulation lays down measures aimed at mitigating incidental catches of cetaceans by fishing vessels. This Regulation pursues a double objective. Firstly, it introduces technical measures concerning gill nets (incl. mandatory acoustic deterrent devices aka *pingers*) and trawls in specified areas (see Annex 1 of the regulation). Secondly, it creates a monitoring system on board fishing vessels to obtain information on by-catches of cetaceans in "at risk" fisheries. This regulation applies to specific areas and fishing techniques. These specific areas and techniques can be found in annex 1 of the regulation (EC, 2004).

Council Regulation (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund (EFF):

The European Fisheries Fund (EFF) aims to contribute to realising the Common Fisheries Policy (CFP) objectives, which specifically consist of ensuring the conservation and sustainable use of marine resources. In order to achieve this, the Fund provides financial support aimed at e.g.:

- ensuring the long-term future of fishing activities and the sustainable use of fishery resources;
- fostering the protection of the environment and the conservation of marine resources.

ASCOBANS

The Agreement on the conservation of small cetaceans of the Baltic and North seas (ASCOBANS) is another policy framework relevant to conservation of harbour porpoises. The agreement entered into force in 1994 with the aim of promoting close cooperation between countries with a view to achieving and maintaining a favourable conservation status for small cetaceans throughout the Agreement Area (the Baltic Sea and North Sea). Different rules are described in the agreement regarding habitat conservation and management. Furthermore, the agreement mentions surveys and research as a tool to reduce the catch of small cetaceans. In relation to e.g. ASCOBANS the aim is to reduce bycatch to levels not exceeding 1,7% of the population. Indicators and benchmarks will be elaborated within sub-case study work.

The Marine Strategy Framework Directive

11 descriptors of GES have been developed, a number of which are directly relevant for harbour porpoise management, e.g. descriptors relating to e.g. food webs and biodiversity.

OSPAR

The OSPAR Convention on the protection of the marine environment of the North-East Atlantic was adopted in 1992 and entered into force on 1998 (OSPAR 1992). The OSPAR Convention has as main goal to prevent and stop the pollution of the marine environment and to protect the maritime area against the adverse effects of human activities in order to protect human health and the marine ecosystem. Furthermore, it aims to maintain and, when practicable, restore marine areas that are affected. Besides, it aims to achieve sustainable management of the maritime area covered by the OSPAR Convention. The OSPAR convention applies to the Northeastern part of the Atlantic Ocean, which also covers the North Sea (OSPAR 1992). As many of the potential measures to protect and conserve harbour porpoises fall within the remit of fisheries organisations or ASCOBANS, *OSPAR has not adopted separate measures.*

2. Objectives and management measures

2.1 Objective

Priority objective: To restore and maintain the harbour porpoise conservation features represented in the SACs. In practice we consider this *synonymous with favorable conservation status.*

2.2 Relevant Danish Laws

“Law on Environmental Objectives”

Danish title: [Miljømålsloven](#)- Bekendtgørelse af lov om miljømål m.v. for vandforekomster og internationale naturbeskyttelsesområder LBK nr 932 af 24/09/2009

The “Law on Environmental Objectives” is the national implementation of the Water Framework Directive and fundamental aspects of the Habitats Directive, i.e. establishing a framework for the protection of surface and groundwater as well as planning aspects related to “international protected areas” (e.g. Natura 2000, RAMSAR), respectively. The latter is related mainly to official designation of sites, overall objectives, time frames for implementation, public hearings, etc. and overall general content of Natura 2000 management plans. The law also describes the mechanisms through which sectoral responsibility is legally delegated to relevant ministries in relation to Natura 2000 implementation.

“Law on changes in designated areas” (authors’ translation)

Danish title: [Bekendtgørelse om ændring af bekendtgørelse om udpegning og administration af internationale naturbeskyttelsesområder samt beskyttelse af visse arter.](#) BEK nr 63 af 11/01/2010 Gældende.

This law complements earlier legislation on designation of Natura 2000 sites. The current configuration of the *Skagens Gren & Skagerrak* SAC stems from this law.

“Nature protection law”

Danish title: *Naturbeskyttelsesloven – Bekendtgørelse af lov om naturbeskyttelse LBK nr 933 af 24/09/2009*

The aim of the “Nature Protection Law” is to protect nature, with its population of wild animals and plants and their habitats and the scenic, historical, scientific and educational values that enhance, restore or create areas that are of importance for wild animals, plants, landscape, cultural and historical interests, and provide the Danish population access to move and reside in the countryside and improve opportunities for outdoor recreation. This law is unique in the sense that its jurisdiction encompasses the entire Danish territory incl the Exclusive Economic Zone.

In relation to Natura 2000 the Nature Protection Law is quite practical in the sense that it deals with e.g. environmental impact assessments for activities within Natura 2000 sites and other more practical issues. It tends to be formulated to address mostly terrestrial issues.

Of particular relevance to harbour porpoises (author’s translation):

§ 29 a. Animal species mentioned within annex 3 (including harbour porpoises) may not be disturbed with adverse effects on the species or stock. The ban applies to all life stages of the enrolled species.

Paragraph 2. Breeding and resting areas belonging to species listed in annex 3 may not be damaged or destroyed.

§ 29 b. The minister may draw up management plans and implement other measures, including financing initiatives, for conservation of the species or population mentioned in annex 3.

§ 30 Paragraph 2. The Minister of Environment implements conservation measures necessary to ensure that pressures do not result in a substantial negative effect on the conservation status of the species listed in annex 3 when they are incidentally caught or killed. Conservation measures are implemented due to surveillance or further studies.

“Law on classification and determination of goals for status of nature in international protected areas” (authors’ translation)

Danish title: Bekendtgørelse om klassificering og fastsættelse af mål for naturtilstanden i internationale naturbeskyttelsesområder BEK nr 815 af 27/06/2007 Historisk

This law contains the rules for classifying and determining goals for the status of nature in international protected areas as a part of Natura 2000 legislation and planning. Nothing specific is mentioned for porpoises.

“Marine strategy law” (Implement the marine strategy within DK)

Danish Title: Havstrategiloven- Lov om havstrategi LOV nr 522 af 26/05/2010

The “Marine Strategy Law” aims to establish a framework for the measures to be implemented to achieve or maintain *good environmental status* of marine ecosystems and allow sustainable use of marine resources. This law is the official transposition of the MSFD into Danish law. In relation to marine protected areas, the national law mirrors the content of the MSFD and considers Natura 2000 to be a cornerstone in establishing an ecologically coherent network of MPAs.

National fisheries law (Implement the Common Fisheries Policy within DK)

Danish Title: Fiskeriloven-Bekendtgørelse af lov om fiskeri og fiskeopdræt LBK nr 978 af 26/09/2008

The National Fisheries Law aims, through management that protects living resources in salt and fresh water and protects animal and plantlife, to secure a sustainable base for commercial fishing and related industries including the possibility of a recreational fishery.

In particular (author’s translation):

§ 10 d. The minister of Food, agriculture and fisheries determines rules on fisheries and aquaculture to avoid deterioration of natural habitats of species in international protected areas selected under the Habitat Directive.

Plan for porpoise protection

Danish title: Handlingsplan for beskyttelse af marsvin 2005

Summary of existing obligations (EU, ASCOBANS) and a national plan to achieve the goals. The plan is however not legally binding and is being revised December 2012.

2.3 Measures and actions

At this stage there is no site specific measure to manage fisheries. However a dialogue forum and a porpoise action group have been established (the two groups are described below).

2.4 Other

The current main conflict is between the fisheries and porpoises. According to the national fisheries law fisheries are allowed in the areas, and gear types such as gillnets are legal. Basically it is a question of how spatial management of fisheries (incl. technological solutions/measures) within the site can mitigate this conflict.

Currently CCTV trials monitoring bycatch of porpoises may likely be stated as an action or measure from the Agrifish Agency, since the trials were intended to document whether or not CCTV cameras were applicable onboard vessels less than 15m and if cameras could document bycatches of porpoises. The area of where the study should be conducted was however not specified within the project description.

3. Conflicts

Primary conflicts:

The main known threat to porpoises in the areas is the risk of entanglement in gillnets. In DK total estimates of harbour porpoises bycatch have only been recorded in the North Sea. High bycatches were found in the bottom-set gillnet fisheries for turbot (*Psetta maxima*), cod (*Gadus morhua*), hake (*Merluccius merluccius*), and plaice (*Pleuronectes platessa*) (Vinther, 1995; 1999). A total of 325 harbour porpoises were reported as bycatch from 5591 km net. Extrapolation of the observed data from the North Sea gave an estimated total annual bycatch of 6785 porpoises in the period 1994-1998. Unfortunately, data was not sufficient to estimate the total bycatch for other areas. Vinther and Larsen (2004) estimated the bycatch from 1987-2001 in the North Sea, by using the 1992-1998 data from Vinther (1999) and additional bycatch data from the period 1998-2001. When using landings-based extrapolation, the mean estimated total annual bycatch was 5817 harbour porpoises, while the effort-based estimates had a total annual mean of 5591 harbour porpoises. Both methods estimated a significant reduction in bycatch in the recent years due to a reduction in fishing effort and landings (Vinther & Larsen, 2004). No other bycatch estimates exist from Danish seas.

The highest risk of entanglement happens in the gillnet fishery where fishers leave their nets on the sea bed. Porpoises are able to navigate by the use of echolocation and their hearing is so developed that they actually can detect fishing nets. The main reason why they get entangled is therefore not known. But potential reasons could be that the echo from the gillnet is masked by back ground noise, that porpoises hear the barrier ahead but do not classify it as a threat, that they are disturbed by other porpoises or are too focused on their prey. Until now the only known method to avoid bycatch of harbour porpoises is to attach pingers (acoustic alarms) to the nets.

Figure 4 below shows the porpoise densities in the areas made from satellite tracks of captured and marked porpoises.

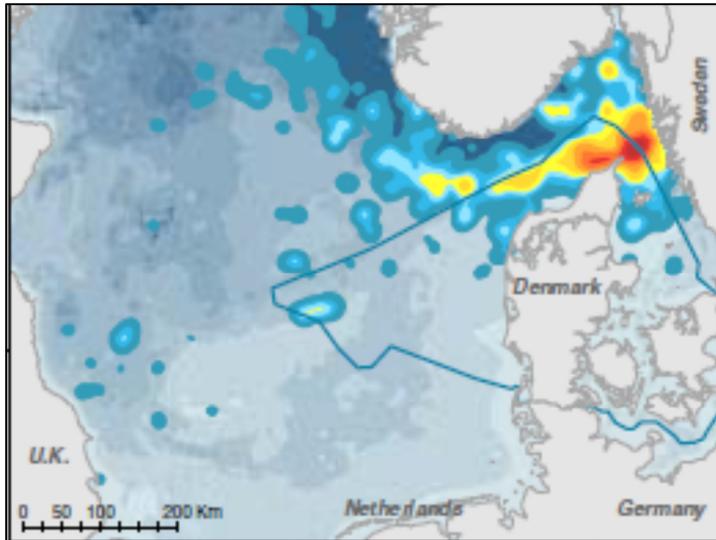


Figure 4 High density areas of porpoises made from satellite tracks (DMU, 2008).

Figure 5 below indicates the conflicts between porpoises and gillnetters for Store rev and Skagens Gren. Figure 5 (left) shows fishing positions data from gillnet vessels larger than 15 m and the boundaries of SMA. The VMS data shows that the fisheries have high use of Store Rev while the Skagens Gren serves as a less important fishing area for this type of vessels. The reason for the intensive fishery at Store Rev is that the reef serves as a closed area for trawl fishery since their gear will be destroyed when trawling over reefs. This however makes it possible for the gillnet fishers to set their gear without having it towed away by trawls.

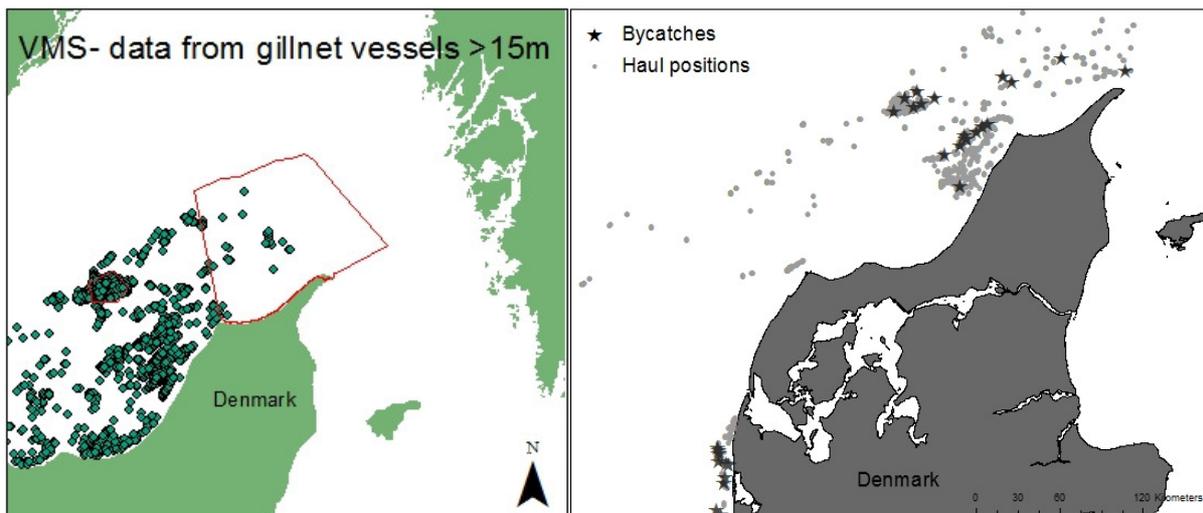


Figure 5: (Left) shows gillnet fishing positions from VMS data from vessels larger than 15m. (Right) Show the results from the Danish CCTV trial.

Figure 5 (right) shows data collected by 4 gillnet vessels equipped with CCTV cameras monitoring fishery and bycatch of porpoises (more project details are given in Appendix I). The data show that a lot of their fishery is centered in Store Rev while only a minor part takes place in Skagens Gren. Porpoises are bycaught at Store Rev but quite a large proportion is taken in an area north/east of store Rev where no SMA is designated.

Secondary conflicts:

Trawl fishery for prey species

Trawl fishery has not been found to have high bycatches of harbour porpoises. However a conflict between porpoises could arise if the trawl fishery targets the porpoise's prey items. Since porpoises swallow their prey whole it is only fish <28cm that have their interest. Porpoises are very opportunistic and eat a variety of fish (e.g. cod and herring which are of high value for the industry). This current analysis does not evaluate the magnitude of this particular conflict.

Trawl fishery competition for space

Trawl fishery also conflicts with the gillnet fishery since no gillnet fishery can be conducted in areas of high trawling. The trawl fishery therefore limits the gillnet fishery to be centered in certain non-trawled areas which makes the gillnet fishery very inflexible for moving into other areas. This in turn creates additional pressure on the economic foundation of gill-netters if fishing grounds are lost due to porpoise conservation, which was also expressed in interviews with fishermen.

Pingers (acoustic alarms/deterrents)

As mentioned above pingers are until now the only technical option available to reduce bycatch of porpoises in the gillnet fishery. However, pinger use has caused great concern especially in relation to: compliance, high costs, handling problems, noise pollution problems, potential habituation effects and habitat exclusions. So even though pingers can reduce bycatch of porpoise they might potentially be problematic if they are employed on a large scale or with high densities within porpoise Natura2000 sites. If pingers are implemented in the areas it is very important to acknowledge and investigate any potential negative effects.

4. Governance approach and effectiveness

4.1 Governance approach

The delineation of the SACs by the Ministry of Environment has been a top-down process, which is in accordance with the Habitats Directive (i.e. no socio-economic considerations). The current management challenges regarding protection of porpoises from bycatch in fisheries lies in the Danish Agrifish Agency under the Ministry of Food, Agriculture and Fisheries as mentioned under point 1.1.

The process through which the fisheries authorities are addressing the fisheries management challenge is a combination of different approaches ranging from a top-down approach to bottom-up approaches. The process has been top-down in the sense that it is coordinated by the Danish Agrifish Agency and ultimately it is the Danish Agrifish Agency who has the sole decision making power. However, in order to foster an open and effective dialogue between stakeholders the Danish Agrifish Agency has invited fisheries organizations, environmental organizations and other relevant institutions to join the dialogue group "*Dialog Forum*". The underlying role of these dialogues is that stakeholders will benefit from each

others' knowledge and experience through a series of meetings, each addressing a range of relevant topics. During each meeting the group discusses selected Natura 2000 areas or species, hereby directing the meetings towards specific and detailed discussions on these pre-defined topics. The meetings are informal in nature but points of view are noted and meeting minutes are subsequently sent to participants. In preparation of these meetings the Danish Agrifish Agency relies on scientific background documents provided by independent research institutions such as DTU Aqua, Aarhus University, etc.

The participating organizations are:

Danish Ministry for Food, Agriculture and Fisheries
Danish Agrifish Agency
Danish Fishermen's Association
Greenpeace
World Wildlife Fund
Danish Nature Agency
National Institute of Aquatic resources (DTU Aqua)
Department of Bioscience (Aarhus University)
Danish Sport Fisher Association
Danish Ornithological Society
OCEANA
Danish Recreational fishing associations
Danish Amateur fishing association
Danish Fishermen's Producers' Organization
Danish Pelagic Producers' Organization

Until now (primo 2013) 5 meetings have been held. Notes from all meetings relevant for the two SMAs are given under Appendix II.

Besides the Dialogue forum the Danish Agrifish Agency has set up a group working especially on porpoise issues in relation to Natura2000 areas, i.e. the "*Porpoise working group*". The main focus of the group is to coordinate work in relation to porpoises, by informing about past, ongoing and future studies. The group will also design and carry out projects that will contribute to knowledge on management possibilities such as how porpoises will react if pingers were used implemented within Natura 2000 areas. Notes from all meetings held until now are available in Appendix III. The final management plans for the areas will be a rolling process starting in inner Danish waters since these areas are not covered by EU regulation 812/2004. The Danish Agrifish Agency will, however, still have the sole authority to make decisions regarding the regulation of fisheries to conserve porpoises.

The participating organizations are:

Danish Ministry for Food, Agriculture and Fisheries
Danish Nature Agency
Danish Agrifish Agency
National Institute of Aquatic resources (DTU Aqua)
Department of Bioscience (Aarhus University)

Even though both initiatives such as the Natura 2000 Dialogue Forum and the Porpoise Working Group have been put forward it is still the Danish Agrifish Agency who has the sole authority to decide what should be implemented in the management plans. The groups are only created as a supporting tool, i.e. with none of the groups in any position to make any form of final decisions. The process of using Dialog

Forum as the main discussion for stakeholder interactions is in its beginnings, so with only a handful of meetings held so far it is difficult to tell if the forum has been a success or not.

4.2 Effectiveness of governance approach

The Skagens Gren & Skagerrak and the Store Rev SACs were both designated in 2010, which means that the deadline for implementation of site specific SAC management plans is not impending. As a consequence, the question of the degree to which the priority objective is being effectively achieved cannot be readily answered. For a number of reasons, however, the harbour porpoise has been given a high priority in the national Natura 2000 implementation with the result that there have been relatively many discussions and initiatives surrounding the protection of the species from bycatch in fisheries.

Nevertheless the idea of having both the Natura 2000 Dialogue Forum and the Porpoise Expert Group is to circumvent as many conflicts as possible that might otherwise arise within stakeholder groups and between stakeholders and responsible authorities. Many conflicts from the different parties are however still unsolved, which may be attributed to the fact that development of fisheries management is still in its beginning phases.

5 Incentives

5.1 Economic incentives

E.5 Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority objective, including surveillance and enforcement activities and the use of other economic incentives

The Danish government is financing studies with the aim of collecting data needed to support development of management measures within the study areas. These studies focus on e.g. employment of cameras on board smaller vessels to gain better knowledge on the bycatch rates of this hitherto unexplored segment of the fishing fleet. In addition, the national Danish marine monitoring programme has recently initiated targeted monitoring of harbour porpoises within the study sites.

5.3 Knowledge incentives

K1 Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, *eg* establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge

Scientific uncertainty has to a degree been recognized (on a currently unofficial level) in a harbour porpoise expert group established under the Danish Agrifish Agency. However, no measures have been implemented to address neither this uncertainty.

K2 Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

The Danish government (Danish Agrifish Agency) has, through its mandate in distributing funds available in the European Fisheries Fund provided funding for novel closed circuit camera studies that monitor fisheries and quantify bycatches of harbour porpoises to reduce the large uncertainty that has been prevalent in the scientific knowledge in this field.

K3 Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, etc, eg conducting studies in collaboration with users on the patterns of biodiversity and resource use in the existing initiative, including trends

The Danish government (Danish Agrifish Agency) has established the national "Natura 2000 Dialogue Forum" as a means to convene fishermen and scientists from different fields to gather input for and to discuss various themes related to Natura 2000 implementation. Through discussions in this forum, managers, scientists and stakeholders (NGO's, fishermen) have exchanged views and knowledge on themes identified by the authorities. It is however only the chairmen of fisheries organisations that are invited to the discussion and not local users as such. To date there have been no discussions directly targeted towards conflicts within the SACs of the Skagerrak case study.

Input from independent DTU Aqua interview (appendix 1):

In relation to Incentive K3 we know from our interviews that 95% of the questioned fishers had heard about the Natura 2000 sites. It was however not through the sectoral authorities but through the chairman of their local fisherman's association. It became very clear through interviewed fishermen this chairman from one of the selected towns had made a big effort in informing his members.

In comparison to the Dialogue Forum the fishers stated very clearly in interviews that they perceived no conflict in the area since the gillnet fishery in their view did not have a problem with bycatch of porpoises. To the question if the 2 SAC's would protect porpoises 90% therefore answered no.

The questions in the interviews were very specific and the fishers had the opportunity to discuss which fisheries, if any, had the highest risk of porpoise bycatch. Discussion on such detailed level has until now not been discussed at Dialogue Forum. For instance, all interviewed fishermen agreed that lumpsucker and turbot fisheries had the highest bycatches due to their large mesh sizes.

Knowledge on pinger use was also gathered; nearly all fishermen had heard about pingers but only very few had ever used them (they are not mandatory for their vessels).

All in all we can conclude that even though the Dialogue Forum had been established, much information is being lost when it is mainly chairmen of fishery associations that are represented in the forum.

K4 Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, etc to support the achievement of the priority objective while reducing conflicts

Paper maps have been used by MESMA scientists in an interactive fashion to gather the input and knowledge of fishermen on the uses, conflicts and potential improvements in implementation of measures in the case study sites. However, this has been done explicitly as a part of MESMA, i.e. responsible authorities have not been involved in funding or envisioning this work. *See also 5.2.*

K5 Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority objective

The Danish Agrifish Agency relies heavily on independent scientific advice from Aarhus University and DTU Aqua regarding harbour porpoise biology & distribution and incidental bycatch of porpoises in fisheries and does take the best available data into account. Much of this advice is currently centered around the harbour porpoise expert group which has been convened by the Agrifish Agency. In contrast, the AgriFish Agency has not taken account of local user knowledge in these processes.

5.4 Legal incentives

L1 Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, etc in order to ensure the achievement of the priority objective, such as achieving environmental criteria and providing access rights for particular uses

The management plans for the sites in the Skagerrak case study currently do not address the harbour porpoise objectives in an operational manner. However, the development of measures is underway, albeit at an early stage. Nonetheless, the output of this process will inevitably include requirements attached to licenses and/or property rights. It has on several occasions been envisioned that e.g. licenses could be given if vessels are documenting harbour porpoise bycatch through the use of CCTV cameras and/or that the use of acoustic deterrents on all gillnets could be made mandatory.

L2 International-regional-national-local legal obligations that require the fulfilment of the priority objective, including the potential for top-down interventions

The SMAs that are the focus of the Skagerrak case study are Natura 2000 SACs. The Danish government is therefore legally obliged to fulfil the priority objective of conserving harbour porpoises through designation and implementation of appropriate protective measures within these SACs and, due to the Annex IV status of the species, in any areas where porpoises occur. Even though no specific measures have yet been implemented, this may include top-down intervention where it is deemed appropriate and necessary.

L5 Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence eg at national, EU or international level

At this stage there has only been informal talk of having CCTV as a combined surveillance and monitoring system within the areas.

Input from independent DTU Aqua interview (appendix 1):

During the interview the fishers were asked if they would be willing to take CCTV onboard. Around 30% said yes, while many were very provoked by this question since they did not believe that there was a problem with porpoise bycatch and disliked the idea that “Big Brother is watching”.

L6 Clarity and consistency in defining the legal objectives of the existing imitative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority objective and existing plans/regulations for the management of individual sectoral activities

The definition of the jurisdiction and responsibilities of the different authorities is in general very clearly and consistently defined in the Danish legal transposition of Natura 2000 directives. For instance, any issue regarding fisheries management in the context of Natura 2000 is by law clearly delegated to the Ministry of Food, Agriculture and Fisheries.

L9 Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority objective.

See also L6. The responsibility for appropriate implementation of the Habitats Directive is (via national legal transposition) delegated to individual sectoral ministries/authorities, i.e. each sector must take account of the impacts of the sector on Natura 2000 species and habitats and implement measures to prevent the sector from negatively affecting the achievement of favourable conservation status. One effective means to do so is through environmental impact assessments. However, apart from informal discussions and/or the court of law there are no clearly identifiable legal or other mechanisms in place that address cross-sectoral conflicts.

L10 Legal or policy basis for promoting cross-jurisdictional coordination between member states.

The EU's Common Fisheries Policy is legally binding policy which by way of the transnational nature of the fishing sectors requires coordination across jurisdictions. In relation to the case study SMA, fishermen from many different countries may fish freely and legally within the Danish SAC boundaries. However, once any regulation is envisioned for the SAC that may potentially affect fishing opportunities then cross-jurisdictional consultation and coordination is required.

L11 Establishing legal provisions to ensure the transparency in policy processes, *eg* statutory requirements for public access to information, appeals, public hearings, *etc*

In Denmark there is a strong tradition for public hearings. In relation to the Skagerrak SAC (and Store Rev) a national public hearing took place in 2010 through which all interested parties could express concerns over the *boundaries* and *reasons for designation* (incl. initial assessment) of the SACs. These concerns were then collected by the Ministry of Environment. The degree to which these concerns were accommodated in final site designation has not been analyzed. In 2011 management plans went into public hearing, although no actual plans were presented for harbour porpoises as the species was added in mid-cycle, i.e. management plans for harbour porpoises will be included in plans latest 2015 for the next 6 year planning cycle.

5.5 Participative incentives

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *eg* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc*, including training to support such approaches

Both the porpoise expert group and the Dialogue Forum established by the Ministry of Fisheries' Agrifish Agency function as participative groups that to varying degrees support collaborative planning in relation to porpoises and Natura 2000 in general, respectively. However, no specific effort has been made to include particular local users from the SAC area in this process (participation through Fishermen's Association).

Input from independent DTU Aqua interview (appendix 1):

From the interviews we can conclude that many of the fishers actually had management ideas for the SAC's. Most answered that pingers should be mandatory while others suggested that fishing rights could be given to the vessels which carried CCTV cameras to document their insignificant porpoise bycatch. None of these views have been brought up by the fishery organisations through the official Dialogue Forum.

P3 Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

The rules of engagement of the Ministry of Fisheries' Natura 2000 Dialogue Forum are clear and representation of sectors is unbiased. However, there are no clear protocols regarding achievement of consensus, i.e. once the Dialogue Forum meetings are over, it is completely up to the Ministry of Fisheries to decide upon the particular issues. Only Danish stakeholders are present in the forum.

P4 Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc*, recognising that this can lead to an 'upward spiral' (Ostrom 1999¹) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc* can lead to a 'downward spiral'

Natura 2000 fisheries management issues are addressed openly in the Ministry of Fishery's Natura 2000 Dialogue Forum. It is our observation that in many ways this forum does in fact lead to an upward spiral of cooperation and to a lesser degree also mutual trust. The latter relates mainly to the fact that participants in the forum have little influence on final decisions once meetings are over. In addition, the Dialogue Forum provides an opportunity for stakeholders (incl. environmental NGO's) to address decision makers and colleagues directly in a non-public context, which to a degree keeps some issues from "exploding" in the media (although some disagreements have been impossible to contain within the context of the forum such as the issuing of permits for blue mussel dredging within Natura 2000 sites).

5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.

The process of developing proper management plans (incl. for the harbour porpoise) in the Skagerrak/Store Rev case study is not complete. This means that we can only look at the history of the site and the current steps that have been taken management-wise by national authorities. There are nonetheless several good examples of governance aspects that we find could have been or could be improved to substantially improve chances of achieving objectives whilst reducing conflicts.

Engaging local stakeholders

Many aspects relating to local stakeholders, i.e. the fishermen who will be directly affected by management in the SACs, have been largely ignored throughout the process of designating the sites and in developing management for them. While local fishermen (according to interviews) are aware of the site and its configuration this information was not relayed to them by national authorities but rather by their industry association. Paper maps have been used by MESMA scientists to gather the input and knowledge of local fishermen on the uses, nature of conflicts and potential improvements in implementation of measures in the case study sites (*Incentives I1; K4*). It would have been more appropriate if it was the responsible authorities that had carried out such activities and that information had been given to local stakeholders by national authorities instead of industry representatives. In addition, local fishermen stated in interviews that they had ideas in relation to management and/or enforcement of the SACs based on their knowledge of the uses and conflicts in the area. While a Dialogue Forum has been established to discuss questions on a more general level, no participative structures and processes were initiated by authorities to deal specifically with these issues *on a local scale* (*Incentives P1, P7 and P8*) in a way that captures site specific (or at least regional) aspects. The time and expenses involved in travelling from e.g. Skagen to Copenhagen for such meetings can be substantial for small scale fishermen.

Transparency in stakeholder involvement

In general the national Dialogue Forum for stakeholders functions rather well by allowing the overarching discussions between all participating sectors (*Incentive P4*). However, the forum is extremely *ad hoc* in nature and could be improved substantially by having a long term "game plan", letting the sectors know at which time the different subjects or areas will be discussed. In addition, forum participants do not know from the beginning which issues will at all be discussed and whether or not the subject will ever be raised again. Most importantly, the step taken by national authorities between stakeholder discussions and the drafting of legislation is not transparent. No large conflicts have yet arisen due to lack of transparency, but there is a risk that such lack of transparency, where it is

impossible for stakeholders to monitor the degree to which they have “been heard”, may lead to a downward spiral of cooperation as described in *Incentive P4*.

Disconnections between key sectoral policies

According to the national fisheries law (which is rooted in the MFAF) as well as the CFP, fisheries are allowed in the areas, and gear types such as gillnets are legal. At the same time, the MFAF as well as the Ministry of Environment (who was in charge of designating the sites) are obliged to protect the harbour porpoise within SACs and, in light of HD Annex IV status, wherever it occurs. This disconnection between sectoral interests and the obligation to protect porpoises is at the root of this case study’s challenge.

6 Cross-cutting themes

The following is a concise discussion of some of the main cross cutting themes that have been identified in the Skagens Gren & Skagerrak case study.

6.1 Combining top-down role of state and bottom-up participative approaches

6.1.1 Balance of the influence of stakeholders and the influence of national-local government in the existing initiative

The Ministry of Fishery’s Agrifish Agency has been the driver of the Natura 2000 Dialogue Forum, which consists of a balanced group of fisheries stakeholders (recreational and commercial), environmental NGOs, scientists and managers. It is very difficult to determine the degree to which participants influence decision making in this forum since the ultimate decision making power lies in the hands of the ministry and there is usually no attempt at reaching consensus or compromise in the context of the Dialogue Forum. Ultimately, transparency becomes rather minimal once participants have left the meeting.

In contrast to terrestrial sites that are managed by local municipalities, all marine Natura 2000 sites are managed centrally by agencies in the different ministries. Although this facilitates decision-making seen from an administrative point of view, it also creates gaps between local users and authorities and managers within the central government.

6.1.2 Degree of decentralisation (i.e. level of autonomy of sub-national/local governments) and the relative influence of national/federal and sub-national/local governments on the existing initiative

See also 6.1.1, i.e. all marine Natura 2000 sites are managed centrally by agencies in the different ministries. As a result there is very little local anchoring regarding ideas or proposals for management measures to achieve the objectives of the sites.

6.1.4 Level of consensus, compromise and imposition in the existing initiative

See also 6.1.1. It is very difficult to determine the degree to which participants influence decision making in this forum since the ultimate decision making power lies in the hands of the ministry and there is usually *no attempt at reaching consensus or compromise* in the context of the Dialogue Forum. Ultimately, transparency becomes rather minimal once participants have left the meeting. In general, however, any major measures or changes in designation of Natura 2000 SACs usually become the objects of public hearings.

6.1.5 Views of stakeholders from different sectors on the priority operational objective, eg validity, priority

The Ministry of Fishery's Natura 2000 Dialogue Forum gives stakeholders (fisheries, environmental NGO's etc) the possibility to discuss and comment on potential initiatives and management measures. While environmental NGOs such as WWF, Oceana, Greenpeace, etc. have expressed concerns over the lack of ambition/political will or weak measures to protect harbour porpoises in general, the commercial fishing sector usually expresses that there is no need to particular measures to protect harbour porpoises in the SACs of the Skagerrak case study. The fishing sector is usually represented by their industry representatives and it is not common for local stakeholders to partake in the meetings.

6.1.7 Transparency in decision-making processes

The Ministry of Fishery's Natura 2000 Dialogue Forum is, apart from any official, national hearing process, the most direct instrument through which stakeholders can present their points of view regarding existing or planned measures. However, meetings often have a more informative character, i.e. participants providing comments after receiving information from the Ministry. That said, the Forum always invites participants to add issues and points to the agenda for discussion. Ultimately, this transparency more or less ends once meetings are over and decisions are made in a relatively top down manner.

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, eg employing fora, bilateral consultations etc in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new (eg renewables) and existing sectors (eg conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

The main interaction within the Natura 2000 Dialogue Forum established by the Danish Ministry of Fishery is rather "traditional", i.e. between the fishing sector, environmental NGO's and scientists and *not* between different industries/economic sectors.

6.2.2 Competition for space between sectors (eg renewables and conservation) and within sectors (eg between different renewable companies) as a source of influence on and drive for the existing initiative

Although the distributions of fishing activities and harbour porpoises are constantly shifting there is a general overlap between areas of interest for the gillnet fishing sector and the distribution of harbour porpoises within the focus areas. Given that it is known that gillnets represent the greatest threat to harbour porpoises, this spatial overlap is of course the source of the conflict that drives any protective fisheries management measures. (See conflict analysis)

6.2.4 Potential winners and losers in the existing initiative, power struggles and displacement issues

It is clear that the main losers in this case study will inevitably be the small scale and larger scale fishermen in the area that employ gillnets. This segment of the fishery is highly dependent on specific fishing grounds. There is much trawl fishing taking place in the general area, which is incompatible with passive fishing gear, i.e. making it difficult to move to other sites to fish. For instance, the Store Rev site is a site containing very complex reef structures that make the area unsuitable for bottom trawling. In contrast, Store Rev is a heavily fished hotspot for gillnet fishing (see maps). It is yet to be determined what the cost of protective measures will be for the gillnet fishermen, as it depends on the measures that will be implemented. If measures will be based on the mandatory use of acoustic deterrents then the cost will be based on the price of such equipment. In contrast, if local gillnet fishermen are prohibited from employing gillnets in the site the economic and societal/cultural costs could be substantially higher.

Input from independent DTU Aqua interview (appendix 1):

In the interviews the fishers were asked what would happen to them if the SAC's were closed. 84% answered that they would have to close down. 10% would be able to change area while 5% not would be affected. These statements indicate that the fishers by any account are the potential losers in this initiative.

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

Environmental NGOs such as WWF, Oceana and especially Greenpeace have had moderate success in raising public awareness of the effects of fisheries on the environment, including issues related to bycatch of harbour porpoises. The issue has on a regular basis appeared in national media. In addition, NGO driven initiatives related to eco-labeling (especially MSC) has certainly had some effect on Danish consumers but the race to MSC-certify Danish fisheries has mainly been driven by wholesale export of Danish fish products to mainly Southern European customers. Bycatch issues have so far prevented gillnet caught cod in the Baltic Sea from achieving MSC certification due to lacking documentation of the frequency of bycatch incidents. The Danish Fishermen's Association is currently (2012) carrying out CCTV camera monitoring projects in the Baltic Sea in order to document what is assumed to be low bycatch rates.

6.3 Cross-border issues between countries

6.3.2 Effectiveness of transboundary cooperation and collaboration in the existing initiative, eg in designing, designating and managing adjoining MPAs for biogeographical features that cross national borders

At this moment very little transboundary cooperation and collaboration has taken place between the countries surrounding the SACs. Sweden has only very recently designated their Natura 2000 sites and none have been designated specifically to conserve porpoises. However, Denmark and Sweden have just started up national meetings in order to have more cooperation on the subject.

6.3.3 Sharing of data and information between different member states in the existing initiative

Regarding data sharing, Sweden has been informed about the Danish data on satellite tracked porpoises which also covers Swedish porpoises. These data have however not been used in the selection of Swedish Natura 2000 sites.

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

While monitoring of fisheries and fish populations and other fishery-related elements is coordinated across national boundaries as required by the CFP and the Data Collection Framework, no similar cross-border efforts are in place to monitor harbour porpoises in the Skagerrak.

6.4 Justice issues

6.4.3 Social justice issues – rights of users to access areas/resources for their livelihoods and 'way of life'

It is difficult to address this theme in a concrete fashion as management measures have not yet been implemented. However, it is safe to assume that, if e.g. gillnet fishing was to be prohibited in these sites,

many of the (especially small scale) gillnet fishermen would likely have to leave the fishery and as a result, the “fishing way of life” (*Input from independent DTU Aqua interview*).

Social justice issues are rarely addressed directly in Danish cases where fisheries measures are required in order to achieve nature conservation or fisheries management objectives. Other relevant examples include the closure of Norway lobster (*Nephrops*) fishing grounds in the Kattegat to protect cod, which had a severe impact on the fishing community in Gilleleje. Another example of a local, culturally important fishery is the blue mussel fishery in the Limfjord which is carried out partially in SACs and which may be the subject of a pending EU court case brought on by environmental NGOs.

6.5 Influence of different knowledges and of uncertainty in decision-making. eg different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in decision-making processes

Natura 2000 sites have generally been designated on the basis of advice from scientists from especially Aarhus University. Most of the scientific input into the development of *fisheries management* for Natura 2000 sites general comes from advice requested by the Ministry of Fisheries from DTU Aqua and to a much lesser degree Aarhus University. Through the Ministry of Fisheries’ Natura 2000 Dialogue Forum expert and stakeholder views are aired and noted in meeting minutes but it is subsequently impossible to monitor the influence of participants on final measures developed by ministry staff. In the case of the Skagerrak and Store Rev SACs no local knowledge has been taken into account in designation of sites and in early stages of development of fisheries management measures. Ultimately this may reduce local support of management measures and may potentially in some cases lead to problems with enforcement of rules and regulations. In 2009 an area was closed in the Danish/Swedish Kattegat to protect cod. The process was very top down with little to no support from those fishermen, who fish in the areas. Two years after designation of the cod closure it was revealed by Greenpeace (using GPS loggers) that these fishermen of Gilleleje had been trawling illegally in the area.

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, eg uncertainties regarding the effects of key activities (eg wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

During discussions within the harbour porpoise expert group established by the Ministry of Fisheries it has been stated that if there is no collection of site specific data on harbour porpoise bycatch one would have to manage fisheries in accordance with the precautionary principle. As there is no management plan in place to deal with fisheries and harbour porpoises this discussion remains theoretical.

6.5.4 Transparency on issues arising from uncertainty; ie how such issues are communicated, debated and accommodated, eg by scientific advisory bodies.

The harbour porpoise density maps (made by Aarhus University) that have served as the scientific basis for the designation of the Natura 2000 sites have not been discussed in light of uncertainty. There has long been discussion on the lack of spatial data for fishing vessels smaller than 12 meters, which is the threshold vessel length where it is mandatory to have a satellite vessel monitoring system (VMS) on board. In Denmark the vessels that are larger than 12 m constitute a small percentage of the total fishing fleet (but catch the majority of the fish). As a result it has been impossible to monitor precisely where the majority of Danish vessels are actually fishing, incl. the inshore gillnetters that have impacts on the porpoises. This uncertainty was addressed and the CCTV studies on vessels smaller than 12 m were initiated to gain more knowledge on both distribution of fishing activity and bycatch levels. Based

on information from a limited number of vessels, these studies have already provided a wealth of information that is useful in SMA management.

The whole process of why both Skagens Gren and Store Rev were selected as Natura 2000 areas for porpoises is not thoroughly documented. It is nonetheless commonly known that the porpoise density maps made by Århus University's Department of Bioscience have been the underlying foundation for establishing the sites' boundaries. In contrast, the documentation of why the areas have been selected to protect other habitats such as boulder and bubbling reefs on Store Rev is well documented, mainly through the use of sidescan sonar to map seafloor features.

If the density maps used to designate boundaries are transferred to the Natura 2000 boundaries, it becomes evident that there are some areas with limited overlap between areas of highest densities (dark red in figure 4, section 3) and protected area boundaries. For instance, The Store Rev area does not contain any dark red areas. On Store Rev it must therefore be assumed that the main driver for the boundaries of the site is protection of reefs, i.e. with porpoises as a secondary driver. The Skagens Gren area contains some of the dark red, highest density areas from the density maps. However, a large part of the darkest red areas from the telemetry maps are however not included in the Natura 2000 site, which is somewhat puzzling since the main focus in this area is the porpoises. Since the actual process of how and why exactly these particular sites and boundaries were chosen is undocumented it is not known why the darkest red areas are not included in the Natura 2000 areas.

6.6 Additional issues and things to consider

Conflict leads to wary fishermen

Despite the fact that gillnets are considered to be some of the most sustainable, selective and low-impact fishing gears there has always resided a potential conflict between gillnetting and harbour porpoise (and bird) conservation, both "on the ground" and in the media. Fishermen are very aware of this and it can therefore be expected that fishermen will be wary of providing truthful answers in interviews that might add to the negative reputation of the fishery in this respect.

Unreliable bycatch registration

Kindt-Larsen (2012) showed that the bycatch registration carried out by the fishermen themselves is not completely reliable, since CCTV monitoring has revealed incidents of dead porpoises becoming disentangled while nets are being hauled and dropping out of nets before being observed by fishermen.

Winners and losers

It is absolutely clear that gillnetters incl. local, small-scale fishermen will be the biggest losers when management measures in future are implemented to protect harbour porpoises. Most of the fishing grounds in the vicinity are dominated by relatively large pelagic and demersal trawlers, the latter of which are directly incompatible with gillnetting activity. As a result, gillnetters will have very few options to reallocate their fishing activity. The case is similar in Store Rev, which according to VMS data seems to be inaccessible to bottom trawlers, i.e. the site is heavily dominated by gillnetters that will have very few places to turn to if excluded from the site.

Conclusions

The Skagens Gren & Skagerrak and the Store Rev SACs were both designated in 2010, which means that deadlines for implementation of site specific SAC management plans is not impending. This means that we in the duration of MESMA can only look at the history of the site/s and the current management and governance steps that are being taken by national authorities. However, the harbour porpoise is nonetheless an Annex IV species of the Habitats Directive and it receives much attention from environmental organisations as well as the wider public (mostly due to its status as “charismatic species”), thereby inciting authorities to prioritise the conflict between harbour porpoises and the fisheries in which it is bycaught.

The initial selection of the Natura 2000 was based on the density of harbour porpoises (e.g. figure 4), which is legally appropriate according to the Habitats Directive. However, the Skagens Gren site does for some reason *not* capture the areas of highest porpoise density and the underlying reasoning behind this has not been possible to uncover. In addition, the overall density-based approach would have been more effective in achieving priority objectives if it had focused in parallel on the areas in which the conflict between marine mammals and fishing activity was the highest (as described in previous sections). Until recently, no data has existed on the distribution of small scale gillnetting in the area due to the fact that these vessels are legally exempt of any VMS satellite positioning system requirements. DTU Aqua has, through funding made available via the European Fisheries Fund, carried out the first initial mapping of such fishing activity and (through CCTV monitoring) harbour porpoise bycatch rates. This information would, had it been available, made site selection more effective in addressing the priority objective of the SAC.

In relation to stakeholder involvement, much effort has been made by the responsible authority, the Ministry of Food, Agriculture and Fisheries, to establish a platform (the Natura 2000 Dialogue Forum) through which relevant stakeholders can discuss and express their interests and opinions regarding fisheries management measures in Natura 2000 sites. The forum has to a large extent been successful in the sense that the ministry has engaged constructively with stakeholders on a higher level. However there are still prevailing issues regarding transparency, especially concerning the processes that take place between stakeholder meetings and the actual formulation of fisheries management, which in the long run may contribute to a “downward spiral” of cooperation. Furthermore, although the Dialogue Forum does include a range of representatives from the various segments of the Danish fishery, a platform is still lacking through which truly local stakeholders, i.e. those who are ultimately directly affected by fisheries management measures in a given SAC, can provide their knowledge and express concerns.

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Appendix 1

Fishers' interviews

In order to collect views from the gillnet fishery interviews were collected in the 2 to the areas nearest commercial fishing harbors, Skagen and Hirtshals. The main focus was to contact fishers <12m since they are not carrying a VMS. The interviews are therefore the only way of getting information on their fishery within the two areas.

With regards to vessel/ fishery the fishers were asked about; length of vessel; persons working onboard; years as fisher; gear used. The fishers were then given a map to draw fishing positions according to target species; mesh sizes; sea days and months. With regards to Natura2000 they were asked if they had heard about Natura2000 before; if they had seen the map of the areas; if they had been fishing in the areas; the areas importance for them; what they would do if the areas were to be closed for gillnet fishery; if they could change into other gear types; if they could change their fishing area and if they would be willing to take cameras onboard in order to proceed fishing in the areas.

According to bycatch the fishers were asked if fishers thought that gillnet fishery was a threat to porpoises in areas; rank which fisheries that has the highest bycatch and why; what can be done to avoid bycatch; if they did anything to avoid it; if they had heard about pingers (acoustic devices that scares porpoises away from nets), if they had used them and if they thought that the Natura2000 areas was a good way of protecting porpoises.

A total of 20 fishers were interviewed, 12 from Hirtshals and 8 from Skagen. Table 1 below gives a summary of the most important results from the questioners.

Tabel 1. Summary of questioners

Questions	Result	Comment
If they had heard about the Natura2000 plans	95 % answered yes	
If they had seen the Natura2000 map	73% answered yes	Many of the fishers in Skagen had participated in the a Natura2000 meeting held by the fishers organization
If they had been fishing in the areas	100% answered yes	
How much of their income was from the two areas	65% (mean) ranging from 0-100%	
If the gillnet fishery was a threat to porpoises in the areas	100% answered no	
If they thought that the Natura2000 would protect porpoises	90% answered no 10% did not know	Porpoises move too much so they will be protected within these areas. A better protecting would be to find where the problems are and protect them there.
What would happen to their fishery if the areas was closed	84% would have to close 10% would be able to change area 5% would not be affected	

If they had any management ideas for the areas	47% had ideas on how the areas could be managed	<ul style="list-style-type: none"> - Most answered that pingers should be mandatory in the area (- Stop gillnet fishery with trammel nets since they can hold the porpoises - Implementation of CCTV to be able to fish
If they would be willing to take CCTV cameras to continue fishing	30% would be willing to take CCTV cameras	- Some fishers would only be willing to CCTV if they got additional quotas
Point out fisheries with high bycatch risks	78% answered Lump sucker fishery 42% answered Lump sucker and Turbot fishery	<ul style="list-style-type: none"> - The reason why these fisheries has the highest bycatch is due to their long fishing time (lump sucker) and many nets and large meshes (turbot)
What can be done to avoid bycatch	36 % answered that pingers could be used 5% answered that the time the net was in the water could be reduced	
If they did anything to avoid bycatch	100% answered no	Since they did not think there was a bycatch problem they did not do anything to avoid it
If they had heard about pingers	84% answered yes	
If they had ever used pingers	10% answered yes	The main reason for them not to use pingers were that none of the fishers were obliged to use them in their fishery
If they had any further comments		<ul style="list-style-type: none"> - Several answered that problem will solve it self. Many gillnetters are old and will stop within the next 5 years. - There are no problems with bycatch in these areas, but in other places in DK, so why are they not stopped there instead.

The Fishers were in general very positive and took the time of for the interview and many hoped that these interviews could be a way of giving their knowledge to DDA. They were very confident when speaking about their fishery in the Natura2000 areas and showing information of fishing positions on the maps. With regards to the implementation of the Nature2000 the fishers disagreed very much with the boundaries of the areas, since they did not think that there were any bycatches within these areas. Many asked the question “why not regulate in the areas or fisheries with bycatch problems if you want to safe porpoises?” and did not see the point in implementing the Natura2000 areas. Many also raised concerns according to possible closures of especially Store Rev. The fishers believed that the persons who had made the boundaries of Store Rev most have known where gillnet fishery is processed since the area exactly surrounds their fishing areas. They were told that the areas were made on the basis of porpoise density maps, but was still rather skeptic. Their point was that gillnet fishers are limited to fish

in areas where trawl fishery is difficult/impossible otherwise trawlers will catch their gear. Store rev serve exactly as a non trawlable spot due to reefs construction.

Concerns about using CCTV cameras as a requirement to fish/document bycatch within the areas was also raised. The idea of CCTV was in general rejected due to ethical problems and that the additional cod quota, given under CQMS, was too low, not concerns on registrations of bycatch. The fishers though that the gillnet fishery had been overlooked and that the trawl fishery was being promoted under the distribution of cod quota within the CQMS, and therefore did not want to take the cameras onboard. They were asked what they would do if they were DDA, having to make the regulation in the area. Some had no clue while others tried to put them self in their place and tried to come up with solution that both would protect porpoises and not close down all gillnet fishery. The most frequent solution was to implement pinger use in the area even though very few had ever used them. Many although pointed that it would be a big cost for the industry and only found it fair as a regulation if the EU was willing to co-finance the pingers. Concerns on the quality of the current pinger types were also raised. Others suggested to exclude fisheries, e.g. sole fishery, and only regulate on the ones having risks of bycatch.

In summary there is no doubt that any regulations within the Natura2000 areas will affect the gillnet fishers and they fear very much what will happen to them. Many of them are deeply economic depend on having access to the Natura2000 areas such as both Store Rev and Skagens Gren since many do not have possibilities of moving or changing their gear. They are totally aware of that management rules and regulations for the areas will come in the near future but the deeply hope that their opinions will be taken into account by the DDA.

A7.6 Case study report: The Strait of Sicily case study, Sicilian sub-case study

Basic details of the case study:

Initiative	Egadi Islands (<i>Isole Egadi</i>) Marine Protected Area, Sicily
Description	The implementation and management of the Egadi Islands marine protected area (designated under national legislation) and the overlapping cSAC (due to be designated under the Habitats Directive)
Objectives	Nature conservation / MPAs: Maintaining or restoration to favourable conservation status of conservation features
Scale	Local (single MPA), ~540 km ²
Period covered	1991-2012
Researchers	Giovanni D'Anna, Tomás Vega Fernández, Carlo Pipitone, Germana Garofalo, Fabio Badalamenti (Institute for Coastal and Marine Environment (IAMC), National Research Council (CNR))
Researchers' background	Natural Science (Environmental Science, Marine Ecology)
Researchers' role in initiative	Independent observers

The next 34 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

D'Anna, G.; Badalamenti, F.; Pipitone, C.; Vega Fernández, T.; Garofalo, G. (2013) WP6 Governance Analysis in the Strait of Sicily. Sub-case study: "Sicily". A case study report for Work Package 6 of the MESMA project (www.mesma.org). 34pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.



MESMA Work Package 6

WP6 Governance Analysis in the Strait of Sicily

Sub-case study: “Sicily”

Giovanni D’Anna, Fabio Badalamenti, Carlo Pipitone, Tomás, Vega Fernández, Germana Garofalo

Consiglio Nazionale delle Ricerche, Istituto per l’Ambiente Marino Costiero

Report January 2013

1. Context

Introduction

Status of the MPA network in Italy

Different types of protected areas occur in the Italian seas, each one created under different legal frameworks: (i) **marine protected areas (MPA)**, (ii) **sites of community importance (SCI)**, (iii) **specially protected areas of Mediterranean importance (SPAMI)**, (iv) **biological protection zones (BPZ)** and other **fisheries regulated areas**.

i. MPA

Two Italian acts regulate the conservation of natural environment: Act no. 979/1982 on the defence of sea and Act no. 394/1991 on protected areas. Twenty-seven MPAs, and two submarine parks whose surface ranges from 20 to more than 50,000 hectares have been created to date after these acts. They are typically divided in a no-take/no-access or integral zone (A zone), a buffer zone (B zone) and a peripheral zone (C zone): in the latter two, restrictions to human uses become progressively looser (Villa et al 2002; Guidetti et al 2008). Italian MPAs are created and controlled by the Ministry of the Environment which delegates the management responsibility to a local management body.

The Marine Mammals Sanctuary is a special kind of MPA created and managed by France, Italy and the Principality of Monaco created by an *ad hoc* act.

To date in Italy there are 27 MPAs and one Marine Mammals Sanctuary.

ii. SCI

SCIs are sites that contribute significantly to the maintenance or restoration at a favourable conservation status of a natural habitat type or of a species and may also contribute significantly to the coherence of Natura 2000 and/or to the maintenance of biological diversity within the biogeographic region or regions concerned. Italian SCIs are created and controlled by the Ministry of the Environment, except in special statute regions like Sicily that create their own SCIs. In Sicily 6 marine SCIs have been designated.

iii. SPAMI

SPAMIs are particularly relevant areas aimed at protecting endangered species and their habitat according to the Barcelona Convention, selected according to several criteria. UNEP's RAC/SPA (Regional Activity Center for Specially Protected Areas) has produced a SPAMI list that includes also ten Italian MPAs and the Marine Mammals Sanctuary.

iv. BPZ

Presidential Decree no. 1639/1968 provided for the creation of BPZs aimed at banning or regulating fishing in spawning or otherwise sensitive areas important for commercial fish. Thirteen such zones exist in Italian waters, created and controlled by the Ministry of Agriculture, Food and Forests.

Other fisheries regulated areas include areas where different types of fishing ban are imposed, like e.g. the Gulf of Castellammare no-trawl area. Such areas may be created and controlled either by the Ministry of Agriculture, Food and Forests or by regional governments.

Strait of Sicily

In the Strait of Sicily (SoS) there is no integrated spatial management plan but only a mosaic of sectoral management plans/initiatives lacking of a co-ordinated approach and focuses mainly on nature conservation and fisheries sustainability (Figure 1).

In the SoS governance analysis is going to be conducted at two levels in both "Sicily" and "Malta" sub-case studies. The first level includes a brief review of different perspectives and issues on UNEP-RAC/SPA high seas network proposal in the SoS as revealed by ongoing consultations and overviewing of the Pantelleria marine protected area (MPA) establishment process. The second level deals with a detailed stakeholder analysis in the Egadi MPA.

In this first section of the analytical structure for WP6 governance analysis in the SoS, we outline the context of the Egadi MPA where semi-structured interviews to stakeholders will be conducted.

1.1 About the existing initiative you are evaluating, which can be an integrated marine spatial plan or part of the plan, or an initiative with spatial elements if there is no integrated marine spatial plan in place

The governance analysis of the existing spatial initiatives in this sub case study is updated at September 2012

- Location and geographical boundary of Egadi MPA

The Egadi Marine Protected Area (MPA) (Geographical coordinates: 37.95 / 12.21666) is an archipelago of three islands (Favignana, Marettimo and Levanzo), and two rocky outcroppings (Formica and Maraone) located west of the city of Trapani at the western-most point of Sicily (Figure 2). The nearest distance from the Sicilian shore is ca. 5 km while the length from the inner to outer edge of the MPA is about 35 km. It is the largest MPA established in Italy to date and one of the largest in the Mediterranean.

Favignana and Levanzo are separated by a channel approximately 50 m deep, whereas the depth range between Levanzo and Marettimo is 100 - 300 m.

The MPA lies in what is part of the southern segment of the Sicilian-Maghrebian chain. The wide continental shelf cut by a NNW-SSE depression between Marettimo and Favignana Islands is incised by a canyon that is draining both to the NW and to the South, with a remnant divide at about 200 m depth. The shelf-edge is located at depth ranging from 95 to 130 m.

The shelf-break is generally sharp in the western part of the archipelago, while to the south of Marettimo Island the transition from shelf to slope is more gradual. North-east of Marettimo some canyons discharge sediments along the slope into the deeper water.

In the Eastern part of the archipelago the shelf surrounding Favignana and Levanzo Islands is wide and flat and the shelf break, in the south, is formed from prograding sediments. Buried surfaces of abrasion and relict deposits and features related to glacial Quaternary sea level changes occur on shelf. Large sedimentary structure south-east of Marettimo island, such as sand-weaves and sand patches, ranging mainly in the NW-SE direction, indicate the presence of strong current.

Benthic assemblages at the Egadi Archipelago are strictly correlated to the nature of substrate, hydrodynamic regime and water transparency. The combination of these factors determines a high heterogeneity and fragmentation of both photophilic and sciaphilic benthic assemblages. Only infralittoral benthic assemblages are found at Favignana and Levanzo while at Marettimo circalittoral assemblages are also present.

The main impact is due to human activities, in particular the tourism industry has the potential of detrimental effects on benthic communities. Marettimo is undoubtedly the best preserved of the three islands.

Bioconstructions, such as facies with *Astroides calycularis*, vermetid reef (*Dendropoma petraeum*), *Lithophyllum lichenoides* encorbellement and *Posidonia oceanica* meadows, sciaphilic assemblages and semi submerged caves are amongst the most representative naturalistic features of the area. Notably, the semi submerged cave system of Marettimo hosted a monk seal (*Monachus monachus*) population until the 1980 when the last seal was killed by a fisherman. Very recently the monk seal has been spotted again in Marettimo.

Egadi MPA covers 53.992 hectares and 73,9 km of coastline. The protected area is partitioned into four zones: (A) integral zone with a surface of 10,67 ha and a coastline length of 8,9 km; (B) buffer zone 2.865 ha large and 18,6 km length; (C) peripheral I zone extends for 21.962 ha and for 46.4 km of coastline; (D) peripheral II zone with an extension of 28.098 ha. The two areas designated as zone A include a small square shaped area surrounds the island of Maraone and a section of the western coast of Marettimo situated directly on the opposite side of the island from the fishing village. Four areas of zone B are designated while zone C and zone D fill in between the islands (Figure 2).

- History of the existing initiative (how and why it was established)

The MPA was established by the Ministry of the Environment in 1991 according to the Italian Law for the Defence of the Sea (L. 979/1986, modified by decree, August 6th, 1993 and decree, May 17th, 1996).

The designation of Egadi Islands as MPA was not a result of rigorous scientific research, but rather because of political perceptions and negotiated decisions with a small amount of scientific information describing the ecological components of the system. In the Egadi Islands, the main proponents of the MPA were local environmental groups that successfully lobbied the Ministry of Environment to create a protected area to eliminate the threat of oil drilling in local waters. Local residents and fishermen were not given the opportunity to comment on MPA design and most have been obstinately opposed to its existence from the beginning.

Also the boundaries of the reserve and its differential zones were drawn to be “politically” acceptable. Some scientific input necessarily was included placing zones composed of the strictest regulations in ecologically valuable areas, which also happened to be historically profitable fishing grounds.

To date, few biological studies have examined the effectiveness of the Egadi reserve in terms of its ability to increase the biomass of local marine organisms. Furthermore, minimal work has been done to determine the economic impacts and very few studies has been done on the socio-cultural impacts of the marine reserve on local stakeholders.

At inception, the Egadi MPA was established to get six stated objectives: (1) protect the local environment, (2) protect the local biological resources, (3) educate the public about the unique characteristics of local waters, (4) support scientific research, (5) increase the understanding and protection of local archaeological resources, and (6) promote socio-economic development connected to the environmental importance of the area.

To reach the above objectives the regulation of the Egadi MPA provides varying levels of restriction in the use of the marine area. Zone A can be considered a no-take/no-entry area where only permitted research can take place. Zone B allows only general non-consumptive uses (e.g., swimming, boating beyond 500 m from the coast). In Zone C, all non-consumptive uses and permitted recreational and commercial fishing are allowed, with the exception of trawling. In Zone D, all activity is allowed; only trawling has limitations. In the last two years several attempts to eliminate the trawling restrictions into the D zone of the MPA have been done.

According to IUCN guidelines on protected area (Dudley, 2008), Egadi MPA is a Natural Marine Protected Area belonging to IV management category. From nature conservation view the Egadi MPA includes a Special Protection Area (SPA) and Sites of Community Importance (SCIs) but it is not a Special Area of Conservation (SAC) yet.

Since 2011 Egadi MPA and the Natura 2000 (SPAs, SCIs) sites are “spatially nested” in the area of the Trapani Local Management Plan for fisheries (Figure 3).

To date, no management plan has been drafted for the Egadi MPA.

- Competent authority/authorities (*eg* which government authority is in charge of the existing initiative, and collaborating national/local authorities).

After being managed by the Coast Guard from 1991 to 2000, management responsibility was transferred to the local government in 2001 (decree January 16th, 2001). The MPA’s management body is currently the city government of Favignana. The local mayor is the official President of the MPA and has responsibility of insuring the presence of a MPA director, an advisory board, and that the MPA is being successfully managed.

The Trapani Harbor Master’s Office has the responsibility for enforcement of the regulatory framework of the MPA and all relevant regional and national fishing regulations.

- Main sectors and stakeholder groups involved in the initiative
 - Sectors

Professional and recreational fishing

Tourism

Nature and cultural heritage

Instruction and education

Research

Shipping

- Stakeholder groups

Fishermen

Public administrations

Representatives of Management Consortium

Research bodies

Enforcement

Trade associations of professional fishing

Tourism industry

NGOs

1.2 ***The socio-economic and political context of the case study*** (if the local context is significantly different from the national context, you may focus on the local context and briefly mention the difference between local and national contexts where this information is available):

<https://www.cia.gov/library/publications/the-world-factbook/geos/it.html>

- Per capita GDP

In 2010, per capita GDP was 30.500 \$US (23.573,23 €) for Italy and 22.634,82 \$US (17.488,00 €) for Sicily. Sicilian per capita GDP is significantly different from the national context. The main reasons of such difference can be found in the so called 'Southern Question' which has been (perhaps it is still) a major topic in Italian political, economic and cultural life for a century and more.

- Population density per km²

In 2010, the population density in Italy was 202,48 (61.016.804/301.340 km²).

In Sicily it was calculated to be 196.4 (5.048.806/25.711 km²) while in the Egadi Islands it was 115,19/ km² (4.314/37,45 km²). Among the Egadi Islands, Favignana has the highest population density (169.2 km²) followed by Marettimo (68.25 km²) and Levanzo (38.83 km²).

- GDP growth rate and main driver(s) of economic growth

Italian GDP growth rate was 1.3% (2010 est.). Italy has a diversified industrial economy, which is divided into a developed industrial north, dominated by private companies, and a less-developed, welfare-dependent, agricultural south, with high unemployment. The Italian economy is driven in large part by the manufacture of high-quality consumer goods produced by small and medium-sized enterprises, many of them family owned. Italy also has a sizable underground economy, which by some estimates accounts for as much as 15% of GDP. These activities are most common within the agriculture, construction, and service sectors. Italy has moved slowly on implementing needed structural reforms, such as reducing graft, overhauling costly entitlement programs, and increasing employment opportunities for young workers, particularly women. The international financial crisis worsened conditions in Italy's labor market, with unemployment rising from 6.2% in 2007 to 8.4% in 2010, but in the longer-term Italy's low fertility rate and quota-driven immigration policies will increasingly strain its economy. A rise in exports and investment driven by the global economic recovery nevertheless helped the economy grow by about 1% in 2010 following a 5% contraction in 2009. The Italian government has struggled to limit government spending, but Italy's exceedingly high public debt remains above 115% of GDP, and its fiscal deficit - just 1.5% of GDP in 2007 - exceeded 5% in 2009 and 4% in 2010, as the costs of servicing the country's debt rose.

- Economic structure (eg GDP composition by sector, main economic sectors, main source of employment *etc*)

The main economic sectors contributing to the Italian GDP are:

- agriculture 1.9% (fruits, vegetables, grapes, potatoes, sugar beets, soybeans, grain, olives, beef, dairy products, fish). The employment provided by this sector was estimated 4.2% of the labor force (Italian labor force = 24.99 million, est. 2010)
- industry 25.3% (tourism, machinery, iron and steel, chemicals, food processing, textiles, motor vehicles, clothing, footwear, ceramics). The employment provided by this sector was estimated 7% of the labor force.
- Services 72.8% (2010 est.). The employment provided by this sector was estimated 65.1% of the labor force.

- Contribution of maritime sectors to the national economy

Maritime activities produce goods and services worth almost 2.7% of the Italian GDP, equal to approximately 39.6 billion euro in 2008 value, providing work for more than 164,000 individuals directly employed in the maritime sectors and 230,000 engaged in all the other manufacturing activities and services (upstream and downstream).

- Unemployment rate

The global Italian unemployment was 8.4% (2010 est.) but it reached 25.44% if youth ages 15-24 unemployment was considered (male: 23.3%; female: 28.7%). Sicily's unemployment rate was 14.7% (2010 est.) and it is the highest among the Italian regions. The youth ages 15-24 unemployment was 29.8%. In 2010 (Bank of Italy data), in the Sicilian labour market, the number of persons in work diminished again and the employment rate declined for the fourth year running. The employment rate among women is structurally low, about half the rate for men and the number of job-seekers grew.

- Administrative structure (eg degree of autonomy of local/sub-national government)

The administrative structure of the Italian Republic is composed by 15 regions and 5 autonomous regions. A federalism process (deregulation and decentralization of some rules from the central to regional government) to provide more autonomy to regions is still in progress.

Since 1946, Sicily, together with the Eolian, Egadi, Pelagie, Ustica and Pantelleria islands, is an autonomous Region, having a juridical personality, within the political unity of the Italian State. Sicilian region has legislative power in many sectors such as agriculture and forest, tourism, fishing and hunting but it has no authority in the institution of marine protected areas. In Sicily there are 9 regional provinces and the Egadi Islands belong to the Regional Province of Trapani.

- The Italian average Governance capacity index was 0.52 (2010 est.)
- Gini index of income disparity (UCL can provide this index for each relevant country)

The distribution of family income disparity (Gini index) calculated in 2010 was 36.03

Most of the indices listed above can be found at in CIA World Factbook

(<https://www.cia.gov/library/publications/the-world-factbook/>), governance indicators for countries are measured by the World Bank and can be found at www.govindicators.org.

1.3 The regional policy framework within which your specific WP6 focus is 'nested', eg regional sea action plans.

- How the regional policy framework come into existence in the SoS

The Strait of Sicily is comprised between the international waters off the African coast, the southern coast of Sicily, and the waters surrounding the Maltese archipelago. It roughly coincides with the FAO GSAs 15 and 16, except in the fact that the Egadi Islands are completely incorporated in the study area for the MESMA purposes. Such definition embraces an area characterized by high seas with sprinkle small islands, unique oceanographic features, large habitat heterogeneity, huge (beta) diversity, exceptionally high productivity, and a massive cultural heritage.

The entire area holds the homelands of very different human populations which heavily exploit a vast array of marine resources from ancient times. As a result of the lack of a unified policy among nations and sectors, Sicily inherits a complex composite of conflicts among different uses of the marine realm at several spatial and temporal scales.

The policy framework of such complex context necessarily refer to "Mediterranean Sea" region and in particular to Central Mediterranean and Western sub-regions (Figure 4).

Regarding Mediterranean region agreements and legal instruments, several offer particular potential to the protection of living marine resources, the regional fisheries management organisations (RFMOs) and species-specific regional conservation agreements.

As our specific WP6 focus deals with maintaining or restoration to favourable conservation status of conservation features of the SoS, the policy framework to which we refer in this section include the

main instruments, institutions and initiatives devoted to Mediterranean conservation and in particular to the creation and management of protected areas in the Mediterranean Sea.

- Background: geographical scale, participating countries, overarching goals and objectives of the policy framework in the Mediterranean Sea region

- *Mediterranean Action Plan and Barcelona Convention*

In 1975, 16 Mediterranean countries and European Community adopted Mediterranean Action Plan (MAP). The MAP was the first-ever plan adopted as a Regional Seas Programme under United Nations Environmental Program (UNEP) umbrella.

In 1976, these Parties adopted the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention).

In 1995, the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) was adopted by the Contracting Parties (21 countries) to replace the Mediterranean Action Plan of 1975. At the same time the Parties adopted an amended version of the Barcelona Convention of 1976, renamed Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean.

The Barcelona Convention scope covers all maritime spaces of the Mediterranean Sea, which are under sovereignty or jurisdiction of the coastal States or in the high sea, it include also gulfs and coastal areas.

Actually the Barcelona Convention has given rise to seven Protocols addressing specific aspects of Mediterranean environmental conservation:

- Dumping Protocol (from ships and aircraft);
- Prevention and Emergency Protocol (pollution from ships and emergency situations);
- Land-based Sources and Activities Protocol;
- Specially Protected Areas and Biological Diversity Protocol;
- Offshore Protocol (pollution from exploration and exploitation) ;
- Hazardous Wastes Protocol ;
- Protocol on Integrated Coastal Zone Management (ICZM).

- *Specially Protected Areas and Biological Diversity Protocol*

The Protocol concerning Specially Protected Areas (SPA) and Biological Diversity in the Mediterranean was adopted by the contracting parties in 1995.

The main objectives of the Protocol is the conservation and the sustainable use of biological diversity in the Mediterranean, by establishing specially protected areas in the marine and coastal zones subject to the sovereignty or jurisdiction of the Parties. The Parties shall also cooperate in transboundary specially protected areas and shall take protection measures with regard to the rules of international law.

The Protocol applies to all the maritime waters of the Mediterranean, irrespective of their legal condition (be they maritime internal waters, historical waters, territorial seas, exclusive economic zones, fishing zones, ecological zones, high seas), to the seabed and its subsoil and to the terrestrial coastal areas designated by each of the Parties.

The Protocol provides for the establishment of a list of Specially Protected Areas of Mediterranean Interest (SPAMI List). The SPAMI List may include sites which “*are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels*”

The procedures for the listing of SPAMIs are specified in detail in the Protocol (Art. 9). The Protocol is completed by three annexes, which were adopted in 1996 in Monaco, namely the Common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI List (Annex I), the List of endangered or threatened species (Annex II), the List of species whose exploitation is regulated (Annex III).

- How does this regional policy framework relate to the existing initiative you are evaluating in your case study?

The regional policy framework above described is related to the “Sicily” sub-case study by a need to protect the “hot spots” of biodiversity in the SoS by human pressures (illegal fishing, wind mills, maritime traffic). From the environmental and cultural aspects, Egadi MPA has the requisites to be a SPAMI sites. However, the absence of management plan with clear objectives, the lack of monitoring for the evaluation of the MPA and the complex institutional landscape are probably the main reasons which prevent the Egadi Islands to be included in the SPAMI list. The creation of an protecting ecologically representative MPA network in the Mediterranean, could be a valid instrument to met the need of nature conservation in the SoS and an incentive for an efficient governance system in the Egadi MPA.

- A brief description on the implementation of the regional policy framework in relevant countries, based on existing information wherever feasible.

To date, the SPAMI List includes 25 sites, giving them their recognition by the 21 riparian countries of the Mediterranean as marine protected areas.

Egadi MPA is not included among the 25 sites yet mainly due to the absence of a management plan which is one of the requisites to be included in the SPAMI list.

In 2009, the Contracting Parties to the Barcelona Convention adopted a regional working programme for the coastal and marine protected areas in the Mediterranean, including the high sea.

Through two main projects, the MAP/RAC-SPA provides technical and financial support for the countries to undertake the activities of this regional work programme:

- A “Project for the Development of a Mediterranean Marine and Coastal Protected Areas Network through the boosting of Mediterranean MPAs creation and management in areas within national jurisdiction of eastern and southern Mediterranean countries” (MedMPAnet Project), which consists in enhancing the effective conservation of regionally important coastal and marine biodiversity features in areas under national jurisdiction. This will be achieved through a series of demonstration activities and targeted capacity-building exercises that will be conducted in the countries involved in the project.

- A project for facilitating the establishment of Specially Protected Areas of Mediterranean Importance (SPAMIs) in open seas, including the deep seas. Its working methodology aims at enhancing the governance of the areas that lie in the open seas using a sub-regional or local approach, in order to ensure the conservation of the biodiversity of these areas and guarantee the sustainable use of their marine resources.

The last project is implemented by UNEP-MAP-RAC/SPA and financially supported by the European Commission according a two phases process:

Phase I: Identification of priority conservation areas in the Mediterranean open seas, including the deep seas (2008 – 2009)

Phase II: Support to the Parties to the Barcelona Convention for the establishment of MPAs in open seas areas, including the deep seas (2010 – 2011)

The two projects pursue the same overall objective of creating an ecologically representative marine protected areas network in the Mediterranean region.

In 2010, scientific experts and national representatives of the UNEP/MAP specialised in biodiversity and Specially Protected Areas identified twelve areas in the Mediterranean, which present specific interest for biodiversity conservation, in view to promoting the establishment of a representative ecological network of protected areas in the Mediterranean.

The SoS is one of the twelve Specially Protected Areas proposed for biodiversity conservation in the Mediterranean (Figure 5).

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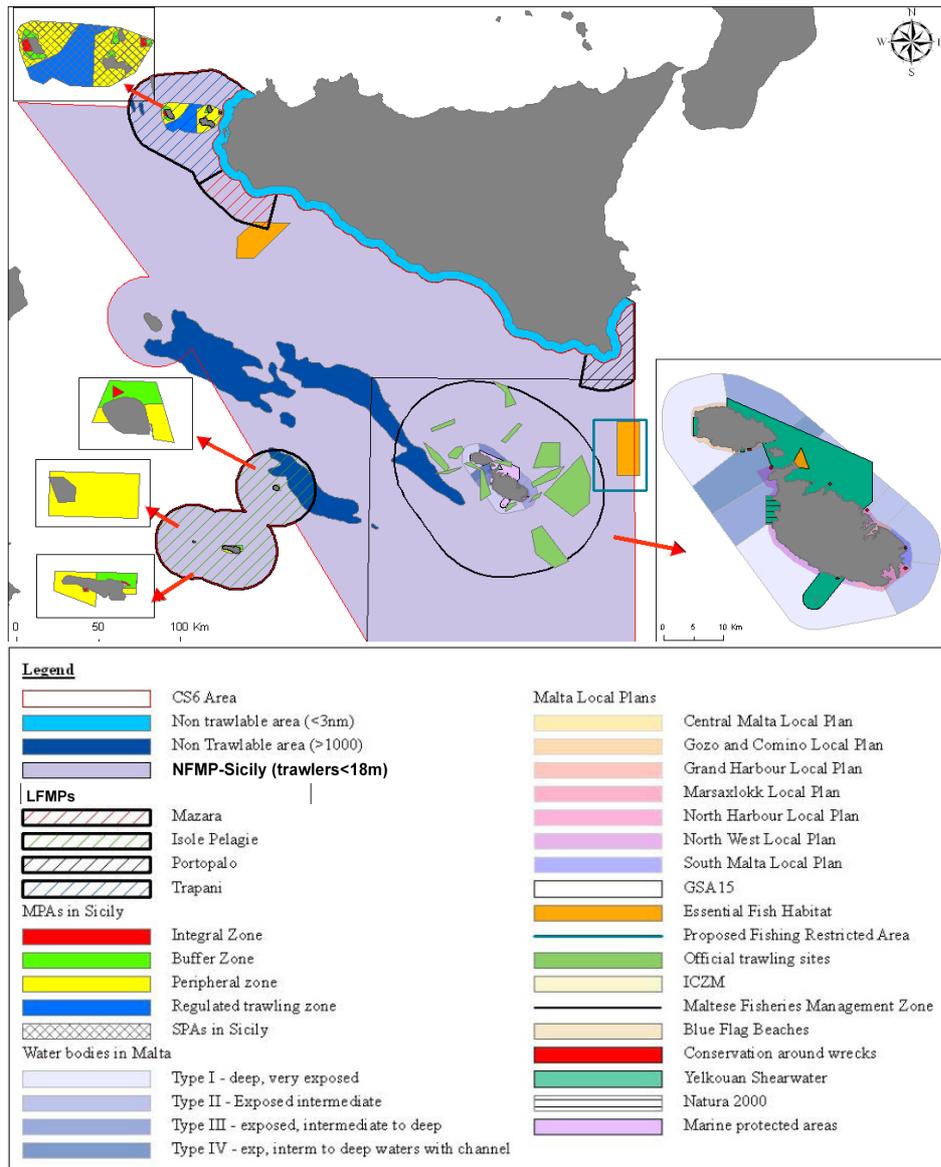


Figure 1- Strait of Sicily showing the existing initiatives focused on nature conservation and fisheries sustainability. LFMPs = Local Fisheries Management; NFMP = National Fisheries Management Plan

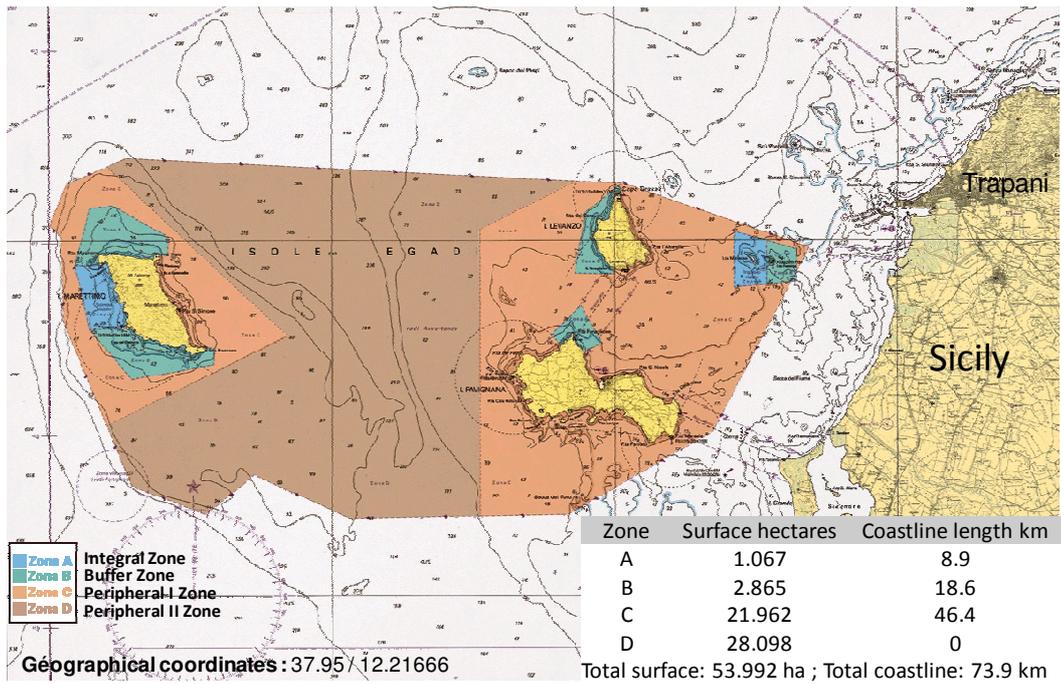


Figure 2 – Location, geographical boundary and zoning of Egadi Marine Protected Area

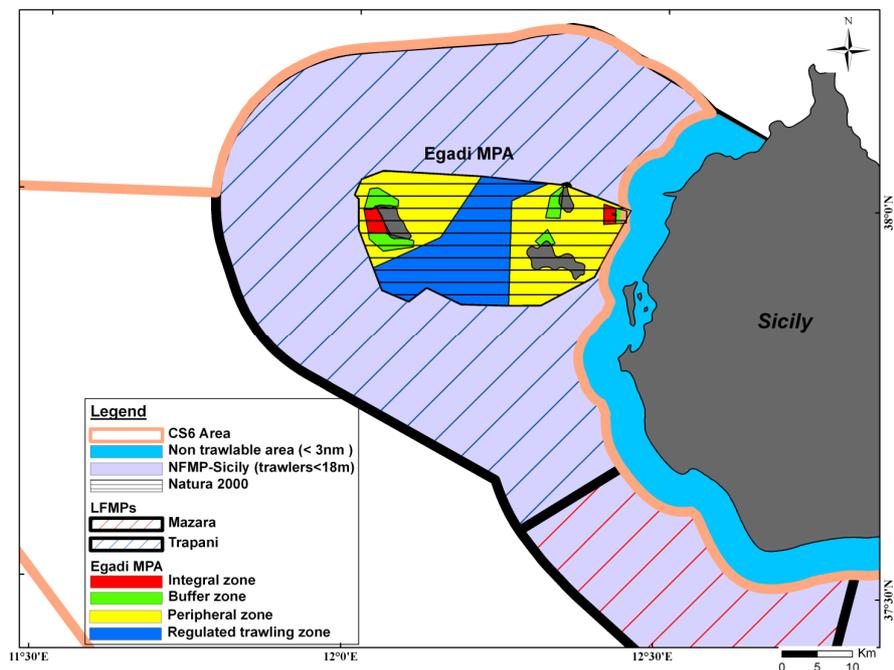


Figure 3 – Map showing the spatial overlap of the existing sectoral initiatives. LFMPs = Local Fisheries Management; NFMP = National Fisheries Management Plan (Figure 3).

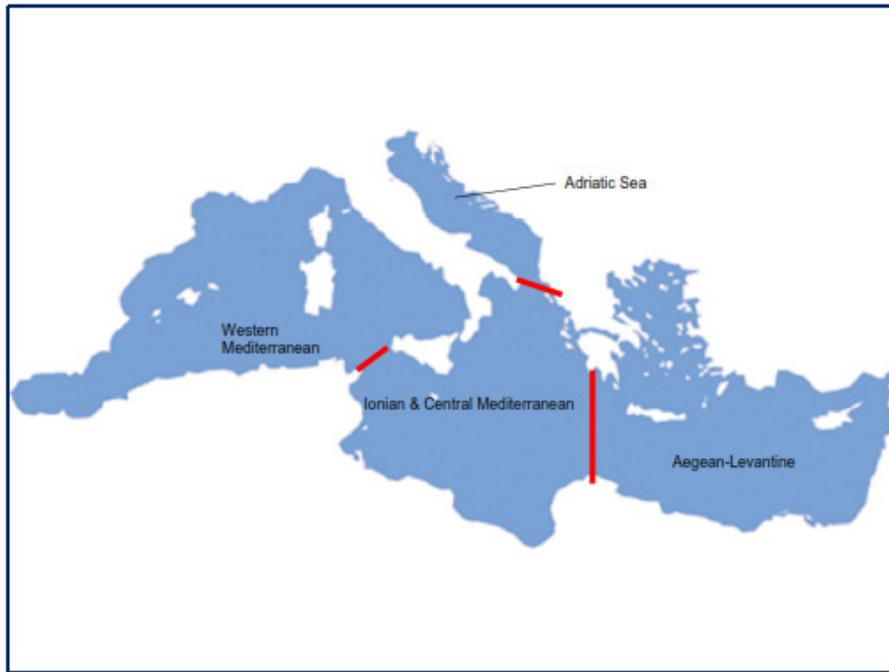


Figure 4 – Map showing the subdivision of the Mediterranean Sea region in four sub-regions according to the art. 4 of the Marine Strategy Framework.



Figure 5 – Map showing 12 new areas for biodiversity conservation in the Mediterranean identified in 2010 by UNEP-MAP-RAC/SPA in view to promoting the establishment of a representative ecological network of protected areas in the Mediterranean.

2 Objectives and management measures

➡ Section 2 links to Action 2C in the WP2 framework.

Briefly review the following information in this section. **Please note that policies and regulations at the EU level will be reviewed by UCL, so you only need to describe the policies and regulations that apply at national and local levels**, in relation to the objective chosen as the focus in your governance analysis

2.1 What is the priority objective in your case study?

The priority objective is maintaining or restoration to favourable conservation status of conservation features of the Egadi MPA.

Priority objective: the objective on which the governance analysis is focused, recognising that this should also be a key priority in the existing initiative you are evaluating. This may come from a local, national or regional policy level but, where appropriate, relate this objective to the regional policy framework. There will often be other related objectives that complement and go alongside the priority objective, which may come from a local, national or regional level and these may be included in your analysis whilst maintaining the focus on the priority objective. For example, your priority objective may be to designate a network of MPAs or to promote marine renewables, and the complementary objective may be to minimise the socio-economic or ecological impacts when meeting the priority objective. Note that the priority objective may, for instance, be national, whilst complementary objectives may be regional but you should only undertake one analysis with a focus on the priority objective.

It is also important to note that in reality, MSP initiatives often have multiple operational objectives, and it may be difficult to identify the priority objective, however, for the purpose of this governance analysis, please identify a single priority for the evaluation of governance approaches and incentives in subsequent sections. The WP6 analytical structure considers all the other objectives that interact, including conflicting and supporting objectives, with the priority objective in the following sections, however, the focus must be maintained on the priority objective. The priority objective in each sub-case study, as agreed through the WP6 case study workshops is listed in Appendix II.

2.2 What are the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above priority objective?

Please list the **titles** of these policies, legislations, regulations and/or plans, **the year of implementation, and key legal provisions in relation to the priority objective** here. Please try to limit your list to the policies, legislations, regulations and/or plans that are of **particular importance** to the fulfilment of the priority objective in your case study, *ie* driving or directly related to the priority objective in your case study.

Table 1- Information on policies, regulations and legislations¹

[No.]/Scale	Title and legal provisions	Year	Contents
[1]National: Italy	DM of 7 Mar 2012 (GU no. 79 of 3 Apr 2012, ordinary suppl. no. 6), Ministry of the Environment - Fifth updated list of SCIs for the Italian biogeographical region.	2012	It contains the list of the SCIs for the Mediterranean biogeographic region in Italy, including the Egadi Islands
[2]National: Italy	DM of 1 Jun 2010 (GU no. 145 of 23 June 2010), Ministry of the Environment - Rules for the enforcement and organization of the Egadi MPA.	2010	It contains the executive regulations of the Egadi MPA

¹ DM: ministerial decree. GU: Official Gazette, where all legislative acts are published. DPR: presidential decree. DA: regional council decree. DI: inter-ministerial decree. DDG: general director decree.

[3]National: Italy	Notice on the implementation of projects on the use of “green energy” (GU no. 68 of 20 Mar 2008), Ministry of the Environment.	2008	It is a notification of a call dedicated to protected area managers for the realization of projects on the use of “green” energy within protected areas, carrying into effect the DM no. 94 of 22 Feb 2008.
[4]National: Italy	Notice on the implementation of projects on the use of “green energy” (GU no. 61 of 12 Mar 2008), Ministry of the Environment.	2008	It is a notification of a call dedicated to municipalities of smaller islands with a planned or existing MPA as well as to municipalities in any other type of protected areas that extend over the sea.
[5]National: Italy	Act no. 248 of 4 Aug 2006, Ministry of the Environment - Turning of Decree no. 223 of 4 Jul 2006 into a law.	2006	Art.22 of Decree no. 223 of 4 Jul 2006 provided for a reduction of 10% of the funds dedicated to the management bodies of protected areas.
[6]National: Italy	Agreement of 14 Jul 2005 (GU no. 174 of 28 Jul 2005) on the concession of properties within MPAs. Ministry of the Environment	2005	It is an agreement (as stated in Act of 5 Jun 2003, art. 8) on the concession of maritime State properties and zones of sea within MPAs
[7]National: Italy	DPR no. 120 of 12 Mar 2003 (GU no. 124 of 30 May 2003), Ministry of the Environment - Modifications to DPR no. 357/1997.	2003	Italian Regions are charged to designate sites (special protection zones and special conservation zones) of the Natura 2000 network and apply conservation and protection measures, including sectoral or integrated management. The Ministry of the Environment maintains the institutional competence on the protection of the sea.
[8]National: Italy	Act no. 179 of 31 Jul 2002 (GU no. 189 of 13 Aug 2002) - Provisions for environmental matters.	2002	It allows for changes in the organization of MPA management bodies and for the institution of a dedicated environmental branch within the Coast Guard, among many other heterogeneous issues
[9]National: Italy	Act no. 426 of 9 Dec 1998 (GU no. 291 of 14 Dec 1998), updated by and coordinated with Act no. 93 of 23 Mar 2001 - New interventions for the Environment.	1998-2001	(1) Institution of a technical department for the establishment and update of MPAs within the Ministry of the Environment; (2) Establishment of a 3-year national program on <i>Posidonia oceanica</i> .
[10]National: Italy	DI of 6 Aug 1993 (GU no. 199 of 25 Aug 1993), Ministries of the Environment and of the Merchant Navy - Modifications of	1993	It rejects the proposal of allowing trawling in the C zone and approves a provisional

	conservation measures in the Egadi MPA.		Egadi regulations allowing for some changes in the B zone.
[11]National: Italy	DI of 27 Dec 1991, Ministries of the Environment and of the Merchant Navy - Institution of the Egadi MPA.	1991	It establishes the Egadi MPA.
[12]National: Italy	Act no. 9 of 9 January 1991 (GU no. 13 of 16 Jan 1991) - Implementation of the new national energy plan.	1991	Art. 4 prohibits surveys and extraction of hydrocarbons in the waters of the Egadi Islands.
[13]National: Italy	Act no. 979 of 31 Dec 1982 (GU no. 16 of 18 Jan 1983) - Provisions for the defence of the sea.	1983	It contains provisions for the defence of the sea. Art. 31 identifies the Egadi MPA and the Pelagie MPA.
[14]Regional: Sicily	DDG no. 434 of 08 August 2012 , Regional Department for the Territory and Environment.	2012	It approves the “Egadi Islands Management Plan”, which includes the “Archipelago of Egadi marine and terrestrial area”, “Island of Favignana”, “Island of Marettimo” and “Island of Levanzo” Natura 2000 sites. Valorisation and sustainable use of Natura 2000 sites promoting some economic activities within SACs and SPAs.
[15]Local: Egadi MPA management body	Deliberation of the Director of Egadi MPA, 2010. Project “Vedette del mare” (Guardians of the sea).	2012	It provides economic incentives for the surveillance of the MPA and the sighting of protected marine species in the area.
[16]Local: Municipality of Favignana	Deliberation of Trapani Municipal Government of Favignana n. 33 of the 29 February 2012	2012	Integrative regulations for the organization of the activities allowed in the Egadi MPA.

2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?

Please **briefly summarise the measures and actions here**; the details of how such measures and actions have been implemented on the ground and how effective they are should be described in the incentives section below.

National policies, legislations and regulations aim at providing general guideline about the management of the Egadi MPA and assisting the municipality of Favignana holding the protected area. In particular, they provide standard criteria for the definition of conservation measures to be applied in the MPA. They also contain the framework of the main principles for the management of Natura 2000 sites, which include the Egadi MPA. Some national actions aim at creating technical institutions for the establishment and update of MPAs. Other actions provide criteria for MPAs functioning and for the choosing of MPAs management body. Some ministerial decrees provided for the institution and later modifications of the Egadi MPA. Several measures contain provisions for the defence of the Egadi MPA from human impacts (i.e., extractive activities). The Ministry of the Environment is also expected to provide funds for the MPA functioning.

Local measures and actions are contained in the Sicilian legislation, in the “Egadi Islands management plan” and in the regulations put forward by the municipalities linked to the Egadi MPA. Some aspects

related to the protection of the Egadi MPA are also envisaged in the Local Fisheries Management Plan (LFMP) of Trapani.

With the council decree of 8 August 2012 the Regional Council for the Territory and Environment has approved the “Egadi Islands Management Plan”, which includes the “Archipelago of Egadi marine and terrestrial area”, “Island of Favignana”, “Island of Marettimo”, and “Island of Levanzo” Natura 2000 sites. The plan contains conservation measures (like the control of human impacts) that interact in a synergic and complementary way with those of the MPA. In particular the plan aimed at (i) the preservation of biodiversity in the terrestrial and marine areas of the archipelago, (ii) the sustainable use of natural resources and (iii) the reduction of the causes of degradation and decline of the Egadi habitat and species.

However, other measures contained in the plan promote economic activities, such as tourism and sport activities, within the archipelago.

The Trapani LFMP is already implemented and aims mainly at the protection of the fishery resources in the competence area of the plan, which encompasses also the Egadi MPA. Measures and actions include a wider use of selective gears, the reduction of fishing effort and the protection from fishing impact on some essential fish habitats present on the seabed around the islands.

The executive regulations of the Egadi MPA contain measures aimed at organizing and managing all the activities allowed in the four zones of the MPA (see Fig. 2 in the Context). Almost all activities in the MPA need an authorization issued by the MPA management body. The control of the activities is operated by the Coast Guard or by other institutional or voluntary associations in agreement with the MPA management body.

2.4 Are there other specific and particularly important sectoral priorities, objectives, obligations etc that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective? If so, what measures or initiatives are in place to address such conflicts? Such measures could include an existing or emerging marine spatial planning framework and policies.

Please note that while a description of the key policies is needed here, an extensive review of every sectoral policy or legislation is not necessarily. **Please focus on the policies and legislations that interact, articulate and/or conflict with the priority objective. It is the interactions between the key policies** that are of interest here, **not the details** of individual policies and legislations, *i.e.* analogous to a synecology rather than an autoecology approach. This section is mainly about setting the policy background for the following analysis, so the description on the interactions between different policies should be related to the discussion on conflicts, incentives and cross-cutting themes below. If there are policies and legislations that are not directly related to your discussion on the conflicts, incentives and cross-cutting themes below, you do not need to include them in the description.

Table 2 - Description of the key policies and legislations that interact, articulate and/or conflict with the priority objective²

No./Sector	Title and key legal provisions	Year	Objectives
[1] Fisheries	DM of 30 Aug 2012, Ministry of Agriculture, Food and Forests. It enforces the technical measures contained in the “Castellammare del Golfo – Marsala including the Egadi Islands” Local Management Plan for Fishery (LFMP). Management body: Co.Ge.Pa. (Consortium for the Management of Artisanal Fisheries) of Trapani.	2012	Preservation of the stock turnover capacity; Reduction of fishing effort; Enhancement of the economy of the fishery workers; Increase of job opportunities; Job positions in fishing-related activities.
[2] Fisheries	DM of 20 May 2011, Ministry of Agriculture, Food and Forests. It enforces the national plans for the management of the offshore trawling fleet (GSA 16: Strait of Sicily) and the inshore fishing fleet (Sicily), which include the Egadi archipelago.	2011	Preservation of the stocks capacity of recovering from fishing; Enhancement of the workers' welfare; Increase of job opportunities in fishery-dependent areas.
[3] Conservation Green energy	(a) Notice on the implementation of projects on the use of “green energy” (GU no. 68 of 20 Mar 2008), Ministry of the Environment. It is a notification of a call dedicated to protected area managers for the realization of projects on the use of “green” energy within protected areas, carrying into effect the DM no. 94 of 22 Feb 2008. (b) DD no. 982 of 21 Dec 2001 (GU no. 91 of 18 Apr 2002), Ministry of the Environment. It contains a plan for the diffusion of removable energies, energy efficiency and sustainable mobility within Italian protected areas	2008 2001	Promotion of energy-saving policies, particularly in buildings; Promotion of diversification, decentralization and decarbonisation of electricity sources; Promotion of renewable energies and related technologies. Funding the diffusion of removable energies, energy efficiency and sustainable mobility within protected areas
[4] Conservation Tourism	Regional Act no. 13 of 8 May 2007 (GURS no. 22 of 11 May 2007). It contains measures on the tourism and building industries, and modifications to Regional Act no. 10/2007.	2007	Promoting economic activities within SCIs and SPAs.

² DM: ministerial decree. GU: Official Gazette, where all legislative acts are published. GURS: Official Gazette of the Sicilian Region, where all regional legislative acts are published. DD: directorial decree; DL: legislative decree; DDG: executive decree.

[5] Extractive non- living resources Conservation	(a) Council of Ministers no. 35 of 15 Jun 2012. It approves the measures for a sustainable growth in Italy, which include the so called “environmental corrective”. (b) DL no. 128 of 29 June 2010. It prohibits extractive activities within 12 nm from the shoreline or from MPA boundaries.	2012 2010	Protection of the Egadi sea bottom from the extractive use of non-living marine resources except for the licensors in the field of hydrocarbons off-shore that were in progress at the date of entry into force of the new measure. It prohibits the activities of prospecting, exploration and production of gas and crude oil within 12 miles from MPAs.
[6] Fishing Tourism	DDG no. 531 of 10 September 2012, Regional Department of Fisheries. It approves the Plan for the sustainable development of the fishing zones of the “Towers and tuna traps of the Trapani coastline” GAC (Coastal Action Groups). Measure 4.1 of the European Fisheries Fund (EFF)	2012	It aims at sustaining such economic activities as tourism which mainly involve fishermen of small fishing areas.
[7] Conservation Tourism	DDG no. 83 of February 2012, Regional Department of Environment. It approves a public call related to the operational objective 3.2.2 - intervention line 3.2.2.4 of the P.O. FESR Sicilia 2007/2013.	2012	It aims to improve joined actions for the protection, sustainable development and entrepreneurial promotion of the Sicilian Ecological Network (Natura 2000).
[08] Fishing Tourism	Act no. 164/1998 (GU no. 124 of 30 May 1998); DM no. 293 of 13 Apr 1999, Ministry of Agriculture, Food and Forests. Regulation of the “Pescaturismo” activity.	1999	It aims to enforce the “Pescaturismo” (i.e. fishing tourism) regulations.

3 Conflicts

Describe the conflicts generated by the implementation of the above management measures (section 2.3) aimed at achieving the priority objective; such conflicts will generally include:-

- Primary conflicts between environmental conservation and resources use
- Secondary conflicts between different sectors/users

Wherever possible, please describe the conflicts in the competition for sea space and related impacts in accordance with the following eight categories:-

- Extractive use of living marine resources (e.g. fishing)
- Extractive use of non-living marine resources (e.g. aggregate extraction, oil-and-gas exploration)
- Mariculture
- Commercial shipping
- Biodiversity conservation
- Marine renewables
- Amenity/recreation/tourism

- Military activities

Maps of the distribution of different activities can be used here to illustrate the spatial scale of the conflicts. However, please describe and discuss the conflicts rather than just trying to present and address them through a matrix, as this general approach has already been followed through WP3.

The implementation of the above listed management measures (sections 2.3) provides, on the paper, the legislative and management basis to facilitate the achievement of the priority objective. All the legislations and regulations listed in the section 2.4. interact with the priority objective but, while some of them are articulated in synergy with it, others generate conflicts with the conservation of the biodiversity in the Egadi MPA.

The primary conflict in our sub-case study is between *fisheries and conservation* and between *tourism and conservation* while the secondary conflict is between *fisheries and tourism*.

Fisheries vs conservation

The Egadi Islands host highly productive fishing grounds exploited for a long time by fishermen coming also from nearby areas. The institution of the Egadi MPA (Decree of 27 Dec 1991) originated an immediate reaction from trawlers and small-scale fishermen from adjacent harbours (Trapani, Marsala and Mazara del Vallo) due to the fishing ground reduction caused by the MPA: there was a strike of trawlers who blocked the activities of the Trapani harbour for days. Fishermen declared that they had not been involved and informed about the institution of the MPA, obtained a 90-day suspension of the MPA start and, as a sort of special concession, a D zone open to trawling was created that included the deep trawling grounds between the three islands, also as a mean for linking the A-B-C zones around the islands. By the way, a D zone does not exist in any other Italian MPA.

According to the interviews there are contrasting attitudes of local artisanal fishermen towards the MPA regulations: some are scared that artisanal fishing will undergo further restrictions, some are very happy because fishers from outside are banned inside the MPA, and some are unhappy because they state they suffer the current limitations without enjoying any positive outcome. Some artisanal fishermen who feel “protected” by the MPA against fishermen from the outside do not see any conflict between conservation and fishery. Concerning possible positive effects of protection on fish abundance, opinions are discordant.

The most frequent reasons of the fisheries vs. conservation conflict according to the interviews are the large size of the MPA and the absence of stakeholder involvement. Several interviewees declared that the area is too large (this is the largest Italian MPA and one of the largest in the Mediterranean) to be efficiently protected and suggest a re-zonation with a reduction of the protected area. Some members of fishermen associations attribute the severe reduction (ca. 50%) of the fishing fleet in the last decades to the presence of large protected areas in the Trapani compartment.

As regards the rumours of a re-zonation, which is officially aimed at releasing the conservation pressure on Marettimo by decreasing the extension of the current A zone while creating A zones in Levanzo and Favignana, the interviewees had different feelings: some had a positive and optimistic attitude while others i.e., artisanal fishermen were much scared to lose their favourite inshore fishing grounds due to the re-zonation.

The competition for space has also generated a harsh conflict between Egadi and Trapani fishermen due to the MPA regulations, which allow only to Egadi residents and landlords to fish inside the B and C zones. The reserve is seen by some stakeholders as a sort of privilege to Egadi residents while fishers from nearby areas are angry because they have to go farther from the coast to fish in less productive fishing grounds.

The fishing sector that conflicts most heavily with conservation is trawling, which is allowed only inside the D zone to trawlers registered in Favignana and Trapani. The main complaint is about the trawler exclusion from the C zone, which includes some fishing grounds deeper than 50 m that were exploited especially during the winter time before the MPA. Some interviewees stated that illegal trawling occurs frequently in the C and even B zones mainly in winter and during the night, with a heavy impact on coastal fish resources and on seagrass meadows. The enforcement bodies which patrol the MPA confirmed the existence of illegal trawling and attributed poor enforcement to the lack of economic and human resources. Some interviewees reported about requests submitted by trawl

fishers to the MPA management body to reduce the trawl ban area and to allow trawling inside the C zone at >50 m depth: apparently such requests have been debated at different institutional levels but no modification to the current regulations has been approved to date.

A conflict between recreational fishing and conservation stemmed from the interviews, with some of the interviewed stakeholders stating that spearfishing should be allowed at least to resident people. They explained that spearfishing as well as hand collection of limpets and sea urchins (all currently prohibited inside the MPA) is a traditional, locally well established practice and that for the young living on the islands the ban on spearfishing represents a problem because they either fish in hidden localities exposing themselves to a risk or move to the main land for their hobby. Also some interviewees are well aware that spearfishing is one of the few spare time activities left to the young and think that some form of regulated recreational fishing should be allowed, maybe in dedicated areas. Nonetheless other stakeholders are keen to ban all sorts of non-professional resource extraction from the MPA and demand more patrolling to ensure observance of MPA regulations.

Tourism vs conservation

Most of the Italian legislation and regulations related to MPAs recognize to nature conservation an “added value” able to diversify tourism economy. The Management Plan “Isole Egadi”, approved recently for the sustainable use of the Natura 2000 sites, represents a step in this direction. However tourism can be a double-edged blade that can negatively impact the environment (through e.g., discharge from cruise ships, building in coastal areas and increased sewage and waste). According to most - not all - of the interviewees the tourism in the Egadi is not necessarily linked to the existence of the MPA. Some stakeholders operating in the tourism sector stated that most tourists do not even know of the presence of an MPA: they rather come for the beauty of the landscape and seascape, for the archaeological sites and for the presence of a traditional tuna fishery (“tonnara”). The availability of low-cost flights to the nearby Birgi airport is also perceived as a strong incentive to tourist traffic. Some interviewees also think that a more efficient promotion of the MPA could attract more tourists although an efficient interaction between the MPA and the local tourist operators is still lacking. The islands have always attracted huge amounts of tourists, especially people from Trapani who come for one-day trips. Such mass-tourism has involved mainly Favignana and not Levanzo (which is small and with limited accommodation facilities) or Marettimo (which is farther offshore and more isolated). The MPA did not do much to address the impact of mass tourism, which is typically well accepted by restaurant and hotel owners but is not environmentally sustainable.

The main tourist-related uses of sea in the MPA are (1) pescaturismo (fishing-tourism), (2) scuba diving and (3) boat excursions.

Pescaturismo is an integrative activity for artisanal fishers introduced by Decree no. 293 of 13 April 1999, which allows tourists to go aboard fishing boats in order to participate to artisanal fishing operations, thus having a taste of a fisherman’s life. Pescaturismo is allowed in the B, C and D zones of the MPA and in the A zone only for fishers residing in Marettimo. Some fishers stated that pescaturismo is a way to integrate their salary in summer, when catches are low and tourists are numerous. However other fishers complained about bureaucracy costs to obtain the authorization as well as about the privilege for Marettimo fishers. Pescaturismo is not perceived by interviewees as an activity conflicting with conservation because artisanal fishing boats can host less than 10 tourists and selective gears are used.

Underwater excursions in the MPA are strictly regulated and allowed only in a few sites imposed by the MPA management body. There are two diving centres in Favignana and three in Marettimo. Neither scuba diving nor snorkelling are permitted without a guide in the A (no-take area) zone. A diving owner stated that scuba diving is not still an important economic activity in the Egadi despite the fact that coastal bottoms are among the most beautiful in the Mediterranean. Divers are generally disappointed by the scarce amount of fish. He also stated that there is no conflict between diving and conservation due to good management. Diving operators are highly interested in the protection of the sea as their economy is strictly dependent on the good status of the marine environment. For this

reason they generally report illegal activities that impact on the environment to the competent authorities.

Boat excursions are among the most impacting yet economically important tourist business in the Egadi Islands. This activity is concentrated from April to October with a peak in the summer months and is made up of (1) small private boats owned by tourists, (2) small boats hired from local residents, (3) large boats coming from Trapani and hosting up to about 100 passengers for one-day trips that make several stops at the most attractive spots that include sensitive habitats like e.g. the coastal caves in Marettimo. The boating business has grown to such a point that it is now regulated the MPA management body: a limit to the number of authorized boats and to the amount of passengers has been set in order to reduce the impact on the marine environment. Moreover, several mooring buoy fields have been established around the islands to reduce the impact of anchors on the sea bottom. The buoy fields can be used after a payment of a ticket to the MPA.

Most interviewees expressed strong opinions - generally negative - on this boating issue, especially against the activity of the larger boats. These are thought to conflict with the environment through waste, noise and disturb caused to the marine biota along the coast and into the caves. Also local residents who rent their small boats suffer the strong competition from the big charterers: people from Marettimo feel already damaged by the presence of the A zone and by the geographical isolation, and would like to have exclusive rights on the guided tours around their island. Generally passengers of the large boats have a meal on board, so they do not land on the shore and as a result they do not contribute to the local economy. The buoy fields are generally regarded positively as the Egadi ports are small and cannot host all the boats arriving from mainland Sicily, although most tourists arriving with their own boats do not even know of the existence of the fields and anchor everywhere with the risk of impacting sensitive habitat such as *Posidonia oceanica* seagrass meadows.

Fisheries and tourism

Generally speaking professional fishers look with interest at those tourist-related activities (pescaturismo, boat trips, boat rental, fish retailing on the wharf, house rental) which produce an increase in their revenues. From this point of view no conflict seems to occur between fisheries and tourism. A totally different feeling arises when the topic moves to recreational fishing. While some interviewees feel that spearfishing, angling and limpet and urchin collection should be allowed in a regulated way to residents, others (namely the fishermen) appreciate the current ban because they request to be allowed to fish inside the MPA in an exclusive way. Others suggests to individuate some areas inside the MPA dedicated to recreational fishing to avoid conflicts with professional fishermen. Overall the main conflict is generated by two illegal activities sometimes carried out by recreational fishermen: (1) higher recreational catches than allowed by the law (individual daily quota: 5 kg), (2) recreational fishermen selling their fish, what's more at a low price. Both conducts are strongly blamed by professional fishers as unfair competition

Wherever possible, please describe the conflicts in the competition for sea space and related impacts in accordance with the following eight categories:

- Extractive use of living marine resources (e.g. fishing)
See primary and secondary conflicts above described.
- Extractive use of non-living marine resources (e.g. aggregate extraction, oil-and-gas exploration)

The Egadi archipelago has been for years an area of great interest for the exploration and extraction of non-living marine resources like oil and gas. The first conflict generated by such use is the subtraction of space to other activities like fishing, but there is also a strong risk for the biodiversity and integrity of the marine environment. Because of this, some interviewees declared their contrariety to any exploration. They also showed apprehension due to the influence that powerful companies might have on the political decisions related to the management of the extractive use of non-living resources. Some interviewees were worried about recent authorization to air gun exploration in two large areas close to the MPA (Fig. 6) favoured by an Italian government measure called "Environmental corrective" (15/06/2012), which prohibits any prospecting, exploration and extraction of gas and oil within 12 miles

from MPAs except for off-shore hydrocarbons licenses that were in progress at the date of entry into force of the new measure.

- **Mariculture**
No mariculture activities exist in the Egadi MPA.
- **Commercial shipping**
Commercial shipping in the Egadi area is related to ferry and hydrofoil routes aimed at the transport of passengers and supplies to the islands. Commercial routes directed or departing from Trapani pass close to the Egadi, as well as large carriers from southern French and northern Italian ports directed to Malta and Suez. This activity conflicts to some extent with both fisheries and conservation due to interaction with fishing gear, acoustic impact on fish and water pollution.
Biodiversity conservation
See primary and secondary conflicts above described.
- **Marine renewable**
- **Amenity/recreation/tourism**
See primary and secondary conflicts above described
- **Military activities**
The NATO base at Birgi is located close in the mainland and low flights are common in the surrounding area.

Maps of the distribution of different activities can be used here to illustrate the spatial scale of the conflicts. However, please describe and discuss the conflicts rather than just trying to present and address them through a matrix, as this general approach has already been followed through WP3.

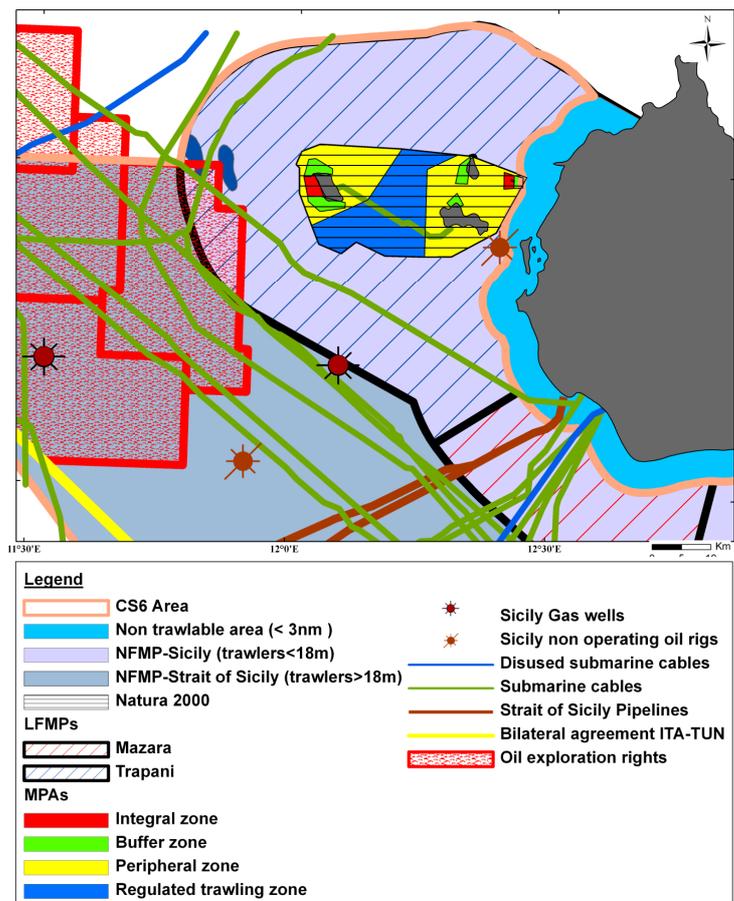


Figure 6 – Map showing the spatial distribution of the main activities and of existing sectoral initiatives in the Egadi MPA. LFMPs = Local Fisheries Management Plan. NFMP = National Fisheries Management Plan

When describing the conflicts, it may be worth exploring the influence of driving forces, *i.e.* key trends that are influencing conflicts, which may include:

- Changes in regulatory or administrative environments, which promote or restrict a particular type of marine space use, including strategic sectoral obligations, *e.g.* 20% of energy from renewables by 2020.
- Changes in market conditions, which affect (positively or negatively) a particular type of marine space use;
- Cultural changes, shifts in public perception, *etc* which support or hinder the development of a particular sector.

From the results of the interviews it is clear that nowadays more knowledge is available through mass media, and people can participate in discussions and have their opinion expressed. Research still has a very modest role in the public perception because the MPA managers have involved researchers only rarely in the management or in decision support. Some interviewees feel that research bodies (which are locally represented by the universities of Palermo and Trapani and by C.N.R.) should be strongly involved and that the MPA would benefit from scientific support.

4 Governance approach and effectiveness

The complex spatial, legislative and management system of the Egadi archipelago

The Egadi MPA and Natura 2000 sites (SPAs and SCIs, there are no SACs (Special Area of Conservation) yet) are almost completely overlapped and “spatially nested” in the Trapani LFMP (Fig. 3). All these initiatives fall in the areas of two National Fisheries Management Plans (NFMP: GSA 16 and Sicily) but they are managed under different legal frameworks.

From a legislative point of view, the Egadi MPA is regulated - like all other Italian MPAs - under two acts (no. 979/1982 and no. 394/1991) and is under the control of the Ministry of the Environment that delegates responsibility for management.

Egadi SPAs and SCIs are regulated by the EU Bird and Habitat directives, are included in the Natura 2000 network and their designation in Italy is delegated to the regions. Their management can be delegated to local institutions or NGOs.

The Egadi MPA and Natura 2000 sites (SPAs, SCIs) aim at the maintenance or restoration to a favourable conservation status of natural habitats and of biological diversity in the area. However, one of the objectives of Natura 2000 is also to take into account the economic, social and cultural requirements and regional and local characteristics.

The activities in the Natura 2000 sites of the Egadi Islands are regulated by a management plan whose beneficiary is the Regional Province of Trapani.

The current MPA management body is the Municipality of Favignana but the MPA is managed by a director helped by an advisory committee. The use of the MPA is disciplined by a regulation approved by the Ministry of the Environment but no management plan still exists.

The NFMP and the LFMP refer to the Common Fisheries Policy (CFP), to the Green paper reform of the CFP, and to the European Fisheries Fund (EFF). The NFMP is under the responsibility of the Ministry of Agriculture, Food and Forests (that includes also fisheries) while the LFMP is administratively linked to the Sicilian Department of Fisheries but it is managed by the Co.Ge.Pa. (Consortium for the Management of Artisanal Fisheries) of Trapani.

Local and national management plans are already enforced with the general objectives of preserving the stock turnover capacity, protecting fish essential habitats and enhancing the economy of the fishery workers through the increase of job opportunities in fishery-dependent areas.

In this complex system, the confusing and ineffective governance of the Egadi archipelago is the result of a mixed approach that is discussed hereafter.

- a top-down approach (relying on government power and regulation), or

- a decentralised approach, whereby a degree of autonomy to fulfil certain responsibilities is granted to lower levels of government: deconcentration, delegation or devolution (**see glossary**)
- a bottom-up (relying on user participation and community self-governance), or
- a market approach (relying on economic incentives), or
- a combination of different approaches, in which case, please try to identify the main approach (*i.e.* the approach followed in driving the decision-making process)

From a top-down towards a bottom-up process

The Egadi MPA was established by the Ministry of the Environment in 1991 with a top-down approach which did not consider any form of stakeholder participation to the design and planning of the MPA. Local residents and fishermen were not given the opportunity to comment on the MPA designation and most of them have opposed its existence from the beginning. The local politicians involved in the MPA creation process tried to meet the requests of both fans and opponents of the reserve in order to reach a “painless” compromise. The main fans were environmentalists, cultural associations, research bodies; the main opponents were fishermen from Trapani and Marsala, (especially trawlers - see conflicts section) and politicians of the opposite party to the one supporting the MPA creation. This governance approach ended in the ungovernability of the area, which was protected only on the paper until 2001 when, after a 10-year management by the Coast Guard, the management responsibility was transferred to Municipality of Favignana. As a matter of fact the first positive effects of the management change came out only in 2010, when an executive regulation of the MPA was implemented.

The ineffectiveness of the governance approach adopted during the 1991-2010 period is confirmed by the results of the interviews. All the twenty-three stakeholders stated that only after the adoption of the MPA regulations and the designation of the current director, appointed by the Ministry of the Environment, the Egadi MPA is starting to work. Some interviewees declared that they were initially worried about certain rules and, above all, about the fines to pay in case of infringement. Another positive perception which some stakeholders expressed was about the bottom-up approach that the management body is finally adopting. The adoption of such new governance approach was evident during the formulation of a proposal dealing with the re-zonation of the MPA. However, the new bottom-up consultations for the MPA re-zonation involved mainly the trade association of fishers while other stakeholders such as hotel owners, diving centres, tourist agencies and also some enforcement bodies were not consulted.

Disconnections amongst the key sectoral policies involved in the governance framework

The key sectoral policies involved in the Egadi governance framework are still disconnected. As described in the context, the Egadi archipelago is a mosaic of sectoral initiatives that aim to nature conservation and to a sustainable use of resources. However there is a clear disconnection among the legislation supporting the key sectoral policies involved in the Egadi. MPAs refer to the national legislation while Nature 2000 sites, which include the Egadi Islands itself as a SCI, follow the EU Habitat Directive for their creation and general principles and the Regional Department of the Environment for their management. An analogous disconnection exists for the management of fisheries in the area, which is split between the NFMP - which refers to the CPF and to the Ministry of Agriculture, Food and Forests, and the LFMP - which refers to the Regional Department of Fisheries and to the local management body (Co.Ge.Pa.) and is funded by the EFF (Fig. 3).

Different legislations and management bodies without any coordination or effective integration mechanism affect negatively the objective of conservation and valorisation of nature and make the solution of primary and secondary conflicts in the area difficult. These legislative and management malfunctions are clearly perceived by the interviewed stakeholders who expressed the need for a more effective integration among the key sectoral policies and for an effective coordination of the management bodies involved in the conservation and use of nature in the Egadi.

Discuss the overall **effectiveness** of the governance approach in achieving the priority objective, using both qualitative and quantitative descriptions wherever possible. This assessment of effectiveness can be based on the results from the MESMA WP2 framework.

- To what degree and extent is the priority objective in your case study being achieved?
The legislation and executive regulations crucial for reaching the priority objective in the Egadi MPA have been adopted only in the last two years. For this reason the management process which should bring to the maintaining or restoration to favourable conservation status of conservation features of the Egadi MPA is only in its initial stage.
- To what degree are primary and secondary conflicts being addressed? **If there are unsolved conflicts, how does that affect the achievement of the priority objective?**
The LFMP and the regulations of the Egadi MPA contain measures only recently adopted that are expected to attenuate both intra-sectoral (small scale fishery vs trawling) and inter-sectoral (conservation vs fisheries) conflicts. The recent Egadi Islands Management Plan, which includes the local Natura 2000 sites are expected to contribute to the reduction of the conservation vs tourism conflict. As reported in section 3, several conflicts still exist among the main activities going on in the Egadi MPA. The unsolved conflicts represent an important deterrent for the achievement of the primary objective because they involve politicians, trade associations and managers in a sort of “game of roles” aimed at defending the interests of single sectors. These unsolved conflicts are also producing negative effects even on the new bottom-up governance approach adopted for the re-zonation of the MPA (source: local newspaper articles).
- Is there any noticeable trend in terms of effectiveness (is the situation being improved, worsened, or stable)?
Thanks to the recent legislative tools adopted and according to the stakeholders perception recorded in the interviews,, the trend of the first 20 years of MPA management is now slowly being inverted with a likely improvement in the governance approach.

Specific elements of governance approaches that lead to high or low effectiveness in achieving the priority objective will be explored in detail in the next section. However, please do briefly outline and discuss the main reasons/factors (could be part of the context, policy framework, governance approach *etc*) that contribute to high or low effectiveness in achieving the priority objective.

The lack of an MPA management plan of the Egadi MPA hampers the fulfilment of the priority objective under any governance system. Without such a plan there is no clearly set objective and the measures contained in the MPA regulations are often confused; furthermore neither monitoring nor assessment of reserve effect exist to date. Some interviewed stakeholders stated that the absence of well defined and universally accepted objectives is the main deterrent against a socio-economic development related to the presence of the MPA. They also denoted the absence of a governance approach for an integrated management of the Egadi archipelago as a whole (see above). However, some positive elements of governance have been recently adopted, like e.g. the creation of a governance body inside the Trapani LFMP that includes many Egadi stakeholders, including the MPA director (Fig. 7). This is the first attempt to an integrated approach to the management of the Egadi archipelago and it might contribute to higher effectiveness in achieving the priority objective. However no strategic governance approach has been adopted to coordinate all the existing spatial-based initiatives related to nature conservation, fisheries and tourism (Fig. 3). The lack of an overarching coordinating body hampers the achievement of the priority objective.

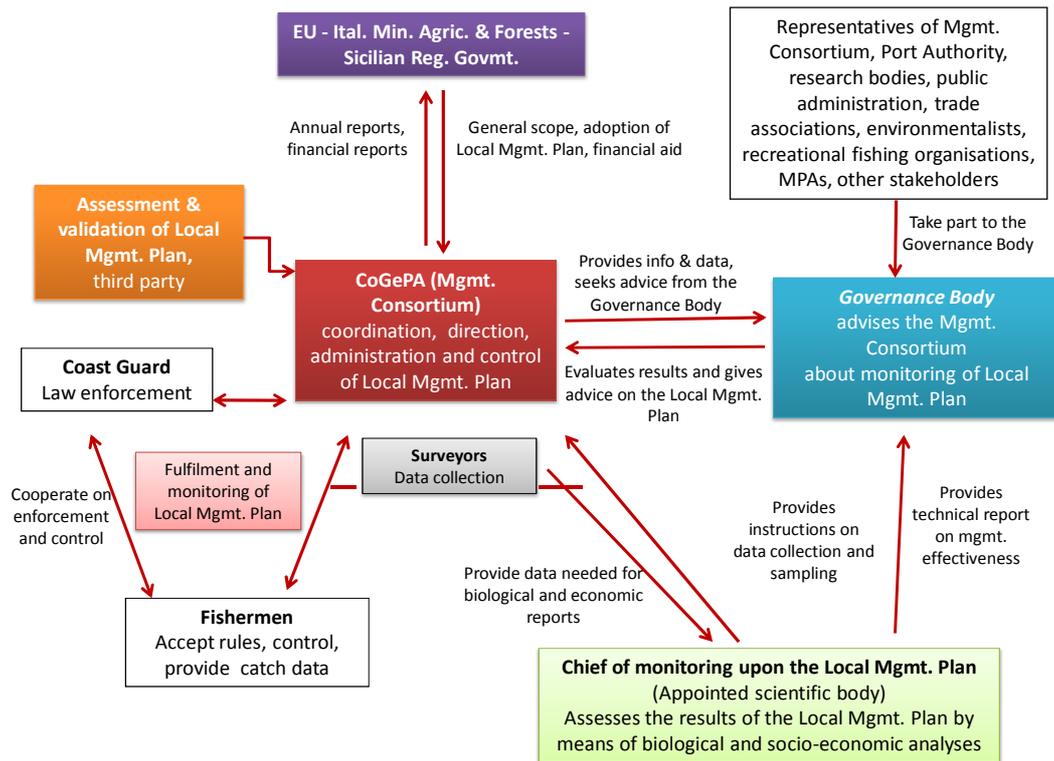


Figure 7- Governance system established by the Trapani LFMP, which includes a governance body.

5 Incentives

➡ Sub-section 5.1 feeds into Action 6.1 in the WP2 framework, and sub-section 5.2 feeds into Step 7 in the WP2 framework.

This section should include the following sub-sections:

5.1 A summary of the key incentives that have been applied to promote the achievement of the priority objective and to address related conflicts in the existing initiative you are evaluating, including how you (i.e. the person(s) conducting this governance analysis) think particular individual or combinations of incentives have been particularly effective or ineffective.

Please employ the list of incentives set out in Appendix III of this structure document. You only need to list and elaborate on the incentives that are applicable/relevant to the existing initiative you are evaluating. The description of legal incentives can refer back to section 2 (Objectives and management measures).

Economic incentives

E1 Promoting and protecting the rights and entitlements of local ‘customary’ users, *eg* through assigning fishing rights to certain marine areas and fish stocks (Tab.1, points 1 and 16).

These incentives, envisaged by the MPA regulations, concern generally rights and entitlements to local residents and deal with fishing, diving, anchoring, boat renting and boat trips. These incentives contribute to nature conservation but, in some cases, are also responsible of conflicts among MPA users (see conflicts sections).

E3 Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority objective and can generate sustainable income for local people (Tab. 1, point 15; Tab. 2, points 1,2,4,8,9,10).

These incentives are envisaged by several legislative tools which aim at creating opportunities and alternative livelihoods based on the valorisation and sustainable use of natural and cultural resources. In the Egadi MPA they involve the sectors of fishing (pescaturismo), tourism and green energy. As regards the latter sector, some interviewed stakeholders expressed the idea of transforming the Egadi in “Ecological Islands” characterized by the use of renewable energy. Following to the incentives provided by the sectoral legislation, a project entitled “Sole e stelle delle Egadi” (Sun and stars of the Egadi) has been funded by the Ministry of the Environment with the aim of knocking down carbon dioxide emissions and save more than 5 million KWh energy. This project meets both the priority objective and that of generating sustainable income for local people (<http://www.tuttogreen.it/isoled-egadi-il-futuro-eco-sostenibile-e-adesso>).

However these incentives are not still fully utilized due mainly to lack of information and divulgation and to the complex bureaucracy.

Interpretative incentives

I1 Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority objective (Tab.1, points 1, 16).

I2 Promoting recognition of the potential resource development benefits resulting from the achievement of the priority objective, whilst being realistic about such potential benefits and not ‘over-selling’ them, *eg* displaying development zones to potential developers and investors, potential internal and spillover/export benefits of MPAs (Tab. 1- points 1, 16)

I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions (Tab.1, points 2, 11, 15, 16; Tab.2, points 4, 6, 10).

These interpretative incentives are neither well implemented nor organized in an integrated way. During the interviews some stakeholders involved in tourist services stated that many tourists are not aware of the MPA. They also said that online information is poor and that MPA regulations are complex and incomprehensible to foreign visitors since they are in Italian. The same interviewees reported the lack of an integrated approach to the divulgation of hard-copy or digital source information, which is mainly concentrated in the MPA offices. Also the tourist information kiosk has no sufficient informative literature to distribute to tourists for promoting and explaining the importance of complying with MPA restrictions. The absence of an efficient and integrated information network on the MPA regulations hampers the awareness and implementation of management measures related to the priority objective. For these reasons interpretative incentives should be enhanced.

5.3 Knowledge incentives

K5 Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority objective. (Tab.1, points 1, 16; Tab.2, point 1).

As clearly highlighted by interviewed researchers, research organizations (namely, C.N.R. and local universities) have been rarely requested by MPA managers to carry out monitoring/assessment studies that can contribute to the increase of ecological knowledge, which can be used in management and decision-making. Research outcomes in the shape of technical reports are sent to the management body for an evaluation by the MPA committee. Conferences or thematic meetings have been sometimes organized to spread the results of scientific investigations. Most interviewed stakeholders recognized the importance of scientific knowledge for an efficient management of the MPA but they complained that scientific reports are often not properly released and are hard to understand for decision-makers who are not accustomed to such type of documents. As a result stakeholders do not know what are the effects of protection and which benefits could be used to improve they activity. Another common stakeholder perception was a lower “weight” of research if compared to economic and political priorities in the decision-making process.

5.4 Legal incentives

L1 Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc* in order to ensure the achievement of the priority objective, such as achieving environmental criteria and providing access rights for particular uses. (Tab.1, points 1, 16; Tab.2, points 1,2,6,7,8).

These incentives involve fishing activities and tourism for both services and structures. Based mainly on the LFMP and NFMP, fishers get some administrative and economic advantages if they convert their fishing gear to lower impact gear. The same advantages are given to tourist operators who link their activities to the respect, valorisation and sustainable use of natural resources.

L2 International-regional-national-local legal obligations that require the fulfilment of the priority objective, including the potential for top-down interventions.(Tab.1, points 6, 14).

A top-down approach has been adopted by the EU to oblige the Sicilian Region to individuate marine SCIs and provide them with a management plan. This approach started with a devolution that allowed the Ministry of the Environment to charge Sicily to designate Natura 2000 marine sites within December 2011. In order to comply with this request the Sicilian government gave the status of marine SCIs to existing Sicilian MPAs in order to accelerate the approval of the management plans of Natura 2000 sites.

L3 Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfilment of the priority objective, whilst avoiding a complete ‘command-and-control’ approach. (Tab.1, points 1, 16; Tab. 2, points, 1, 2).

These approaches are contained in the MPA regulations and in the local and national fishery plans.

L5 Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *eg* at national, EU or international level.

As it is clear from the interviews, compliance of restrictions in the Egadi MPA is still poorly enforced. However, some initiatives of the MPA management body, along with some measures contained in the LFMP (Tab.1, points 1, 15,16; Tab.2, points, 1, 2) include incentives aimed at improving the surveillance of the protected area using also local fishers and volunteers.

L9 Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority objective.

This important incentive is still lacking even if a first official attempting to create a inter-sectoral coordination has been recently established inside the LFMP (Fig. 4).

5.5 Participative incentives

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *eg* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc*, including training to support such approaches.

A first attempt of such incentive is represented by the governance body instituted inside the LFMP (Fig. 4).

5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.

The command-and-control approach has not produced any positive effect mainly due to an ineffective mechanism of enforcement, patrolling and control of the various activities going on in the Egadi MPA. The idea that no certain heavy fine will be generated by the inobservance of the rules has encouraged illegal activities with negative effects on natural resources. In the absence of an integrated approach to the management of the MPA, the mechanism of the incentives is the only one that is allowing the applications of some conservation measures (point 5.1). Economic incentives are the most efficient because they raise a big interests among stakeholders. In the past, economic incentives to the fishery

sector were given in the shape of a subsidy for technical or biological fishing stop (the so called “fishing rest”) that was a form of temporary fishing effort reduction, but it did not have any positive effect on fishery resources. Currently only E1 and E3 economic incentives are applied in the Egadi. However while E1 compensates the Egadi residents for the restrictions related to the MPA, E3 involves several sectors of the local economy and stimulates them to create job opportunities and alternative livelihoods based on the valorisation and sustainable use of natural and cultural resources. This approach could be the base on which building an alternative scenario of more effective governance in the Egadi MPA. The idea that nature conservation can give an added value to the local economy might pave the road to a more active participation of stakeholders to the MPA governance. However, in this new scenario several typologies of incentives need to be integrated. Scientific knowledge and regular monitoring/evaluation activities are needed to support decision-making in relation to the priority objective (point 5.3, K5); legal incentives (point 5.4, L1, L2, L3, L5 and L9) are already contained in the “Isole Egadi” management plan and in the Trapani LFMP but are not yet fully implemented. Results from the interviews highlighted the lack of interpretative incentives (5.4, I1, I2, I3) essential to divulgate the potential benefits deriving from the conservation of nature and its biodiversity. This gap can be bridged thanks to Decree n. 83 of February 2012 of the Sicilian Department of the Environment (Tab. 2, point 7). This decree, using European funds (P.O. FESR Sicilia 2007/2013, operational objective, 3.2.2 - intervention line 3.2.2.4), provides economic support to the stakeholders involved in tourist services that carry out joint actions aimed at promoting biodiversity and at improving the protection, sustainable development and entrepreneurial promotion of the Sicilian Ecological Network (Natura 2000). But perhaps, the biggest gap in the Egadi MPA is still the absence of participative governance structures and processes that support collaborative planning and decision-making. Several municipal and provincial committees exist in the area and there is also an MPA committee, but they are often sectoral and with a scarce ability of influencing decision making. Indeed, the development of participative incentives along with other incentives is essential to support awareness of the MPA and implementation of management measures related to the priority objective. To ensure that incentives exert their maximum efficiency a clear management structure and a new governance approach are needed, which join and coordinate all the activities aimed at nature conservation that are contained in the regulations and management plans existing in the Egadi archipelago (see also cross-cutting themes section below).

- **You are encouraged to explore alternative scenarios of more effective governance in case studies, which can be more realistic or visionary, and discuss which incentives could be used under each alternative scenario**

You may include in this section discussion of different **scenarios for improving** governance in the existing initiative. The scenarios may include, for example, a key change or break-through in the planning or legislative process, more space for stakeholders to influence the policy process, or more input from scientists. Please note that such scenarios should not be purely hypothetical, and a reality base for the scenarios will be needed, for example, through grounding your scenarios on real examples in a similar context, where positive changes in the governance have been observed. You can then describe the incentives that will be needed to support these scenarios drawing on the list of incentives set out in Appendix III.

6 Cross-cutting themes

GA PA however, when discussing cross-cutting theme, the discussion can ‘go broader’ to look at wider institutional issues. The achievement of the objective(s) often cannot be isolated from the broader institutional set-up.

This section is the ‘**discussion section**’ in your case study report, which draws on results and findings in previous sections. The purpose of this section is to discuss and highlight broad thematic themes that cannot be captured under previous sections. The main difference between sections 5 (Incentives) and 6 (Cross-cutting themes) is that section 5 looks particularly at specific and individual incentives, while section 6 looks particularly at wider-scale institutional/structural issues that may underpin or affect the effectiveness of individual incentives and/or the overall governance approach as described in section 4.

- Combining top-down role of state and bottom-up participative approaches;
- Inter-sectoral integration and related power issues including compensation (in emerging MSP framework);
- Cross-border issues between different countries;
- Environmental and social justice issues and related rights of appeal;
- Influence of different knowledges and of uncertainty in decision-making. *eg* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships.

Please refer to the list of cross-cutting themes and sub-themes in Appendix IV, for suggestions and examples as to what this section might include. **It is envisaged that the five cross-cutting themes above will be applied to all case studies and sub-case studies, while the sub-themes will be applied where they are relevant.**

The Egadi MPA is a complex system of spatially-based sectoral initiatives which aim at nature conservation and sustainable use of natural resources in the area.

The map showing the management initiatives dealing with conservation and fisheries (Fig. 3), suggests that there is a mosaic of initiatives spatially overlapping but disconnected from an institutional and legislative aspect. Many important natural, legislative and management elements contribute at filling the mosaic but nobody really knows how to organize them in order to preserve the marine environment while exploiting the natural and cultural resources in fair and sustainable way.

The institutional framework involves a Municipality, a Province, two Departments of the Sicilian Government and the Government itself, besides two national Ministries. The legislative framework is even more complex due to the peculiar autonomous status of Sicily which has jurisdictional power on fisheries but not on MPAs, which depend from the Ministry of the Environment. To make things more complicated, the Sicilian government has been charged to designate the Natura 2000 marine sites, which were made coincident with the Sicilian MPAs. A consistent contribute to the entropy of this system has been given by the NFMP and LFMP, which refer to the Ministry of Agriculture, Food and Forests and to the Sicilian Department of Fisheries, respectively.

As regards the management only the MPA and the LFMP have a management body while it is not clear who should manage the Natura 2000 sites. The Natura 2000 management plans and the LFMP have been approved only recently.

The Egadi MPA is only one element of such complex system but it also suffers an inefficient governance approach. Established in 1991, it started to really work only in 2010 when the first regulations were approved and a new director was appointed. Regulations and a novel bottom-up approach started during the MPA re-zonation proposal, have been much appreciated by local stakeholder. Moreover, the interviews highlighted the necessity of rules and of a management plan that set how to meet the objectives of the MPA and how to individuate the measures necessary to obtain efficient nature protection in the MPA.

The new management approach of the MPA, joined to the Natura 2000 management plans and to the LFMP, can be the base on which building an alternative scenario of more effective governance in the Egadi MPA. As discussed in the incentives section, the above management plans, plus the MPA regulations and some legislation contain a mixed of incentives which could concretely support the setup of an effective governance. Actually, the incentive mechanism is the only one that is allowing the application of some conservation measures (point 5.1). But, in order to let the incentives exert their maximum efficiency, it is necessary to have a clear management structure which joins and coordinates all the activities aimed at nature conservation, already contained in the regulations and management plans existing in the area.

A hypothetic yet realistic governance scenario needs some changes to the management approach adopted in the Egadi.

- In the Egadi area all initiatives related to nature conservation have been realized through top-down processes. Such non-participative approach caused a general opposition to the initiatives

and triggered intra- and inter-sectoral conflicts with consequent negative effect on the efficiency of the initiatives. Local nature conservation policies have been often perceived as a mix of impositions for many people and of subsidies for a few, and have promoted the pursuit of personal interests as opposed to the responsibility of bearing efforts for attaining collective benefits. The re-zonation of the Egadi MPA, still underway, offers an opportunity to test a bottom-up participative approach. However some stakeholders were disappointed for the exclusion of sectors of the local economy and of surveillance bodies from the re-zonation process. Moreover, reading local newspapers it appears that the re-zonation seems a game played at the political and institutional level and between trade associations of fishers. If these problems are to be solved, the new scenario should try to balance the contribution from local stakeholders and from the national and local governments to decision making.

- The bottom-up processes in the new scenario should be coupled to a more effective form of decentralization. Although some of them have already been launched (e.g., SCIs designation, LFMP) more decisional and economic power should be transferred to regional and local institutions as regards nature conservation, fisheries and tourism.
- Another important aspect is the necessity to make the objectives contained in the “Isole Egadi” management plans and in the LFMP really operational. These plans appear formally aligned with the high level policies but the underlying concepts and ideas seem to vanish in the process toward implementation. This is particularly the case for objectives related to nature conservation and to the enhancement of fishermen welfare.
- Another aspect which affects the governance efficiency in the Egadi is the complexity inherent in all the different policies in the area. For this reason the existing initiatives must be considered in the new governance scenario as a vehicle for promoting cooperation and collaboration between different levels of government (e.g., national, regional, and local) and different sectoral agencies in developing and implementing a spatial approach to management. In this new process an important role can be played by NGOs, which could promote cooperation in fulfilling the priority objective.
- As discussed in the incentive section also scientific knowledge needs to be improved and regular monitoring programs should be carried out to evaluate the trends regarding the attainment of management objectives.
- Last but not the least, information to the public and transparency in decision making are essential pre-requisites for the effectiveness of a new governance scenario. Wide stakeholder involvement should be promoted at the early stages of any important management decision. Improvements in information, participation and transparency will realistically promote social acceptance and identification with the management system, thus facilitating the implementation of policies.

To meet the requirements of the governance scenario depicted above the governance institutions should be transversally linked, harmonised and coordinated.

A governance body able to coordinate and integrate all the management initiatives could be represented by a permanent committee that includes representatives of (i) local institutions (Egadi MPA, Regional Province of Trapani, CoGePA Trapani), (ii) research, (iii) local NGOs, (iv) local entrepreneurs, especially those involved in tourism and fisheries. Such a committee composition would assure an appropriate balance between stakeholders and institutions in relation to the priority objective. Its main role could be that of analysing and comparing all the initiatives planned in the area concerning environment, fisheries and tourism. The aim of such governance body would be the integrated coordination of activities in order to attain an efficient use of economic resources assigned at the conservation and sustainable use of natural resources. Moreover, thanks to a thorough knowledge of marine activities and uses gained from the participation of the different stakeholders, the committee could adopt appropriate management approaches for promoting interactions and dialogue between different sectors in order to reduce primary and secondary conflicts in the area. Using the “power” of the incentives, the knowledge from research and the intermediary role of NGOs the fundamental issue of intra- and inter-sectoral conflicts could be concretely resolved with benefits for the governance of the Egadi MPA. However, in order to attain an operational status the committee should be appropriately funded and its opinion should be implemented by decision makers.

7 Conclusion

Please summarise and highlight the key messages and conclusions from your case study.

The Egadi archipelago is a complex system of spatially-based sectoral initiatives that aim at nature conservation and sustainable use of natural resources in the area.

The Egadi MPA is a component of such complex system. It has proved an interesting case study that highlighted many institutional, legislative and management lacks that have determined an inefficient governance approach in the area in the last twenty years. Local policies have often been perceived as a mix of impositions to many people and subsidies to few. Such approach has promoted the pursuit of personal interests, as opposed to the responsibility of bearing efforts for attaining collective benefits.

The lack of a management plan in the MPA hampers any effective governance aiming at meeting the primary objective of maintaining or restoration to a favourable conservation status in the area. Without an implemented management plan the objectives cannot be fulfilled, the measures contained in the MPA regulations cannot be effectively enforced and a monitoring and evaluation program cannot be launched.

Several intra- and inter-sectoral conflicts exist among the main activities going on in the MPA. Unsolved conflicts represent an important deterrent to the achievement of the primary objective because they involve politicians, trade associations and managers in a sort of “game of roles” aimed only at defending the interests of single sectors.

However some positive elements of governance have been recently adopted in the Egadi. First of all the implementation of the MPA regulations and a new bottom-up approach, started during the MPA re-zonation process underway. Then, the implementation of the Trapani LFMP, which includes a governance body that involves many local stakeholders as well as the MPA director. This is the first attempt to an integrated management approach in the Egadi archipelago and it could contribute to higher effectiveness in achieving the priority objective. Also the recent implementation of the “Isole Egadi” management plan for the governance of the Natura 2000 sites represent another important step towards an integrated management of the conservation and sustainable use of the Egadi natural resources.

However, to date no strategic governance approach has been set to coordinate all existing initiatives with spatial elements related to nature conservation, fisheries and tourism. The lack of a coordinating body encompassing the whole area hampers the achievement of the priority objective.

A possible new governance scenario should be based on a clear management structure, which could be represented by a permanent committee that includes representatives of (i) local institutions (Egadi MPA, Province of Trapani, CoGePA Trapani), (ii) research, (iii) local NGOs, (iv) local entrepreneurs, especially those involved in tourism and fisheries. Such committee should coordinate and integrate all activities aimed at the conservation and sustainable use of natural resources. Moreover, thanks to a thorough knowledge of marine activities and uses gained from the participation of the different stakeholders, the committee could adopt appropriate management approaches for promoting interactions and dialogue between different sectors in order to reduce primary and secondary conflicts in the area. Using the “power” of the incentives, the knowledge from research and the intermediary role of NGOs the fundamental issue of intra- and inter-sectoral conflicts could be concretely addressed with benefits for the governance of the Egadi Archipelago. However, in order to attain an operational status the committee should be appropriately funded and its opinion should be implemented by decision makers.

D. METHODS

“Sicily” sub-case study: Egadi MPA

Priority objective: To maintain or restore to favourable conservation status of conservation features

Primary (P) and Secondary (S) conflicts: P1) between fisheries and conservation; P2) between tourism and conservation; S) between fisheries and tourism

Method: semi-structured interviews

- 1) Document analysis: going through reports, meeting minutes, policy documents, newspapers etc to collect information relevant to the research themes.
- 4) Semi-structured interviews to stakeholders of the Egadi MPA.

List of the stakeholder groups interweaved

1) Fishermen from Favignana, Levanzo, Marettimo, Trapani, Marsala, San Vito Lo Capo (Fisheries which host boats authorized to fish inside the Egadi MPA):

- Trawlers
- Small scale fisheries
- Amateurs (Recreational fishing)

2) Public administrations and politicians

- Management Body of Egadi MPA (Director, members of the MPA advisory board, others...)
- Local government (mayor of Favignana, component of town council, others)
- Regional Province of Trapani (President, Provincial Councillor of the environment, others)
- Cultural and Environmental Heritage Office

3) Consortium for Local Management Plan of Fisheries (Co.Ge.Pa)

4) Research bodies

- ISPRA (Public institution)
- University of Trapani and Palermo (Public institution)
- CNR –IAMC (Public institution)
- Private researchers

5) Enforcement

- Port Authority
- Carabinieri
- Revenue Guard Corps
- Municipal Police

6) Trade associations

- One member of the most representative trade association in the Egadi islands

7) Tourism industry

- Diving
- Pesca turismo, (Fishery tourism)
- Rent boat (taxi a mare, etc)
- Reception structures
- Restoration (restaurants)
- Tourism agencies

- 8) Non profit organizations that have some interest in the MPA
- Environmentalists
 - Lega Navale
 - Gulliver associazione sportiva culturale (scuola di vela)
 - Associazione Aegusa onlus
 - Associazione C.S.R.T (Marettimo)

APPENDIX

- All governance analysis reports should include a **statement on positionality**, which can be added as an appendix. The statement should describe what role the authors of the report play within the case study itself, or any relevant involvement/position they have in relation to it, how this might affect governance analysis in the case study and what measures were taken to reduce any bias related to your position (see below for details).
- **Giovanni D’Anna** – Contact person for the governance analysis in the Strait of Sicily, sub case study “Sicily”. Planning and coordination of the activities for the governance analysis in the Egadi MPA. Running of semi-structured interviews to the Egadi stakeholders and transcription of about one third of them. Main author of the report. Involved in the Local Fishery Management Plan (LFMP) of Trapani for scientific aspects related to the monitoring and evaluation of the plan. The involvement in the LFMP could have positively affected the governance analysis due to deep knowledge of the legislative and management frameworks on which the plan is based. Neutrality and objectivity were taken as measures to reduce any bias during the conduction of the governance analysis in the Egadi.
- **Fabio Badalamenti** – Fully involved in the governance analysis process within MESMA. Contribution to the preparation of the semi-structured interviews for the “Sicily” sub-case study, running of about half the interviews and transcription of about one third of them. Previous experience on similar approaches with Libyan MPA stakeholders. Co-tutor of a PhD thesis (Himes AH) on the perception of Egadi’s stakeholders about the local MPA. Lecturer to Lebanese, Moroccan, Syrian and Turkish scientists on the collection of information from stakeholders to assess the importance of cultural and socio-economic aspects linked to biodiversity conservation (UN SAP-BIO project). These previous experiences allowed for a neutral and objective approach during the interviews in the Egadi MPA governance analysis.
- **Carlo Pipitone** - Scientific responsible of MESMA activities for CNR-IAMC and contact person for work package 4 “Management tools”. Involved in work package 6 “Governance” as secondary author to review the governance analysis report. Transcription of about one third of the semi-structured interviews. No bias issue identified.
- **Germana Garofalo** – Contact person for work package 5 “Geomatics framework” with the task of compiling the inventory of datasets available for the sub-case study “Sicily” and creating the relative metadata used to populate GeoNetwork. Involved as a collaborator in work package 3 “Case Studies” to create maps for the sub-case study “Sicily”. Involved as a collaborator in work package 6 “Governance” to draw maps of marine space uses for the sub-case study “Sicily”.
- **Tomás Vega Fernández** – Leader of the MESMA case study “Strait of Sicily” that encompasses Sicily and Malta. Contact person for WP2 and WP3. Collaborator to WP1, WP5 and WP6. Within the WP6, provided framing concepts and information gathered during the WP2 FW, performed document analysis, helped with some interviews in Favignana and Trapani and reviewed the report. Bias was removed as far as possible by applying the FW method and perspective

A7.7 Case study report: The Strait of Sicily case study, Maltese sub-case study

Basic details of the case study:

Initiative	Rdum Majjiesa to Ras ir-Raħeb SAC
Description	The implementation and management of the SAC
Objectives	Nature conservation / MPAs: Maintaining or restoration to favourable conservation status of conservation features
Scale	Local (single MPA)
Period covered	1992-2013
Researchers	Marie Louise Pace, Department of Fisheries and Aquaculture, Ministry for Sustainable Development, the Environment and Climate Change
Researchers' background	Natural Science
Researchers' role in initiative	Participant (Fisheries Department)

The next 27 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Pace, M.L. (2012) Work Package 6. *Maltese Governance Analysis on Rdum Majjiesa to Ras ir-Raħeb Marine Protected Areas*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 27pp.

**MINISTERU
GHAR-RIŻORSI U
L-AFFARIJJIET RURALI**



**MINISTRY
FOR RESOURCES AND
RURAL AFFAIRS**

MALTA

Direttorat għall-Kontroll tas-Sajd

Fisheries Control Directorate



Work Package 6

Maltese Governance Analysis

on

Rdum Majjiesa to Ras ir-Raheb Marine Protected Areas

by

Marie Louise Pace

17th September 2012

Acronyms

AFM – Armed Forces Malta

ASCI – Areas of Special Conservation Interest

CIA – Central Intelligence Agency

EU – European Union

FAO – Food and Agriculture Organisation

FCD – Fisheries Control Directorate

GDP – Gross Domestic Product

GSA – Geographical Sub Area

GVA – Gross Value Added

ICZM – Integrated Coastal Zone Management

IТОPF – The International Tanker Owners Pollution Federation Limited

LN – Legal Notice

MAP – Mediterranean Action Plan

MEPA – Malta Environment and Protection Planning Authority

MESMA – Monitoring and Evaluation of Spatially Managed Areas

MPA – Marine Protected Area

MPASC – Marine Protected Areas Steering Committee

MRRA – Ministry for Resources and Rural Affairs

MS – Member State

MSP – Marine Spatial Planning

NGO – Non- Government Organisation

NSO – National Statistics Office

OPM – Office of the Prime Minister

PISCES – Partnerships Involving Stakeholders in the Celtic Sea Ecosystem

RAC/SPA – Regional Activity Centre for Specially Protected Areas

RFMO's – Regional Fisheries Management Organisation

SoS – Strait of Sicily

SPA – Specially Protected Area

SPAMI – Specially Protected Areas of Mediterranean Importance

TM – Transport Malta

UCL – University College London

UNEP - United Nations Environmental Program

UOM – University of Malta

WP – Work Package

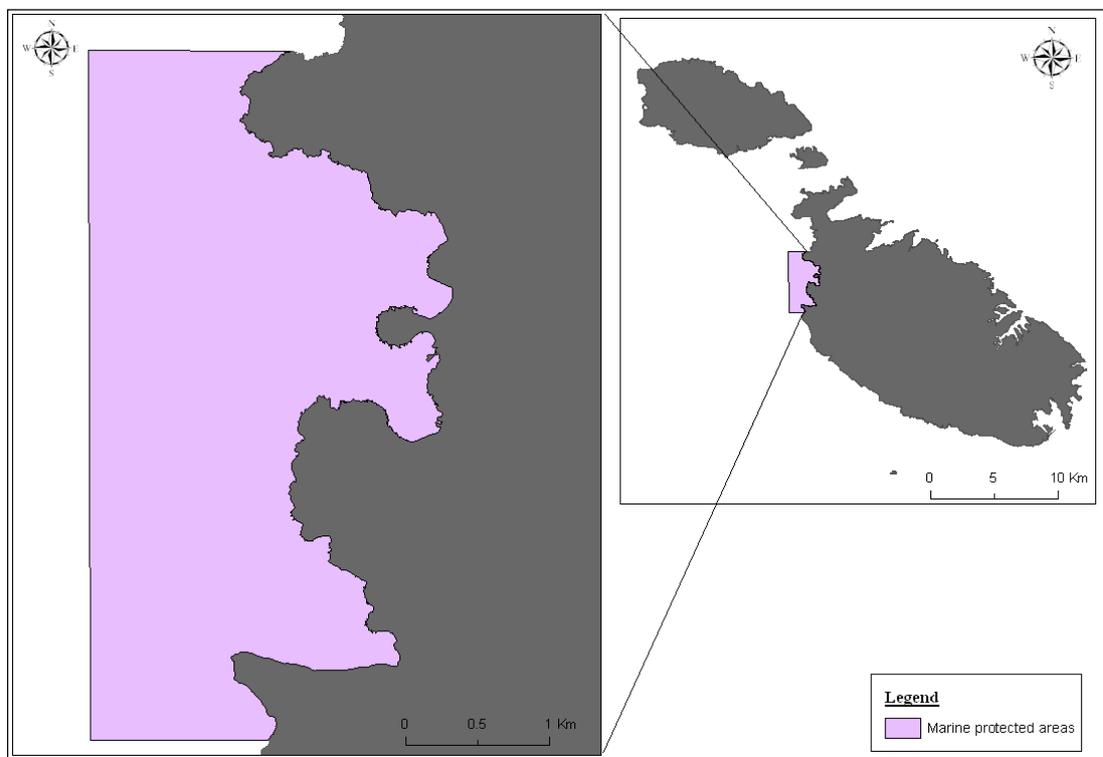
1 Context

The governance analysis of the Maltese sub-case study is going to be conducted on two levels. The first level consists of a brief overview on the initiatives, policies and regulatory framework for marine resource management and conservation for the Four Marine Protected Areas (including the marine area surrounding Dwejra in Gozo, the marine area in the Northeast of Malta, the marine area in the limits of Ghar Lapsi and Filfla and the marine area in the limits of Mgarr ix-Xini (Gozo)). The second level deals with a detailed stakeholder analysis of the Rđum Majjiesa to Ras ir-Raħeb Marine Protected Area. In the first section of the governance analysis the context of the Rđum Majjiesa to Ras ir-Raħeb is going to be outlined.

1.1 About the existing initiative you are evaluating, which can be an integrated marine spatial plan or part of the plan, or an initiative with spatial elements if there is no integrated marine spatial plan in place

- Name, location and geographical boundary of the existing initiative

The area between Rđum Majjiesa and Ras ir-Raħeb is located to the North West of Malta with a coastal length of about 11 km and has a total marine area of 8.49 km² (Map 1). It is characterized by a number of inlets and bays and Blue Clay slopes and also sea cliffs to the south part of the MPA. *“The seabed morphology is characterized by varied seascapes and bottom types. Two rocky shoals also occur, one adjacent to Ras il-Waħx and another at Ras il-Pellegrin. Other features include gentle slopes and steep drop-offs, as well as semi-submerged caves towards the southern part of the area”* (UOM, 2008). Some of the major biotopes found in this area include; *Posidonia oceanica* and a combination of mud, sand and gravel sediments.



Map 1: The Area between Rđum Majjiesa and Ras ir-Raħeb MPA

- History of the existing initiative (how and why it was established)

Malta as a signatory to a number of international conventions and as a Member State (MS) of the European Union (EU), is required to protect, conserve and manage the marine environment and its associated flora and fauna. This obligation is also reflected in national legislation. The Habitats Directive (Council Directive 92/43/EEC) is one of the most important and directly applicable regulations of the EU. It has been transposed into Maltese law primarily by the Flora, Fauna and Natural Habitats Protection Regulation, 2003 (LN 311 of 2006) as amended. The latter provides the legal framework for designating terrestrial and marine areas of national and international importance in the Maltese Islands.

Malta is at present reviewing its national policy on the process for selection and establishment of Marine Protected Areas using the various legal frameworks available to this end. Each legislative tool refers to 'marine protected area' differently, ranging from SPA & SPAMI sites under the SPA & Biodiversity Protocol, to which both Malta and the EU are signatory parties, Special Areas of Conservation at sea as per Habitats Directive, Special Protection Areas under the Birds Directive, as well as the network of protected areas known as Areas of Special Conservation Interest (ASCI) forming the EMERALD Network under the Bern Convention, to which again both the EU and Malta are contracting parties. Although site designations serve similar purposes (*i.e.* the protection of the natural habitats and the species), the terms of requirements are different.

Up to date there is only one (Rdum Majjiesa to Ras ir-Raħeb MPA) site which was declared as NATURA 2000 in 2008. Another 4 sites are still in the process of being included as NATURA 2000 sites. The area has long been targeted as having a conservation importance. In fact the Structure Plan for the Maltese Islands (1992) has identified this area as one of the sites to be considered as a marine conservation area. Since then a number of studies were carried out in the area. Eventually, in 2005, the area which stretches from Rdum Majjiesa to Ras ir-Raħeb in the north-west of Malta was declared as a Special Area of Conservation of International Importance (Marine Protected Areas) under the Act X of 2010 Environment and Development Planning Protection Act, 2010 and Legal Notice 311 of 2006 Flora, Fauna and Natural Habitats Protection Regulations, 2006. It was also listed as a site of EU Community importance for the Mediterranean bio-geographical region (EC Community Decision 335 or 2008) and in 2008 it was included in the Natura 2000 network. The Habitats Directive (92/43/EEC) indicates that conservation measures need to be established within six years from the site's inclusion in the Natura 2000 network. As a result, conservation measures for the marine area between Rdum Majjiesa and Ras ir-Raħeb must be established by 2014. Whereas, the other 4 sites, since they are still in the process of being included in the NATURA 2000 network, the six year period has not commenced. However, in the meantime, the habitat is still being protected through appropriate measures

- Competent authority/authorities

At present the Malta Environment and Planning Authority (MEPA) is in charge of the Marine Protected Areas as well as responsible for establishing the necessary conservation measures for the protected area through the establishment of management measures by 2014. Moreover, the GAIA Foundation together with the collaboration of MEPA and the Ministry for Resources and Rural Affairs (MRRRA) are currently managing the terrestrial area, at Għajn Tuffieħa Bay, which is an area of ecological importance, where apart from promoting eco-tourism and sustainable development and other activities, the foundation is also responsible for the coastal conservation through monitoring, maintenance, patrols and also for the

enforcement of regulations (Gaia Foundation 2010). In order to manage this bay, the foundation also works in conjunction with the local council, farmers and other experts.

- Sectors involved in the initiative
 - Tourism and recreation
 - Fishing
 - Education
 - Nature, historical and cultural heritage

- Stakeholder groups involved in the initiative
 - Fisheries Control Directorate (FCD),
 - Ministry for Resources and Rural Affairs (MRRA),
 - Malta Tourism Authority,
 - Office of the Prime Minister (OPM),
 - Armed Forces Malta (AFM),
 - Transport Malta (TM),
 - Gaia Foundation
 - Fishermen,
 - Divers

1.2 The socio-economic and political context of the case study (if the local context is significantly different from the national context, you may focus on the local context and briefly mention the difference between local and national contexts where this information is available and can be found):-

- Per capita GDP – Real GDP growth rate = 1.9 (Eurostat, 2012)
- Population density per km² - The population of the Maltese Islands in 2010 was 417,617, making it the most highly densely populated country in the European Union (EU) with 1, 322 persons per km² (NSO, 2011a)
- GDP growth rate, and the main driver(s) of economic growth or change

The Maltese real GDP growth rate was 3.1% in 2010. Malta’s economy is mostly dependant on tourism, foreign trade and manufacturing industry. In fact, the services sector contributed 80.9% of the GDP, followed by industry (17.2%) and agriculture by (1.9%) in 2010 (CIA, 2011)

- Economic structure (eg GDP composition by sector, main economic sectors, main source of employment etc):

In 2010: Contribution of Regional GVA to Total Economy GVA (information taken from NSO, 2011b):

By Industry	%
Agriculture, forestry and fishing	1.8
Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities	16.20
Construction	3.96
Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities; information and communication	26.66
Financial and insurance activities; real estate activities; professional,	21.69

scientific and technical activities; administrative and support service activities	
Public administration and defence, compulsory social security; education; human health and social work activities; arts, entertainment and recreation, repair of household goods and other services	29.68

Table 1: Contribution of Regional GVA to Total Economy GVA in 2010

- Contribution of maritime sectors to the national economy:

The marine sector contributes an average of 14% of the GDP (Pace, 2005). The main activities that contribute to the marine sector are: fisheries, aquaculture, shipping (trade), tourism and also renewable energy

- Unemployment rate: 6.9 % in 2010 (NSO, 2011a)

- Administrative structure (eg degree of autonomy of local/sub-national government)

The politics of Malta takes place within a framework of a parliamentary representative democratic republic, whereby the President of Malta is the constitutional head of state. Malta is divided into 68 elected local councils, with each council responsible for the administration of cities or regions of varying sizes. Administrative responsibility is distributed between the local councils and the central government in Valletta.

- Governance capacity index (reported annually by the World Bank - UCL can provide this index for each relevant country): The Average for 2010 for the Maltese Islands was 1.21
- Gini index of income disparity (a measurement of income equality): 26 in 2007 (CIA, 2012)

Most of the indices listed above, including the Gini index, can be found at the CIA World Factbook site (https://www.cia.gov/library/publications/the-world-factbook/wfbExt/region_eur.html), whilst the governance indicators for countries, which are assessed by the World Bank, can be found at www.govindicators.org.

1.3 The regional policy framework within which your specific WP6 focus is ‘nested’, eg regional sea action plans.

➡ Sub-section 1.3 and UCL’s review of EU policies and directives can feed into Action 1a in the WP2 framework.

It is important to note that ‘regional’ in this context refers to an international region, rather than a region within a country. Examples of specific initiatives taken at a regional scale within which sub-cases are nested: North Sea Ministerial Conference (Southern North Sea case study), PISCES project (Celtic Sea case study), UNEP RAC/SPA network (Strait of Sicily case study).

This sub-section could include the following information

UNEP RAC/SPA does not apply to Malta, the MPAs in Malta fall under the Habitats Directive

- How the regional policy framework (Habitats Directive) come into existence in the SoS

The Strait of Sicily comprises the international waters off the African coast, the southern coast of Sicily, and the waters surrounding the Maltese archipelago. It roughly coincides with the FAO GSAs 15 and 16, except in the fact that the Egadi Islands are completely incorporated in the study area for the MESMA purposes. Such definition embraces an area characterized by high seas with small islands, unique oceanographic features, large habitat heterogeneity, huge (beta) diversity, exceptionally high productivity, and a massive cultural heritage (Papaconstantinou and Farrugio, 2000).

The entire area holds the homelands of very different human populations which heavily exploit a vast array of marine resources from ancient times. As a result of the lack of a unified policy among nations and sectors, Malta inherits a complex composite of conflicts among different uses of the marine realm at several spatial and temporal scales.

The policy framework of such a complex context refers to Europe and some parts of Northern Africa.

With regards to the Mediterranean region agreements and legal instruments, several offer the potential to protect the living marine resources, such as the regional fisheries management organisations (RFMOs) and species-specific regional conservation agreements.

As the main objective for WP6 focus deals with maintaining or restoration to favourable conservation status of conservation features of the SoS, the policy framework which is referred to in this section, includes the main instruments, institutions and initiatives devoted to Mediterranean conservation and in particular to the creation and management of protected areas in the Mediterranean Sea.

- Background: geographical scale, participating countries, overarching goals and objectives of the policy framework in the Mediterranean Sea region

N/A for Malta. The Maltese MPA that was evaluated in this report falls under the Habitats Directive. No review was done on the latter since UCL is going to do it

- How does this regional policy framework relate to the existing initiative you are evaluating in your case study?

The regional policy framework described above is related to the “Maltese” sub-case study by the need to protect the “hot spots” of biodiversity in the SoS from human pressures (illegal fishing, wind farms, maritime traffic). Since the Rdum Majjiesa to Ras ir-Raheb MPA was included in the Natura 2000 network in 2008, conservation measures should be prepared by 2014. This MPA could then be included in the SPAMI list. The creation of conservation measures in the area to protect different habitats and species will allow the enactment of specific policies that would be enforced regulations to ensure better governance.

- A brief description on the implementation of the regional policy framework in relevant countries, based on existing information wherever feasible.

The Habitats Directive (Council Directive 92/43/EEC) was transposed into Maltese law primarily by the Flora, Fauna and Natural Habitats Protection Regulation, 2003 (LN 311 of 2006) as amended.

The



regional policy framework agreed for each case study through the WP6 workshops are listed in Appendix II.

Please note that the policy framework at the EU level will be reviewed by UCL, so you only need to review regional policies here. The UCL review of EU policy framework includes a summary of the goals and main provisions of the Marine Strategy Framework Directive, Habitats and Birds Directives, Common Fisheries Policy, Integrated Marine Policy, Renewable Energy Directive, EIA Directive, SEA Directive and the Water Framework Directive.

2 Objectives and management measures

➡ Section 2 links to Action 2C in the WP2 framework.

Briefly review the following information in this section. **Please note that policies and regulations at the EU level will be reviewed by UCL, so you only need to describe the policies and regulations that apply at national and local levels**, in relation to the objective chosen as the focus in your governance analysis

2.1 What is the priority objective in your case study?

Priority objective: the objective on which the governance analysis is focused, recognising that this should also be a key priority in the existing initiative you are evaluating. This may come from a local, national or regional policy level but, where appropriate, relate this objective to the regional policy framework. There will often be other related objectives that complement and go alongside the priority objective, which may come from a local, national or regional level and these may be included in your analysis whilst maintaining the focus on the priority objective. For example, your priority objective may be to designate a network of MPAs or to promote marine renewables, and the complementary objective may be to minimise the socio-economic or ecological impacts when meeting the priority objective. Note that the priority objective may, for instance, be national, whilst complementary objectives may be regional but you should only undertake one analysis with a focus on the priority objective.

It is also important to note that in reality, MSP initiatives often have multiple operational objectives, and it may be difficult to identify the priority objective, however, for the purpose of this governance analysis, please identify a single priority for the evaluation of governance approaches and incentives in subsequent sections. The WP6 analytical structure [considers all the other objectives that interact, including conflicting and supporting objectives, with the priority objective](#) in the following sections, however, the focus must be maintained on the priority objective. The priority objective in each sub-case study, as agreed through the WP6 case study workshops is listed in Appendix II.

The priority objective is to maintain or restore to favourable conservation status of conservation features and to address the conflicts between:

1. Fisheries and conservation
2. Tourism and conservation
2. Fisheries and tourism.

2.2 What are the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above priority objective?

Please list the **titles** of these policies, legislations, regulations and/or plans, **the year of implementation, and key legal provisions in relation to the priority objective** here. Please try to limit your list to the policies, legislations, regulations and/or plans that are of **particular importance** to the fulfilment of the priority objective in your case study, *ie* driving or directly related to the priority objective in your case study.

Title	Year of implementation	Scale	Legal provisions
The Flora, Fauna and Natural Habitats Protection Regulations, 2006.	2003	National	LN 311 of 2006, as amended
Conservation of Wild Birds Regulations, 2006	2006	National	LN 79 of 2006, as amended.
Flora, Fauna and Natural Habitats Protection	2005	National	Government Notice 112 of 2007

Regulations, 2003			
Vessel Monitoring System (VMS)	2005	National	EC/1224/2009
Operations and Registration of the fishing vessels	2004	National	Legal Notice no.407 of 2004
Fishery Regulation	1934	National	G.N. 206 of 1934
Mediterranean Regulation	2006	Regional / National	EC1967/2006
Maltese Fisheries Conservation and Management Act	2001	National	Chapter 425 Act II of 2001
The convention on Biological Diversity	2001	International	Rio de Janeiro, 1992
The convention on the Conservation of Migratory Species of Wild Animals	2001	International	Bonn, 1979
The Convention for the Protection of the Mediterranean Sea against Pollution – Protocol for Specially Protected Areas and Biodiversity in the Mediterranean (SPABIM)	1999	International	Barcelona, 1995
The convention on the Conservation of European Wildlife and Natural Habitats	1993	International	Bern, 1979
Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora	1992	International	92/43/EEC
Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds	2009	International	Dir 2009/147
Water Framework Directive	2000	International / National	2000/60/EC
The Environment and Development Planning Act X of 2010.	2001	National	Chapter 435
	1992	National	Chapter 356

Table 2: Information on policies, regulations and legislations

2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?

Please **briefly summarise the measures and actions here**; the details of how such measures and actions have been implemented on the ground and how effective they are should be described in the incentives section below.

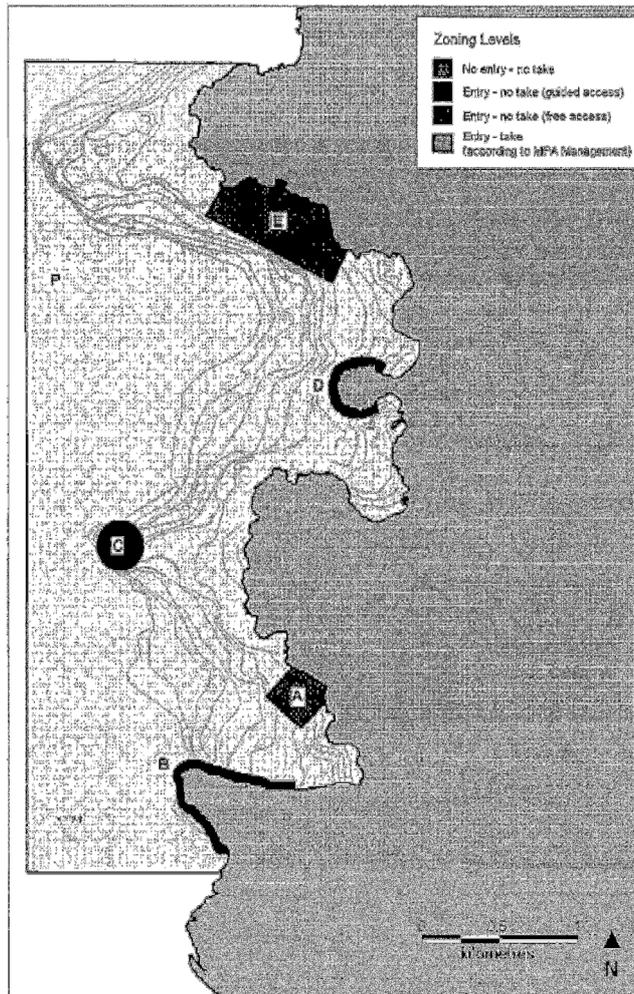
Currently there are no specific policies, legislations, regulations or plans managing this MPA. During the last few years there were many proposals and stakeholder meetings and a management framework for the marine environment was also published in 2005 and later revised in 2006. However, no actual policies or regulations were issued.

Based on a draft framework which was revised in 2006, there was a proposal of dividing the area into six zones, each zone with different levels of management: No entry (no take areas), Entry (no take areas) and General Protection areas (MEPA, 2006 and Map 3) as described below:

- Zone A – No entry – No take areas
 - Scientific research activities subject to the issue of a permit from MEPA
 - No access to visitors – swimmers or underwater users
 - No mooring/anchoring
 - No fishing
 - No collection of species or other resources
- Zones B, C and D – Entry – No take areas (guided access)
 - Swimming
 - Snorkelling
 - Scuba activities for groups with MPA management or authorised persons
 - No access to boats and other sea-craft
 - No mooring/anchoring
 - No fishing
 - No collection of species
- Zone E – Entry - No take (free access)
 - Entry of craft is subject to regulation and limited by engine power and maximum speed limit
 - Free access for bathing
 - Free access for snorkelling
 - Free access for scuba diving
 - Boats up to 10 metres in length are allowed to access a maximum speed of 2 knots to access mooring buoys
 - Regulated mooring along the border of the zone
 - No jet-skis
 - No mooring or anchoring within the zone
 - No fishing
 - No collection of species or other resources
- Zone P – General Protection Areas
 - Free access for bathing
 - Free access for snorkelling
 - Free access for scuba diving

- Fishing from authorised locations using sustainable fishing methods (to be identified within the Management Plan)
- Boats allowed to access a an authorised maximum speed
- Mooring allowed a authorised locations
- No underwater fishing in apena or with scuba gear
- No purse seine fishing
- No anchorage on sea beds with Posidonia oceanica meadows
- No flushing of boat waste systems

This zoning plan is still subject to revision after further consultations with stakeholders.



Map 3: The map of the MPA showing the different zones with the respective protection level
Source: MEPA, 2006

2.4 Are there other specific and particularly important sectoral priorities, objectives, obligations etc that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective? If so, what measures or initiatives are in place to address such conflicts? Such measures could include an existing or emerging marine spatial planning framework and policies.

Please note that while a description of the key policies is needed here, an extensive review of every sectoral policy or legislation is not necessarily. **Please focus on the policies and legislations that interact, articulate and/or conflict with the priority objective. It is the interactions between the key policies that are of interest here, not the details of individual policies and legislations, i.e. analogous to a synecology rather than an autoecology approach.** This section is mainly about setting

the policy background for the following analysis, so the description on the interactions between different policies should be related to the discussion on conflicts, incentives and cross-cutting themes below. If there are policies and legislations that are not directly related to your discussion on the conflicts, incentives and cross-cutting themes below, you do not need to include them in the description.

As mentioned above, plans are still in the pipeline.

3 Conflicts

Describe the conflicts generated by the implementation of the above management measures (section 2.3) aimed at achieving the priority objective; such conflicts will generally include:-

- Primary conflicts between environmental conservation and resources use
- Secondary conflicts between different sectors/users

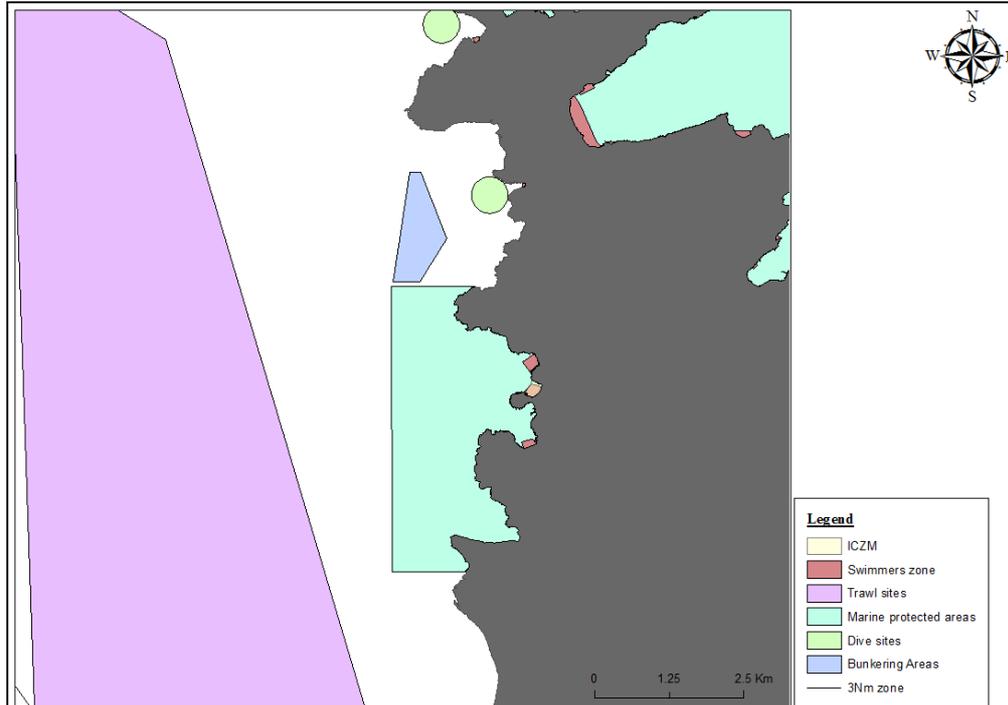
Wherever possible, please describe the conflicts in the competition for sea space and related impacts in accordance with the following eight categories:-

- Extractive use of living marine resources (*e.g.* fishing)
- Extractive use of non-living marine resources (*e.g.* aggregate extraction, oil-and-gas exploration)
- Mariculture
- Commercial shipping
- Biodiversity conservation
- Marine renewables
- Amenity/recreation/tourism
- Military activities

Maps of the distribution of different activities can be used here to illustrate the spatial scale of the conflicts. However, please describe and discuss the conflicts rather than just trying to present and address them through a matrix, as this general approach has already been followed through WP3.

Currently, there are no specific management measures in the area from Rdum Majjiesa to Ras ir-Raheb, but it is still being used by different stakeholders and activities which have a common spatial-temporal use (Map 3). Moreover, in the adjacent area, there are also activities which can influence the

objectives of this MPA. Below, a brief description of the different activities is given.



Map 3: Different activities within or adjacent to the Rđum Majjiesa to Ras ir – Raħeb Marine Protected Area.

The main activities fall within three main categories:

- Extractive use of living marine resources
- Commercial shipping
- Amenity/recreation/tourism

▪ Extractive use of living marine resources – mainly fishing

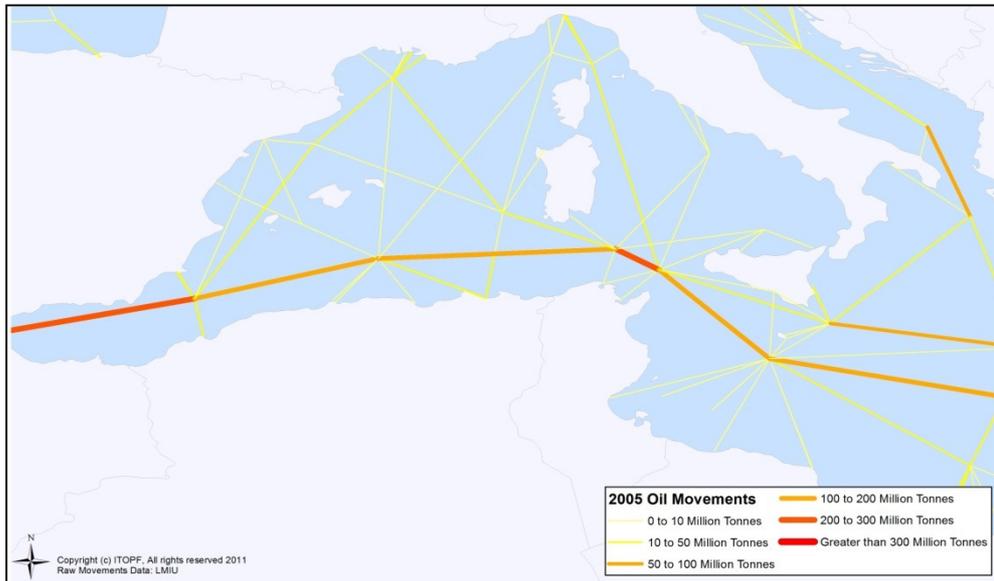
In this MPA there is the Ġnejna fishing port where at the time of filling in the report, there were three MFAs (Full-timers), forty-four MFBs (part-time) and one hundred and fifty-four MFCs (recreational fishing) registered vessels. However, other small vessels which are not registered within the FCD vessel registry could also be present.

Most of the vessels used in this area are ‘*Kajjik*’ which are mainly used for coastal artisanal fishing. ‘Lampara fishing’ is used for pelagic species, whereas demersal fish are caught with small long-lines or trammel nets. Moreover, basket traps and hand line fishing are also used along the coast as well as spear fishing and small boats for cuttlefish. Gears such as nets and traps used by the latter are often lost and these can be hazardous to divers as well as have an adverse impact on the fish fauna (Prof. Schembri, 2008).

In the vicinity of this MPA there is also a legal trawling site. The plume of suspended sediment which could potentially be created by bottom otter trawling in this area could affect the natural ecosystem and the benthic habitat. Further studies to characterise the possible effects of trawling in the area are required to confirm this potential impact.

- Commercial shipping and maritime activities

The Maltese Islands were always situated in a strategic position in terms of maritime activities. However, since the 1950's there has been a development in the harbour areas which further helped in increasing this economy. Most of the major maritime traffic and major shipping routes are located between the islands of Sicily and Malta (Map 4).



Map 4: Oil movement in the Mediterranean in 2005

Source: ITOPF

Moreover, some areas around the coast of the Maltese Islands, either inside or outside the harbours are also used for bunkering (Transport Malta, 2010). Bunkering areas use up a lot of sea surface area, thus making it impossible for other activities such as fishing and aquaculture to use that area, which is creating numerous user conflicts. To the north of the MPA, there is a bunkering area representing a potential source of pollution through risks of spillages into the marine environment during bunkering activities.

- Amenity/recreation/tourism

Most of the sandy beaches located within this area are very popular with tourists especially for bathing. In fact, three of the beaches within this MPA are declared as swimmers zone during the summer period and also one of them (Għajn Tuffieħa Bay) is being safeguarded under the Project Olympus undertaken by the Gaia Foundation. In addition, this year (2012), the beach of Għajn Tuffieħa was also awarded the Blue Flag whereas; Golden Bay was awarded the Beach of Quality (Visit Malta, 2012). Moreover, next to the latter beach, there is also a five star hotel which makes the location even more attractable to tourists.

Even though the area is not currently one of the main sites for diving due to lack of accessibility, during recent years this sport has also become very popular. While this has a low impact on the environment, if left uncontrolled it still might cause impacts “*through disturbance, collection of specimens and trapping of air bubbles*” (MEPA, 2006: 26). In addition to this there is also the use of boats for leisure activities such as jet skis, speedboats, yachts etc. Apart from noise pollution, their high speeds also cause disturbance to the species and habitat (MEPA, 2006). Anchoring is also another important impact that should be taken into consideration.

Other indirect activities

The run-off of pesticides and fertilizers from adjacent agricultural lands can also cause water pollution affecting both habitats and species. Depending on the amount of contaminants in the water this may either kill certain type of fish / species or it can also alter the balance of the present populations. Also, excess nutrients can cause nitrification. Moreover, other impacts such as: turbidity and light reduction might cause reduction in plant productivity and also problems with mating, spawning, juvenile survival and others can also be affected.

In addition, a new sewage treatment plant situated near Anchor Bay (north of the MPA) was opened in 2009. This could also have a slight impact on the MPA since even though the water is treated, the chemistry would not be the same (low salinity, different temperature etc.) thus, it will probably change the nutrient level of the water, which in turn it will affect the biological life. Moreover, one must also note that the most common wind for the Maltese Islands comes from the North West; therefore, this will eventually move the treated water towards the MPA.

When describing the conflicts, it may worth exploring the influence of driving forces, *i.e.* key trends that are influencing conflicts, which may include:

- Changes in regulatory or administrative environments, which promote or restrict a particular type of marine space use, including strategic sectoral obligations, *e.g.* 20% of energy from renewables by 2020
- Changes in market conditions, which affect (positively or negatively) a particular type of marine space use;
- Cultural changes, shifts in public perception, *etc* which support or hinder the development of a particular sector.

From the results of the questionnaires, it was found that there was a common agreement that the influence of driving forces for such conflicts is due to the cultural changes and shifts in public perception that support the development of the MPA. Nowadays more knowledge is made available through media, and people can participate in discussions and have their opinion expressed.

4 Governance approach and effectiveness

Describe and discuss the governance approach being used in the existing initiative you are evaluating and to implement the policy framework described in section 2, *i.e.* main governance approach that is dominating decision-making processes:-,

- a top-down approach (relying on government power and regulation), or
- a decentralised approach, whereby a degree of autonomy to fulfil certain responsibilities is granted to lower levels of government: deconcentration, delegation or devolution (see **glossary**)
- a bottom-up (relying on user participation and community self-governance), or
- a market approach (relying on economic incentives), or
- a combination of different approaches, in which case, please try to identify the main approach (*i.e.* the approach followed in driving the decision-making process)

In the processing of establishing this Marine Protected Area, a top-down approach was used, thus meaning that the decisions were taken by the government, however consultations were engaged with various stakeholders. Various meetings are expected to be taken once a final draft will be completed.

Please indicate, wherever possible, if there are any disconnections amongst the key sectoral policies involved in the governance framework. For example, a top-down approach but with different sectoral policies with no effective integration mechanism to address primary and secondary conflicts (see section 3).

There are no disconnections amongst the key sectoral policies involved in the governance framework there can be disconnections between conservation and other sectoral policies, but since this conservation area is still at an early stage, one cannot tell for sure if there will be disconnections and who will be involved.

Discuss the overall **effectiveness** of the governance approach in achieving the priority objective, using both qualitative and quantitative descriptions wherever possible. This assessment of effectiveness can be based on the results from the MESMA WP2 framework.

- To what degree and extent is the priority objective in your case study being achieved?

Unless management measures are adopted, it would be rather difficult to ensure that the priority objective will be ensured a higher success rate than for other areas.

- To what degree are primary and secondary conflicts being addressed? **If there are unsolved conflicts, how does that affect the achievement of the priority objective?**

At the moment everything is still on paper and discussions are being held with various stakeholders. However studies are carried out in the area on an ad-hoc basis to assess the status of different habitats and species. In order to ensure that the objectives are achieved, use of existing legal tools is being made. In fact such laws may also allow the proper protection of habitats and species.

- Is there any noticeable trend in terms of effectiveness (is the situation being improved, worsened, or stable)?

From the data that was collected it resulted that currently the situation is stable, The latest meeting that was held with institutional stakeholders to discuss the zoning scheme for the area was carried out in early 2012 during the MPA steering committee.

Specific elements of governance approaches that lead to high or low effectiveness in achieving the priority objective will be explored in detail in the next section. However, please do briefly outline and discuss the main reasons/factors (could be part of the context, policy framework, governance approach *etc*) that contribute to high or low effectiveness in achieving the priority objective.

5 Incentives

➡ Sub-section 5.1 feeds into Action 6.1 in the WP2 framework, and sub-section 5.2 feeds into Step 7 in the WP2 framework.

This section should include the following sub-sections:

5.1 A summary of the key incentives that have been applied to promote the achievement of the priority objective and to address related conflicts in the existing initiative you are evaluating, including how you (i.e. the person(s) conducting this governance analysis) think particular individual or combinations of incentives have been particularly effective or ineffective.

Please employ the list of incentives set out in Appendix III of this structure document. You only need to list and elaborate on the incentives that are applicable/relevant to the existing initiative you are evaluating. The description of legal incentives can refer back to section 2 (Objectives and management measures).

The following are the incentives that according to the author could have been used in the management framework of Rdum Majjiesa to Ras ir-Raheb MPA. However, one must note that this framework is still a draft version and was not implemented yet. Thus, no related conflicts can be addressed and comments cannot be made as to whether these incentives were effective or not. Furthermore some incentives may be omitted whereas others may be added once the final version document is published.

Economic Incentives

E1 – Promoting and protecting the rights and entitlements of local ‘customary’ users, eg: through assigning fishing rights to certain marine areas and fish stocks

E2 – Providing certainty to potential industries and their investors, eg: through licensing and granting concessions to renewable energy developers in certain marine areas

Interpretative Incentives

I1 – Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority objective

I2 – Promoting recognition of the potential resource development benefits resulting from the achievement of the priority objective, whilst being realistic about such potential benefits and not ‘over-selling’ them e.g.: displaying development zones to potential developers and investors, potential internal and spill over benefits of MPAs

I3 – Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions

Knowledge Incentives

K4 – using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, etc to support the achievement of the priority objective while reducing conflicts

K5 – Maximising scientific knowledge to guide/inform decision – making and monitoring / evaluation in relation to the priority objective

Legal Incentives

L2 – International-regional-national-local legal obligations that require the fulfilment of the priority objective, including the potential for top-down interventions

L5 – Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence e.g.: at national, EU or international level

Participative Incentives

P2 – Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect.

No further comments were given by MEPA. However as explained above, the framework is still in its preliminary stages. Thus no details are available yet.

5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.

You may include in this section discussion of different **scenarios for improving** governance in the existing initiative. The scenarios may include, for example, a key change or break-through in the planning or legislative process, more space for stakeholders to influence the policy process, or more input from scientists. Please note that such scenarios should not be purely hypothetical and a reality base for the scenarios will be needed, for example, through grounding your scenarios on real examples in a similar context, where positive changes in the governance have been observed. You can then describe the incentives that will be needed to support these scenarios drawing on the list of incentives set out in Appendix III.

As described previously, there is no management plan for this area yet but there is a draft management framework (MEPA, 2006). Therefore, the discussion hereunder, is going to be based on the latter.

Timeframes were set up to establish the management framework for the site and even though most of the tasks were performed, the publication of the final Management Plan is still not available. The Management Framework was supposed to be divided into three phases:

Phase 1 – Management of the Marine Environment

Phase 2 – Management of the Terrestrial and Coastal Environments

Phase 3 – Comprehensive Management: An Integration of Phases 1 and Phases 2

The results that were obtained from the questionnaires showed that such phases have not started yet or else if they did, the stakeholders were not informed. However although the activities under phase 1 and 2 have not yet initially started, it can be said that the management of the marine, terrestrial and coastal environments is still being properly achieved through nationwide regulations and also through specific regulations that apply for the area. It is important to say that with respect to the draft of the management framework, the governance approach is very good as it includes all the aspects and sectors as well as it involves the

different stakeholders in the various stages. The draft framework (MEPA 2006) has 5 different goals and according to these goals different stakeholders are to be involved. These are mentioned below, but since it is a draft version, both goals and stakeholders are subject to change.

Goal 1: to protect marine biodiversity, representative ecosystems and special natural features, as intrinsic values to the benefit of present and future generations.

Stakeholders to be involved: Fisheries, Tourism, Maritime, Law Enforcement, Research, Diving Community, Local communities

Goal 2: To promote the rehabilitation and restoration of degraded ecosystems and ensure that activities do not contribute to further degradation of existing habitats, or otherwise threaten the favourable conservation status of species and habitats

Stakeholders to be involved: Fisheries, Tourism, Maritime, Law Enforcement, Research, Diving Community, Private enterprises, Local communities

Goal 3: To maximise sustainable social and economic benefits that the site can offer

Stakeholders to be involved: Fisheries, Tourism, Maritime, Research, Diving Community, Private enterprise, Local communities, NGO's

Goal 4: To provide opportunities for scientific research, to gain a better understanding of the natural resource and processes in the area, thus contributing to the monitoring and improved management of the site

Stakeholders to be involved: Fisheries, Tourism, Maritime, Research, Diving community, private enterprises, Local communities, NGOs

Goal 5: To promote education and public awareness and encourage the involvement of stakeholders

Stakeholders to be involved: Fisheries, Tourism, Education, Local Media, Diving community, private enterprises, local communities NGOs

However, in order to fulfil its obligations, and starts functioning, this has to be implemented as soon as possible. In addition, this MPA was declared as a NATURA 2000, therefore as a consequence conservation measures should be established by 2014.

6 Cross-cutting themes

This section is the ‘discussion section’ in your case study report, which draws on results and findings in previous sections. The purpose of this section is to discuss and highlight broad thematic themes that cannot be captured under previous sections. The main difference between sections 5 (Incentives) and 6 (Cross-cutting themes) is that section 5 looks particularly at specific and individual incentives, while section 6 looks particularly at wider-scale institutional/structural issues that may underpin or affect the effectiveness of individual incentives and/or the overall governance approach as described in section 4.

- Combining top-down role of state and bottom-up participative approaches;
- Inter-sectoral integration and related power issues including compensation (in emerging MSP framework);
- Cross-border issues between different countries;
- Environmental and social justice issues and related rights of appeal;
- Influence of different knowledge and of uncertainty in decision-making. *E.g.* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships.

Please refer to the list of cross-cutting themes and sub-themes in Appendix IV, for suggestions and examples as to what this section might include. **It is envisaged that the five cross-cutting themes above will be applied to all case studies and sub-case studies, while the sub-themes will be applied where they are relevant.**

Combining top-down role of state and bottom-up participative approaches;

The area between Rdum Majjiesa to Ras ir-Raheb was declared as a Marine Protected Area by the Malta Environment and Planning Authority in 2005 and later on, in 2008, was accepted by the EU Commission to form part of the NATURA 2000 network. The MPA was designated to partially fulfil the obligations of the EU Habitats Directive. In fact it is mentioned that a Member State has to ensure that an established percentage of habitats listed in Annex I of the same Directive have to be protected through the designation of special areas of conservation (in this document referred to as MPA). This area hosts four habitats that are listed in Annex I one of which is also elevated as a priority habitat. The habitats in this area include the priority habitat *Posidonia* beds, Reefs, Sandbanks and Submerged or partially submerged caves..

A Marine Protected Area Steering Committee (MPASC) was set up involving different stakeholder institutions. The MPASC was set up as part of the EC Habitats Directive and National Legislation LN 311/06 to see the implementation of marine policies. Thus, this is a national body and not only for the MPA under study.

Organisations involved: Transport Malta (TM – formerly known as Malta Maritime Authority MMA), Fisheries Department, Malta Tourism Authority (MTA), Armed Forces of Malta (AFM), Police department, the Malta Environment and Planning Authority (MEPA), Administrative Legal Enforcement (ALE) and the Ministry for Gozo.

Even though MEPA is the leading authority of this Committee, it is liaising with government ministries and departments.

Meetings between other stakeholders were held between MEPA and groups representing other users of the area. This was also intended to ensure that a good communication is held with all those interested parties. However, from the results it was shown that although MPASC is still going, the other meetings done with smaller stakeholders take place on an ad-hoc basis.

Inter-sectoral integration and related power issues including compensation (in emerging MSP framework);

The area is used mainly by the fishing and tourism sectors. Since currently there is no management plan or any type of spatial planning, conflicts arise both within the same sectors and between the different sectors. Further studies need to be done as soon as possible to determine the impacts on the environment and to see how to better manage the area in order to reduce conflicts.

The GAIA Foundation is an NGO which is currently managing the small beach (Għajn Tuffieħa) where apart from doing voluntary work such as collecting rubbish and planting trees and plants, they also promote other activities such as, swimming, diving, hiking, horse riding and so on. Moreover, the Heritage Parks Federation (made up of three different NGOs) which is managing the Majjistral Nature and History Park is also involved in coastal management (Majjistral, 2012).

Cross-border issues between different countries;

Due to its geographical position and to the location of the MPA (within 1NM), this is not applicable to the Maltese sub case study.

The gathering of information about the marine environment is a laborious and expensive exercise however in the light of lack of exact data it is important that precautionary measures are adopted and that the national legal regime is enforced. On the other hand it is important that when practical and special measures are adopted for this area, such decisions are based on sound information and knowledge of the area. Failure to do so may result in the adoption of measures which will not be successful. Such an event may lead to stakeholders losing their trust in MPA benefits.

7 Conclusion

Please summarise and highlight the key messages and conclusions from your case study.

Under the Habitats Directive and Natura 2000 network, Malta is obliged to protect marine habitats which fall under Annex I of the same Directive. A lot of work and study is currently being done by MEPA in order to protect as much of the habitats as possible. In 2005, the Rdum Majjiesa to Ras ir-Raħeb MPA was designated as an MPA. It was listed as a site of EU Community importance for the Mediterranean bio-geographical region (EC Community Decision 335 or 2008) and it was also included in the Natura 2000 network. The marine area between Rdum Majjiesa and Ras ir-Raħeb was based on a top-down approach, but preliminary discussion with different stakeholders were held with regards to the zoning of this MPA and also terms of reference were drafted to engage experts to undertake the management planning, yet these have not been issued to date. Moreover, a Marine Protected Area Steering Committee was also set up in order to have a holistic and integrated approach.

In addition, according to the Habitats Directive (92/43/EEC), indicates that conservation measures need to be established within six years from the site's inclusion in the Natura 2000 network. As a result, conservation measures for the marine area between Rdum Majjiesa and Ras ir-Raħeb are expected to be established by 2014. However, in the meantime, the habitat is still being protected through appropriate measures. Even though, MEPA is responsible for establishing the necessary conservation measures for the protected areas through management plans; it may not be MEPA itself that manage the sites, thus, site managers may be engaged.

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A7.8 Case study report: The Barents Sea case study

Basic details of the case study:

Initiative	The Norwegian Barents Sea Management Plan
Description	The development, implementation and revision the Integrated Management Plan for the Lofoten – Barents Sea Area (referred to as the ‘Barents Sea Management Plan’ or ‘BSMP’ in MESMA), including mapping and management of ‘valuable and vulnerable areas’ (VVAs, closed to oil & gas activities, <i>de facto</i> MPAs)
Objectives	Oil / multi-sector: To promote economic development (esp. oil exploration), allowing sustainable use while ensuring the health of the ecosystems
Scale	Norwegian portion of the Barents Sea
Period covered	2001-2013
Researchers	Erik Olsen, A. Hoel, Lene Buhl-Mortensen, I. Røttingen (Institute of Marine Research, Norway); Silje Holen (Norwegian Institute for Water Research)
Researchers’ background	Natural Science; Economics
Researchers’ role in initiative	Scientific advisers in the initiative

The next 46 pages reproduce the case study report in full, in the format presented by the authors.

The report should be cited as:

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A paper on this case study analysis is in preparation for a special issue of Marine Policy.

MESMA

WP 6 Governance analysis

Barents Sea Case Study

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Table of Content

1. Context	3
Historical background.....	3
The North Sea process and the management plans.....	5
International context.....	5
Purpose.....	6
Planning cycle.....	6
Structure	8
1.2 Socio-economic and political context.....	10
<i>Economy</i>	10
<i>Politics</i>	11
<i>Administrative divisions</i>	13
<i>Foreign relations</i>	13
1.3 The regional policy framework.....	13
Objectives and management measures	15
2.1 <i>What is the priority objective in your case study?</i>	15
2.2 Key policies, legislation, regulation and or plans that enable/facilitate the achievement of the above priority objectives.....	18
2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?	19
2.3.1 <i>The original, 2006 plan</i>	19
2.3.2 <i>The revised 2011 plan</i>	21
2.4 Are there other specific and particularly important sectoral priorities, objectives, obligations etc. that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective? What measures or initiatives are in place to address such conflicts?	24
3. Conflicts	25
3.1 Oil/gas and fisheries.....	25
3.2 Shipping and fisheries.....	26
3.3 Oil/gas and tourism.....	26
3.4 Oil/gas and aquaculture	26
3.5 Future offshore wind farms and other industries	27
4. Governance approaches	30
4.1 Governance approach.....	30
4.2 Opportunities for participation.....	30
4.3 The processes in the government.....	31
4.4 Effectiveness of management measures.....	32
5. Incentives	35
Economic incentives	35
Interpretative incentives	35
Knowledge incentives	37
Legal incentives.....	38
Participative incentives.....	40
6. Cross-cutting themes	42
6.1 Combining top-down role of state and bottom-up participative approaches.....	42
6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework).....	43
6.3 Cross-border issues between countries (Not so applicable in the Barents Sea case study).....	44
6.4 Justice issues (Not so applicable in the Barents Sea case study, no tradition of using judicial system in arbitrating issues and conflicts).....	44
6.5 Influence of different knowledges and of uncertainty in decision-making. <i>eg</i> different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships.....	44
7. References	46

1. Context

Historical background

The Norwegian Ministry of Environment was established in May 1972. The Ministry of Environment was established a few months after signing of the Oslo Convention ('Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft') in February 1972. The background for establishment of the Oslo Convention was dumping of toxic waste in the North Sea (where the Institute of Marine Research was involved in the scientific investigations of dumped material). The Paris Convention (for prevention of marine pollution from land-based sources) was signed a few years after (June 1974), and the two conventions were joined into the new OSPAR Convention in 1992.

In 1983 the World Commission on Environment and Development (Brundtland Commission), established by the UN General Assembly. The Report from the commission, 'Our Common Future', was released in 1987. The report introduced the concept of 'Sustainable development', which rests on the idea of intergenerational equity where we (the present generation) should meet our needs without compromising the ability of future generations to meet their needs. 'Our common future' strongly influenced the Earth Summit in Rio de Janeiro, Brazil in 1992.

In Norway, in parallel with these international developments, work proceeded on an amendment to the Norwegian Constitution. Article 110b states (in Norwegian):

"Enhver har Ret til et Milieu som sikrer Sundhed og til en Natur hvis Produktionsævnne og Mangfold bevares. Naturens Ressourcer skulle disponeres ud fra en langsiktig og alsidig Betragtning, der ivaretager denne Ret ogsaa for Efterslægten.

For at ivaretage deres Ret i Henhold til foregaaende Led, ere Borgerne berettigede til Kundskab om Naturmilieuets Tilstand og om Virkningerne af planlagte og iværksatte Indgreb i Naturen.

Statens Myndigheder give nærmere Bestemmelser til at gennemføre disse Grundsætninger."

Translated in simple terms, the article states that every citizen has the right to an environment that ensures good health and that maintains the production capacity and diversity of nature. The natural resources are to be used and managed from a long-term and broad perspective that maintains this right also for future generations. In order to secure this right, citizens are entitled to knowledge about the state of the environment and environmental impacts of planned and effected development measures.

The Norwegian environmental policy was further developed during the 1990s. A government white paper on environmental policy for sustainable development was presented to the Norwegian Parliament in 1997 (St.meld. nr. 58 (1996-97)). This was followed by another white paper in year 2000 on the government's environmental policy and the state of the environment in Norway (St.meld. nr 8 (1999-2000) - 'Regjeringens miljøvernpolitikk og rikets miljøtilstand'). This document laid out the main elements of the environmental policy in Norway with 5 main elements:

- Establishment of environmental policy objectives
- Delegating responsibility for environmental policy to the government sectors

- Integrating environmental protection into the mainstream economy through the use of green taxes and other appropriate measures
- Providing good access for the public to information on the state of the environment
- Inviting broad local involvement and buy-in in the environmental work.

The policy was specified by establishment of general environmental objectives for 8 policy areas:

- Protection of biodiversity
- Recreation
- Cultural heritage
- Oil pollution and accidents
- Waste and recycling
- Air pollution
- Noise
- Environmental protection of polar regions
- Radioactive pollution

A regular reporting to the Norwegian Parliament (Storting) on the status and progress with regard to each of the 8 policy areas and their objectives were planned. This was done in two white papers on the Government's environmental policy and the state of the environment of the nation ('Regjeringens miljøpolitikk og rikets miljøtilstand' in 2003 (St.meld. nr. 25 (2002-2003)), 2005, and 2007 (St.meld. Nr. 26 (2006-2007))).

Another line of reporting was initiated in 2005 with the launching of a set of national indicators for sustainable development (NOU 2005:5 "*Enkle signaler I en kompleks verden*") (Simple signals in a complex world). The set of indicators has been revised and consists now of 17 indicators covering the three main areas of sustainability (economic, social, and environmental capital; Brunvoll, F., S. Homstvedt and K.E. Kolsus (eds), *Indikatorer for bærekraftig utvikling 2012*. Statistics Norway, 152 pp). The indicators are fairly high-level and general. One of the indicators for natural resources is the spawning stock biomass of four of the most important commercial marine fish stocks in Norway. Two indicators for biodiversity are aggregated Nature indices for respectively marine and coasts, and terrestrial and freshwater environments. Development of a *Nature Index* for Norway was signaled in the negotiated 'ruling platform' document ('Soria Moria declaration') of the present 'Red-Green' coalition government (Labor, Socialist, and Center parties) when they came into power in 2007.

The sustainability indicators are used by the Ministry of Finance in their annual report on the national budget to the Norwegian Parliament (Storting).

The Norwegian environmental policy as it was developed in the 1990s was ambitious. It was clearly stated that the *ecological perspective* should be the basis for policy development in all areas of society (St.meld. Nr. 8 (1999-2000), page 9). It was planned that a white paper (Stortingsmelding) on the *Government's environmental policy and the state of the environment* ("Regjeringens miljøvernpolitikk og rikets miljøtilstand") should be presented annually to the Norwegian Parliament. It was envisioned that this report should be analogous and complementary to the annual report on the National budget, highlighting the Government's *ecological policy* and the development of the state of the environment.

The implementation and development of the environmental policy has changed from how it was initially envisioned and planned. There are several reasons for this, including policy developments in the EU and in the North Sea Conference context for the marine environment.

The North Sea process and the management plans

Norway had the chairmanship of the North Sea Ministerial Conferences (NSC) from 1995 to 2002 when the 5th NSC was held in Bergen. An Intermediate Ministerial Meeting on fisheries was held in 1997 where the North Sea Ministers and EU Commissioners for fisheries and environment called for the development and use of an ecosystem approach to management (EA) as a guiding principle for integration of fisheries and environmental issues. A workshop in Oslo in 1998 developed a framework for EA that was with some modifications adopted by the Ministers in the Bergen Declaration from the 5th NSC in March 2002 (NSC 2002, Skjoldal and Misund 2008). The management plans for the Norwegian sea areas, starting with the Barents Sea were heralded in the coming to power declaration of the new government in the fall of 2001 (Anon, 2001). Following this, in a Government White Paper to the Norwegian Parliament just prior to the Bergen meeting, the principle of EA was stated and it was announced that it would be implemented through the development of management plans, starting with the Barents Sea ecosystem (St.mld. xx/2002, 'Clean and rich seas'; Anon. 2002).

The development of the first plan then started in 2002, and the first sea area chosen was the Barents Sea – Lofoten Island sea area off Northern Norway. There were several reasons for starting in the north, one being that there was only one major international border, thereby limiting the foreign-policy aspect to one country (Russia). Another important reason was the push to re-open the continental shelf and slope areas off Lofoten and Vesterålen to oil and gas exploration because the southern fields in the North Sea and Norwegian sea have peaked and the government and industry was seeking new areas to keep the activity level to secure employment and economic revenues. Given the international move toward ecosystem-based management (EBM) and integrated ocean management, the government saw it as opportune to flag Norway's compliance with the various international agreements (CBD, OSPAR) and "soft law" arrangements (Agenda 21, WSSD 2002 Johannesburg Plan of Implementation).

International context

Policy developments in the EU was also influenced and informed by the NSC process. The Marine Strategy Framework Directive (MSFD) was developed and negotiated in the years after the 5th NSC in Bergen in 2002 and has been presented as the environmental sustainability pillar of the European maritime policy. The MSFD was proposed in a Communication from the European Commission on a Thematic Environmental Strategy in 2005 and was adopted by the European Parliament in 2007 (Skjoldal and Misund 2008). The MSFD is very much about defining ecological objectives to achieve the political goal of Good Environmental Status (GES, which is defined in MSFD Article 3). GES is described in the Directive as 11 qualitative descriptors and is to be further operationalized by a wide range of criteria and indicators based on guidance from the EC.

With the MSDF as the sustainability pillar, the EU has revised the European maritime policy in a process that resulted in a 'Blue book' and a Communication from the EC on an Integrated Maritime Policy for the European Union in 2007.

The Oslo and Paris Conventions were focused on marine pollution issues. This focus has been broadened in two main steps. When the two conventions were merged into the OSPAR Convention in 1992, a new Annex IV on environmental assessment was added (On the Assessment of the Quality of the Marine Environment). In 1997 a new Annex V on biodiversity conservation was added to the Convention (On the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area). The inclusion of biodiversity conservation represented a substantial broadening and change in the direction of the work under the OSPAR Convention (by the OSPAR Commission).

The EU MSFD envisions a role of regional conventions like OSPAR in contributing to the coordination of the work of EU Member States in implementing the MSFD for geographical regions (MSFD Preamble, paragraph 13). OSPAR has taken on this task and has restructured its organization and work plan which now focuses to a large extent on the coordination and contribution by OSPAR to the implementation of the MSFD. Norway has implemented many of the EU Directives through the European Economic Cooperation (EEA) agreement. The MSFD is considered to be outside the (geographical) scope of this cooperation and will therefore not be implemented by Norway. However, through the work and coordinating role of OSPAR, the MSFD affects Norway at the technical level (although not legally binding versus the EU).

Purpose

The purpose of the management plan for the Barents Sea is to provide for economic development through the sustainable use of natural resources and goods while at the same time maintaining the structure, function and productivity of the ecosystems. The plan thus provides an umbrella for the management of all (Norwegian and International) human activities in the Norwegian part of the Barents Sea and the marine areas off the Northern part of North Norway to achieve the goals of use and conservation.

Planning cycle

Development of the plan took four years, following a typical MSP development approach (Ehler & Douvère 2009) with defining the plan area, establishing a governance structure and authority and conducting various baseline studies as the starting point. This was followed by four environmental impact analyses for the human activities: shipping, fishing, petroleum and external influences (pollution from outside the plan area). Parallel to this a set of indicators for ecosystem health were developed. The last step in the development was analyzing area-conflicts, cumulative impacts and gaps in knowledge. Based on these analytical stages (carried out by government research institutes and directorates) the ministerial steering group (the central government) developed the actual plan document; a Government white-paper was presented to the Storting (parliament) in June 2006 (for details see: (Anon 2006, Olsen et al. 2007)). The first revision of the plan was initiated in 2010 and a revised plan was presented to the Storting during the 2nd quarter of 2011. A map showing areas for all three of Norway's integrated management plans is shown in Figure 1.

The Government white papers for the Barents Sea management plans constitute a political framework, built on a compilation of the best available knowledge about the sea areas. After approval by the Storting the plans become national policy and a political framework for the management of the said areas. Generally, the policies laid down in a white paper is implemented through existing legislation and other relevant means as carried out by the sectoral ministries and government institutions.

The implementation of a marine management plan is built on the use of existing legislation. The white paper then is a framework for how existing legislation as the Nature Management Act, the Pollution Control Act, the Marine Resources Act, and the Petroleum Act is to be practiced in the sea area. This is followed up upon by the relevant sectoral ministries and their directorates and institutes.

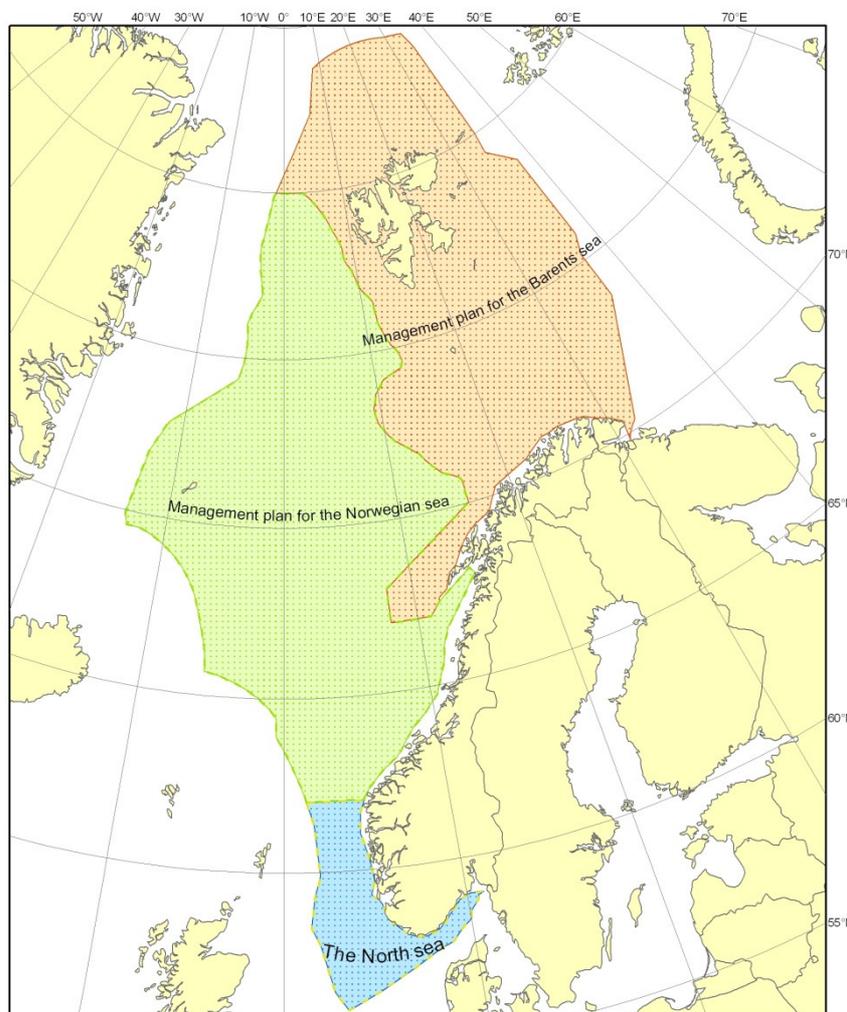


Figure 1. Map showing areas for all three of Norway's integrated management plans. Red: the Barents Sea area with the newly codified border with Russia depicted), green: Norwegian Sea and yellow: North Sea management plan

Key planning features were to identify ecologically valuable and vulnerable areas in the planning area, and simultaneously identify and classify gaps in current knowledge. Critical gaps in our knowledge about benthic habitats and seabird ecology/distribution were identified. This led to the initiation of the MAREANO (seabed mapping) and SEAPOP (seabird mapping) programs to systematize and improve knowledge about the Barents Sea. The objectives for the MAREANO program were to develop a marine area database for Norwegian waters and increase knowledge of the ecologically important benthic communities such as coral reefs and sponges and the condition of the seafloor including pollutants. In parallel SEAPOP was mapping seabird populations.

Structure

The Barents Sea plan is like all MSP plans a continuous cycle of monitoring and revision. Three government groups were set up to implement and follow up the plan on a yearly basis (see Figure 2). The annual follow-up of the plan has been split between three groups: the Management forum, the Monitoring group and the Risk forum, where the government Institutions and agencies have participated. The State of the ecosystem reports has been based on research, monitoring and mapping (eg. MAREANO seabed mapping and SEAPOP seabird project) carried out by the institutions in yellow. Stakeholders and the Research Council (NRC) have also been participating in the reporting and revision cycles. Major revision cycles were planned for every four years, the first in 2010. Due to the Deepwater Horizon oil spill in the Gulf of Mexico the revision was postponed by six months and was not passed by the Stortinget (parliament) until June 2011. New information gained from many sources, in particular from MAREANO and SEAPOP, proved vital in the revision process. The next revision is planned for 2014. The parliamentary election in 2013 there may change the political outlook for the management plan work.

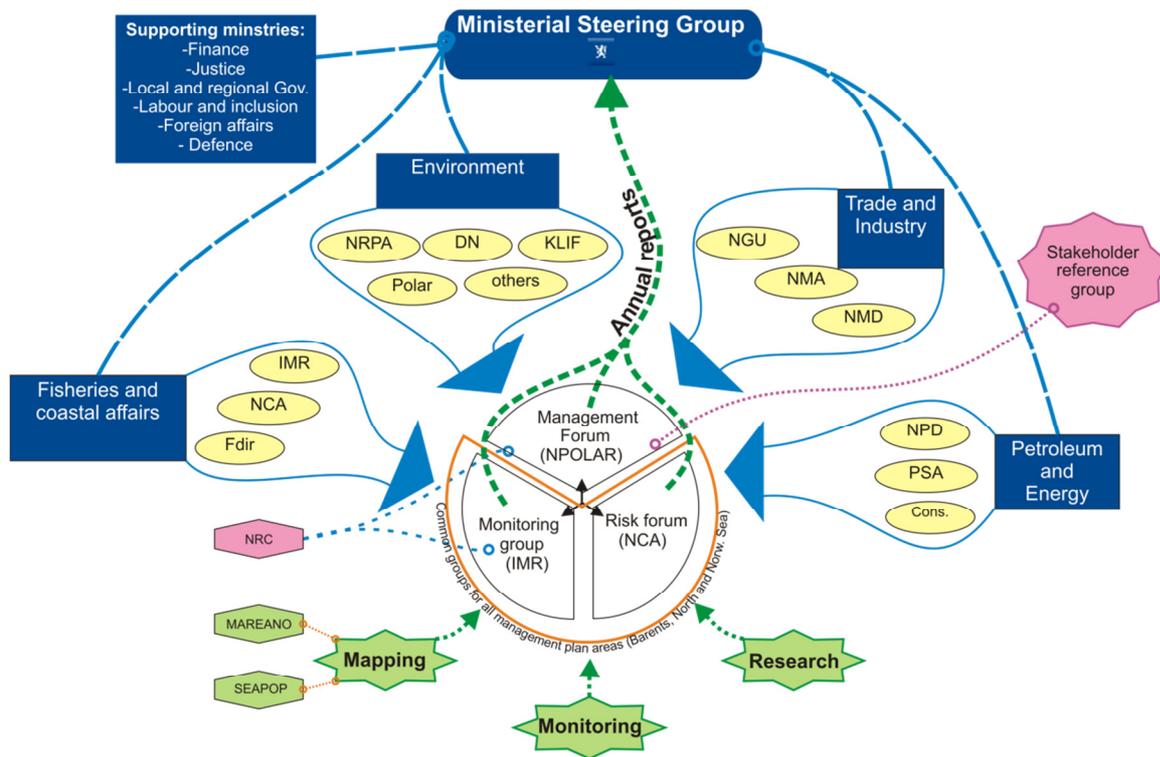


Figure 2. The organizational and governance structure of the integrated management plan for the Lofoten – Barents Sea area. The ministries (blue) of fisheries and coastal affairs, environment (chairing the steering group), trade and industry and petroleum and energy have been leading the process. Institutions and directorates (yellow) have participated on demand by their parent ministry

- Acronyms for the government institutions.
- FDir: Fisheries directorate
 - NCA: Coastal Administration
 - IMR: Institute of marine research
 - NRPA: Radio protection agency
 - Polar: Polar institute
 - DN: Directorate for nature conservation
 - KLIF: Climate and pollution authority
 - NGU: Geological survey
 - NMA: Mapping authority
 - NMD: Maritime directorate
 - NPD: Petroleum directorate
 - PSA: Petroleum safety directorate
 - Cons.: consultants hired by the Ministry of Petroleum and Energy

1.2 Socio-economic and political context

Table 1. Key social and economic statistics of Norway (GDP: Gross Domestic Product). Source: The Central Intelligence Agency: https://www.cia.gov/library/publications/the-world-factbook/wfbExt/region_eur.html and Statistics Norway: www.ssb.no.

Key social and economic factors	Norway
Per capita GDP (PPP) (2011)	53 300 \$
GDP real growth rate (%) (2011)	1,70
Main drivers of economic growth	Much of Norway's economic growth has been fueled by an abundance of natural resources, including petroleum exploration and production, hydroelectric power and fisheries.
Main industries	Petroleum and natural gas, food processing, shipping, shipbuilding, wood pulp and paper products, metals, chemicals, timber, mining, textiles, fishing.
Population (2012 est.)	4 707 270
Area (km ²)	323 802
Population density (hab/km ²)	14,54
Contribution of maritime sectors to the national economy (2010)	
Fishing and fish farming's share of GDP (%):	0,5
Oil and gas exploitation (including services) (%):	21
Shipping and shipbuilding industry (%):	1,6
Economic structure (GDP composition by sector (%) (2011))	
Agriculture	2,7
Industry	38,3
Services	59,0
Unemployment rate (%) (2011)	3,40
Administrative structure	National government
GINI Index of income disparity (2008)	25,0
Governance capacity index (average) (2010)	1,70
Voice and accountability	1,62
Political stability	1,29
Government effectiveness	1,79
Regulatory quality	1,48
Rule of law	1,93
Control of corruption	2,07

Economy

The economy of Norway is a developed mixed economy with heavy state-ownership and activity in strategic areas of the economy. The economy of Norway has shown robust growth since the start of the industrial era. Its large shipping fleet is one of the most modern among maritime nations. Shipping has long been a support of Norway's export sector, but much of Norway's economic growth

has been fueled by an abundance of natural resources, including petroleum exploration and production, hydroelectric power and fisheries. Norway's emergence as a major oil and gas producer in the mid-1970s transformed the economy. Export revenues from oil and gas have risen to 45% of total exports and constitute more than 20% of the GDP.

Large sums of investment capital poured into the offshore oil sector, lead to greater increases in Norwegian production costs and wages than in the rest of Western Europe up to the time of the global recovery of the mid-1980s. The influx of oil revenue also permitted Norway to expand an already extensive social welfare system. Norway established a petroleum fund (the Government Pension Fund Global) to save and invest the state's oil and gas earnings. The fund reached a milestone of 3 trillion Norwegian kroner (over \$500 billion) in assets in October 2010. After solid GDP growth in 2004-07, the economy slowed in 2008, and contracted in 2009, before returning to positive growth in 2010-11, however, the government budget is set to remain in surplus.

Agriculture and traditional heavy manufacturing have, however, suffered relative decline compared to services and oil-related industries, and the public sector is among the largest in the world as a percentage of the overall gross domestic product. Norway's unemployment rate increased slightly to 3.4% in April 2011. In recent years, labor costs have increased faster than in its major trading partners, eroding industrial competitiveness. Continued recovery and moderate growth were expected to continue in 2012.

Politics

The Ministry of Environment has the overall responsibility for formulating the environmental policy in Norway. The implementation of measures is to be carried out by the responsible sectoral authorities. This gives the Ministry of Environment the responsibility for evaluating whether the development of an area of environmental policy is satisfactory in relation to the goals set, or if stronger instruments and new environmental policy objectives are needed. The environmental objectives are adopted by the government. The Ministry of Environment is responsible for many instruments, but far from all. In many important areas, the key legal instruments and their implementation are managed by other, sectoral, ministries. The environmental policy of Norway is to a large extent sectoral, which means that the policy towards a particular environmental challenge should be designed for all sectors and emission sources.

The environmental policy for Norway is revised at regular intervals. A major policy review was presented in a white paper from the Government in 1999 (Anon. 1999 (St.meld. nr. 8 (1999-2000))). It recognized that an ecological perspective should form the basis for policies for all sectors of the society. The new environmental policy was based on 5 main elements:

- Setting clear objectives
- Delegate responsibility to the various sectors of the government
- Use of 'green' taxes and other measures to integrate environmental concerns into the economy
- Secure access of the public to information about the environment
- Invite a broad local participation.

As part of the new policy, the various ministries of the Government (Fisheries, Agriculture, Petroleum and Energy, etc) prepared environmental action plans ('miljøhandlingsplaner') that showed how they

incorporated the environmental issues and concerns into the regulations of the activities under their responsibilities. The policy also established a reporting system of key figures (or indicators) under 8 result areas:

- Sustainable use and conservation of biodiversity
- Outdoor life and recreation
- Culture and cultural heritage
- Eutrophication and oil pollution
- Hazardous substances
- Waste and recycling
- Climate change and air pollution
- International environmental cooperation

The Government has produced a white paper on the 'The Government's Environmental Policy and the State of the Environment in Norway' ('Regjeringens miljøvernpolitikk og rikets miljøtilstand') about every second year. The last such report was produced in 2007. The practice of producing updated action plans for the sectoral ministries was ended in 2002 after an evaluation by the agency 'Statkonsult'.

The reporting system of key figures is continued as part of an annual report carried out by the responsible sectoral authorities. Their sector policy and annual budgets follow up the white papers "The Government's Environmental Policy and the State of the Environment in Norway ". The Ministries report on their environmental profile of their budget in a separate sections in the budget propositions, partly also on non-budget-related measures. There is also a systematic reporting through the White Paper "The Government's Environmental Policy and the State of the Environment in Norway". St.meld. nr. 26 (2006-2007) contained a new separate chapter about environment and creation of values. This represent an increased focus of the value the environment represent for the humans, and follows the internationally increased focus on ecosystem values, operationalized in e.g. The Millennium Ecosystem Assessment (MEA). MEA was called for by the United Nations in 2000 with an objective to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.

The chapter about environment and creation of values focus on the potential to increase the value creation related to an active and future oriented environmental policy. It is emphasized a long-term management could be hand in hand with economic development, creation of values and employment. The Norwegian economy has historically been based on a rich access to natural resources.

Stricter environmental regulations present new challenges. Industry, agriculture, shipping and offshore industry has restructured in line with new environmental requirements and in many cases, created new products, jobs and export opportunities. Sometimes it may be a need for transitional arrangements to facilitate the introduction of stricter environmental regulations and to mitigate the potential short-term problems for the affected business interests. The main challenge is to find ways of use that both preserve and create values.

The work on management plans for protected areas is prioritized, with the aim of increasing use, without protected areas being impaired.

Administrative divisions

Norway is divided into nineteen second-level administrative counties (fylker). The counties are administrated through directly elected county assemblies who elect the County Governor. The counties are then sub-divided into 429 second-level municipalities (kommuner), which in turn are administrated by an elected municipal council, headed by a mayor and a small executive cabinet. The Kingdom of Norway also has two islands in the north, Jan Mayen and Svalbard. There are three Antarctic and Subantarctic dependencies: Bouvet Island, Peter I Island and Queen Maud Land.

Foreign relations

Norway recognizes the need for maintaining national defense through collective security. The cornerstones of Norwegian policy are active membership in the North Atlantic Treaty Organization (NATO) and support for the United Nations and its specialized agencies. Norway also pursues a policy of economic, social, and cultural cooperation with other Nordic countries through the Nordic Council and bilaterally through a vast number of bilateral agreements.

Norway twice voted against joining the European Union. But via the European Economic Area Agreement Norway is for all practical purposes a member of the economic dimensions of the Union. This agreement applies the four freedoms of the EU's internal market (goods, persons, services, and capital) to Norway. As a result, Norway normally adopts and implements most EU directives, eg. the EU Water Framework Directive, implemented in Norway through enabling legislation. The EU Marine Strategy Framework Directive does not apply to Norway.

Norway asserts a territorial claim in Antarctica (Queen Maud Land and its continental shelf). Norway have made submissions to the Commission on the Limits of the Continental shelf (CLCS) regarding continental shelves areas beyond the 200 nautical miles. The CLCS made recommendations in this regard in 2009. Norway and Russia signed a comprehensive maritime cooperation agreement in 2010. The treaty resolves what for several decades remained the most important outstanding issue between Norway and Russia. The treaty will also ensure the continuation of the extensive Norwegian-Russian fisheries cooperation, and governs cooperation on the exploitation of petroleum deposits that extend across the delimitation line.

1.3 The regional policy framework

The waters under Norwegian jurisdiction cover some 2 million km², more than 80% of which are to the north of the Arctic Circle. In the Barents Sea, the Norwegian area borders that of Russia in the east and the high seas in the Arctic Ocean in the north. Also, an area in the Barents Sea is high seas beyond national jurisdiction. The marine boundary with Russia was agreed in 2010 following more than 40 years of negotiations. The boundary line, 1,750 kilometers long, divides a previously disputed area of 175,000 km² into two equal parts. The boundary agreement also has provisions for cooperation on fisheries management and petroleum development, respectively.

The most important marine economic activity by far in the north is fisheries, followed by petroleum and marine transportation. Petroleum development is still in its infancy, with only one field (gas onstream).

The 1982 Law of the Sea Convention ("the Convention") provides the overall framework within which all marine activities are to be managed (xxx). Norway has been a party to the Convention since 1996, and has implemented its provisions in a comprehensive legal framework consisting of a number of acts and implementing legislation (xxx). The Convention addresses virtually all aspects of jurisdiction over the oceans and their management; science, living marine resources, continental shelf issues (petroleum development), the environment, and so on.

As regards fisheries, the Convention is bolstered by the 1995 UN Fish Stocks Agreement that strengthens the global fisheries regime in a number of ways. In addition, there are several global instruments that pertain to fisheries, among them the 1995 FAO Code of Conduct for Responsible Fisheries and its International Action Plans, and the 2009 Port State Agreement. In relation to shipping, the Convention refers to the International Maritime Organization (IMO), which has adopted a large number of international agreements pertaining to shipping. Beyond stating a general duty to protect and conserve the marine environment, the Convention does not contain specific obligations for states when it comes to pollution. The global treaties regulating pollution of the seas are the 1972 London Dumping Convention, which regulates the discharge of waste from vessels into the ocean, and the 1973 MARPOL Convention which stipulates the standards vessels engaged in international shipping has to comply with. Beyond these legal instruments, international cooperation on the protection of the ocean environment is based on regional institutions.

The cooperation on fisheries management dates more than 50 years back in time (xxx). In 1975 a Joint Russian-Norwegian Fisheries Commission was established, and the year after a cooperation agreement was entered into which essentially provided for TAC allocation, reciprocal fishing rights and the management of joint fish stocks (cod, haddock and capelin).¹ An important part of the Fisheries Commission is the cooperation between the Coast Guards and the fisheries control authorities of the two countries. The Joint Commission meets annually and sets total allowable catches for the fisheries on the joint stocks. For fish stocks that occur in the waters of Norway only, Norway sets quotas unilaterally. The Norway – Russia fisheries cooperation is generally regarded as successful, as the fish stocks it manages are in good condition. In addition to the Norway-Russia cooperation, there are bilateral fisheries arrangements also with Iceland, the Faroes, Greenland, and the EU that are relevant to the Barents Sea. There are also a regional cooperation on the management of pelagic species like herring and mackerel, which are fished mostly to the south of the Barents Sea.²

Underpinning the activity in the various fisheries arrangements is the scientific advice provided by the International Council for the Exploration of the Sea (ICES), which builds on the work of the marine research institutions in the member countries around the North Atlantic. There are also a number of bilateral science arrangements relevant to the management of the use of the oceans and the natural resources there.

As regards the environment, there is a bilateral cooperation between Norway and Russia which also includes the marine environment. The objective of this cooperation, which is vested in a bilateral

¹ From 2010 onwards, Greenland halibut is also considered a joint stock.

² At its juvenile stage, herring is however present in the Barents Sea.

working group, is to ensure that the knowledge needed for and holistic approach to oceans management is developed. An important step was taken in 2009 with the publication of the first, joint environmental status report for the Barents Sea. More important, however is the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). The work under this convention is organized under five strategies based on the five annexes to the convention that deal with the following areas: land-based pollution, dumping, ocean-based pollution, environmental assessments, and conservation of ecosystems and biodiversity. The annexes and measures adopted by OSPAR are the basis for domestic implementation through the 1981 Pollution Act. Of particular importance to marine conservation is the work of the Biodiversity Committee, which includes ecological quality objectives (EcoQOs), assessments of species and habitats in need of protection, and marine protected areas. Russia is not a party to the OSPAR convention and the provisions adopted under this convention therefore does not apply to the Russian part of the Barents Sea.

Also important in the high North, is the Arctic Council and its working groups. The Arctic Council is a forum for cooperation between the eight Arctic Countries. It does not have a mandate to manage anything, but plays an important role in developing norms and performing assessments of the state of affairs in areas like climate change and pollution. Recently, it has also initiated the negotiation of regional agreements. An Arctic-wide oil spill agreement is currently under negotiation. Several Arctic Council working groups have addressed oceans related issues. The Protection of the Arctic Marine Environment working group has developed an Arctic Marine Strategic Plan, adopted best practices for ecosystem-based management, and established an ecosystem working group.

These regional arrangements and agreements are of varying relevance to the domestic work on the management plan of the Barents Sea in Norway. At a fundamental level, the Law of the Sea Convention is the most significant of these, in that it provides the coastal state with the rights and obligations to manage the oceans, the natural resources there and the environment.

Objectives and management measures

2.1 What is the priority objective in your case study?

The strategic objective of the management plan is to "... facilitate economic development through sustainable use of resources and goods in the Barents Sea and the ocean areas off Lofoten, and, at the same time, maintain the structure, functioning, productivity, and biodiversity of ecosystems" (St m 19 (2011-2012)), p 5). This objective is constant over time – it is spelled out the same way in the original plan (St m 8 (2005- 2006)). "Value creation" in this context is primarily petroleum development, but also fisheries (the traditional economic activity in this area), and the other industries as for example marine transportation and tourism. The priority objective of the management plan is therefore to prepare for petroleum development in the North, while at the same time taking the concerns for other economic activities into consideration and maintaining the status of the ecosystem. It is also stated that the management plan is "... a *tool*, both for value creation and for maintaining environmental values ((St m 19 (2011-2012)), p 5) (our emphasis). The plan is therefore not an end in itself, but a means to achieve the ends of economic development and maintenance of ecosystem services.

The operational objectives of the plan are rather abstract focus on the marine environment and do not address specific socioeconomic objectives. More operational and specific objectives for environmental protection as well as economic development is in the legislation and policies for the environment, petroleum, fisheries, transportation, etc. However, the underlying intention is to achieve a sustainable use of the marine environment to secure living communities, regional development and economic benefits. In fact the *raison d'être* for the plan is the possible economic development following petroleum production in the area and the plan is the Norwegian government's response on how to balance the socioeconomic returns versus the environmental costs, or how to minimize or even remove these costs completely.

The management plan has developed a set of operational objectives for 11 main elements (see Table 1 below). During development one strived to achieve consistency with the national environmental objectives, but as the BSMP objectives were developed independently and not as direct sub goals of the national objectives there are some differences in the formulations used in the goals of the plan compared to the national objectives for the various policy areas.

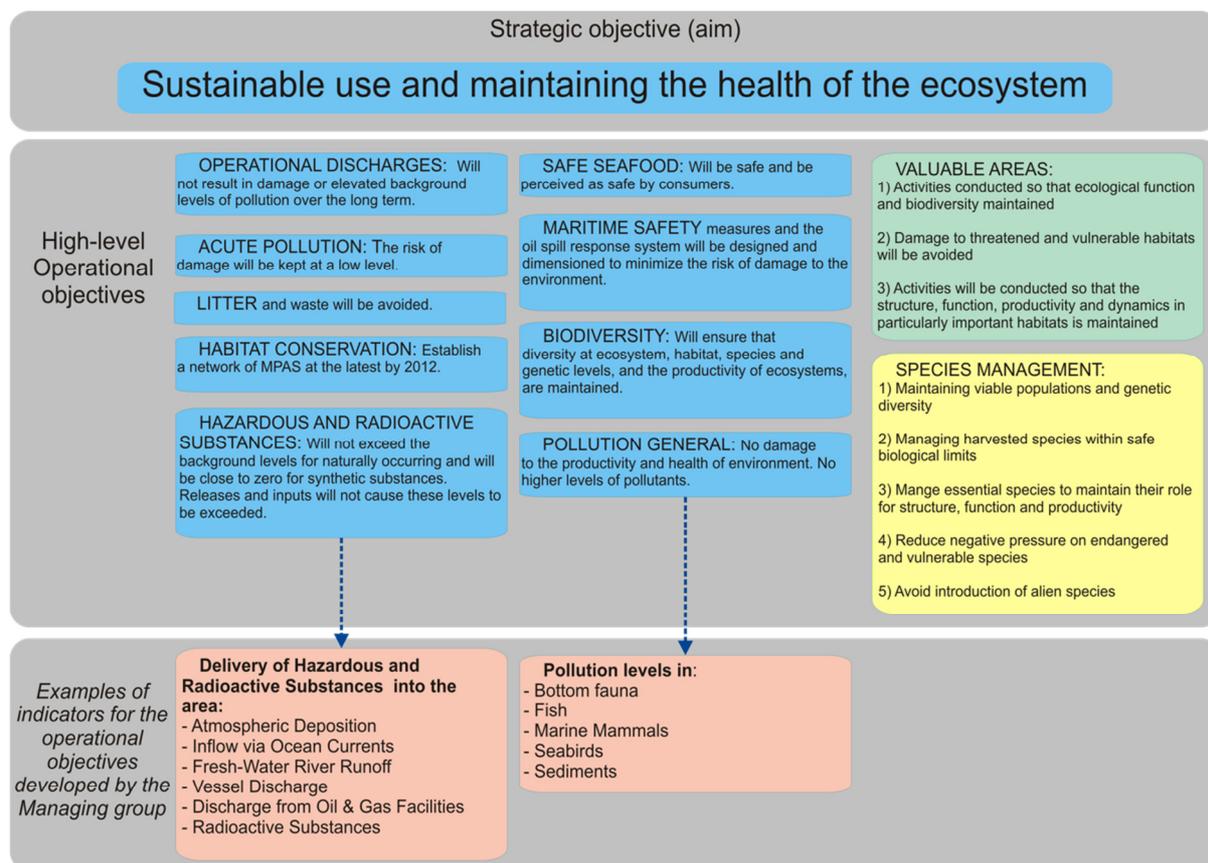


Figure 3 The hierarchy of aims and operational objectives and sub-objectives (indicators) of the management regime of the Norwegian integrated management plan for the Lofoten – Barents Sea area..

In the table below the high-level operational objectives are described in detail. The performance of the management in relation to these objectives has been assessed on a yearly basis through the operational groups (see Figure 2) and is a vital part of the 4-year revision cycle of the whole plan.

Table 1 Operational objectives of the BSMP. Revision cycle: every 4 years started in 2010/2011

<p>Operational objectives of the BSMP. Revision cycle: every 4 years started in 2010/2011 Year achieved: This is generally not applicable for case 3 but see objectives related to habitat conservation SVO*: Particularly valuable and vulnerable areas defined by the BSMP (see figure 7).</p>
<p>POLLUTION GENERAL: Releases and inputs of pollutants to the Barents Sea–Lofoten area will not result in injury to health or damage the productivity of the natural environment and its capacity for self-renewal. Activities in the area will not result in higher levels of pollutants.</p>
<p>HAZARDOUS SUBSTANCES: The environmental concentrations of hazardous and radioactive substances will not exceed the background levels for naturally occurring substances and will be close to zero for man-made synthetic substances. Releases and inputs of hazardous or radioactive substances from activity in the area will not cause these levels to be exceeded.</p>
<p>OPERATIONAL DISCHARGES from activities in the area will not result in damage to the environment or elevated background levels of oil or other environmentally hazardous substances over the long term.</p>
<p>LITTER and other environmental damage caused by waste from activities in the Barents Sea–Lofoten area will be avoided.</p>
<p>SAFE SEAFOOD: Fish and other seafood will be safe and will be perceived as safe by consumers in the various markets.</p>
<p>ACUTE POLLUTION: The risk of damage to the environment and living marine resources from acute pollution will be kept at a low level and continuous efforts will be made to reduce it further. Activity that involves a risk of acute pollution will be managed with this objective in mind.</p>
<p>MARITIME SAFETY measures and the oil spill response system will be designed and dimensioned to effectively keep the risk of damage to the environment and living marine resources at a low level.</p>
<p>BIODIVERSITY: Management of the Barents Sea–Lofoten area will ensure that diversity at ecosystem, habitat, species and genetic levels, and the productivity of ecosystems, are maintained. Human activity in the area will not damage the structure, functioning, productivity or dynamics of ecosystems.</p>
<p>VALUABLE AREAS (1): Activities in particularly valuable and vulnerable areas will be conducted in such a way that the ecological functioning and biodiversity of such areas are not threatened.</p>
<p>VALUABLE AREAS (2): Damage to marine habitats that are considered to be threatened or vulnerable will be avoided.</p>
<p>VALUABLE AREAS (3): In marine habitats that are particularly important for the structure, functioning, productivity and dynamics of ecosystems, activities will be conducted in such a way that all ecological functions are maintained.</p>
<p>SPECIES MANAGEMENT (1): Naturally occurring species will exist in viable populations and genetic diversity will be maintained.</p>
<p>SPECIES MANAGEMENT (2): Harvested species will be managed within safe biological limits so that their spawning stocks have good reproductive capacity.</p>
<p>SPECIES MANAGEMENT (3): Species that are essential to the structure, functioning, productivity</p>

and dynamics of ecosystems will be managed in such a way that they are able to maintain their role as key species in the ecosystem concerned.
SPECIES MANAGEMENT (4): Populations of endangered and vulnerable species and species for which Norway has a special responsibility will be maintained or restored to viable levels. Unintentional negative pressures on such species as a result of activity in the Barents Sea–Lofoten area will be reduced as much as possible by 2010.
SPECIES MANAGEMENT (5): The introduction of alien species through human activity will be avoided.
HABITAT CONSERVATION: A representative network of protected marine areas will be established in Norwegian waters, at the latest by 2012. This will include the southern parts of the Barents Sea–Lofoten area.

2.2 Key policies, legislation, regulation and or plans that enable/facilitate the achievement of the above priority objectives

Oceans policy in Norway is formulated in reports from the Government to the Storting,³ setting out goals and objectives as well as policy measures for the management of foreign policy, environment, petroleum, transportation, aquaculture and living marine resources in the marine realm. Recent, continuously updated legislation exists for all major regulatory areas.

In petroleum, a recent report to the Storting (Petroleumsmeldingen, Meld. St. 28 (2010-2011)), updates policy since the last report from Meld. St. 38 (2003-2004). The overarching objective for the petroleum policy is to ensure a profitable and long-term production of oil and gas, thereby contributing to the welfare of the country (p 6). The policy has been extremely successful, resulting in an income to the state of 9 000 billion NOK since the start of the industry four decades ago. In terms of legislation, the 1996 Petroleum Act⁴ sets out a comprehensive regulatory framework for the petroleum industry. The Ministry of Petroleum and Energy is responsible for the implementation of the Act. A critical element of the policy is the decision to open new fields for petroleum activity, which has to be decided by the Storting.

As regards the environment, the last general report to the Storting on the status of the environment and the Government's policy is from 2007. Here, before listing a series of priorities, it is stated that "The Government will ensure that it keeps this position by making Norway a leading nation with regard to environmental policy and an example to other countries" (p 7). The priorities include climate change, biodiversity, and cultural heritage. The most important legislation managed by the Ministry of the Environment is the 1981 Pollution Act and the 2009 Biodiversity Act.

The living marine resources are managed by the Ministry of Fisheries and Coastal Affairs. The policy, which emphasizes sustainable use and economic efficiency, is set out in a series of Reports to the Storting. The most recent, comprehensive report dates back to 1998, and a new comprehensive report is scheduled for 2013. The two most significant acts in relation to the management of the

³ Standard practice for the development of policy in Norway is that the Government develops policy proposals in the format of Reports to the Storting. Following debate in the Storting and the Storting's own report, policy is considered as adopted.

⁴ The Act builds on several older Acts.

living marine resources are the 2008 Oceans Resources Act and the 1977 Economic Zone Act. Some of the living marine resources of the Barents Sea are shared with Russia. The Joint Russian-Norwegian fisheries commission (established 1975) establishes management objectives and decides the total catch and its allocation of the shared stocks.

The maritime sector including marine transportation as an issue is shared between the Ministry of Fisheries and Coastal Affairs and the Ministry of Industry and Trade. Norway is a major seafaring nation, with substantial interests in marine transportation – it is the country's second largest industry after petroleum. The shipping policy is mostly directed at international shipping; at the domestic level emergency prevention and preparedness is a salient issue. The Government has developed a Maritime Strategy (2007), which addresses salient issues for the industry. The strategy has been revisited every second year.⁵

In foreign policy, particular emphasis has been laid on Arctic policy development in recent years. By virtue of their size and importance to the country, the oceans are central to Norway's Arctic policy. A 2005 Report to the Storting (St.Meld. 30 (2004-2005)) addressing key issues in the North put major emphasis on oceans issues, as did the 2012 (St.Meld. 7 (2011-2012)) Report, which could celebrate the resolution of the key challenge addressed by the 2005 report, the marine boundary in the Barents Sea.

2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?

2.3.1 The original, 2006 plan

The management plan is essentially a framework within which the policies for the various sectors are pursued. It does however contain fairly specific measures and actions to pursue the priority objective, in particular as regards petroleum development. The original, 2006 plan contained a detailed account of ecosystems, activities, and knowledge needs. Institutional measures were taken by the establishment of three working groups; for ecosystem monitoring, risk assessment, and a management forum. Also, a reference group was appointed for stakeholder participation.

A monitoring system was initiated, as was a system for area-based management together with increased research and other measures. Baseline mapping by the Mareano programme was started in 2006 to fill identified knowledge gaps with focus on valuable and vulnerable areas (SVO-areas) (Figure 4 and Figure 5). The goal was to obtain information for the regulation of human activities such as petroleum industry and fisheries. This information proved to be an important source of new knowledge for the revision of the BSMP in 2010/2011.

⁵ http://www.regjeringen.no/nb/dep/nhd/tema/maritime_naeringer/sto-kurs.html?id=613889

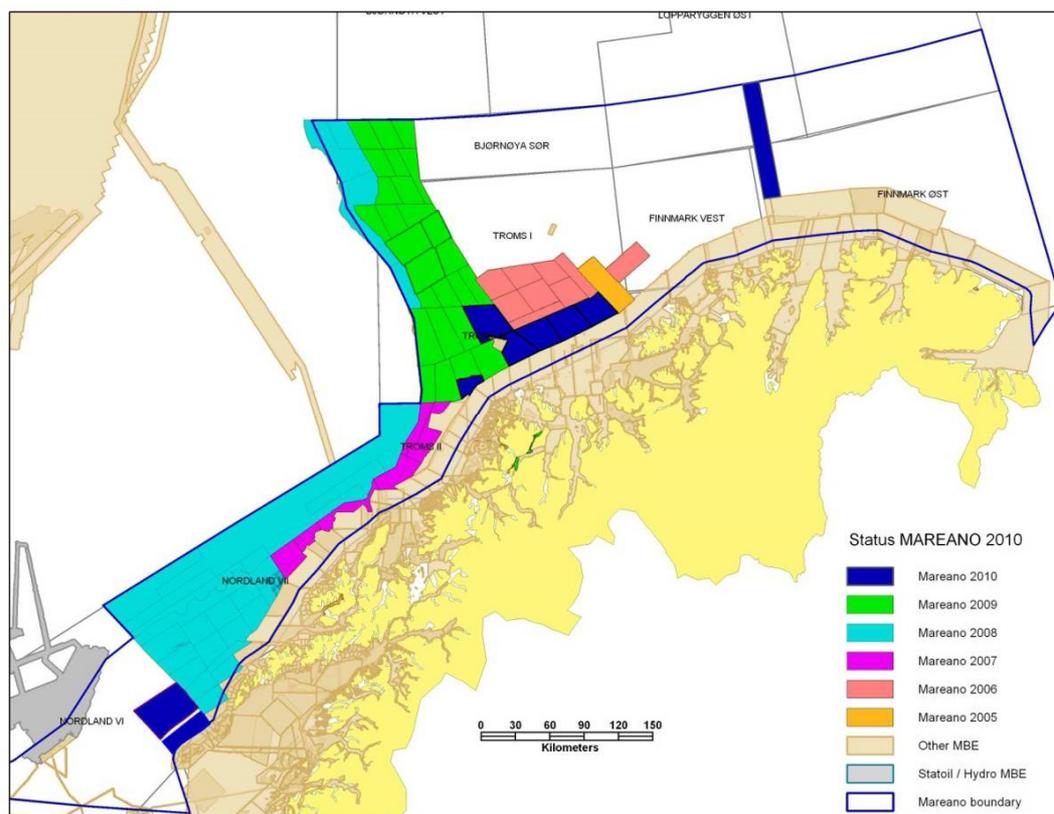


Figure 4 The area mapped by MAREANO in different years from 2005 – 2010.

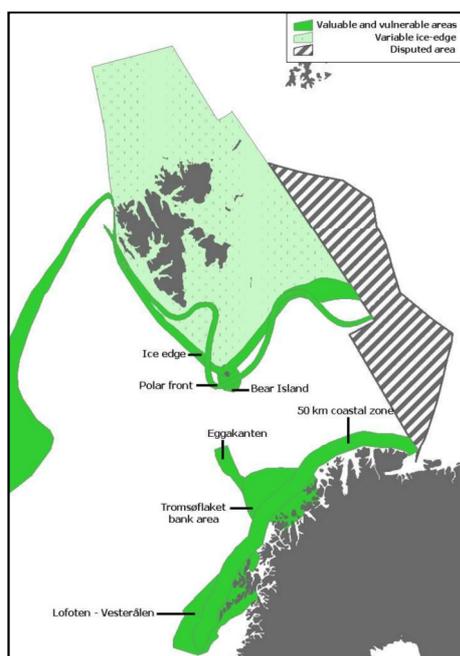


Figure 5 A map of the particularly valuable and vulnerable areas (SVO-areas) identified by the BSMP

A chapter in the plan termed “Measures to prevent and reduce pollution and to safeguard biodiversity” contains the specific measures aimed at reducing acute oil pollution, which includes a series of actions relating to maritime safety (addressed in a previous report to the Storting (St.Meld. 14 (2004-2005)), means to monitor maritime transportation. On the basis of an assessment of the

areas that are particularly valuable and vulnerable, petroleum activities were regulated in time and space in a set of fairly detailed restraints, to be re-evaluated in an updated plan.

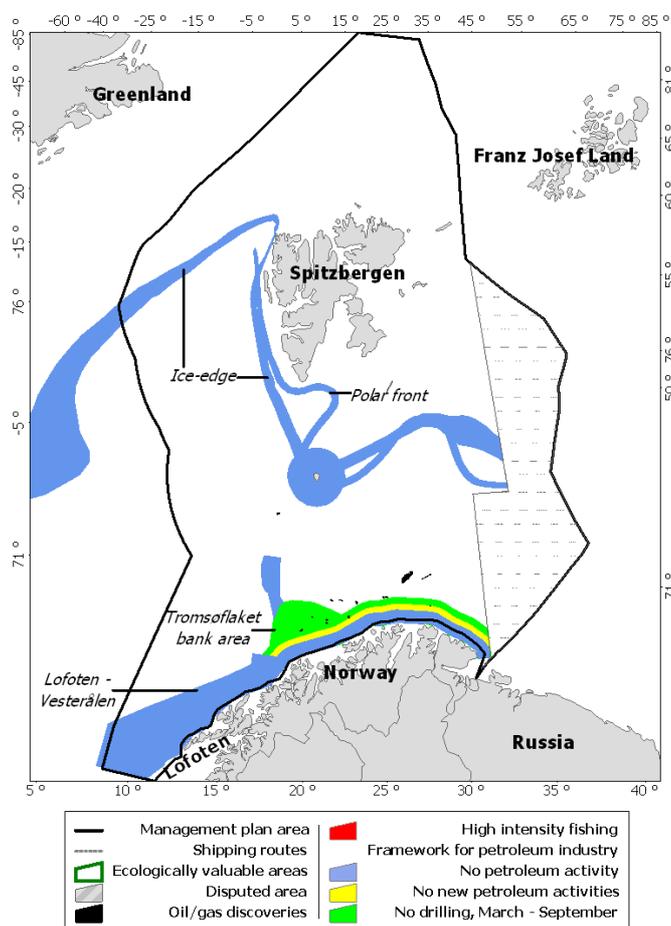


Figure 6 The 2006 Lofoten – Barents sea plan area with area-based management restrictions for petroleum activities (from (Olsen et al. 2007))

The map in figure 3 shows the areas where no petroleum activities were permitted as of 2006, where no new petroleum activities would be allowed for, and areas where there were temporal limitations on drilling activities.

As regards activities other than petroleum, the original plan briefly sets out some overarching goals for the management of living marine resources, including the development of an ecosystem-based management regime, the setting of precautionary reference points for spawning stocks and enhanced enforcement of regulatory measures. The plan also addresses IUU fishing, which at the time was substantial, pressures on benthic fauna by trawling, unintended bycatches of seabirds, introduction of alien species, and protected, endangered and threatened (PET) species and habitats.

2.3.2 The revised 2011 plan

In March 2011 a revised plan, in format of another Report from the Government to the Storting, was adopted (Anon 2011). The revised plan had been subject to substantial negotiations in government, where the three coalition partners hold different views on whether, where and when petroleum activities can take place in the North. The revised plan contains chapters on ecosystem-based oceans management, environmental status, activities and management and economic development in the

plan area, risks and preparedness, an assessment of total impacts, and measures for sustainable use and protection of ecosystems.

The chapter on regulatory measures (chapter 7) addresses management and protection of nature types, management and protection of species (seabirds, fisheries), new limitations on petroleum activities, reduction of marine pollution and debris, and strengthening of the knowledge base. The section on petroleum is by far the most detailed, and entails a substantial revision of the petroleum elements of the 2006 plan.

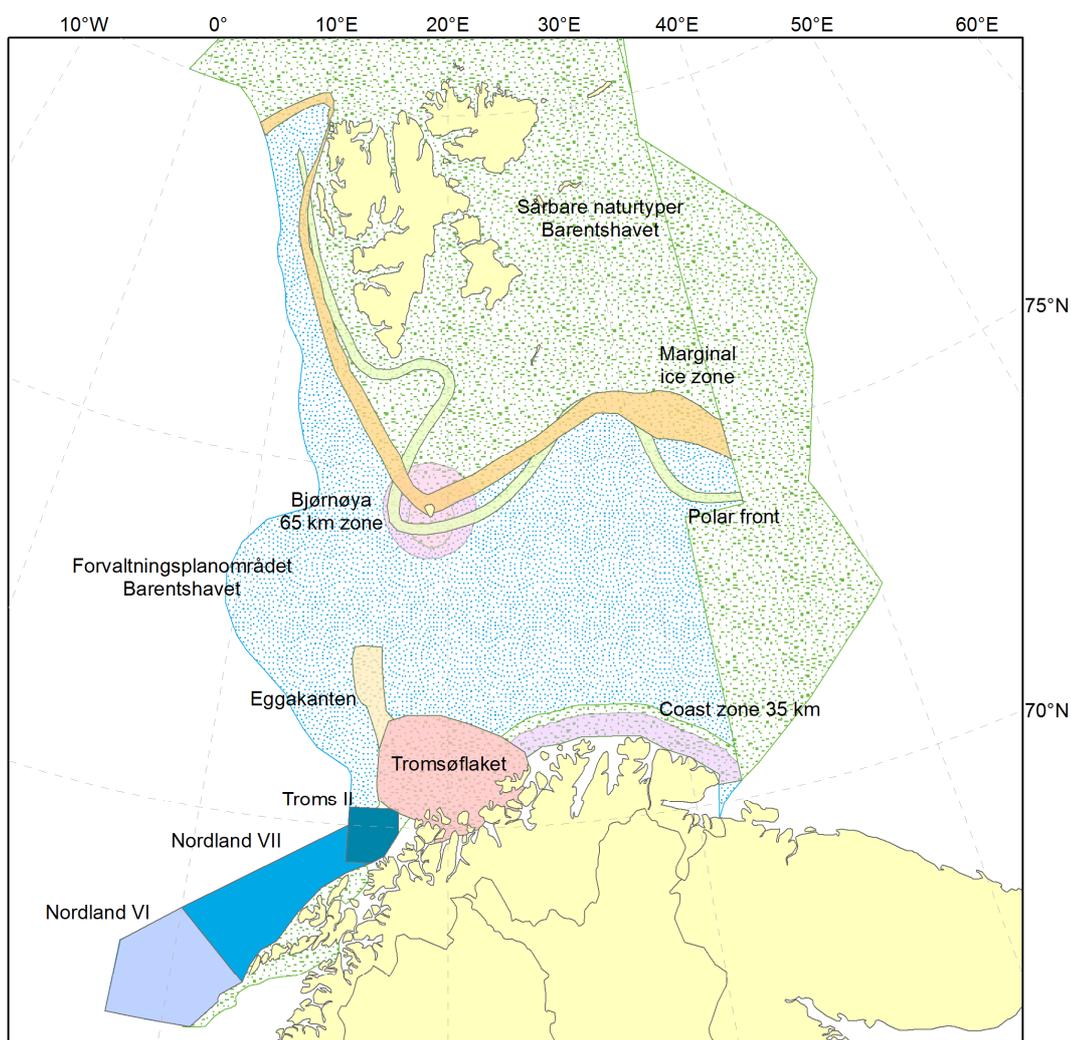


Figure 7 Revised 2011 plan area for the Lofoten – Barents sea integrated management plan. The border to Russia has since then been changed following a 2011 Norwegian – Russian agreement on the boundary at sea. Also shown are the particularly valuable and vulnerable areas Tromsøflaket, Eggakanten, the coastal zone, marginal ice zone and the polar front. The petroleum areas Nordland VI and VII and Troms II are also shown and these overlap with the V&V area Lofoten – Vesterålen.

The measures listed for petroleum development modifies a number of the measures in the 2006 plan. Politically, the most critical decision was that the government decided to continue the 2006 decision not to permit petroleum activities nor initiate impact assessments in the areas Nordland VI, Nordland VII and Troms II (Figure 7). The initiation of an impact assessment, as required by the Petroleum Act, would in effect have signalled the start of exploration drilling activities. Almost all the other measures listed did however address the priority objective and the need to advance exploration activities and facilitate the further development of the petroleum industry in the north. Four sets of petroleum-related measures are listed: For Nordland and Troms (Northeastern Atlantic), the Barents Sea, discharges to the sea, and other measures related to fisheries and the environment.

The measures for Nordland and Troms (Northeastern Atlantic) include the following (see pages 130-132 for details):

- No activity in the areas that are opened for petroleum activity in Nordland VI in this session of the Storting (2009 – 2013). No new blocs will be announced.
- No impact assessment in Nordland VII and Troms II or in the opened areas in Nordland IV, V and VI.
- The Mareano program to conclude seafloor mapping in Troms VI by 2011, and thereafter in other unmapped areas.
- Conclude surveying of seabirds.
- Knowledge development on the effects of petroleum activities in the unopened parts of Nordland IV, VI, VI, VII and Troms II. This is to include also socio-economic aspects.
- The geographical scope for the arrangement for advance allocation of areas for petroleum activity is extended to include all opened areas in Nordland I, III, IV and V.

The measures for the Barents Sea include the following (see page 132 for details):

- In the Norwegian part of the previously disputed area an impact assessment will be initiated to prepare for the allocation of exploitation permits.
- The Mareano program will map the area to the west of the new boundary in the disputed area.
- In the coastal zone in Troms and Finnmark: No petroleum activity inside 35 km from the baseline, and no exploratory drilling between 35 and 65 km 1 march – 31 August.
- On Tromsflaket the limitations are identical to those along the coast of Troms and Finnmark, except that exploratory drilling is not permitted also outside 65 kilometers.
- On "Eggakanten" (the shelf break) new exploitation permits shall map corals and other valuable bottom habitats liable to be affected by petroleum activity.
- The ice edge and the polar front: No new activity in this session of the Storting.
- Bear Island: No petroleum activity will be initiated inside 65 km from the island in this session of the Storting.

The measures for discharge to the sea entail a relaxation of previous regulations, which did not permit any discharges (except for the drilling of the top casing) in the North.

Measures for fisheries and other environmental concerns: The management plan should be used to set environmental and fisheries related constraints on petroleum developments. Until a new update of the plan, there will be no new fisheries- or environment related requirements to the petroleum activity in the north.

In sum, this means that the areas where petroleum activities are permitted are considerably extended, that preparatory activities like mapping, etc. are stepped up, and that environmental requirements on the petroleum industry are relaxed.

In addition to the petroleum-related measures, there are also measures for reduction of marine pollution and debris and strengthening of the knowledge base. As regards the first, three categories of measures are listed: preparedness against acute pollution, international efforts to reduce long-range pollution, and activities in relation to marine debris.

A last set of measures in the plan concerns the development of knowledge to underpin management measures. Nine sets of measures are listed here: mapping of the sea floor through the Mareano programme, seabird monitoring, pollution monitoring, monitoring of climate change and ocean acidification, including combined effects of these and pollution, environmental risk analyses, the development of indicators for monitoring of environmental status under the management plan, development of cooperation with Russia on the marine environment, and communication of the work on the plan.

Regarding measures for sustainable harvesting of living marine resources, the revised plan states that the main fisheries⁶ are carried out in a sustainable manner, but that some fish stocks are not in satisfactory condition. For these rebuilding strategies are developed to ensure future fisheries. Specifically, the plan signals that the monitoring of fish stocks will further developed and that the living marine resources will be followed up according to the Oceans Resources Act. Fish stocks that are at low levels will be rebuilt.⁷ The actual measures for achieving these ends are contained in the enabling legislation of the Ocean Resources Act.

2.4 Are there other specific and particularly important sectoral priorities, objectives, obligations etc. that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective? What measures or initiatives are in place to address such conflicts?

The development of the management plan was motivated by the need to reconcile different concerns and needs. The most significant conflicts in the plan area are between the petroleum industry, the fisheries, and the need to protect the marine environment. Also marine transportation represents a potential risk to the environment and fisheries in the event of accidents.

There are a number of measures that are aimed at reducing conflicts and reconciling differing concerns. Primarily, the plan and its implementation is born out of the need to address potential

⁶ As for example cod, haddock, capelin, saithe, shrimp, and herring.

⁷ The plan mentions coastal cod, golden redfish, beaked redfish, and blue ling. The beaked (deep-sea) redfish has now been rebuild (ICES recommended a total catch of 47000 tonnes for 2013). Coastal cod is taken as a bycatch in the main fishery for cod.

conflicts as the petroleum industry moves north into areas where its previous presence has been marginal and therefore not much of an issue for other industries or interests.

Secondly, an important aspect of the plan is that it addresses the total impacts of all activities and external influences on the marine environment. This creates a foundation for informed action to reduce potential conflicts and reconcile different interests.

Third, a number of the measures in the plan explicitly address the need to reconcile interests, as for example the limitation placed on the activities of the petroleum industry in time and space. Also, the various knowledge-related activities are aimed at establishing an informed basis for making such decisions.

Fourth, the institutional measures are designed to assist in addressing real and perceived conflicts. The three working groups all have broad representation from agencies representing all the interests that are likely to be affected by conflicts. The Reference group allowed for participation of all stakeholders in the plan process and its continual development, however this group was disbanded following the 2011 revision. Also, the inter-ministerial steering group has representation from all relevant ministries, providing for a process in government where all sorts of concerns can be addressed.

Finally, the plan is adopted by a genuinely political process at the highest level in government where environmental concerns, the needs of the petroleum industry, the concerns for the long-term income brought by the petroleum sector to the country, the needs of the fishing industry as well as foreign policy concerns are brought to the table and weighed against each other. The final step in decision-making is the adoption of the plan by the Storting, bringing the ultimate political authority.

3. Conflicts

3.1 Oil/gas and fisheries

Since the start of petroleum activities on the continental shelf for about 40 years ago, the authorities emphasized that the industry will be operated in co-existence with other activities, especially fisheries. Since 2006, the knowledge of the effects of seismic shooting on fish has been strengthened. It is also established compensation schemes to cover any financial losses fishermen incur as a result of petroleum operations, cfr. Chapter 8 of the Petroleum Act.

Seismic surveys happen in all phases of petroleum operations, before an area is opened until late in production to monitor developments in the reservoir. It is this activity that has provided the major conflicts between the oil/gas industry and the fisheries. The conflicts are related to both period of time and area, partly related to the noise from the seismic air-gun scaring away fish from fishing areas and altering their behavior and partly because a seismic vessel with streamers need much space and have limited maneuverability during the implementation of the survey.

To reduce the level of conflict between fisheries and seismic surveys, a working group with representatives from the Fisheries Directorate and the Norwegian Petroleum Directorate conducted a review of regulations and legislation related to seismic surveys. As a result of the report of this working group, changes were made in the Resource Management Regulations governing the seismic surveys. The changes include requirements for courses for a fishery expert, clarification of the role of

fishery, updated requirements for fishery expert and logbook for fixed template. The changes include further coordination of requirements for notification, route surveys and other site investigations. However there is still debate whether the new measures are sufficient to minimize conflicts. In addition to the changes in Resource Management Regulation, there has also been made changes to the Petroleum Act and associated regulations. The amendment deals with the requirement for tracking of seismic vessels. It is also established a cooperation agreement between the Coast Guard, The Directorate of Fisheries and the Norwegian Petroleum Directorate in which the Coast Guard is the primary contact for the fishery expert.

The development and operation of offshore installations requires marine space both temporarily and in the long-term. At present there is one field in operation and one field under development in the Barents Sea. According to the Norwegian regulations, 500m security zones must be established around petroleum installations that protrude above the surface.

3.2 Shipping and fisheries

Maritime navigational law applies to fishing vessels as well as for other vessel traffic, and with ordinary care, conflicts are kept to a minimum. The potential for conflict is reduced by the introduction of an IMO endorsed lane system 30 nmi off the coast on the route Vardø-Røst in 2007, aiming at moving heavy vessel traffic further offshore to ensure sufficient response time in the event of accidents. The routing system also took account of the fishing activities in the area. This means e.g. that traffic to and from Northwest Russia has not come into conflict with passive fishing gear operated from the coastal fleet.

3.3 Oil/gas and tourism

Lofoten og Vesterålen are marketed as a nature-based tourist destination, where authenticity, pristine landscapes, clean seas and adventures in the spectacular scenery is central. It is uncertain to what extent this brand can be combined with an extensive, visible petroleum industry.

A possible acute oil spill accident from petroleum or shipping could in the short term have a large adverse effect on tourism in the region. Similarly, a spill accident could have negative consequences for the Norwegian tourism industry as a whole. The Norwegian brand profile of Norway promotes Norway as a sustainable destination, where proximity to the authentic and pristine spectacular scenery is considered one of the main comparative advantages in competition with other countries. International media attention about a spill accident in the Lofoten and Vesterålen area could weaken the profile Norway over time has worked to build up.

3.4 Oil/gas and aquaculture

The aquaculture industry depends on a pure, unpolluted ocean in order to maintain the production and reputation of Norwegian farmed fish. Fish in net cages cannot escape from an oil spill, and physical damage can occur as a result of fish trying to escape from the net cages. In addition, the fish will be affected by the blockage of the gills or by taking up harmful substances from the oil. Adult fish farming is not very vulnerable to oil pollution, but fish with a high content of fat such as salmon can take up and accumulate fat-soluble compounds that set taste and odor, and causes discoloration of the muscle tissue. In addition to reduced quality of farmed fish, a spill could also lead to loss of production equipment due to soiling. For farmers who are dependent on natural access to juveniles, such as the farmers who cultivate mussels, oil spills can affect both existing and future production.

Experiences of impacts on the aquaculture industry from historical spills are mainly from shipping accidents.

Large oil spills (> 75,000 tonnes) in other countries has shown how oil pollution, through the potential for impact on fish quality, has affected the reputation and sales in the world market of farmed fish from the affected area (eg- Exxon Valdez, see Goldberg, 1994). The shipwreck of the oil tanker "Braer" outside the Shetland Islands resulted in the destruction of market ready farmed salmon in an influence area of over 1000 km² (Goodlad 1996). This was done to prevent contaminated fish reaching the market, and thus communicate to the outside world that salmon from Shetland is always "clean." Despite this, the reputation of the seafood from Shetland was noticeably weakened in the following months because of extensive media coverage of the spill. The experience from Shetland shows that loss of market value and removal of salmon that were not directly affected by the oil pollution, resulted in a greater loss than the direct damage caused by oil spill (Goodlad 1996). However, it is difficult to find distinct price effects in the longer term.

3.5 Future offshore wind farms and other industries

Large-scale wind farms at sea may affect relatively large areas, but the extent of development in Norwegian waters is still unclear. The distance between individual turbines could be up to one kilometer. Between the turbines, there will be a network of electrical cables on the seabed to collect the output from individual turbines before it is lead in a cable out of the construction site. The area in Lofoten, Troms and Finnmark, which is identified in the report, "Offshore wind - proposed development area" is between 105 and 332 km². The report states that no areas are suitable for offshore wind farms that will not affect other environmental or human activities, but the designated areas are considered to be the least controversial. Future strategic environmental impact assessments will clarify the negative effects of different interests, and how the effects can be tried reduced. Offshore wind farms could have a negative impact on fisheries and petroleum activities as well as recreation and tourism.

Table 2 Conflict matrix of actual conflicts taking place, Barents Sea case study

	Fishing	Petroleum exploration	Aquaculture	Shipping	Biodiv conservation	Renewable energy	Tourism	Military activity
Fishing		Seismic exploration takes up large space and prevents fishing. Drilling, production and pipelines exclude fishing from areas (smaller than seismic)	Aquaculture installations exclude fisheries from area around farm Disease, parasite and genetic effects on wild fish populations	Fishing must give right of way in shipping lanes	Threaten valuable and vulnerable habitats such as corals and sponges	Future offshore wind farms	none	none
Petroleum exploration			The aquaculture industry depends on a clean ocean in order to maintain the production and reputation of Norwegian farmed fish.	none	accidental spills can threaten valuable and vulnerable areas and the production of the ecosystem (spawning areas)	Future offshore wind farms	Lofoten og Vesterålen is marketed as a nature-based destination, where authenticity well-maintained landscape, clean sea and adventures in the spectacular scenery is central. It is uncertain to what extent this brand can be combined with extensive, visible petroleum industry.	none
Aquaculture				none	Disease, parasite and genetic effects on wild fish populations	NA	none	none
Shipping					accidental spills can threaten valuable and	NA	none	none

Nov. 2012

					vulnerable areas and the production of the ecosystem (spawning areas)			
Biodiv conservation						NA	Increased tourism on Svalbard puts stress on valuable areas	none
Renewable energy							NA	none
Tourism								none
Military activity								

There are no current developments of off-shore renewable energy in the Barents Sea

4. Governance approaches

4.1 Governance approach

The Norwegian management plans were initiated based on a top-down initiative from the government, in particular the Ministry of the Environment (see Context). During development the planning process took on a more bottom-up approach with input, suggestions and analyses coming from both government institutions tasked to develop the plan and from stakeholders hearing documents, statements, lobbying and direct participation in hearing meetings. The overall process can therefore best be described as a 'fragmented top-down' approach.

In terms of population, Norway is a relatively small country (5 million). Its central administration is small, concentrated in Oslo, and highly efficient by international standards (Østerud et al xxxx). Due to the importance of the oceans to the country's economy, a number of ministries are heavily involved in oceans management with the Ministry of Fisheries and Coastal Affairs as the one closest resembling an Oceans Ministry, with responsibility for the management of living marine resources, marine transportation, petroleum emergency response, and coastal administration. The Ministry of Petroleum and Energy has a strong oceans interest by virtue of the petroleum resources, which are located offshore. The Ministry of Industry and Trade is responsible for the maritime sector, which includes shipping, shipbuilding, and maritime services. The Ministry of the Environment has an overall responsibility for the marine environment, and the Ministry of Foreign Affairs has an important role in oceans policy because of the foreign policy dimensions associated with the oceans: Norway has a land boundary with three countries, but marine boundaries with seven.

The general process for developing new policies is that a report to the parliament is prepared, with one ministry taking the lead and other relevant ministries participating in the work. Depending on the level of political controversy on the issue at hand, issues can be resolved at an administrative level or may require negotiation among the political leadership of the ministries to be resolved. An important aspect of this is that Norway's is a parliamentary system, where the Government depends on the support of the Storting for its existence. A government with a majority behind it in the Storting therefore tends to be more powerful than one without. But when the government is composed of several political parties, as the case has been in Norway for a long time, issues that are controversial within the government affects the way policies are developed as well as the policies themselves.

4.2 Opportunities for participation

The Public Administration Act (1970) stipulates that those who are likely to be affected by a government policy or measure are entitled to have their say in the development of such policies or measures. In practice, this means that when policies and measures to implement them are developed, a number of mechanisms are used to ensure that those who are likely to be affected have opportunity to participate in the development of, or address the proposed measures. Such mechanisms can provide for direct participation, as for example in the establishment of committees, or indirect participation as for example in hearings of proposed measures.

In the development of the management plan, a number of such mechanisms were used. First, in developing the plan, as well as after its adoption, a number of open conferences were held where the issues raised in the plan work was addressed and presented. Second, at regular intervals an open-ended Reference Group consisting of potentially interested stakeholders was invited to annual meetings discussing the plan work. Also, the plan work attracted considerable attention in the North, and frequent news reports as well as letters to the editors in local newspapers provided another outlet for stakeholder concerns in this regard.

Other mechanisms were more formal. When a first draft of the plan was ready in early 2006, the plan was subject to a hearing round among stakeholders, such as nature protection organization, industry groups, counties and the Saami Parliament. When the plan was adopted, a public hearing round was conducted on the underlying EIS for Petroleum, Shipping, Fishing and external influences, resulting in over 100 responses from a wide range of organized interests, such as ChevronTexaco, Fiskebåtredernes forbund, Naturvernforbundet. The hearing round showed that there was broad acceptance for the concept of integrated management, and the possibilities for using the plan for achieving long-term certainty in management decisions. The main critique followed traditional sectorial divides with nature conservation groups demanding petroleum-free zones, fishermen pointing to limited possibilities for co-existence between fishing and petroleum activities. Across this sectorial divide many of the respondees questioned the boundary of the plan area towards the coast and asked that the coastal areas up to the land-sea border should be encompassed to include important marine industries and pressures on the environment such as aquaculture, industry and mining.

Also, when adopting the 2006 Plan, the Storting in its report had several remarks to the plan. An important aspect of this is that stakeholders have the opportunity to influence policy not only through hearings, participation in meetings and the like, but also through their representatives in the Storting and through the political parties.

4.3 The processes in the government

At the start of the development process only the ministries of Foreign Affairs, Petroleum and Energy, Environment, and Fisheries and Coastal affair were included in the ministerial steering group. It was decided from the beginning that the Ministry of Environment was leading the group, but all decisions were to be made collectively and in agreement. After the plan was implemented in 2006 the steering group was expanded to include the ministries of Trade and Industry, Finance, Justice, Local and Regional Government, Labour and Industry, and Defense. In the initial development phase, there was a close and frequent connection between the steering group and the directorates and institutes involved. These were asked to attend steering group meeting to present progress on the development and partake in discussions. After 2006 with the expansion of the steering group only the leaders of the Management Forum, Monitoring Group and Risk Forum have met directly in the steering group. The underlying institutions and directorates have now lost a direct link to this central group and have to bring their issues up either through one of the three operational groups, or through their own ministry.

In addition to facilitating the development and implementation of the plan, the ministerial steering group has had an outward focus, especially towards Russia. The Norwegian plan only covers 50% of

the Barents Sea ecosystem and the Norwegian government has invested much effort in presenting the plan and underlying ideas of integrated and ecosystem-based management to Russia. In 2006 Norway hosted a seminar in Moscow to present the Norwegian plan, and has also brought it up as an agenda item on annual meetings in the Joint Norwegian – Russian Environmental Commission and Joint Norwegian – Russian Fisheries commission.

At the institutional level, the management plans require the cooperation and collaboration by many ministries and agencies. This is inherently challenging and requires good faith and a change from protective 'turf' thinking. In Norway the Ministry of Environment (MD) has been given the main responsibility for the work on the implementation of the management plans. MD has used their own agencies to lead work in areas where they may not have been the most appropriate agencies to do so.

At the political level there has been a continuing struggle for the balance along the axis of conservation and economic development. This has been particularly expressed in relation to petroleum development. It is also expressed in the concept of sustainable development as used by the Norwegian Ministry of Finance. Conversion of natural resources into economic and social resources is regarded as sustainable development, but this is obviously true only to a certain extent. It is not clear how to determine (scientifically or technically), and who (institutionally) determines, what this extent is. The field is therefore fairly wide open for political struggle for what is sustainable or not.

4.4 Effectiveness of management measures

There is a major, international literature on the effectiveness of environmental institutions and measures (Young 1999). One strand of this literature views effectiveness as the addressing of objectives, focusing the existence of appropriate goals and measures to address those. Another part of this literature is more concerned whether a system is in place to address the environmental concern in question. Is there, for example, institutions and legislation in place to address a particular environmental problem? A third "school" in this literature is concerned with results: does the institution/measure in question resolve the problem that motivated its existence in the first place?

Here, we use the concept of "effectiveness" in the first sense of the word pointed out above, where the question is whether the plan has a set of objectives and measures that address the issues that are raised in the plan and appears appropriate in relation to these.

The priority objective of the plan is value creation/economic development, while secondary objectives address a series of concerns relating mainly to the maintenance of ecosystem integrity. These objectives appear appropriate given the context and nature of the plan. It is however difficult to assess the effectiveness of the plan as such, as operational objectives and policy measures are contained in other legislation and policies. The question of the effectiveness of the plan therefore has to be addressed at a rather general level, except for the petroleum-related measures that regulates activities in time and space.

At a general level, one of the most important aspects of the plan is that it provides for a comprehensive view of all activities and all factors affecting the marine ecosystems. Thereby a foundation is laid for considering the management of ecosystems as such, making informed choices when trading off different concerns against each other.

In relation to petroleum development, the plan has proved effective in the sense that the development of the industry has been subject to rigorous requirements to documentation of ecosystems and consideration of risks, which in practice means that development is slower than it would have been without the plan. The most important aspect is however that the requirements to knowledge basis for decisions are strict. The area-based management is temporary in nature, and depends upon the constellations in Government and the relations between the Government and the Storting.

The plan addresses conflicts between various interests at several levels. At the level of government it does so in an essentially political way: the actual plans contain a list of petroleum-related measures that in essence represents a compromise between the political parties represented in Government. In the revised plan of 2011, for example, one party made the continued existence of the sitting government dependent upon Lofoten being off limits to petroleum development. In return, another party got almost everything it wanted in terms of accommodating the concerns of the petroleum industry in other areas. At the level of the industry, to reduce the level of conflict between fisheries and seismic surveys, a working group with representatives from the Fisheries Directorate and the Norwegian Petroleum Directorate conducted a review of regulations and legislation related to seismic surveys. As a result of the report of this working group, changes are made in the Resource Management Regulations governing the seismic surveys. The changes include requirements for courses for a fishery expert, clarification of the role of fishery, updated requirements for fishery expert and logbook for fixed template. The changes include further coordination of requirements for notification, route surveys and other site investigations. In addition to the changes in Resource Management Regulation, there is also made changes to the Petroleum Act and associated regulations. The amendment deals with the requirement for tracking of seismic vessels. It is also established a cooperation agreement between the Coast Guard, The Directorate of Fisheries and the Norwegian Petroleum Directorate in which the Coast Guard is the primary contact for the fishery expert.

The concept of ecosystem goods and services

In recent literature, the links between nature and the economy are often described using the concept of ecosystem services, or flows of value to human societies as a result of the state and quantity of natural capital (TEEB, 2010). Ecosystem services can be defined as goods, services and functions in ecosystems that provide people benefits. The term covers broad range, from products to immaterial services, from visible to invisible. Nature is put into a human perspective based on an ecosystem approach. The Millennium Ecosystem Assessment defined four categories of ecosystem services that contribute to human well-being, each underpinned by biodiversity (MA, 2005):

- *Provisioning services – for example commercial fisheries, agriculture and other raw materials.*
- *Regulating services – for example climate regulation through carbon storage and water cycling, pollination and protection from disasters.*
- *Cultural services – for example recreation, spiritual and aesthetic values, education.*
- *Supporting services – for example photosynthesis, nutrient cycling, habitat, resilience, primary production, biodiversity.*

Estimating the value of the various services and benefits that ecosystems and biodiversity generate, may be done with a variety of valuation approaches. All of these have their advantages and disadvantages. Hybridizing approaches may overcome disadvantages of particular valuation methods. The limitations of monetary valuation are especially important when ecosystems approach critical thresholds and ecosystem change is irreversible or reversible only at prohibitive cost. Under conditions of high or radical uncertainty and existence of ecological thresholds, policy should be guided by the “safe-minimum-standard” and “precautionary approach” principles

Valuation methods for marine ecosystem goods and services are presented in the table below (based on Finansdepartementet (2005), MA (2005) and Kumar (2010):

Valuation methods	Approach
<i>Stated preference methods</i>	Willingness to pay/or to accept compensation for changes in provision of ecosystem services are “stated” by respondents in surveys using structured questionnaires. Well known methods include contingent valuation and choice experiments.
<i>Revealed preference methods</i>	Values are “revealed” through studying consumers’ choices and the resulting price changes in actual markets that can then be associated with changes in provision of ecosystem services.
<i>Production/damage function</i>	A group of methods used to value regulating and supporting services, where ecosystem services are one of several “inputs” to a final service or good enjoyed by people. Ecosystems’ marginal contribution to the final service is valued. When a change of ecosystem characteristics leads to off-site or downstream loss of services, biophysical damage functions of this “pressure-state-impact” relationship are used.
<i>Cost-based methods</i>	Assume that expenditures involved in preventing, avoiding or mitigating losses of ecosystem services represent a minimum value estimate of what people are willing to pay for the ecosystem services.
<i>Benefits / value transfer</i>	Refer to the use of secondary, existing study estimates, from any of the valuation methods mentioned above. Meta-analysis techniques could e.g. be used to distil value information from a broad literature for use in benefit transfer.

5. Incentives

Economic incentives

- **Providing certainty to potential industry investors, *eg.* through licensing and granting concessions to renewable energy developers in certain marine areas**
 - The BSMP provides economic incentives to the petroleum industry as it gives clear guidance as to which areas will be opened for exploration and production. This allows the industry more certainty regarding development in a large sea area and allows them to seek a more long-term investment and development strategy. It also points out to the industry key conflict areas with fisheries and protection interests which allows the industry both to develop remedial methods or to lobby government to get acceptance for their views.
- **Promoting and protecting the rights and entitlements of local ‘customary’ users, *eg.* through assigning fishing rights to certain marine areas and fish stocks**
 - Although fisheries is a key sector in the BSMP the plan does not designate areas to the fisheries, however, the importance of fisheries both to the local communities, national economy and Norwegian politics is stressed numerous times. The most important element regarding fisheries is the clear obligation to regulate the fish stocks in a sustainable manner and to rebuild stocks that are in a depleted state. Further the BSMP recognizes that fishing gears can have a impact on the environment and commits the government to introduce mitigating measures. Thus, zonation for some types of fisheries is also a likely development of the plan in future revisions, especially in relation to managing demersal trawling in sensitive benthic habitats.
- **Providing sufficient government funding to support the development and implementation of the MSP, including surveillance and enforcement activities and the use of other economic incentives**
 - The MAREANO (seabed mapping) and SEAPOP (seabird mapping and monitoring) programs were funded by the Norwegian government to systematically improve knowledge about the Barents Sea. The objectives for the MAREANO program were to develop a marine area database for Norwegian waters and increase knowledge of the ecologically important benthic communities such as coral reefs and sponges and the condition of the seafloor including pollutants.

Interpretative incentives

- **Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of a marine spatial plan (A)**
 - The BSMP is built around data on maps collated from numerous government authorities and institutes on topics ranging from biology, human uses and future scenarios for development. Maps are shared on various government web-sites, but in 2012 the website “Barentswatch” ([www. Barentswatch.no](http://www.Barentswatch.no)) was established as the central hub in map-based information exchange for the BSMP area.
- **Promoting recognition of the potential resource development benefits of MSP, whilst being realistic about such potential benefits and not ‘over-selling’ them, *eg.* displaying development zones to potential developers and investors, potential internal and spillover/export benefits of MPAs**

- The plan is promoting recognition of the potential resource development benefits of the MSP generally, and for some industries, more specifically. The management plan unites the goal of developing industry and jobs in the north with respect to consideration of fish and environment. One objective of the plan is to increase predictability and facilitate coexistence between industries that are based on the use of these sea areas and their natural resources.
- The most important industries for value creation in the Barents Sea–Lofoten area today are presented in the management plan. Possibilities for existing and new industries are described in the plan based on existing knowledge and statistics. Socio- economic analysis of expanding oil and gas activities in the Barents Sea–Lofoten area are presented in the report. The importance of marine ecosystem services for value creation and Norwegian society is also discussed. There are also some concrete development zones presented in the report:
 - Trawl-free zones and flexible areas in the Barents Sea are presented in a map showing that trawling are concentrated to certain areas and times of the year and that regulations differs for various species. These provisions have also promoted the sharing of sea areas to avoid gear conflicts.
 - The awards in predefined areas (APA) system in the Barents Sea are also presented in a map. The Government will maintain the exploration for oil and gas, and give the oil industry access to interesting exploration areas within environmentally acceptable limits. Since the publication of the first management plan for the Barents Sea–Lofoten area in 2006, acreage has been allocated through ordinary licensing rounds, and through annual awards in predefined areas (APAs). The APA system is the annual licensing round for allocation of blocks in more mature areas, where the geology is known and where there are fewer technical challenges and well developed or planned infrastructure. Assignment of licenses in APAs has resulted in greater and more stable activity in the management plan area. Since 2006, the total APA area has been almost doubled.
 - A map showing proposed areas for impact assessments in connection with offshore wind power are presented in the management plan, based on a report from a working group consisting of the Norwegian Water Resources and Energy Directorate, the Directorate for Nature Management, the Directorate of Fisheries, the Norwegian Coastal Administration and the Petroleum Directorate. At present there are no offshore energy plants in the management plan area, but theoretically there is a very large potential for renewable energy production in Norwegian waters. Altogether the working group proposed 15 areas for impact assessments with a view to offshore wind power development, five of which lie off the Lofoten Islands, Troms and Finnmark.
- **Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of MSP in the SMA**
 - Designation of “Valuable and Vulnerable “ areas was a key step in the development of the BSMP (and the other Norwegian management plans). The V&V areas highlight what areas are most important for the biodiversity and production in the ecosystem. The mapping by MAREANO was directed to these areas. The area mapped in 2006-2010 (70 000 km²) covered: banks, troughs, ridges, canyons, large sand waves, cold seeps and coral reef areas at depths ranging from 40 – 2700 m. The new information revealed areas of high biodiversity and vulnerability to human

activities such as petroleum industry and fisheries. This information was an important source of new knowledge for the revision of the BSMP in 2010/2011.

Knowledge incentives

- **Explicitly recognizing the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, eg establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge**
 - How to handle uncertainty, risk and decide when to apply the precautionary approach have all been central issues of scientific and political debate in the development and revision of the BSMP. Especially in relation to possible large-scale adverse effects such as oil spills from ship wrecks or blow-outs, or effects of climate change on the ecosystem. Uncertainty has also been well documented as the plan has clearly identified gaps in knowledge, and traced their development through the implementation (2006-2010) and in the revision (2010). The failure to *a-priori* agree on acceptance criteria for uncertainty and risk has led extensive debates on when the precautionary principle should and should not be applied.
- **Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms**
 - The BSMP (or any of the other Norwegian plans) include a system for independent advice or arbitration. All is left for the government to decide based on the input from their own institutions (who're all heavily involved in the BSMP process), or from the active lobbying from industry and NGOs.
- **Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, etc to support the development of a marine spatial plan**
 - At the start of the development of the BSMP process one tried to involve local fishermen to identify key fishing areas, but this data was not used later in the process. The reason was questions regarding reliability of the data, but also the vast size of the planning area which made the planners realize that it was more important to use data that covered the whole area – VMS- rather than more precise but more patchy data from local users.
 - However, based on the emphasis the BSMP has on all ecosystem issues a new development involving users (fishers) is developing. The new Norwegian bottom trawl regulations (introduced in 2011) include an obligation for the fishers to report the bycatches of sponges and corals on the electronic catch log. These observations from the fishers on sponges and coral habitats are thus related to reliable geographical positions and allow the fisheries authorities to consider mitigating actions (zonation, time closures) to protect sensitive bottom habitats.
- **Maximizing scientific knowledge to guide/inform decision-making and monitoring/evaluation in developing and implementing marine spatial plans**
 - The BSMP and the other Norwegian plans are firmly science based. The development was led from a scientific/technological perspective with key government scientific institutions involved. However, independent scientific institutions like the universities and independent institutes (eg. NIVA) were not involved to the same extent.

- **Reducing the barriers in access to information and data held by different agencies, user groups and countries, and promoting the exchange, sharing and integrated use of such information and data in MSP processes, eg geo-spatial data, ecological trends, fisheries data**
 - All information gained from the mapping conducted by MAREANO is accessible from the web site <http://www.mareano.no/> this includes detailed bathymetric maps and distribution of bottom-types, habitats, biotopes and pollutants. The BSMP is a collaborative effort where government institutes and directorates have shared data and maps to develop a spatial plan. This same sharing of data has continued through the implementation period and in the revision. The data and the new management maps developed are now available through various government websites. The new initiative – Barentswatch has also strengthened this cross-sectoral sharing of data. Also, the large cross-sectoral mapping projects MAREANO and SEAPOP have also contributed to improved information exchange. Lastly, the government is pushing for all government research data to be made freely available to the public.

Legal incentives

- **Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, etc in order to ensure the achievement of MSP objectives, such as achieving environmental criteria and providing access rights for particular uses**
 - Definition of wanted environmental status is implemented through the management objectives defined for the BSMP. These are general objectives that are then further refined in the sectoral legislature. It is also the sectoral legislature that sets exact environmental standards (pollution act) technical petroleum standards (petroleum act) fisheries standards (marine resources act). The BSMP has no rule above these acts, but identifies the need for coordination when management decisions are made.
- **International-regional-national-local legal obligations that require effective implementation of MSP, including the potential for top-down interventions**
 - The most important instrument in this regard is the 1982 Law of the Sea Convention, which provides the global framework for the management of the world oceans and their use. In addition, there are a large number of international agreements pertaining to various aspects of the management of the uses of the oceans.
- **Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users**
 - The political will and main instruments for enforcements of fisheries regulations (limiting access, end of subsidies, reducing overcapacity, distribution of fishing opportunities etc.) were in place before the establishment of the BSMP. If in future the BSMP will occupy a more operative position in the fisheries regulations the capacity for enforcement will be in place
- **Effective system for enforcing restrictions and penalizing transgressors in a way that provides an appropriate level of deterrence eg. at national, EU or international level**
 - Within the fisheries sector there is a legal framework for the authorities to cancel permissions to fish in the Norwegian EEZ. Together with an effective and consistent control program this is seen as an effective measure for enforcing restrictions.
 - When it comes to enforcement of regulatory measures for fisheries, there has been a shift from overfishing of cod by the hundred thousands of tons a decade back, to

almost nothing in recent years. This is a result of stricter enforcement of fishing regulations in Russia and Norway, increased cooperation, and initiatives under the auspices of the North East Atlantic Fisheries Commission (NEAFC). Also international cooperation on port state control has been and is important in this regard. The North East Atlantic Fisheries Commission (NEAFC) has promoted the development of good regional control and enforcement schemes and a more ecosystem-based approach to management of sea areas beyond the 200-nautical-mile limit. NEAFC has implemented a comprehensive control system of fisheries in international waters both in terms of reporting procedures and coastguard vessel presence on the fishing grounds. NEAFC has developed rules and control regimes to create sites closure and restrictions on fishing in different seas outside national jurisdiction. In practice, the enforcement authorities at sea and on land, the Coast Guard and the Directorate of Fisheries, reveal most violations of the regulations of the fisheries sector. These institutions have the choice between several different types of reactions, administrative or criminal, that might be taken against the violator. For less serious offenses, the reaction is often a written warning. In more serious cases, or repeated violations, the vessel could be captured by the Coast Guard or reported to the police. As an alternative to reporting to the police, the Directorate of Fisheries may also impose so-called "administrative sanctions". Administrative sanctions are sanctions that the fisheries authorities act for themselves. The administrative sanctions may be divided into the following categories: 1. Rejection of an application / revocation of license (Norwegian vessels); 2. Refusal and revocation of license (foreign vessels); 3. Administrative fines, and 4. Confiscation of buyer approval.

- Over the years, comprehensive legislation and control and enforcement procedures have been built up to ensure that the impact of petroleum activities on the environment and any inconvenience to other industries are dealt with satisfactorily. The authorities play a central role in all important phases of petroleum activities and in the implementation of specific projects from the time when an area is opened for petroleum activities until operations are complete and installations have been disposed of. The Petroleum Safety Authority and the Norwegian Pollution Control Authority have had joint responsibility for regulations relating to risk management in the oil and gas industry since 1991. There is a requirement for zero discharges of drill cuttings and produced water to the sea and this is considerably stricter than the standards that apply on other parts of the Norwegian continental shelf. Licensees who have been awarded licenses for blocks within the Barents Sea-Lofoten area will not be permitted to engage in year-round petroleum operations unless they can substantiate that their operations will meet the requirement for zero discharges to the sea.
- **Legal or other official basis for coordination between different countries, between federal and sub-national governments, and between different government agencies/law enforcement units, to address cross-jurisdictional and cross-sectoral conflicts in order to support the achievement of MSP objectives**
 - There are a large number of international agreements where countries commit to cooperate on various aspects of the management of the use of the oceans. In Norway's case, regional agreements like the Northeast Atlantic Fisheries Commission and the North Atlantic Marine Mammal Commission provide for regional cooperation on the management of living marine resources and the ecosystems of which they are a part.
- **Establishing legal provisions to ensure the transparency in MSP processes, eg statutory requirements for public access to information, appeals, public hearings, etc**

- There are legal provisions to ensure the transparency in MSP processes. This is statutory in the Planning and Building Act and in the Act on the Right to Environmental information. Chapter 5 in the Planning and Building Act set requirements for public participation. Anyone who prepares and presents a plan proposal has a duty to facilitate active public participation. This means that the obligation to facilitate active participation should be the same whether it is the planning authority itself, other governmental authorities or private enterprises preparing the draft plan. The Act on the Right to Environmental Information provides all citizens with a legal right to obtain environmental information, both from public authorities and from public and private enterprises. The Act involves new obligations for private enterprises to provide environmental information to citizens upon request. The objective is that citizens shall be able to follow – and have an overview of – the development of environmental problems, both nationally and locally. For example, fishery authorities will be responsible for disseminating environmental information about the state of fishery resources and the environmental consequences of fishery policies.
- Management plans for marine areas are political documents. The public hearing on the update of the management plan for the Barents Sea – Lofoten was therefore not a hearing in the legal sense, but an involvement of interest groups in order to obtain the views of the scientific basis and any additional information. The objective of the hearing was to make the scientific basis known and thoroughly discussed before the management plan was updated in the form of a white paper to the Storting. The present update is based on the expansion of the knowledge base that has taken place since 2006. The scientific basis and supplementary studies were made available for public consultation. More than 80 responses were received, and these supplement the scientific basis on which the management plan is based.

Participative incentives

- **Developing participative governance structures and processes that support collaborative planning and decision-making, eg user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, etc, including training to support such approaches**
 - Stakeholder participation has been taken into account throughout the development, implementation and revision process through extensive hearing periods of all planning documents and through public meetings at the end of the development and revision. However, the stakeholders have not been actively involved in drafting the plan – this has been a government led process with government institutions participating. In that regards the development has been wider based than other similar planning processes which usually are carried out by a single institution/directorate.
- **Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes**
 - In addition to the open hearings direct meetings with key industry and stakeholders were held at the start of the development process. At these meetings government institutes and directorates were present in addition to the ministries. Such meetings have not been carried out in the implementation of revision period.
- **Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, etc, recognizing that this can lead to an ‘upward spiral’ (Ostrom 1999) of cooperation and confidence that cooperation will be reciprocated amongst different**

actors, whilst erosion of trust through lack of transparency, equity, enforcement, etc can lead to a 'downward spiral'

- Norwegian marine management has traditionally been very sector based. This is based in the strong sector-specific legislature that exists, but also has a cultural dimension; ie. the fisheries management and research sector is rooted in fisheries and marine science, while the petroleum sector is rooted in an engineering background. These cultures have in many instances had a hard time communicating. The management plan processes has forced the different sectors to meet, discuss marine management and produce common reports and recommendations for the BSMP and the other management plans.
- **Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users**
 - After the revised planning documents were submitted by the Management forum in 2011, the political process led to substantial changes in the Plan, such as lifting discharges limits for the petroleum industry. These changes were never discussed in the planning or revision process and were a complete surprise to all government institutions involved. These changes were made by the political levels of government and were not transparent.
- **Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfillment of strategic SMA objectives**
 - Traditionally, the primary users of the northern seas, including the Barents Sea, have been the fishing and maritime transport industries. However, this situation is changing radically. There is growing activity in new fields such as oil and gas extraction, transport of oil – mainly from Russia – along the coast, cruise traffic along the coast and around Svalbard, and marine bio-prospecting. The BSMP emphasize that such activities must be regulated and coordinated with more traditional activities, and a balance must be struck between the various interests involved.
 - It is recognized in the BSMP that the traditional fisheries in the Barents Sea–Lofoten area play an important role in the culture of the whole of North Norway. The sea and the fisheries are a vital basis for settlement along the coast of this region, and this is reflected in the way of life and identity of the population. The Lofoten Islands are on the Tentative List submitted by Norway to UNESCO for possible inclusion on the World Heritage List, partly on the basis of the 1000-year long unbroken tradition of the spawning-season cod fishery in the islands.
 - Regarding the key provisions of the Nature Diversity Act and the Marine Resources Act, the BSMP states that the authorities shall attach importance to knowledge that is based on many generations of experience acquired through the use of and interaction with the natural environment, including traditional Sami (indigenous population) use. When decisions are made under the Acts that directly affect Sami interests, due importance shall be attached, within the framework that applies for the individual provision, to the natural resource base for Sami culture.
- **Promoting recognition & realization of the potential for a the participative governance of a given MSP initiative to influence the higher-wider statutory framework, processes and obligations, ie that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution**

- Broadening participation in developing the plan framework
- Enhanced efforts to communicate the plan

6. Cross-cutting themes

6.1 Combining top-down role of state and bottom-up participative approaches

6.1.4 Level of consensus, compromise and imposition in MSP processes

We have classified the BSMP as a hybrid top-down process where government (even top political levels) have paved the way and set the boundaries, aims and direction of the planning process. Even at top level consensus and compromise were strived for through the ministerial steering groups. This way of working cross-sectorially and consensus based was then passed on to the government institutes and directorates providing the basis for the plan. In the development phase of the BSMP achieving consensus and results that all parties could be comfortable with were essential to arrive at a plan that all sectors would respect. Consensus plays down differing opinions and uncertainties, and it was therefore discussed that in the annual reports from the three groups and in the revision that factual differing opinions should be shown so that the decisionmakers knew when they were facing an issue or question with no definite answers.

6.1.5 Views of stakeholders from different sectors on the strategic objectives of MSP, *eg* validity, priority

Over all there is a high degree of buy-in to the strategic objectives of the BSMP. The reason is that the BSMP has a compromise objective allowing for both use and protection, so there is something there for both the industry and the conservation groups. However, the balance between use and protection is highly debated, especially in relation to risks of accidents.

The operational objectives also receive a high degree of support as they are based on objectives already in place in the different sectors, or are refinement of these.

The BSMP has created a formal arena or “meeting place” for participation and discussion between stakeholders from different sectors and government agencies. It can also be said that this arena has been a basis for mobilization of different stakeholder groups and been important for the development of the public opinion on the different issues.

6.1.6 MSP as a vehicle for promoting cooperation and collaboration between different levels of governments (*eg* national/federal, regional, and local) and different sectoral agencies in developing and implementing marine spatial plans

The BSMP is very much a vehicle for cooperation at a national scale (See 6.1.4). However, the BSMP has very little focus on a regional or local scale as ocean governance is seen as an issue of national importance in Norway.

6.1.7 Transparency in MSP decision-making processes

In order to enhance understanding and compliance with policy, it is important that policy and its underpinnings are communicated well and that its development occurs in a transparent and inclusive manner.

6.1.8 Role of NGOs *eg* promoting cooperation in fulfilling strategic MSP objectives; promoting the views of particular communities

Norwegian NGOs have had no clear role in fulfilling the MSP objectives as they have not been involved in the actual development process. They do however, have lobbied quite insistently at the political level.

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, *eg* employing fora, bilateral consultations *etc* in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new (*eg* renewables) and existing sectors (*eg* conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

The BSMP had a stakeholder forum that met annually in its first implementation (2006-2010). This forum was discontinued as it was felt that the key stakeholders affected the process just as well directly by lobbying at the government level. Some bilateral consultations were carried out at the start of the planning process, and industry, research and consultants had a series of meetings to discuss the most thorny issues related to the risk of petroleum activities – risk of accidental blow-outs.

6.2.2 Competition for space between sectors (*eg* renewables and conservation) and within sectors (*eg* between different renewable companies) as a source of influence on and drive for MSP

The main competition for space has been between the petroleum industry that has wanted access to new areas where fisheries and shipping operate, and which are considered biologically highly valuable and vulnerable.

6.2.3 MSP development and implementation as a vehicle for promoting integrated management of different sectors: influence of MSP over existing sectoral management

Although the BSMP is an MSP plan it only involves zoning of the petroleum industry. The zoning of the shipping industry came about by a sector driven process led on by the Norwegian coastal authority. In regards to fisheries the BSMP has had no direct impact on fisheries operations, although the opening of areas for petroleum has had an indirect effect. The BSMP and the other integrated management plans also have still to find their role in relation to sectoral management, *eg*. Petroleum licencing rounds which have not changed since the advent of the BSMP.

6.2.4 Potential winners and losers in MSP, power struggles and displacement issues

In the initial phase of the BSMP the loser was the petroleum industry who didn't get access to the Lofoten – Vesterålen area, even after intense lobbying and millions of NOK spent on

PR. IN the revision the petroleum industry still did not get access to the Lofoten – Vesterålen area, but won some concessions in that the discharge permits were eased down to the same level as in the Norwegian and North sea. The government also started a process of collecting knowledge about the Lofoten – Vesterålen area so that a possible opening process will go quickly. The present situation is very much the result of the political debates in the current coalition government where the left-wing party (SV) has gotten acceptance for not opening Lofoten – Vesterålen while they are in power. This will most likely change after the parliamentary elections in 2013.

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

The NGOs have pressed very hard for protection of the valuable and vulnerable areas in Lofoten – Vesterålen. In the present government their views have been listened to, but it may likely change after the next elections in 2013. Surveys have shown that there has been increasing opposition in the population to oil drilling in the Lofoten-Vesterålen area. This could be a result of several NGOs focusing on protection of the areas and strong opposition against oil drilling, and being very visible in the media. More than 80 responses from among others NGOs were received in the public consultation process of the update of the management plan.

6.3 Cross-border issues between countries (Not so applicable in the Barents Sea case study)

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

The joint fishing and environmental commission represent relevant mechanisms. Russian members of the Joint Russian- Norwegian Fisheries Commission and the Joint Russian-Norwegian Environmental Commission have on several occasions been informed on the Norwegian BSMP. At present there is work on the development of a Russian BSMP. In future, there should be an aim to have a coordinated Russian-Norwegian BSMP.

6.4 Justice issues (Not so applicable in the Barents Sea case study, no tradition of using judicial system in arbitrating issues and conflicts)

6.5 Influence of different knowledges and of uncertainty in decision-making. *eg* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in MSP processes

The whole BSMP and the other management plans have been developed based on expert (scientific) knowledge. Local knowledge has played no role. This has been discussed before, but one important additional aspect is that the BSMP starts 1nmi off shore of the coastal baseline, which in Norway is at the outermost scurries. Coastal communities typically live and use more protected parts of the coast where they have most of their local knowledge.

6.5.2 The power of information and innovative communication tools (eg mapping and innovative ways of display) in influencing people's perceptions and behaviour

GIS tools were essential in the planning process, and spatial presentation of data has been singularly important in the public debate. The best example is the maps of valuable and vulnerable areas versus the maps showing potential petroleum deposits. These have been easy to communicate and formed the basis of much of the debate.

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, eg uncertainties regarding the effects of key activities (eg wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

See knowledge incentives .

6.5.4 Transparency on issues arising from uncertainty; ie how such issues are communicated, debated and accommodated, eg by scientific advisory bodies.

This has been at the centre of the debate regarding environmental risk of large oil spills. How do you communicate uncertainty. Risk analysis is complex and the results can either be communicated focusing on the expected outcome (low effects of a spill) or focusing on the tail effects with lower probability but still large enough that they cannot be disregarded (showing high effects of a spill).

6.5.5 Expanding role of scientific advisory bodies, eg ICES in gathering data and providing advice on marine management

The BSMP has been a national development. Parts of science community, however, feels uncomfortable about such a planning processes going on without any form of outside review or advice. Such review is common in other countries (ie. USA and Australia). ICES could play a role here, especially through its ecosystem assessment expert groups. Such a group is currently being planned for the Barents Sea/Norwegian Sea and should be used to provide the review and guidance needed for the ongoing work with the BSMP.

6.5.6 Accessibility to and transparency of existing data and information held by expert bodies, within sectors and by different nations

There is a national push to make government data publically available and the BSMP process has shown the utility of presenting such data in an easy to access and integrated way. Sectoral data are now available both from the owning directorate/institute, but also collated in national sites such as miljostatus.no and barentswatch.no.

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A7.9 Case study report: The Biscay case study

Basic details of the case study:

Initiative	The Biscay Marine Energy Platform
Description	The planning and implementation of the Biscay Marine Energy Platform (BIMEP) – an area for testing marine renewable energy devices (wave energy)
Objectives	Renewables: To develop an ocean infrastructure for research, demonstration and operation of offshore wave energy harnessing devices + minimise impacts on fishing
Scale	Small
Period covered	2009-20012
Researchers	Ibon Galparsoro , Marta Pascual*, Martín Aranda, Ángel Borja, Iratxe Menchaca, María Calvo (AZTI-Tecnalia, Marine Research Division) (*current affiliation: Basque Centre for Climate Change)
Researchers' background	Marine Scientists, Biologists
Researchers' role in initiative	Scientific advisers in the initiative

The next 48 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Galparsoro , I.; Pascual, M.; Aranda, M.; Borja, A.; Menchaca, I.; Calvo, M. (2012) MESMA WP6 *Governance Analytical Research. Bay of Biscay CS*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 48pp.

MESMA WP6 Governance Analytical Research

Bay of Biscay CS

1. Context

According to the Basque Country's Energy Strategy (Gobierno Vasco, 2011), wave energy is the only form of marine energy for which a significant production is expected in the midterm. The technological development and the particular geographical characteristics of the Basque Country provide suitable preconditions for the production of such energy. Furthermore, the presence and current level of development of the maritime industry in the Basque Country are determinants for the wave energy sector to be considered as an strategic and promising sector in the Basque Country.

In this context, the Basque Energy Board (Ente Vasco de la Energía-EVE, hereinafter the Promoter) launched in 2008 the initiative to build the BIMEP (Biscay Marine Energy Project)¹. The BIMEP is an ocean infrastructure, for which the objectives are to research, validate, demonstrate and operate electric power equipment for the production of offshore wave energy. The EVE, is a public body subjected to private law, which is directly dependant of the Industry, Innovation, Commerce and Tourism Department of the Basque Government.

The BIMEP platform is to be installed between the internal waters of the Basque Country's continental shelf (i.e. waters landward of the baseline²) and the Spanish territorial waters, being defined in accordance to the Spanish Coastal Law³ and the Spanish territorial waters. The installation will be placed two miles offshore the shoreline of Arminza (Bizkaia, Basque Country), which is under the jurisdiction of the municipality of Lemoiz (Bizkaia) (see Figure 1, Figure 2, Figure 3). The establishment of this platform entails the installation of wave energy converters, which requires the closure of a sea area of 8 km² to activities like artisanal fishing, navigation, aquaculture and recreation.

¹ http://www.eve.es/energia_marina/index_ing.htm

² REAL DECRETO 2510/1977, de 5 de agosto, sobre trazado de líneas de base rectas en desarrollo de la Ley 20/1967, de 8 de abril, sobre extensión de las aguas jurisdiccionales españolas a 12 millas.

³ Ley 22/1988, de 28 de julio, de Costas

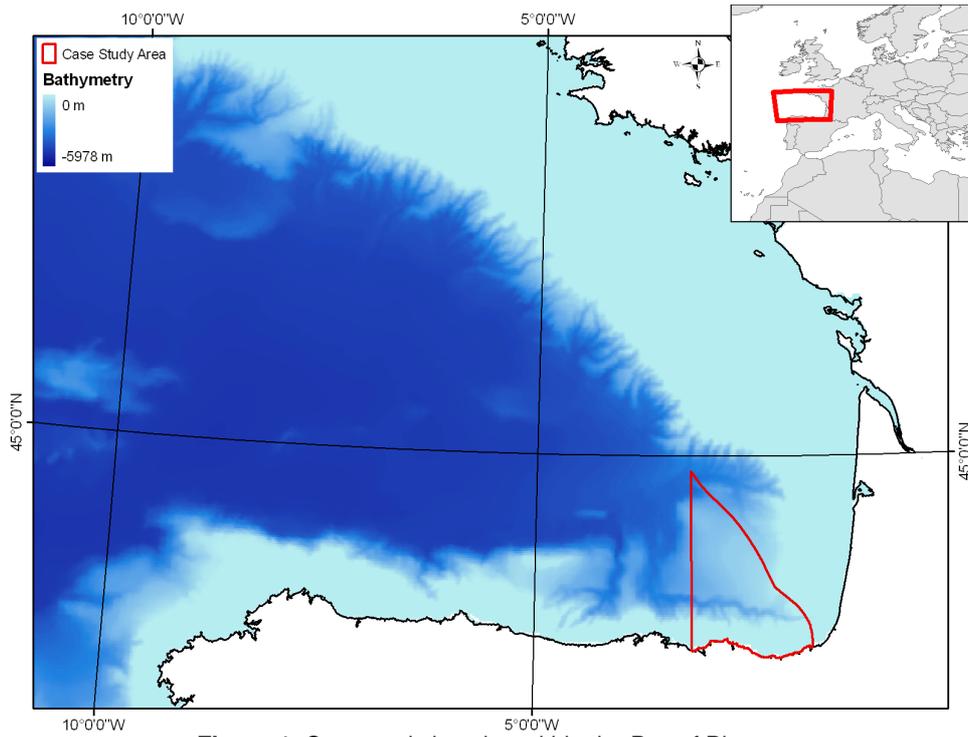


Figure 1. Case study location within the Bay of Biscay.



Figure 2. Aerial image of Armintza.

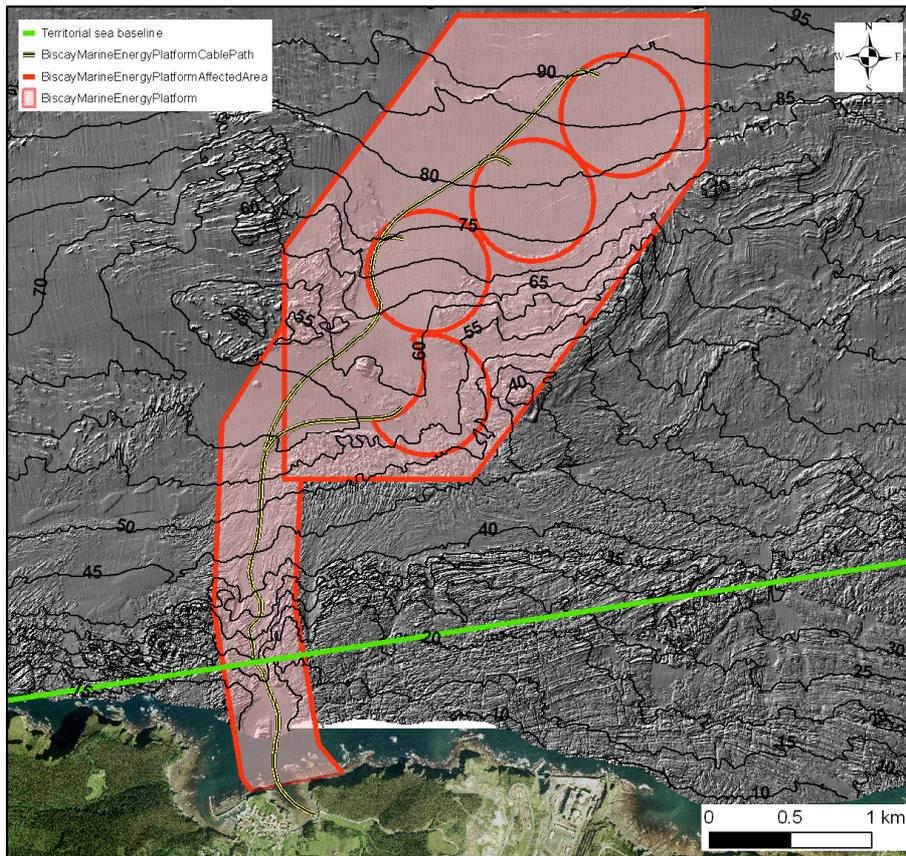


Figure 3. Predefined spatial configuration of BIMEP.

Besides the technical difficulties of installing the BIMEP platform infrastructure in the chosen location, BIMEP is also administratively complex, involving the participation of both national and local administrations. Furthermore, several ministries and departments participate in different sections/steps of the **administrative process**. Such administrative process generally shares the following common structure:

- Ask/consult with the Spanish Ministry for Environment, Rural and Marine Affairs (the Spanish environmental agency) the need for conducting an Environmental Impact Assessment (EIA) (hereinafter, the **environmental procedure**)
- Request the Spanish Ministry of Industry, Tourism and Trade to provide the **administrative authorization** for conducting the works and the Provincial Industry and Energy Dependency of the Spanish Government Delegation in Bizkaia to **declare its Public Use**
- Apply for the **concession of marine-terrestrial public domain**, which is a two-step process and involves the Spanish Ministry of Public Works and that for Environment, Rural and Marine Affairs.

In this sense, and in accordance with Article 16 of *Royal Decree 1/2008*⁴, the Promoter (EVE) initiated the **environmental procedure** in 2008. The goal of this procedure was for the Spanish Ministry for Environment, Rural and Marine Affairs to determine whether or not the BIMEP was subjected to a full EIA. According to Article 3.1 of the *Royal Decree 1/2008* all public and private projects, involving the implementation of works, facilities or any other activities listed in Annex I of this Royal Decree are subjected to a full EIA. Furthermore, projects listed in Annex II and those that are not listed either in Annex I or II, which may affect directly or indirectly areas included within the European Ecological Network Natura 2000, shall undergo an Environmental Impact Assessment upon decision of the Spanish Ministry for Environment, Rural and Marine Affairs (Article 3.2). In the particular case of the BIMEP project, the activity was classified under Section 4.c of Annex II of the aforementioned Royal Decree, and consequently the environmental procedure aimed at determining the need for a full EIA.

In order to make an informed decision on whether or not an EIA was needed, three documents/steps were required:

- **Project** submission, including the objective, description and location of the project.
- Submission of an additional **Environmental analysis document**. This document should cover the following aspects: (i) **actions** that may **cause environmental impacts** throughout the different stages of the project (i.e. planning, construction, operation and abandonment), (ii) **potential environmental impacts** of the project, (iii) **mitigation and corrective measures/strategies** to offset the potential negative environmental impacts and (iv) an **Environmental Monitoring Plan** of the project.
- **Consultation** with stakeholders, which is to be carried out by General Directorate for Environmental Quality and Evaluation (Spanish Ministry for Environment, Rural and Marine Affairs). In this case, the consultation process included key stakeholders, such as fishermen guilds (*cofradías*⁵) and environmental non-governmental organizations (NGOs), amongst others (Table 1).

⁴ *REAL DECRETO LEGISLATIVO 1/2008*, de 11 de enero, por el que se aprueba el texto refundido de la Ley de Evaluación de Impacto Ambiental de proyectos.

⁵ Spanish *cofradías* (fishing guilds) are institutions with an old tradition that in some cases dates back many centuries. Their aim is to assure collective economic exploitation of fishing resources in coastal areas. The *cofradías* are the institutional system for more than 80% of the employment in fisheries in Spain. In addition, more than 50% of landings are under the control of *cofradías* (Franquesa, 2004). It is a clear distinction between *cofradías* and other organizations such as boat owners associations or producer organizations. The *cofradías* are related exclusively to coastal fisheries while the other organizations deal with industrial fisheries. The *cofradías* are organized democratically and both the crew and the boat owner have representatives in the executive bodies. These institutions are well recognized by the Spanish and regional law and can propose management rules in their area of influence such as fishing time, allowed fishing gear and area and time closures. The rights of *cofradías* can be considered a form of territorial use rights in fisheries (TURFs) (Franquesa, 2004).

Table 1. List of stakeholders consulted by the General Directorate for Environmental Quality and Evaluation of the Ministry of Environment and Marine and Rural Environment (the Spanish environmental agency); YES= stakeholders answered after consulting process.

Stakeholders consulted	Type of stakeholder	Did it reply to the consultation?
Bilbao Port Authority, National Ministry of Foment- Autoridad Portuaria de Bilbao, Ministerio de Fomento	National government	Yes
Town hall of Lemoiz - Ayuntamiento de Lemoiz	Town hall	
Natur Association - Natur-Asociación Euskalherria	NGO	
Ecologists in Action - Ecologistas en Acción-Ekologistak Martxan Bizkaia	NGO	
Spanish Institute of Oceanography - Instituto Español de Oceanografía-IEO	Research Institute	Yes
Science and Innovation Ministry - Ministerio de Ciencia e Innovación	National government	
WWF/ADENA	NGO	
Spanish Society of Ornithology - Sociedad Española de Ornitología	Conservation society	
Vertebrate Conservation Society - Sociedad Conservación Vertebrados	Conservation society	
Greenpeace	NGO	
Industry, Trade and Tourism Department - Viceconsejería de Innovación y Energía, Departamento de Industria, Comercio, Turismo, GV	Local government	
Environmental and Land Use Department of the Basque Government- Dirección General de Planificación, Evaluación y Control Ambiental, Viceconsejería de Medio Ambiente, Departamento de Medio Ambiente y Ordenación del Territorio, GV ⁶	Local government	
Basque Country delegation of the Spanish government - Delegación del Gobierno en el País Vasco	National government	Yes
Biscay subdelegation of the Spanish government - Subdelegación del Gobierno en Vizcaya	National government	Yes

⁶ GV: Gobierno Vasco (Basque Country Government)

Stakeholders consulted	Type of stakeholder	Did it reply to the consultation?
Environmental and Land Use Department of the Basque Government - Dirección General de Biodiversidad y Participación Ambiental, Viceconsejería de Medio Ambiente, Departamento de Medio Ambiente y Ordenación del Territorio, GV	Local government	
National guilds federation - Federación Nacional de Cofradías de Pescadores	Stakeholders organization	
Culture department of the Basque Government - Dirección General de Patrimonio Cultural, Viceconsejería de Cultura, Juventud y Deportes, Departamento de Cultura, GV	Local government	
General Directorate of Marine Merchant; General Subdirectorate of Traffic, Safety and Marine Pollution, Ministry of Development - Dirección General de la Marina Mercante, Subdirección General de Trafico, Seguridad y Contaminación Marítima, Ministerio de Fomento	National government	
Institute for Diversification and Saving of Energy - Instituto para la Diversificación y el Ahorro de la Energía	National government	Yes
Ministry of Industry, Tourism and Commerce - Ministerio de Industria, Turismo y Comercio	National government	
Spanish Cetaceans Society - Sociedad Española de Cetáceos	Conservation society	
Ministry of Agriculture, Food and Environment - Viceconsejería de Medio Ambiente; Ministerio de Agricultura, Alimentación y Medio Ambiente	National government	
Environment and Land Use Department of the Basque Government - Viceconsejería de Ordenación del Territorio y Aguas, Ambiente y Ordenación del Territorio, Gobierno Vasco, Departamento de Medio Ambiente y Ordenación del Territorio, GV	Local government	
Water Consortium of Bilbao - Consorcio de Aguas Bilbao-Bizkaia	Local government	
Biscay County Council - Diputación Foral de Vizcaya, Departamento de Medio Ambiente	Local government	Yes
Oceana ecologist organization - Organización Ecologista Oceana	Local government	
Environmental Quality Directorate; Environment and Land Use Department of the Basque Country - Dirección General de Calidad Ambiental, Viceconsejería de Medio Ambiente, Departamento de Medio Ambiente y Ordenación del Territorio, GV	Local government	
General Directorate of Rural and Coastal Development; Agriculture, Fishing and Food Department of the Basque Government - Dirección General de Desarrollo Rural y Litoral, Viceconsejería de Desarrollo Agrario y Pesquero, Departamento de Agricultura, Pesca y Alimentación, GV	Local government	Yes
General Directorate for Energy and Mines; Industry, Trade and Tourism Department of the Basque Government - Dirección General de Energía y Minas, Departamento de Industria Comercio y Turismo, GV	Local government	

Stakeholders consulted	Type of stakeholder	Did it reply to the consultation?
General Directorate of Environment and Forestry Policy; Spanish Ministry for Environment, Rural and Marine Affairs - Dirección General de Medio Natural y Política Forestal, MARM ⁷	National government	
Department of Sustainability of the Coast and the Sea; Spanish Ministry for Environment, Rural and Marine Affairs - Dirección General de Sostenibilidad de la Costa y el Mar, MARM	National government	
General Directorate of Forestry and Natural Areas; Biscay County Council - Dirección General de Montes y Espacios Naturales, Diputación Foral de Vizcaya.	Local government	
General Directorate of Culture; Biscay County Council - Dirección General de Cultura, Diputación Foral de Vizcaya.	Local government	Yes
Basque Water Agency; Environment and Land Use Department of the Basque Government - Agencia Vasca del Agua, Departamento de Medio Ambiente y Ordenación del Territorio, GV	Local government	Yes
Division for the Protection of the Sea and Marine Pollution Prevention, Department of Sustainability of the Coast and Sea; Spanish Ministry for Environment, Rural and Marine Affairs - División para la Protección del Mar y Prevención de la Contaminación marina, Dirección General de Sostenibilidad de la Costa y Mar, MARM	National government	

⁷ MARM: Ministerio de Medio Ambiente y de Medio Rural y Marino (Spanish Ministry for Environment, Rural and Marine Affairs)

Based on a detailed analysis of these three documents/steps, the Spanish Ministry for Environment, Rural and Marine Affairs adopted, in 2009, the decision for the BIMEP not to be subjected to an EIA (BOE, 2009). The analysis of the Environmental analysis document had concluded that no significant environmental impacts would be produced as a result of the implementation of the BIMEP project. Furthermore, most stakeholders consulted about the potential affection of the BIMEP did not envisage significant impacts on habitats, protected species or environment as a result of the implementation of the BIMEP.

Having decided that the BIMEP was not subjected to an EIA (BOE, 2009), and continuing with the administrative process, in 2009, the Promoter (EVE) requested the **administrative authorization** for the BIMEP installation and its **public use declaration**.

For the purpose of obtaining the administrative authorization and public use declaration of the installation of the BIMEP infrastructure, the Promoter (EVE) submitted to the Spanish Ministry of Industry, Tourism and Trade and the Provincial Industry and Energy Dependency of the Spanish Government Delegation in Bizkaia several documents, which included: **(i) the preliminary draft** of the project, **(ii) an environmental analysis document**, and **(iii) an economic evaluation analysis document**.

In accordance with the provisions of Articles 125 and 144 of *Royal Decree 1955/2000*⁸ and *Article 27 of Royal Decree 1028/2007*⁹, the preliminary draft was submitted for public consultation and reprints were sent to key administrations and stakeholders. The City Council of Lemoiz, the General Directorate for Planning, the General Directorate of Ports and Maritime Affairs, and the General Directorate for Fisheries and Agriculture of the Basque Government, as well as the Basque Water Agency did not provide any feedback. On the other hand, the Department of Public Works of the Provincial Council of Bizkaia, the Bilbao Bizkaia Water Consortium, the General Directorate for Fisheries and Aquaculture of the Spanish Ministry for Environment, Rural and Marine Affairs and Iberdrola (a Spanish energy company) did not present any opposition to the project and, where appropriate, they indicated technical aspects to be considered in drafting the execution project of the BIMEP.

Based on several documents and outcomes of the consultation process, including the following:

- the above-described consultation process,

⁸ *REAL DECRETO LEGISLATIVO 1955/2000*, de 1 de diciembre, por el que se regulan las actividades de transporte, distribución, comercialización, suministro y procedimientos de autorización de instalaciones de energía eléctrica.

⁹ *REAL DECRETO LEGISLATIVO 1028/2007*, de 20 de julio, por el que se establece el procedimiento administrativo para la tramitación de las solicitudes de autorización de instalaciones de generación eléctrica en el mar territorial.

- a favorable report from the Head of the Provincial Industry and Energy Dependency of the Spanish Government Delegation in Bizkaia, in which the public use of BIMEP infrastructure was approved and recognized,
- the resolution of the Spanish Secretariat for Energy, in which it was considered that the process/procedures for accessing and connecting to the network were "singular" (or unusual),
- the document presented according to *Royal Decree 661/2007* by the Promoter (EVE) and carried out by a private contractor regarding the production of electricity under special regime,
- a favorable electrical characteristic report submitted by Iberdrola, and
- a favorable report from the National Energy Commission,

The Spanish Ministry for Industry, Tourism and Trade (of the General Directorate for Energy Policy and Mining) **authorized**, in 2011, **the installation** of the BIMEP, and stated in particular the **declaration** for its **public use** (BOE, 2011).

In 2011, the Promoter (EVE) proceeded to tackle the final step and obtain the **concession of marine-terrestrial public domain**. To obtain such concession, the Promoter (EVE) had to request the following two licenses:

- the **beacon permission**, which was requested to the Spanish Ministry for Public Works (General Directorate of the Merchant Marine) and,
- the **concession of maritime-terrestrial public domain**, for which the Coastal Delegation of the Spanish Ministry for Environment, Rural and Marine Affairs is responsible.

To date, the beacon permission and the concession of maritime-terrestrial public domain are both pending. Once the beacon permission is approved, the concession of maritime-terrestrial public domain permission will be granted. Therefore, and despite the fact that the start of the construction of the BIMEP was foreseen for summer 2012, the delay in obtaining these final licenses has delayed the construction of the BIMEP one year.

From the point of view of governance, the installation of BIMEP was also highly complex. A comprehensive discussion of the governance issues is developed in sections 4 - 7. In broad terms, the promoter heard the opinions of the diverse stakeholders. The main concern of stakeholders other than fishermen was related to the specific location of the BIMEP platform infrastructure and the ministerial decision of not requesting an EIA (Eguzki, 2010). On the other hand, competition for space with fishermen was identified at the administrative stage of the project as a source for potential conflict. Indeed, fishermen considered the platform as an impediment to their artisanal fishing activities in the area and consequently, as a threat to their economy and livelihoods. These concerns were reflected in the results of a preliminary economic evaluation outsourced by the promoter (EVE) to a private contractor. Diverse monetary

and non-monetary alternatives have been proposed to compensate fishermen for the potential economic loss associated with the platform construction and operation. To date, negotiations to achieve compensation between the Promoter and fishermen are still in progress and the compensation mechanism is yet to be defined (see section 4).

1.1 Socio-economic and political context

The local (Basque Country) political and socio-economic context is significantly different from that of the national context (Spain). In this sense, key social and economic statistics for Spain, the Basque Country and the Basque Country provinces of Álava/Araba, Bizkaia and Gipuzkoa, and also for its coastal regions, have been separately reviewed (Tables 2 and 3, respectively).

The Basque Country is located in the most south-eastern part of the Bay of Biscay. It has a surface area of 7,234 km². According to Economic and Social Council (*Cosejo Económico Social – CES*) (CES, 2010), over the last 10 years, the population in the Basque Country has increased by 4.5%, exceeding 2,180,000 inhabitants in 2011 (Table 3) and reaching a density of nearly 300 inhabitants per km². Vitoria-Gasteiz is the capital and the country has two official languages, Basque and Spanish.

The designation of the Basque Country as an autonomous community dates back to the Spanish Constitution of 1978¹⁰ and it is based on the Devolution Act (Estatuto de Autonomía) of the Basque Country¹¹. The Devolution Act, which was negotiated by a provisional government and later approved in referendum, served as the basis for the development of Basque Country regional autonomy (CES, 2010). It established a system of parliamentary government which has responsibility over a broad variety of areas, including agriculture, industry, culture, health, tax collection, police, and transportation.

Services and industry are the most productive sectors in the Basque Country. They respectively contribute to 72% and 16% of the Gross Domestic Product (GDP) (Table 2) (CES, 2010). Within the service sector, tourism represents 5.2% of the GDP (CES, 2010), which has experienced a growth in the last years. This increase may be partially explained by the permanent ceasefire announced by ETA, the armed Basque nationalist and separatist organization, and the world economic crisis, which has led to an increase in national/local *versus* international tourism.

Within the industrial sector, the most important areas are metallurgy, machinery and transport material. CES (2010) highlights an important growth in energy and gas production in 2008, which was 8.2% higher than in 2007. The Basque Country energy business industry consists of about 350 companies with high level of experience in the sector. Their global annual turnover is higher than 44,000 million € (data 2008) (Gobierno Vasco, 2011), originating approximately 15,500 million € yr⁻¹ only in the Basque Country and employing more than 24,000 workers. The research and development in energy directly employs nearly 2,000 people in the Basque Country. In

¹⁰ Constitución Española de 1978

¹¹ Ley Orgánica 3/1979, de 18 de diciembre, Estatuto de Autonomía del País Vasco.

terms of the allocation of employment in the Basque Country by energy areas, renewable energies are gaining weight and in late 2011 represented about 35% of total employment (Gobierno Vasco, 2011).

In contrast, the evolution of the Basque Country fishing activity has slowly but continuously declined over the last decade (CES, 2010), likely to be due to the increase in oil price and fish stock decline. In this sense, in 2010, the primary sector (including agriculture and fishing activity) represented only 2.7% of the GDP.

In 2010, the unemployment rate in the 16-64 year old Basque population was around 13%, which was higher than the European rate (10%), but lower than the Spanish rate (22%). Currently, this situation is changing due to the economic crisis. Regarding coastal cities and villages, the average unemployment rate was even lower than the overall Basque Country values.

Administrative background

The administration responsibility over the Basque marine waters varies according to activity and area (Figure 4). On the one hand, and according to article 148 of the Spanish Constitution, in internal waters (i.e. waters landward of the baseline¹² and defined by Spanish Coastal Law¹³), Autonomous Communities assume competences in fishing activities, shellfish and aquaculture. On the other hand, in territorial waters (i.e. territorial sea extended up to 12 nautical miles from its baseline and defined by Spanish Territorial Law¹⁴), Spanish government assumes the sovereignty in the water column, the seabed, the subsoil and the resources of the sea and airspace overlying.

¹² REAL DECRETO 2510/1977, de 5 de agosto, sobre trazado de líneas de base rectas en desarrollo de la Ley 20/1967, de 8 de abril, sobre extensión de las aguas jurisdiccionales españolas a 12 millas.

¹³ Ley 22/1988, de 28 de julio, de Costas

¹⁴ Ley 10/1977, de 4 de enero, sobre Mar Territorial

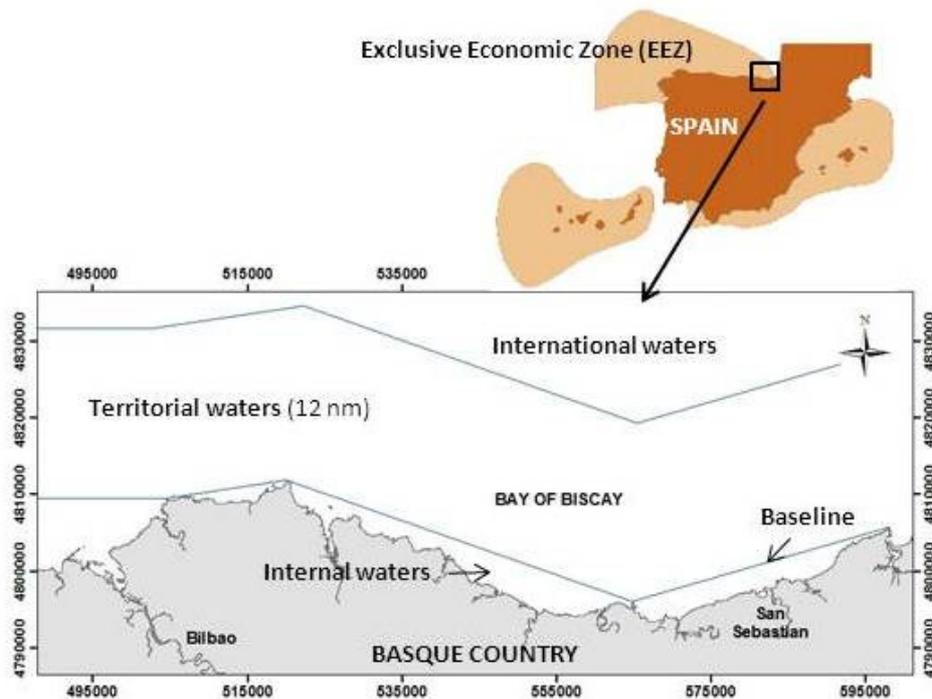


Figure 4. Spanish and Basque government marine jurisdiction (EEZ illustration from Spanish Ministry for Environment, Rural and Marine Affairs)

According to the United Nations Conference on the Law of the Sea (UNCLOS, 1970)¹⁵ and the Spanish Economic Zone Law¹⁶, the Exclusive Economic Zone (EEZ) stretches 200 nautical miles offshore measured from the baseline (mean low water mark). The EEZ covers an area which approximately doubles the surface area of Spain. The Spanish government has control in this area over all economic resources, including fishing, mining, oil exploration and control of pollution. In accordance with article 132.2 of the Spanish Constitution, the natural resources of the EEZ are of public domain.

In this context, the BIMEP area is geographically located within territorial waters and therefore, management responsibilities belong to the national government. However, it also has continuity into the internal waters and parts of the BIMEP infrastructure will be placed on land. Thus, the BIMEP management also belongs to the local government (Basque government).

¹⁵ <http://www.un.org/depts/los/index.htm>

¹⁶ Ley 15/1978, de 20 de febrero, sobre Zona Económica

Table 2. Key social and economic statistics of Spain, Basque Country and the Basque provinces of Álava/Araba, Bizkaia and Gipuzkoa (Eustat, Basque Country Statistic Institute); GDP: Gross Domestic Product.

	Spain	Basque Country	Alava	Bizkaia	Gipuzkoa
GDP (2010)	1,051,342 (mill €)	65,419,243(th €)	10,804,777 (th €)	33,478,454 (th €)	21,136,012 (th €)
per capita GDP	23,063 € (2010)	31,514 € (2008)	36,222 € (2008)	29,971 € (2008)	31,950 € (2008)
GDP growth rate (%) (2011)	-0,1	1,2	0,0	1,5	1,2
Population (2011)	47,190,493	2,184,606	319,227	1,155,772	709,607
Land area (km²)	504,645	7,234	3,037	2,217	1,980
Population density (hab/km²)	93	295	102	510	348
Economic structure (%)					
Primary	1	2.7	1.3	0.6	0.6
Industry	22	15.6	34.5	23.0	32.0
Construction	7	10.1	8.1	10.6	7.6
Service	60	71.6	56.0	65.8	59.8
Tax	10				
Unemployment rate (%) (2010)	22.1	12.9	10.8	12.6	14.2
Gini Index of income disparity (2005)	32				
Sustainable governance indicators (over 10) (2011)					
Status index	6.4				
Management index	6.				
Governance capacity index (over 2) (2011)	1.1				

Table 3. Key social and economic statistics of Basque coastal villages and cities (Eustat, Basque Country Statistic Institute, 2010).

Village	Population	Pop. density (hab/km ²)	Land area (km ²)	Unemployment rate (%)	Primary production	Industry	Construction	Service
Bakio	2,171	127	16.7	8.1	4.4	4.3	48.1	43.1
Bermeo	16,789	493	34.1	8.6	15.1	12.1	26	46.8
Bilbao	351,179	8565,3	41.3	11	0.03	6.48	8.44	85.06
Deba	5,330	106	50.3	6.6	1	61.7	5.2	32.2
San Sebastian	180,657	2,962	61	8	0	7	8	85
Ea	864	61	14.2	7	4.8	48.2	5.1	41.8
Elantxobe	447	223	1.9	8.6	10.4	2.1	5.3	82.1
Gernika-Lumo	15,981	1,997	8.5	8.5	0.1	17.7	15.4	66.7
Getaria	2,482	226	11	6	19	30	3	48
Getxo	81,254	6,771	11.9	7.3	0.1	4.7	7.8	87.3
Gorliz	5,130	513	10.2	8.6	1.6	3.	27.5	67.7
Hondarribia	15,958	550	28.6	7.7	4.6	5.7	10.2	79.4
Lekeitio	7,354	3,677	2	7	1	7	12	80
Mundaka	1,846	461	4.2	7.2	1	49.1	5.5	44.3
Muskiz	6,936	330	20.8	9.3	0.3	69.5	3.9	26.3
Mutriku	4,820	172	27.7	7.6	2.1	18.2	25.4	54.24
Ondarroa	9,028	2,257	4	8	14	9	12	65
Orio	4,774	477	9.8	7.6	7.1	8.5	17.9	66.8
Pasaia	15,943	1,449	11.3	9.7	2.2	7.6	8.3	81.8
Plentzia	4,224	704	5.8	7.	2.1	4.7	7.9	85.3
Portugalete	48,274	16,091	3	11	0	7	13	79
Santurtzi	46,935	6,705	7.2	12.4	0.2	9.5	6.3	83.9
Sopelana	12,031	1,503	8.4	8.3	1	15.3	10.4	73.3
Sukarrieta	336	168	2.3	8.3	0.3	1.2	18.8	79.7
Zarautz	22,095	1,578	14	8	1	20	9	70
Zierbena	1,291	143	9.2	9.4	0.3	85.4	5.2	9.1
Zumaia	8,870	806	11.3	9.3	0.4	50.3	7.4	41.8

1.2 The regional policy framework within which BIMEP is nested

This section is linked to the Action 1a.4: Identifying and mapping of institutional landscapes of the Deliverable 2.2 Protocol for application of generic framework in the case study of the Basque Country (SE Bay of Biscay).

The legislative framework of the BIMEP is rather complex (Table 4). Spain is member of several international organizations such as, the European Union (EU), the World Trade Organization (WTO), World Health Organization (WHO), World Organisation for Animal Health (OIE) and the International Council for the Exploration of the Sea (ICES). In addition, Spain is part of the following Conventions, international and regional agreements:

International:

- Convention on International Trade in Endangered Species of Fauna and Flora (CITES)
- Convention on Biological Diversity (CBD)
- Biotechnology Cartagena Protocol of the Convention on Biological Diversity
- United Nations Convention on the Law of the Sea (UNCLOS)¹⁷
- Pan-European Biological and Landscape Diversity¹⁸
- RAMSAR Convention¹⁹
- Biosphere Reserves (Man and Biosphere program of UNESCO)²⁰
- United Nation Framework Convention on Climate Change (UNFCCC)²¹
- United Nation Convention to Combat Desertification (UNCCD)²²

Regional:

- Convention on the Protection of the Northeast Atlantic (OSPAR)²³ (MASH group, Marine Protected Areas Network, Species and Habitats threatened).
- Convention on the conservation of wildlife and the natural environment in Europe (Bern, 1979)²⁴ or also known as the Berne Convention
- Convention for the Protection of Marine Environment and Coastal Region of the Mediterranean (Barcelona Convention 1995)

There are other international and national policies which are especially relevant to the development of renewable energy projects, and in particular to the BIMEP:

¹⁷ Convención de las Naciones Unidas sobre el Derecho del Mar, (UNCLOS).

<http://www.un.org/Depts/los/index.htm>

¹⁸ Estrategia Panaeuropea <http://www.peblids.org/index.php?ido=11&lang=eng>

¹⁹ Convención Ramsar. <http://www.ramsar.org/indexsp.htm>

²⁰ UNESCO <http://www.unesco.org>

²¹ UNFCCC <http://www.unfccc.int>

²² UNCCD <http://www.unccd.int>

²³ Convenio OSPAR <http://www.ospar.org>

²⁴ Conservation of wildlife and natural habitats, 19.IX.1979

- According to the Directive 2009/28/EC²⁵ it is necessary to set up the rules for calculating the share of energy to be obtained from renewable sources and define those sources. In this context, ocean and other water bodies' energy (e.g. waves, marine currents, tides, ocean thermal energy gradients and/or salinity gradients) should be considered.
- Article 27 of Royal Decree 1028/2007 establishes the administrative procedure for processing applications regarding the approval of infrastructure aimed at electric energy generation in territorial waters.

²⁵ *DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL*, of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

Table 4 Main legislation in the Basque area.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
Local	Special Protection of Areas for Wild Birds ES0000144 (Urdaibai)	Conservation	2000/11	Should be prepared not later than 2011	W 2° 41' 20" (longitude); WE 43° 24' 10" (latitude)	Certain location	Maximum 10 years	Review: 5 years
	Fisheries	Fisheries: Trawling	1999	Yes (trawl fishing minimum depth)	NA	Certain location	NA	NA
			2001	Yes (prohibited zones for trawling) ²⁶	NA		NA	NA

²⁶ ORDEN DE 25 DE JULIO DE 2001 POR LA QUE SE ESTABLECEN DETERMINADAS VEDAS DE ARRASTRE DE FONDO EN EL CALADERO NACIONAL DEL CANTÁBRICO Y NOROESTE: Art. 2.º Vedas para arrastre. Queda prohibido faenar con artes de arrastre de fondo en las zonas y épocas que se detallan a continuación: 1. «Fuenterrabía». Zona de veda: Límite superior: Paralelo 43º 27,0' N; Límite inferior: Isóbata de 100 metros. Límites laterales: Meridianos 001º 52,0' W y 002º 08,0' W Época de veda: Todo el año. 2. «Guetaria». Zona de veda: Límite superior: Línea que une los puntos 43º 27,0' N-002º 24,0' W; 43º 27,0' N-002º 17,0' W; 43º 26,5' N-002º 17,0' W y 43º 26,5' N-002º 08,0' W. Límite inferior: Isóbata de 100 metros. Límites laterales: Meridianos 002º 24,0' W y 002º 08,0' W. Época de veda: Desde el 1 de septiembre al 31 de diciembre. 3. «Bermeo». Zona de veda: Límite superior: Línea de 12 millas paralela a la costa. Límite inferior: Isobata de 100 metros. Límites laterales: Meridianos 002º 57,5' W y 002º 35,0' W. Época de veda: Todo el año.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
Local	Environmental Protection law ²⁷	Environment	1994	NA	NA	Whole	NA	NA
	Water Law ²⁸	Environment/water	2006	Yes	1 nm offshore from baseline	Whole	NA	NA
	Natural conservation Law ²⁹	Conservation	1994	Yes	NA	Whole	NA	NA
	Law of Fisheries of the Autonomous Community (AC) of the Basque Country ³⁰	Fisheries	1998	NA	Ban on trawling in interior waters	Whole	NA	NA

²⁷ Ley 3/1998, general de protección del medio ambiente del País Vasco.

²⁸ Ley 1/2006, del 23 de junio, de Aguas

²⁹ Ley 16/1994, de conservación de la naturaleza del País Vasco para la catalogación de Espacios Naturales Protegidos (ENP); Moreover, close to BIMEP area, there is one **DOT** area (Areas of Natural Interest Planning Guidelines at regional level -Basque Country): Dunas de Astondo. They contain a set of high value systems in which the union of abiotic and biotic features constitutes areas with special naturalistic and scenic value, and quality, ecological and environmental fragility.

³⁰ Measure used since 2008 . This law regulates the activities of professional fisheries in internal waters*, aquaculture and algae and shellfish harvesting. Establishes the requirement to hold a permission to carry out the fishing activities mentioned above. It prohibits professional in areas devote to bathing, fishing in navigation channels, no-take zones, sanctuaries. It stipulates that fishing could be prohibited in certain according to regulations. Trawling is banned in internal waters.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
Local	Regulation of Marine Recreational Fisheries. Regulation 198/2000 ³¹	Fisheries	Measure used since 2000	NA	For details see ³²	Whole	NA	NA
	Maritime aquaculture Law ³³	Shellfish	1984	NA	Spanish EEZ	Whole	NA	NA
	Order of the 10 th of March 2011	Shellfish	Measure used since 2010 Ban on goose barnacle extraction	Yes	Ulía (Donostia) to Punta Anarri (Orio)	Certain	NA	One year
	27 of September 2010 (last one)	Shellfish	Measure used since 2007 Prohibition to collect mussels inner waters	Yes	Internal water Basque Country	Whole	NA	NA

³¹ This regulation establishes the regulatory framework for maritime recreational fisheries in internal waters of the CA of the Basque Country

³² It prohibits recreational fishing at less than 100 m of professional fishing gear, and areas devoted to bathing or aquatic sports. It bans recreational fisheries at less than 300 m of purse seine fishing and 500 m of pole fishing activities. Prohibition of recreational fishing in navigation channels, no-take zones, sanctuaries, artificial reefs

³³ Ley 23/1984, de Cultivos Marinos

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
National	Territorial waters ³⁴	Policy	1977	NA	Coastline up to 12 nm offshore	Whole	NA	NA
	Exclusive Economic Zone ³⁵	Economic activities in the EEZ	1978	NA	200 nm counting from the baseline (mean low water mark)	Whole	NA	NA
	Water law ³⁶	Environment/ Water	2003	Yes	Up to 1 nm measured from base line offshore	Whole	NA	NA
National	Fisheries law ³⁷	Fisheries	Since 2001 For more details see ¹¹	NA	NA	NA	NA	NA

³⁴ Ley 10/1977, de 4 de enero, sobre Mar Territorial.

³⁵ Ley 15/1978, de 20 de febrero, sobre Zona Económica

³⁶ Ley 62/2003, de 30 de diciembre, mediante el artículo 129 de la de medidas fiscales, administrativas y del orden social se modificó el Texto Refundido de la **Ley de Aguas** aprobado por Real Decreto Legislativo 1/2001, de 20 de julio, y se incorporó al derecho español la Directiva 2000/60/CE, por la que se establece un marco comunitario de actuación en el ámbito de la política de aguas (Directiva marco del agua)

³⁷ Ley 3/2001, de 26 de marzo, de Pesca Marítima del Estado). The Law 3/2001 is the backbone of fisheries regulations in Spain. It establishes a boundary between the jurisdictions of state and autonomous Communities. The Law sets up a basic normative framework for the Autonomous Communities (e.g. Basque Country) to carry out their functions in managing fisheries, shellfish collection and aquaculture only in internal waters.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
	Order on restrictions to fish pelagic species with pelagic trawling	Fisheries	Measure used since 1996 ³⁸	Yes	Pelagic trawling banned in the Spanish EEZ	Certain	NA	NA
National	Order of 25 of July on closed seasons for bottom trawling in national fishing ground of the Cantabric and North-Western	Fisheries	Measure used since 2000 ³⁹	Yes	Areas closed to bottom trawling: ⁴⁰	Certain	NA	For details see ⁴¹

³⁸ The Order (Regulation), del 22 de Noviembre de 1996 bans pelagic trawling for anchovy, sardine and tunas in the national fishing ground (Caladero Nacional – up to 200 nml). The order has the objective of preserving traditional fishing activities (purse seining) and thus the livelihood of traditional fishers and the sustainability of the resource.

³⁹ This order establishes closed seasons for bottom trawling in diverse areas of the Cantabric and North-Western national fishing ground

⁴⁰ Fuenterrabia: From the 100 m isobathic line, revise order of 25 of July to see lateral and upper limit; Guetaria: From the 100 m isobathic line, revise order of 25 of July to see lateral and upper limit; Bermeo: From the 100 m isobathic line 12 nm. Revise order of 25 of July to see lateral limit. Llanes: From the 100 m isobathic line, revise order of 25 of July to see lateral and upper limit. El Callejon y la Carretera: From the 100 m isobathic line, revise order of 25 of July to see lateral and upper limit. La Coruña y Cedeira: From the 100 m isobathic line, revise order of 25 of July to see lateral.

⁴¹ For details see Fuenterrabia: All year long Getaria: 1 of September to 31 of December Fuenterrabia: All year long El Callejon y la Carretera: From 1st September to 1st of March. La Coruña-Cedeira: From 1st October to 31st of January

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
National	Commission Regulation 498/2011	Environment/Fi sheries	Measure used for 2011 ⁴²		ICES VI, VII, VIIIa, VIIIb, VIII d y VIII e; EU waters and international waters of Vb; and international waters of zones IIa, XII y XIV	NA	NA	For the rest of the year
	ORDER ARM/3812/2008 (23 of December) (last one found)	Environment/Fi sheries	Measure used since 2006 ⁴³		Vb, VI, VII y VIIIa,b,d,e of ICES ⁴⁴	NA	NA	TAC established annually

⁴² Regulation of 18 may for which mackerel fishing is forbidden for Spanish flagged vessels

⁴³ This order establishes conditions for distribution and allocation of rights allocated to Spain in Communitarian waters (not Spanish) are established. 60 tons of hake are allocated to boats less than 50 GRT (pincho caña).

⁴⁴ Allocation of hake for boats using pincho-caña in área VIII abd (Bay of Biscay)

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
National	Regulation on recreational maritime fisheries in external waters. Royal Decree 47/2011	Conservation	Measure used since 2011 ⁴⁵	NA	For details see ⁴⁶	Whole	NA	Diving at night is forbidden
National	Whale watching ⁴⁷	Conservation	2008 ⁴⁸	NA	Spanish EEZ	Whole	NA	NA
	Coasts law ⁴⁹	Coast uses regulation	1988	NA	Territorial water	Whole	NA	NA
	Ports law ⁵⁰	Port uses regulation	2011	Yes	Ports	Certain	NA	NA

⁴⁵ Autonomous communities concede licenses and authorizations for fishing of specific species that demand special conservation measures (e.g. blue fin tuna) are only conceded by the Ministry of Environment (MARM). This derogated Order of 26 of February 1999

⁴⁶ In external Spanish waters recreational fisheries must keep the following distance from professional fishing. This is applicable for fishing from boats and diving: Minimum distance of 0,269 nautical miles from tuna fishing with pole and line. Minimum distance of 0,08 nautical miles from set nets. A Minimum distance of 0,107 nautical miles from aquaculture installations is established.

⁴⁷ *Real Decreto 1727/2007*, de 21 de diciembre, por el que se establecen medidas de protección de los cetáceos.

⁴⁸ In relation to *Ley 42/2007*, de 13 de diciembre.

⁴⁹ *Ley de Costas*, de 28 de julio de 1988, y su reglamento, *Real Decreto 1471/1989* (en adelante, RD 1471/1989)

⁵⁰ *Real Decreto Legislativo 2/2011*, de 5 de septiembre, por el que se aprueba el Texto Refundido de la Ley de Puertos del Estado y de la Marina Mercante.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
	Shipping ⁵¹	Shipping/comm erce	NA	NA	Territorial water	Whole	NA	NA
	Biodiversity law ⁵²	Conservation	2007	NA	NA	Whole	NA	NA
	Marine Environment Protection law ⁵³	Protection	2010	NA	Territorial water	Whole	NA	NA
International	Common Fisheries Policy (CFP)	Fisheries	For details see ⁵⁴	NA	NA	Whole	NA	10 years
	WFD	Environment/w ater	2010	Yes	1 nm offshore baseline	Whole	NA	6 years

⁵¹ *Ley General de Navegación Marítima*

⁵² *Ley 42/2007*, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad. Natural heritage conservation

⁵³ *Ley 41/2010*, de Protección del Medio Marino

⁵⁴ The Common fisheries Policy (CFP) is the backbone of fisheries and aquaculture management in the EU. The most important areas of action of the common fisheries policy are: To establish rules to ensure sustainability in Community fisheries and a healthy marine environment To provide the instruments for national authorities to enforce rules To monitor the size of the fishing fleet and preventing it from expanding further To provide funding and technical support for industry sustainability To negotiate on behalf of EU countries in international fisheries organisations and with non-EU countries To help producers, processors and distributors get a fair price and ensuring consumers can trust the seafood they consume To support the development of a dynamic EU aquaculture sector To fund scientific research and data collection for support policy and decision making. To apply the CFP the EU lays down regulations. The CFP is been reviewed and will enter into force in 2012. The CFP will be aligned with the Integrated Maritime Policy, supporting the application of the Marine Strategy to guarantee inter alia the protection of the environment and marine ecosystems; and to elaborate and apply management plans to recover overexploited populations and achieve the MSY.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
	MSFD ⁵⁵	Marine Environment Protection	2008	Yes	EEZ	Whole	NA	6 years
International	Habitats Directive ⁵⁶	Conservation	1992	NA	Territorial waters	Whole	NA	2 years
	Birds Directive ⁵⁷	Bird Conservation	2009	NA	For details see ⁵⁸	Whole	NA	NA
	Common fisheries policy (CFP) ⁵⁹	Fisheries Management	2002	NA	Europe	Whole	2013	10 years

⁵⁵ *Directiva 2008/56/CE*, de 17 de junio de 2008, por la que se establece un marco de acción comunitaria para la política del medio marino. DO L164 del 25/06/2008. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:164:0019:0040:ES:PDF>

⁵⁶ *Directive 92/43/EEC*, requires EU Member States to create a network of protected wildlife areas, known as Natura 2000, across the European Union. This network consists of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), established to protect wild birds under the Birds Directive (see below). Common Interesting Places (Natura 2000) designated close to the case study area: Reserva de la Biosfera de Urdaibai Ría de Urdaibai; San Juan de Gaztelugatxe (ES2130005); Dunas de Astondo (ES2130004).

⁵⁷ *Directive 2009/147/EC*, of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds; Special Protection Areas for birds (SPAs) designated close to the case study area: Reserva de la Biosfera de Urdaibai Ría de Urdaibai; San Juan de Gaztelugatxe.

⁵⁸ Directive of 30 November 2009 on the conservation of wild birds (2009/147/EC)(containing the most up to date annexes arising from the successive enlargements including the accession of Bulgaria and Romania) Annex ; Annex II/1; Annex II/2; Annex III/1; Annex III/2; Annex IV; Annex V; http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

⁵⁹ *Council Regulation (EC) No 2371/2002*, of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy http://ec.europa.eu/fisheries/cfp/index_en.htm.

Scale	Name	Sector/ activity	Implementation date	Spatial manage. initiative	Spatial boundary	Whole region/certain location (specify)	Seasonal (specify)/ year round	Temporal framework (How often do audits or reviews take place?)
	Code of Conduct for Responsible Fisheries ⁶⁰	Fisheries	1991					

⁶⁰ In 1991, the Code of Conduct (CoC) for Responsible Fisheries was launched by the FAO Committee on Fisheries. The CoC was unanimously adopted on 31 October 1995 by over 170 member governments of the FAO Conference. The CoC provides principles and standards applicable to the conservation, management and development of fisheries. It covers the capture, processing and trade of fish and its products, aquaculture, research and integration of fisheries into coastal area management. International Plans of Action (IPOAs) are instruments elaborated within the framework of the CoC. The following four IPOAs have been developed to date: - IPOA to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing; IPOA for Reducing Incidental Catch of Seabirds in Long-line Fisheries; IPOA for the Conservation and Management of Sharks; and IPOA for the Management of Fishing Capacity. References in this Code to the United Nations Convention on the Law of the Sea, 1982, or to other international agreements do not prejudice the position of any State with respect to signature, ratification or accession to the Convention or with respect to such other agreements

2. Objectives and management measures

2.1 What is the priority operational objective in your case study?

In order to establish the Operational Objectives of the present case study, marine wave energy production strategic plans, at national and local scales, were analyzed.

According to the PANER 2010-**2020** (the Spanish Energy Plan) (Gobierno de España, 2010), it is expected that by 2020, at **national scale**, offshore wind energy and hydrokinetic, tidal and wave converters will produce 3,000 MW and **100 MW**, respectively (methodology calculation under Directive 2009/28/EC⁶¹) (for details, see Table 5).

Table 5. Renewable energy objectives (in MW) at national scale, for the period 2015-2020, based on (Gobierno de España, 2010).

Energy type	2015		2016		2017		2018		2019		2020	
Hydroelectric	20049	36732	22109	37566	22169	38537	22229	38443	22289	38505	22362	39593
Geothermic	0	0	0	0	0	0	10	60	30	180	50	300
Solar	8966	17785	9700	19649	10508	21741	11394	24088	12371	26719	13445	29669
Hydrokinetic, wave, and tide	0	0	10	22	30	66	50	110	75	165	100	220
Wind (offshore)	27997 (150)	57066 (300)	29778 (500)	60573 (975)	31708 (1000)	64483 (2245)	33639 (1500)	68652 (3727)	35819 (2250)	73197 (5577)	38000 (3000)	78254 (7753)
Biomass	965	5962	1048	6510	1149	7171	1265	7931	1410	8876	1587	10017

On the other hand, at **local** scale, in relation to BIMEP project, which is foreseen to be operational in the near future, the draft project developed by the Promoter (EVE) estimates that the wave energy production of the facility will be **20 MW** and the sea area reserved for the location of the wave energy converters, including the guard zone delimited by six buoys that marks the perimeter, is 5.279 km².

In addition, the goal for **2020** is to obtain **60 MW from wave energy** (Energy Strategy for the Basque Country 2020; (Gobierno Vasco, 2011)). Thus, the operational objective is defined taking into account this last production objective and analyzing new areas in the case study that could be suitable for the production of such amount of energy.

⁶¹ DIRECTIVA 2009/28/CE DEL PARLAMENTO EUROPEO Y DEL CONSEJO, de 23 de abril de 2009 relativa al fomento del uso de energía procedente de fuentes renovables y por la que se modifican y se derogan las Directivas 2001/77/CE y 2003/30/CE. Mediante esta Directiva se obliga a cada Estado miembro a adoptar un plan de acción nacional para la energía renovable.

2.2 What are the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above priority operational objective?

The main plan that is analyzed in this section is the recently published **Energy strategy for the Basque Country 2010** (Gobierno Vasco, 2011). The Energy Strategy of the Basque Country for the 2001-2010 period (i.e. 3E2010 Strategy), is challenging, in terms of its strategic objectives, environmental commitments and value creation for the Basque society. The 3E2010 Strategy sets out the criteria laid down by the Basque Parliament, EU energy directives and the economic, social and territorial conditioning factors of the Basque Country. These directives and 2010 targets, in relation to marine renewable energy production, may be summarized as follows:

- In line with EU targets, place greater efforts to increase the harnessing of renewable resources. It is planned a 4-fold increase (i.e. 978,000 toe) in the use of renewable energy sources, which would represent 12% of Basque energy demand.
- Improve supply security, competitiveness and quality of the Basque energy system, through better energy infrastructures and reinforced interconnections.
- Contribute to meet the Kyoto Protocol targets and improve environmental quality at local level. With this aim in mind, it is planned to limit any increase in greenhouse gas emissions from energy consumption to less than 15% of 1990 emissions by 2010.
- Promote agreements and participation of different stakeholders with a view to reinforce energy research and technological development, especially in the fields of energy efficiency and renewable energy sources.

2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority operational objective?

International scale

In the context of the EU energy policy framework, in 1997, the European Commission developed the White Paper "Energy for the future: renewable sources of energy (RES-E)"⁶². The White Paper set an indicative objective for doubling the share of renewable energy from 6% to 12% of the gross inland energy consumption, by 2010. This share

⁶² Communication from the Commission: Energy for the future: Renewable Energy Sources-White Paper for a Community Strategy and Action Plan. COM (97) 599 final, 26.11.1997. ESC opinion - OJ C 214, 10.7.1998, p. 56.

was further translated into a specific share for the consumption of electricity from renewable energy sources, RES-E, now updated to 22.1%. The White Paper also established a **comprehensive Action Plan**, including, as one of the many measures, a Directive on RES-E regarding the internal electricity market. As it states, the Committee generally supported the thrust and the goals of the White Paper. However, it found the 12% objective very ambitious, and therefore, it underlined the need for substantial measures in order to meet the goal.

According to *Directive 2009/28/EC*, each EU member state had to notify the European Commission (before 1st of January of 2010), a **forecast document**, indicating the:

- Past trajectories and estimated production of renewable energy sources, which could be transferred to other Member States, and their estimated potential for joint projects, by 2020.
- Estimated production of renewable energy sources in order to satisfy domestic consumption until 2020.

In 2010, the European Association of Marine Energy (**European Ocean Energy Association**) developed a **roadmap** for the 2010-2050 period, which includes the following **strategic actions**:

- To develop new designs and components that would reduce the cost and improve the survival of the energy converters
- To develop a demonstration program designed to **test prototypes done to scale**
- To develop an infrastructure network to **validate experimental converters and infrastructures throughout their life-cycle**.
- To implement the EU transversal action to improve reliability through new and **improved installation techniques**.

National scale

In 2005, the Spanish Energy Plan (2005-2010) was established, following the European comprehensive Action Plan promoted by the White Paper, and according to Spanish Industrial Electricity Law⁶³. As a result of the implementation of Spanish Energy Plan, the percentage of renewable energy final consumption increased from 18.5% in 2004 to 29.2% in 2010 (Gobierno de España, 2010). The **introductory phase** of the Spanish Energy Plan (2005-2010) is finalized, and the **consolidation and development phase** is currently undergoing, under the PER 2011-2020 (Gobierno de España, 2010).

⁶³ Ley 54/1997, de 27 de noviembre, del Sector Eléctrico.

In order to achieve the objectives set in the Spanish Energy Plan (described in point 2 of this document), the following **measures** are proposed (Gobierno de España, 2010):

- To develop new designs and components which would reduce the cost and improve the survival of the equipment, **testing the prototypes** to scale and developing an experimental infrastructure network to validate the devices
- To simplify administrative procedures for offshore wind and/or marine energy experimental platform
- To develop economic measures (i.e. public aid program) for project research development and implementation
- To promote the integration of renewable energy infrastructure and administrative measures, relating to specific planning power infrastructure and associated with offshore projects

Local scale

The Energy Strategy for the Basque Country 2020 (Gobierno Vasco, 2011) was approved by the government in December 2011. The development of the strategy was one of the Basque government's commitments for the ninth legislature (2009-2013). Its objectives are integrated and coordinated with other government policies in fields such as, **industrial development, environment and research and development**. The strategy is designed to meet the need to **act in the area of energy policies in the Basque Country, complementing European and Spanish policies**. Such policies make a valuable contribution to the competitiveness of Basque business and to the wellbeing of Basque society as a whole, by ensuring a more socially, economically and environmentally sustainable energy system.

The Basque Energy Strategy 2020 (Gobierno Vasco, 2011) objectives are:

- Not exceed the 2008 historical maximum primary energy consumption levels, by 2020. This is to be achieved through intensified energy efficiency actions in all sectors. The target will require saving 1,050,000 toe yr⁻¹ by 2020 and improving final energy intensity by 22% in 10 years.
- Reduce by 9% the 2010 oil consumption, by 2020. This will be achieved by untying oil from the transport sector, the use of electric vehicles –with 37,100 units on the market– and 15% consumption of alternative energy sources in road transport.
- Increase by 87% the use of renewable energy (i.e. 905,000 toe) by 2020, giving renewables a 14% share of the final energy consumption.
- Increase from 18% in 2010 to 38% in 2020 the participation of co-generation (electric and useful thermic energy –vapor, sanitary hot water) and renewables in power generation.

- Promote eight priority areas of technological and industrial research and development in the energy field and a 25% increase in the turnover of companies in the energy sector.
- Contribute to limiting climate change by way of a 2.5 Mt reduction in CO₂ emissions through implementation of the measures set out in the energy policy.
- Invest €10,710 million on a 10-year period, through a committed and exemplary institutional policy that contributes at 16.5% in public aid and investments.

The Energy Strategy for the Basque Country 2020 comprises a series of **lines of action** that have been undertaken by the Basque Country since it first developed its own energy policy. These lines of action, geared towards energy efficiency and supply security, are divided up into three large differentiated areas (Figure 5).

- The *Energy-Consuming Sectors* area includes actions intended to **modify energy demand**, either by reducing consumption levels, using alternative sources of supply, or using demand management to optimize the energy system.
- The *Energy Markets and Supply* area includes actions intended to **improve the energy offer** in terms of supply security and quality, cost competitiveness and sustainability.
- The *Technological and Industrial Development* area includes lines intended to **make the most of new opportunities** for Basque industry to innovate in the latest energy technologies, in a context of increasingly global markets. This commitment also involves a new separate priority action area within traditional Basque energy policy, representing an additional contribution to sustainable energy development.

Within each of these action lines, a number of priority initiatives have been identified, which, in turn, are made up of a total of 105 specific actions oriented towards meeting the strategic targets set.

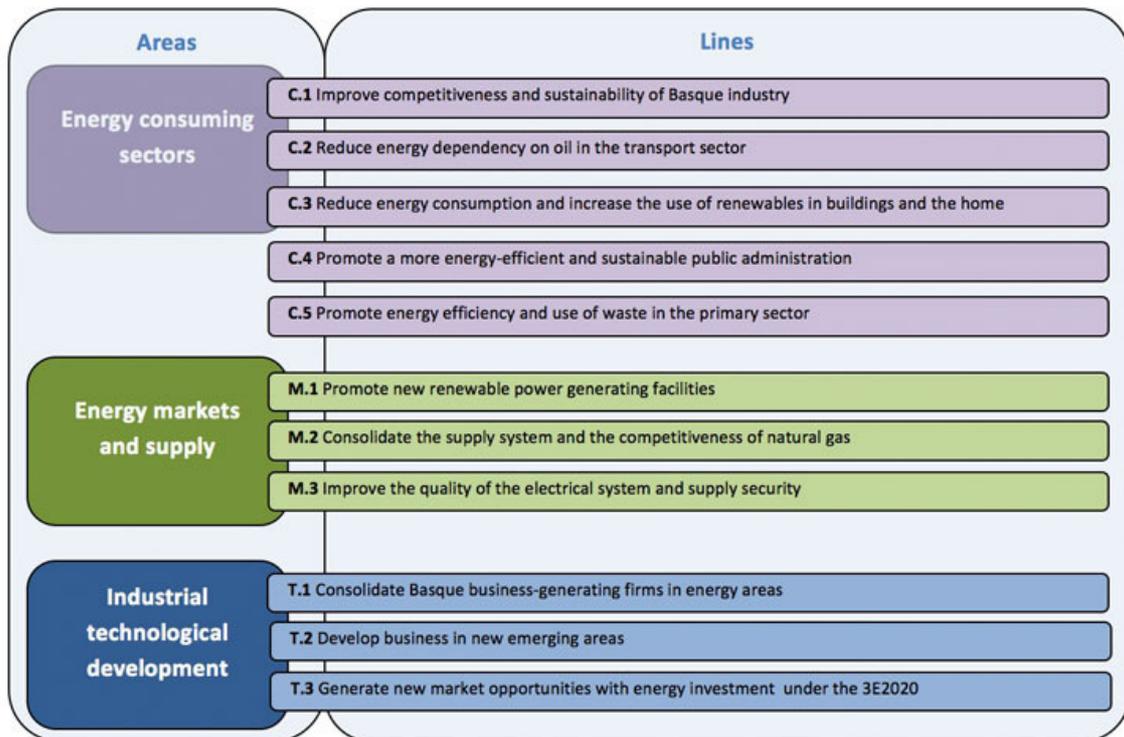


Figure 5. Strategic areas and Actions to be adopted in the Energy Strategy for the Basque Country 2020 (**Gobierno Vasco, 2011**).

Among other strategic areas, the following are highlighted due to their relation to marine renewable energy production:

- Consolidate Basque business-generating firms in energy areas: To support a competitive offer from wind power and offshore industry leaders. RESPONSIBLE: Deputy Ministry of Innovation and Technology PARTNERSHIP: Deputy Ministry for Industry and Energy / EVE / SPRI.
- Develop new business in emerging areas: In terms of wave energy production, it aims to strengthen science and technology. It offers a value chain with a proposal for equipment, components and services specifically for marine energy to benefit the driving effect of a unique experimental infrastructure in place (i.e. the BIMEP) in the Basque Country.
- International positioning and regulatory framework: Technological and development activities of the value chain must be supplemented by others that favour the relationship between Basque renewable energy sector and other stakeholders of global reference (e.g. open meetings, networking activities, organization of events referred to as ICOE 2010, collaboration agreements), which also serves to strengthen the position of the Basque Country worldwide. Another important line of action in this technology development is to continue demanding the central government to establish a regulatory framework that encourages the development of marine energy. This requires simplification and

streamlining of administrative processes and licensing of facilities or coordination and alignment of sectors to support initiatives of the administrations involved (European, central and regional). In that sense, it will be important those contributions made through the future Centre of Opinion (or "Think Tank") into energy.

Responsible for the initiative:

- Department of Industry, Innovation, Trade and Tourism - Deputy Ministry of Industry and Energy.
- Deputy Ministry of Innovation and Technology
- Basque Energy Board - EVE
- Society for the Promotion of Industry - SPRI
- Ministry of Industry, Tourism and Trade
- European Commission

2.4 Other specific and particularly important sectorial priorities, objectives, and obligations

To date, the strongest interaction has been identified between the offshore renewable energy (ORE) policy and the fisheries policies. The construction of BIMEP is showing how conflicts for the use of sea may emerge from closure of sea areas. In this particular case, the main conflict at this stage is the closure of an area where coastal artisanal fishing activities have historically taken place. BIMEP will be placed between internal waters, under the jurisdiction of the Basque government, and the EEZ of Spain. Both administrative jurisdictions regard artisanal coastal fishing as activities with high importance for coastal areas. In fact, the Basque Government devotes a section to this activity in the Strategic Fisheries Plan (2009-2013). In turn, Spanish policymakers regard artisanal coastal fishing as important economic activities for coastal areas. For example, they currently request to the EU Commission a better definition of artisanal coastal fisheries⁶⁴.

At the Community level, the Common Fisheries Policy (CFP) also considers traditional fishing activities in the EU important and aims at the development and wellbeing of fishing communities. In fact, artisanal fisheries are considered as one of the pillars of the current reform of the CFP and will deserve a differentiated management system (European Commission, 2011). Outside the policy and regulatory framework, traditional fishing activities in Spanish coastal areas hold customary rights in the use of the sea

64

<http://www.lamoncloa.gob.es/ServiciosdePrensa/NotasPrensa/MinisterioAgriculturaAlimentacionMedioAmbiente/2012/040512-canete.htm>

that are widely recognized by policymakers and the general public. Hence, it is necessary to consult with them the location of the ORE devices and to negotiate with them compensatory measures to alleviate the potential economic losses. The governance analysis carried out in section 4 - 7 will describe in detail how this negotiation process is being carried out. Regarding the interaction of the ORE and nature conservation, after the administration process started for the installation of BIMEP, the Spanish Society of Ornithology (SEO/Birdlife) has proposed a bird protection zone in the same location. The potential conflict between both designations will be worth studying in the near future.

3. Conflicts

In this case, and at this stage, there are not evident conflicts between environmental conservation and ORE production generated by the implementation of the management measures. As described in Section 1, the administrative stages of the project attempted to study the environmental impact of the installation. The evidence gathered suggests that no substantial impacts shall be generated. Moreover, conservation measures in this area do not collide with installation of the devices. But it will be necessary to monitor if further impacts are produced when BIMEP is actually operating. Regarding conflicts with conservation stakeholders (i.e. environmental NGOs), there was opposition from the side of local environmental NGOs (i.e. Eguzki) who questions, among other things, the decision of the Ministry in charge of not requesting an EIA and the difficulty the installation will impose regarding the access to the harbour (Eguzki, 2010). Opposition from the side of NGO was made from their institutional web page. They were not invited to the first consultation process (see Table 1). Further discussion will be provided in the governance analysis, Sections 4-7.

The most notable conflict identified in the present research is the interaction between the extractive use of marine resources, in this case artisanal coastal fisheries, and the concession of an area of the sea to the BIMEP project. The changes in the regulatory and administrative environments that promote the use of cleaner energies collides with recognition of artisanal coastal fisheries as strategic activities for the wellbeing of coastal communities, consequently providing the context for the current (and future conflicts) in this case. The allocation of an area of the sea for exclusive use of the ORE installation excludes fishermen from a traditional fishing spot where they hold customary rights. In the case of BIMEP, this fact triggered a consultation and negotiation process that is discussed in detail later in this report. Conflicts of this kind are increasingly being found out in other experiences with the installation of ORE converters in the world, and requires more attention in the technical literature (O'Keefe and Haggett, 2012). Other experiences in Europe show that fishermen see installation of ORE devices as a deprivation of their access rights to their fishing areas (Alexander et al. 2012, O'Keefe and Haggett, 2012). Regarding interactions with other maritime activities, there are no other conflicts with activities such as recreation (e.g. diving, surfing), coastal tourism or has not a relevant presence and, in the case of aquaculture, it does not exist in the area. Nevertheless, there are some initiatives for combination of

this last activity with OREs but there are not studies of viability.

FACTORES AMBIENTALES		Ahorro energía primaria	Cogeneración	Biomasa (TC y GE)	Solar (térmica y pequeña FV)	Geotermia (intercambio)	Minihidráulica	Eólica terrestre y marina	Undimotriz	Infraestructuras
Atmósfera	Emisión de gases y partículas	L	+/-	L	L	L	L	M	L	
	Niveles de CO ₂	M	L	L	L	L	L	M	L	
	Ruido	L						L		L
Medio hídrico	Calidad aguas	L					L	L		L
	Régimen caudales					L	L			L
	Red de drenaje					L	L	L		L
Suelo	Ocupación territorio				L	L	L	L	L	L
	Calidad suelo			L				L		L
	Erosión			L				L		L
Medio biótico	Especies de flora			L				L		L
	Especies de fauna			L			L	M	L	L
	Hábitats y ecosistemas			L			L	L	L	L
	Masas forestales			L				L		L
Paisaje	Calidad visual				L			M		L
Medio socioeconómico	Actividad económica	M	L	L	L	L	L	L	+/-	M
	Diversificación y autoabastecimiento	M	L	L	L	L	L	L	L	M
	Valor económico espacio forestal			L				L		
	Impacto salud	L		L						
Huella ecológica		L	L	+/-	L	L	L	L	L	

Impactos positivos		Impactos negativos	
L	Leve	L	Leve
M	Medio	M	Medio
I	Intenso	I	Intenso
+ / -	Impacto positivo o negativo (según consideraciones)		
NA	No aplica (Afección insignificante)		

Figure 6. Environmental impact valuation resume according to the 3E2020 action plan.

4. Governance approach and effectiveness

The decision to initiate the production of renewable energy was made by the Basque government in 2008. The promoter, the EVE, is the decentralized Basque public body subjected to private law in charge of carrying out the process leading to the installation and operation of the ORE converters in BIMEP. The decision to carry out this project was made without consultation with the concerned parties (e.g. direct users of the marine area). Hence, this seems a typical ‘top-down’ approach - at least in the early stage of the project - where decisions concerning the use of natural resources are taken exclusively at the government level⁶⁵.

The Basque government considers the ORE sector as promising, in terms of technology innovation and production of clean energy, and aims at being a leader in the development of ORE technology (Gobierno Vasco, 2011a). The development of the technology seems to be the immediate objective of the government. However, the commercial exploitation of BIMEP is also an important aim. In this regards, EVE and *the Instituto para la Diversificación y Ahorro de la Energía (IDEA)*⁶⁶ has just formed a public company to manage and exploit the BIMEP infrastructure. The development of the ORE sector is a ‘top-down’ political process driving/building technology and market conditions not only for the commercial production of energy but also for the development of a Basque industry capable of providing services to international ORE initiatives.

The EVE depends on local and national authorities to obtain the licenses to install the energy converters. This is a lengthy and complex administrative process, involving several ministries and departments. As seen in Section 1, in order to fulfill the requirements specified by the regulatory framework the ministry in charge of the decision to request (or not) a full EIA for the project consulted some relevant stakeholders, including ministries, public agencies and large international environmental NGOs, to obtain their insights about the potential affection of the BIMEP. The consulted parties did not envisage significant impacts on habitats, protected species or environment. The ministry in charge finally decided not to request a full EIA (BOE, 2009).

The EVE has on its own initiative, led an information process for concerned stakeholders, which has included an exposition held in Armintza between July and September 2012 and another held in Mundaka in October 2009, coinciding with a surf world competition (Gobierno Vasco, 2010). In fact, these two initiatives were not meetings where stakeholders and general public could orally express their opinions.

⁶⁵ As mentioned in section 1.1, the Basque Country is one of the autonomous communities of Spain. The BIMEP project has been launched and developed by the EVE, a decentralized department of the Basque government. In this study the term government level will refer to the Basque Country administration, when referring to the upper level of administration (Spanish government) we will use the term national government.

⁶⁶ *The Instituto para la Diversificación y Ahorro de la Energía* (Institute for Energy Diversification and Saving) is a decentralized department that depends hierarchically of the Ministry of Industry, Energy and Tourism.

They consisted in an inaugural speech and exhibition of images, maps, equipment and explanatory printed material about the BIMEP. Visitors to the exhibition had the opportunity to express themselves on the topic by leaving written opinions and questions. There was also a presentation on the BIMEP project in an international symposium on renewable energies held in the Basque Country⁶⁷.

Later, a more active consultation process was initiated by the EVE with the most affected stakeholders (i.e. local fishermen of Armintza). The consultation process with fishermen evolved into a negotiation process that is not yet finalized. The EVE seemed to recognize the traditional user rights the Armintza's fishermen hold in the area and consequently, offered diverse means to compensate them, including economic and non-economic compensations. It is worth highlighting that traditional fishing activities in Spanish coastal areas are widely recognized as customary activities and own some "tacit" rights in the use of the sea that are widely recognized. In recognition of those rights the location of the energy devices was consulted with the fishermen and compensatory measures to alleviate the potential economic losses were offered. Features of the area to be occupied by the BIMEP devices were discussed (e.g. access to the harbor of Armintza) and the BIMEP spatial disposition was redesigned after consultation meetings with the Armintza's fishing guild (EVE, 2011). Thus, due to this action and the efforts to involve the diverse stakeholders, the management in the BIMEP case cannot be categorized as a pure 'top-down' approach.

It seems that the promoter effectively took into account the conflicts the BIMEP project will generate with the fishing activity. Those conflicts were identified in the administrative process and in the consultancy outsourced from AZTI Tecnalia, a private contractor. The Department of Agriculture, Fisheries and Food of the Basque government suggested EVE to commission a study to measure the impact of BIMEP on fisheries (BOE, 2009). The private consultant provided a preliminary measure of the economic impact. This was estimated in an annual loss of 16.400 tons of catch, which was valued on approximately 86.400 €. The economic loss may affect around 12 vessels that have the BIMEP area as their usual fishing spot (BOE, 2009). This was the first approach to the potential economic affection of BIMEP to fishing activities in the area. The recognition of such affection was the genesis of the negotiation process between EVE and the fishing guild of Armintza that is yet to be concluded.

The compensation mechanisms offered to the fishing guild comprise economic compensation and non-pecuniary compensation such as creation of employment by using vessels for pre and post-development surveys, training in device maintenance and logistics for the activities of the future research center (SOWFIA, 2012). It seems that the approaches utilized by the EVE to inform, consult and compensate stakeholders were developed by the EVE itself but incorporated recommendations by the consultants, who did also identified compensation mechanisms drawn up from international experiences. Apparently, the EVE itself approached the Armintza's fishing guild without outsourcing the services of a facilitator in the negotiation process for the

⁶⁷ International Symposium on Marine Energies, held in Bilbao in April 2009

installation of BIMEP. In a presentation in a workshop organized by SOWFIA⁶⁸ the representative of the fishing guild of Armintza acknowledged the initiative of EVE in approaching the fishermen but considered that the fishermen was contacted too late in the planning phase. Consequently, the fishermen lacked a role in decision-making. The representative summed up some recommendations drawn from the fishing guild experience with this ORE initiative: the contact between the promoter and the fishermen should be established at the earliest stage in the planning phase of the project; fishermen information and local knowledge should be taken into account; and fishermen should be updated about the progress of the project (SOWFIA, 2012).

In addition, there were voices that expressed their concerns with the environmental aspects of the BIMEP project. Some local environmental NGOs expressed their opposition to the process. The environmental local NGO (only informed in the information and consultation process led by the EVE) expressed their concerns related to the specific location of the BIMEP platform infrastructure, which would hold off the access to the harbor of Armintza (Eguzki, 2010). The answer of the EVE to these concerns was that moving the infrastructure further away from the entry towards the harbor, would not be economically or technically viable. Technical solutions were instead proposed by the promoter to improve the access to the harbor without changing the location of BIMEP (Gobierno Vasco, 2010). It is worth pointing out that these NGOs were not consulted in the administrative stages⁶⁹ of the project and conveyed their views through local media and institutional web pages (Eguzki, 2010).

This case illustrates the lack of connection, in the Basque Country and Spain, between the ORE and fisheries policies. In real life, ORE initiatives clash with fishing activities and consequently conflict emerges. Conflicts between conservation, fisheries and ORE arise when marine space allocation is decided. Because conflict alleviation is not clearly foreseen in any policy or plan, compensation to affected parties is neither suggested, nor mandated, in the regulatory framework. Thus, most of the process of consultation and negotiation was carried out on the basis of recognition of user rights and good-will from the promoter side.

The outcomes of the different consultation processes were useful in identifying problems and looking for/suggesting solutions to minimize the conflicts between the diverse uses in the maritime area of concern. It appears that it was a gap in participation in the consultation processes at two different levels. First, the “key stakeholder” list (Table 1) used during the consultation of the administrative process led by the General Directorate for Environmental Quality and Evaluation (the Spanish Ministry for Environment, Rural and Marine Affairs) was limited, and it did not take into account some relevant stakeholders (i.e. local environmental NGOs). Second, not all consulted stakeholders replied to the consultation. These are issues to be further

⁶⁸ Presentation made at the workshop on Ocean Energy organized by the project SOWFIA Grant Agreement IEE/09/809/SI2.558291 (1/10/2010 -30/09/2013) and held in Gothenburg, Sweden, in May 2012.

⁶⁹ There were four consultation processes, two carried out to comply with the administrative procedures specified by the regulations in force (as described above) and a third information and consultation process with other social groups/stakeholders led by the EVE itself. The fourth consultation process, which was also a negotiation process not yet concluded, was developed exclusively for fishermen.

explored since they may respectively indicate limited/biased stakeholder representation/involvement in the process, and insufficient organizational, technical and/or economic capacity of some of the stakeholders to respond to a consultation process, lack of interest, commitment or even a lack of an adequate forum for participation. Limited participation of stakeholder in the process may mean that only a few were able to provide input into the process.

From the evidence revisited, it appears that there is a need for a Marine Spatial Plan (MSP) to foresee and propose diverse means to address conflicts amongst users and the corresponding protocol to follow. Most of the actions carried out by the promoter were decided when actually facing the problems. There is neither a direct connection between the strategic policies for renewables energies and environmental protection. The overlap occurs when the promoter attempts to gather the permissions to operate and a series of environmental conditions have to be observed.

5. Incentives

5.1 Summary of the key incentives

Economic incentives

Most of the economic incentives identified by the MESMA WP6's guidelines are relevant to the BIMEP case (see Appendix 1). The most relevant economic incentives to this case are those related to rights of local customary users. There is not protection and promotion of local customary rights but recognition of those rights. Consequently, there is Promoter's commitment to consult and negotiate with local users. In Spain, coastal fishers have a long tradition and their rights on territorial use are widely recognized and respected. The fishing guilds or *cofradías* are ancient institutions that represent and defend the professional interests of their members (Franquesa, 2004). According to the Spanish Law of Fisheries, they are also advisory bodies to the governments of the Spanish autonomous communities on issues related to fisheries (BOE, 2001). Consultation and negotiation were carried between EVE and the local fishing guild. Regarding fair economic compensation, this was in fact proposed by the promoter to compensate fishermen for the potential economic loss. Monetary and non-monetary compensatory measures were proposed in the negotiation process. The latter measure was proposed with the aim to create employment in relation to BIMEP activity (SOWFIA, 2012).

Regarding promotion of economic development opportunities and livelihood alternatives, the BIMEP project aims at the development of technology, to impulse the local naval and electric industry in relation to the exploitation of ORE in national and international initiatives. It also aims at creating alternative sources of energy that can be commercially exploited. Hence, it promotes economic development opportunities and the creation of new livelihoods.

Knowledge incentives

Incentives to promote mutual respect amongst local users and scientists and collaboration for mutual learning are not found in this case. The lack of these incentives may be related to the lack of a MSP in this case. However, the case of BIMEP shows that there is important local knowledge of the marine area that has been useful for the project and that has even motivated a change in the final design of the concession to make it safer for navigational purposes (Gobierno Vasco, 2010).

This fact provides evidence that local knowledge should be taken into account from the earliest stage in the determination of the areas to use in OREs projects. Armintza's fishermen consider their knowledge of the area important and recommend taking it into consideration in this kind of initiatives. Information used to determine the economic compensation utilized a variety of sources such as on-board inspector's information, fishermen's information on sites and catch statistics (SOWFIA, 2012). Incentives should be deployed for future projects in the Bay of Biscay to facilitate scientists and users (e.g. fishermen) to exchange and integrated information and knowledge.

Legal incentives

There is a large array of national and local legal measures, covering the diverse aspects of conservation, renewable energies, fisheries and other uses of the sea in the Bay of Biscay. There is not, however, a well-defined legal framework able to rule the use of marine areas and that can respond to the challenge of managing the marine space and its resources in an integrated form. The issue of a legal mechanism able to integrate policies and legislation on the topic can be seen as a gap. The bridging of such a gap may facilitate further developments on marine utilization (e.g. ORE sector). In the case of the BIMEP project, the lengthy administrative process, comprising various jurisdictions and national and local government departments shows the need for well-defined procedures to obtain a permission of operation. Thus, legal incentives are required to facilitate the sustainable development of sea use. This legal framework may give room to a MSP where goals, roles and rules will be defined and backed up by law.

Participatory incentives

As pointed out before, case does not examine a pure "top-down" approach, where decisions are taken solely by the government without any input from stakeholders. In fact, there were diverse degrees of involvement of stakeholders at the different stages of the process. For example, in the mandatory administrative process some of them were requested for an opinion. In the information and participation process led by EVE, a wider array of stakeholders had the opportunity to be informed and expressed their opinions. Moreover, a more comprehensive participation process was developed with the fishermen, who even played an advisory role and, according to this, technical decisions were modified after consulting them. In spite of this, Armintza's fishermen,

expresses discomfort with its late implication in the process, and specially, with its absence at the very early stage of the decision-making process (SOWFIA, 2012).

It is evident that the aim to impulse stakeholder's participation lacked a previous plan. Thus, a participatory process, especially with fishermen involvement, was initiated when dealing with the administrative process, where fishermen's "customary" rights were first taken into consideration. One may wonder if further developments in this area of the sea would require the establishment of participatory mechanisms that predefine participation of the stakeholders concerned (e.g. local environmental NGOs, fishermen, etc.). The creation and promotion (by the government) of participatory structures where the most important interests are represented, may help in taking the insights of stakeholders into account prior making a decision, or to consult the decisions. These participatory platforms may be a key element of a MSP. Currently, there are examples of participatory platforms in EU such as the Regional Advisory Councils (RACs). It is worth pointing out that Spanish fishing guilds, including Basque Country's, have experience in working in these participatory platforms, where are represented by geographically based federations of *cofradías*.

5.2 Discussion of the governance issues

The analysis carried out highlights that there is a lack of wider stakeholder participation in the diverse stages of the process. Firstly, in the administrative stage of the project, many stakeholders, including public bodies, fishermen and large NGOs, etc., were requested an opinion on the potential impact of the project on the environment (see Section 4). Their participation was limited to a mere consultation process where the lack of response of some stakeholder was not an impediment to take a decision. That consultation process was done to fulfill the administrative requirements and was led by the concerned ministry.

Second, there was a participatory process led by EVE, where diverse stakeholders were informed through a series of events described in Section 4. In those events diverse stakeholder had the opportunity to express their views regarding the BIMEP project. It seems that in both participatory processes, stakeholders only had the opportunity to express an opinion but their feedback was not taken into account. Third, there was a participatory process where the fishermen, the only party having a proven impact on their livelihood, were offered the opportunity to express their views, provide feedback and information, and even to correct previous promoter's decisions (Section 4). In this case, fishermen had a more active participation, which seems to be granted by the promoter on recognition of fishermen's customary rights. This led to a negotiation process where diverse measures were proposed to compensate for the economic loss. It is worth highlighting that this process is not yet concluded. Fishermen, however, seem not to be fully satisfied with this process since they demand to be contacted earlier in the decision-making process (SOWFIA, 2012). As we previously pointed out, the decision to initiate the BIMEP project was made solely at the government level.

In other context, some local environmental NGOs expressed their opposition to the project. These NGOs were not invited to the administrative consultation process (e.g. NGO Eguzki). In contrast, 32 out of 45 of the stakeholders approached were regulatory stakeholders. It is also notable that there were stakeholders that did not respond to the administrative consultation process (see Table 1). This may indicate a lack of will to participate or limited economic or/and technical resources to do so. From the above information, it appears that there is not a proper role for participation in the management process and that efforts to consult concerned parties are disperse, leading to incomplete or weak responses. The only stakeholders engaged more comprehensively in the process were fishermen. However, in this case, their active participation seems to be triggered by their strong rights. In addition, they were backed up by the Directorate of Fisheries of the Basque Government, who expressly recommended to take their opinion into account and to compensate them for the potential impact on their livelihoods (BOE, 2009). Thus, there is a clear lack of participatory instruments that allow for more complete and better participation of, at least, the most relevant stakeholders in the use of the concerned marine space and its resources.

In this way, Pascual and Borja (submitted) conducted a computerized, self-administered, internet-based and stated preference questionnaire for future marine uses, using four different types of use scenarios, in the Spanish exclusive economic zone waters, offshore the Basque Country. The study aimed (i) to identify people's attitudes towards some presented marine uses scenarios, related to MSP, that might occur in the future (2050); (ii) to obtain a baseline value of the society's willingness to pay (WTP) for reaching its selected scenario; (iii) to analyze and identify patterns of relationships between users and responses; and (iv) to suggest future marine management decisions pathways, taking into account society's perceptions. Preferences were obtained towards the "Techno-Green Renewables" scenario, with a stated average WTP of around 126 € y⁻¹. Future awareness knowledge, education and living place appeared as explanatory variables for people's WTP. The study also demonstrated that respondents held positive attitudes towards participating in decision-making processes, regarding future marine uses. These outcomes would be worth for having an overview of the socio-economic preferences of the sea stakeholders regarding future marine uses scenarios, and suggesting a wider public-participation, as a way to obtain strong public support for management decisions, inside a MSP framework for the Basque Country.

6. Cross-cutting themes

6.1. Combining top-down role of state and bottom-up participative approaches

As pointed out in Section 4, the governance approach used in this case is not a pure "top-down" approach, where decisions are taken solely by the government without any

input from stakeholders. In fact, there have been diverse degrees of involvement of stakeholders at the different stages of the project. First, in the mandatory administrative process some of them were requested an opinion. Later on in the information and participation process led by EVE, a wider array of stakeholders had the opportunity to be informed and express their opinions. In turn, fishermen were invited to a participatory process where their feedback and information were effectively taken into account. Their technical advice did even modify previous developer's location decision. This active participation led to a negotiation process as the developer granted recognition of fishermen's customary rights. Negotiation led to diverse means which were proposed for future compensations of economic losses. This negotiation process is not yet concluded.

In addition, fishermen were backed up by the Directorate of Fisheries of the Basque Government (BOE, 2009). Despite this, the representative of the Armintza's fishermen expressed that they are not fully satisfied with this participatory process due to lack of fishermen's engagement at the very early stage of the decision-making process and demanded to be convoked earlier to participate in future decision-making related to this kind of initiatives (SOWFIA, 2012).

It appears that the aim to impulse stakeholder's participation lacked a previous plan. A participatory process, especially with fishermen, was developed when actually dealing with the administrative process, where fishermen's "customary" rights were first taken into consideration. One may wonder if further developments in this area of the sea may require the establishment of participatory mechanisms that predefine participation of stakeholders concerned (e.g. local environmental NGOs, fishermen, coastal tourism, etc.).

Lessons from other ORE experiences in EU, for example, in Denmark (Sorensen et al. 2002) suggest that early involvement of stakeholders in the decision-making process is a key factor for social acceptance. The same has been highlighted in other activities and MSP (White et al., 2011; Gopnik et al., 2012; Maguire et al., 2012). This is particularly relevant when dealing with vulnerable groups such as coastal fishermen as seen in the experience in the United Kingdom (Bell *et al.* 2005) and other locations (Imeson and van den Bergh, 2006; Fayram and de Risi, 2007). As previously pointed out, the decision to initiate the BIMEP project, and its location, was made solely at the government level, being the fishermen involved at a later stage. Allocation of space excluded fishermen and did not allow for negotiation in the use of marine space. In other words, shared utilization of the marine space was not on the negotiation table. Shared utilization of the space could be possible in the case of wind mills, where fisheries and aquaculture activities could coexist with ORE devices to a certain extent. In the case of BIMEP, fishermen have to navigate further away from their original fishing site to exploit other spots.

6.2. Inter-sectoral integration and related power issues, including compensation

There is not inter-sectoral integration in this case and, as pointed out before, the only stage where diverse sectors were considered was the administrative process, where diverse requirements have to be considered and diverse stakeholders have to be consulted. The integration of diverse sectors relevant to a marine area in the Basque Country and in Spain, may require the devising of a MSP, where roles could be defined, policies and management measures revisited to eliminate overlapping and redundancies and means found to prevent conflict or at least, to find measures to diminish it. In this way, some work has been done in the Basque Country (Galparsoro et al., 2012; Pascual, 2012).

Regarding power issues, this case only allows to observe the bilateral interaction between the promoter and fishermen. Coastal fisheries have political power in this area (i.e. support from the Basque Directorate of Fisheries – see Section 5.2) and hold customary rights which are widely recognized by the general public and politicians. They are also well organized and represented by the fishing guild, which is a well-established and respected institution. Moreover, local fishermen hold a thorough knowledge of the marine area, which is also an advantage for them to be granted a role in the participatory process. To sum up, fishermen's role in the participatory process and the diverse means of compensation, offered to them seem to be awarded in recognition of their customary rights, knowledge of the area and political influence. There is not any other stakeholder group with such an equivalent organization and power in this area.

6.3. Influence of different knowledge and of uncertainty in decision-making

The case of BIMEP shows that there is important local knowledge of the marine area that has been useful for the project and that has even motivated a change in the design of the area to make it safer for navigational purposes (Gobierno Vasco, 2010). This fact shows that local knowledge should be taken into account from the earliest stage in the determination of the areas to use in OREs projects. Armintza's fishermen consider their knowledge of the area important and recommend taking it into consideration in future initiatives (SOWFIA, 2012). For future maritime projects in the Bay of Biscay, incentives should be deployed to facilitate scientists and users (e.g. fishermen) to exchange and integrate information.

The participatory platform suggested in Section 6.1 could combine participatory incentives with knowledge incentives and develop structures in charge of integrating information and knowledge. Thus, they may provide opportunities for scientists and stakeholders to collaborate, bringing transparency and maximizing the knowledge base to advice decision-makers. Available validated information may facilitate the process of assessing the impact of the ORE projects (e.g. it may allow economic quantification of the closure of a given fish spot). Availability of a wider knowledge base may contribute to reduce uncertainty, hence providing more reliable advice to decision-makers and constituting an effective tool for MSP. The application of the MSP approach for the Basque country is analyzed by Galparsoro et al., (2012) and Pascual (2012).

7. Conclusions

The case of BIMEP allows observing the interaction between a new use of the sea such as OREs and traditional activities such as artisanal coastal fishing. In the Basque Country, and in general in Spain, policy and regulatory frameworks in place to regulate the development of ORE technologies are not so far consistent with other sectorial policies (e.g. fisheries). Thus, there is a need for intersectoral instruments to provide the basis for a systematic organization of the sea space use. These instruments, especially MSP, could establish rules to pre-define who should be consulted, when, how, and to what extent his/her input should be taken into account in decision-making.

The case of BIMEP shows how diverse attempts were done to approach a variety of stakeholders but that those efforts seemed to be only partially effective, since only some stakeholders were approached and not all replied to the consultation process. The only participatory process that brought about effective participation of the actors concerned was that developed with fishermen involvement. This has also allowed a negotiation process that is not yet finalized. It seems that the efforts to carry out a comprehensive participatory process with fishermen were related to strong customary rights of the later, their political influence and their tenure of key information. In spite of this, fishermen's engagement in the decision-making process took place too late from their point of view.

The creation and promotion (by the government) of participatory structures, where the most important interests are represented, may help in taking the insights of stakeholders (not only fishermen) into account prior making a decision, or to consult to them the decisions. These participatory platforms may be a key element for a MSP. The BIMEP case also shows that future developments in the use of marine space in this region may require integration of knowledge of diverse users and of scientists. This is particularly useful with regards of information that allow measuring impacts, for example, in the case of socio-economic data, to evaluate the impact of livelihoods of those affected by a given management measure. This in turn, provides the basis for fair compensation of affected parties. Incentives to promote collaboration amongst local users and scientists and opportunities for mutual learning are partially found in this case. The lack of these incentives would be solved with a MSP.

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A7.10 Case study report: The Pentland Firth and Orkney Waters (PFOW) case study

Basic details of the case study:

Initiative	The Pentland Firth and Orkney Waters (PFOW) marine planning pilot, Scotland
Description	Development of a pilot Marine Spatial Plan to test the emerging MSP framework for Scotland and facilitate the deployment of wave and tidal energy devices in the PFOW.
Objectives	Renewables: To facilitate the deployment of 1.6GW of wave and tidal energy generating capacity from the PFOW by 2020; to investigate and accommodate associated ecosystem, social and economic interactions.
Scale	~12,000km ²
Period covered	2009-2013
Researchers	Kate Johnson, Sandy Kerr, Jonathan Side (Heriot Watt University)
Researchers' background	Natural Science; Social Science
Researchers' role in initiative	Partners of government in stakeholder consultation, scientific researchers and advisers

The next 30 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Johnson, K.; Kerr, S.; Side, J. (2012) *MESMA WP6 Governance Analysis. Case Study 2: Pentland Firth and Orkney Waters*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 30pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.

MESMA WP6 Governance Analysis

Case Study 2: Pentland Firth and Orkney Waters

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CONTENTS

1. Context	2
2. Objectives and management measures	10
3. Conflicts	15
4. Governance approach and effectiveness	16
5. Incentives	17
6. Cross-cutting themes	21
7. Conclusions	23
Appendix 1 List of incentives	25
Appendix 2 Methods used	28

1.1 Plan background

The plan referenced is the non-statutory pilot marine spatial plan for the Pentland Firth and Orkney Waters (PFOW). This is an existing initiative under preparation for publication in 2014. The main plan drivers are the wave and tidal energy developments in the area which is a 'Marine Energy Park', one of two such parks designated by the government in the UK. Marine renewable energy developments carry high political priority for reasons of energy security, economy and climate change. A non-statutory pilot is thought necessary by the Scottish government because of the speed and timing of marine renewable developments which are running ahead of the implementation of the statutory marine planning required by legislation [Marine (Scotland) Act 2010]. The statutory process will not be fully in place until around 2014 and the first regional plans will not be ready until at least 2016. The Crown Estate Commissioners¹ (CEC) have promoted marine renewables and agreed to lease defined areas of the seabed in the PFOW to developers. The non statutory pilot plan is therefore lagging events and trying to catch up as the whole planning and decisions framework emerges. The development lease agreements awarded by CEC are subject to licensing by Marine Scotland². The PFOW plan will be used immediately to guide licensing decisions.

The wave and tide renewables interests in the PFOW are the result of a high marine energy environment close to feasible areas for support infrastructure, services and the means to export electricity to markets. The natural resources of the location are combined with existing and new academic and practical marine services to create a world class centre for the research, development and testing of wave and tidal energy devices. The European Marine Energy Centre (EMEC) in Orkney is hosting full scale tests of several wave device technologies and more than ten tidal device technologies. The location of the PFOW area and its boundaries are shown in Fig. 1. The plan boundary has been chosen for administrative convenience and follows the limit of the Scottish territorial sea around Orkney which is under the jurisdiction of the Scottish government. Outside the territorial sea to the limits of the exclusive economic zone, jurisdiction falls to the United Kingdom government although it is administered by Scotland. The delineated lease areas for wave energy (green) and tidal energy (brown) are also shown on Fig 1. These areas were selected by the market in the first open invitation from the CEC to developers to bid for wave and tidal energy sites in UK waters.

Other designated areas within the boundaries of the plan include international shipping routes; protected habitats; national scenic areas; fisheries and aquaculture sites; and a marine oil terminal. A local community based shellfish fishery operates throughout the area. Visiting demersal and pelagic trawlers fish the PFOW which is at the centre of the most prolific catching area for Scottish and UK fishing industry fleets. Two major North Sea oil fields pipe their oil and gas ashore here for initial processing and onward shipment. The Orkney Islands Council (OIC) is the Harbour Authority and successfully promotes a 'ship to ship' oil transfer business in Scapa Flow. Other factors in planning are the decommissioning and clean up of the nearby closed

¹ The seabed areas in the territorial sea are designated 'Crown Lands', a form of public land. They are administered under statute [Crown Estate Act 1961] by the Crown Estate Commissioners.

² Marine Scotland is the department of the Scottish Government responsible for marine affairs.

Dounreay nuclear power station, and military practice areas. In addition to uses and designations, consideration is also given to the 'special' nature of the islands and their communities (see Section 1.2).

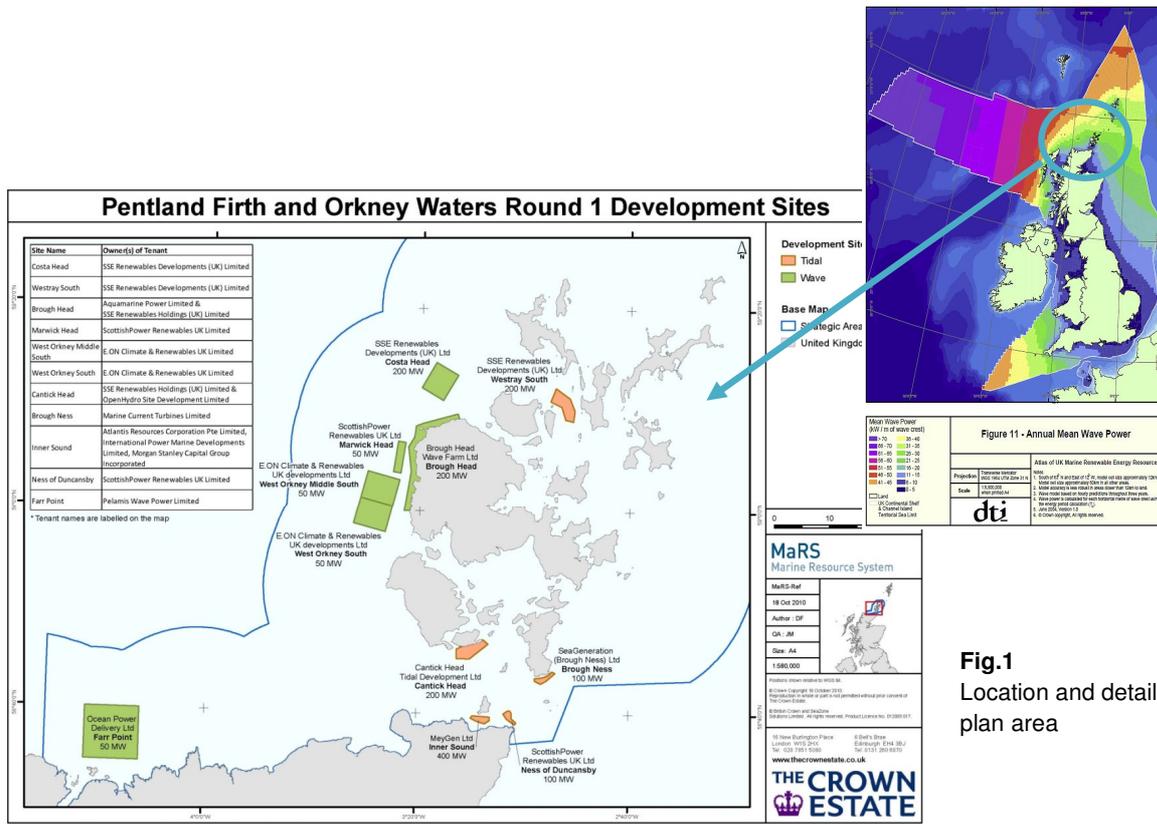


Fig.1 Location and details of plan area

The driving organisation for the plan is the Scottish Government. The competent authority for the preparation of the plan is Marine Scotland which is also the licensing authority for marine activities requiring construction or dredging. Implementation of the statutory planning process and associated non-statutory guidance is in progress. The elements of the emerging marine spatial planning framework in Scotland are shown in Fig.2. The process is pragmatic and flexible in nature with a focus on consenting as the instrument to deliver Good Environmental Status (GES). Applications are dealt with on a case by case basis. Each applicant has to demonstrate compliance with the National Marine Plan and the rest of the legal/guidance framework including cumulative impact. The instrument used to test compliance is the project Environmental Impact Analysis (EIA).

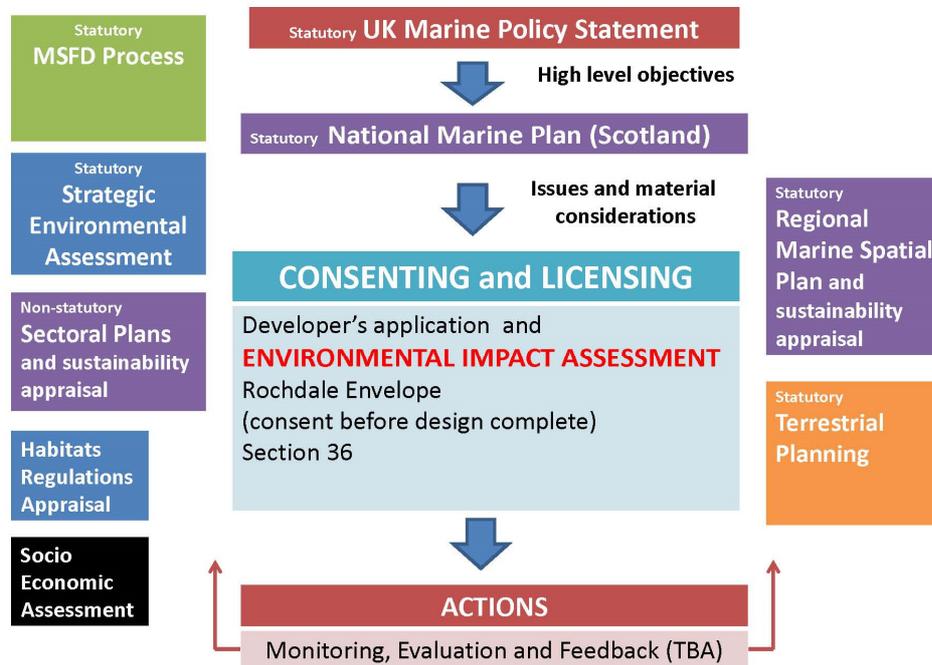


Fig.2 Planning and consenting in Scotland

The consultation and participation arrangements for marine planning are yet to be announced in their entirety. Informal consultations and information events have been carried out as the planning framework has been designed. Each development application will have to go through a formal process of consultation as part of the consenting process. The 'Plan Scheme' for the PFOW pilot plan is to be published in October 2012 detailing consultation arrangements. Formal consultation will start with publication of the 'Main Issues Paper' around March 2013. An advisory Marine Planning Partnership (MPP) will be set up to draft statutory regional marine plans where they are established in the future. Marine Scotland, local authorities and possibly other stakeholders will be members of the MPP.

Another group with exceptional influence on marine planning are the Crown Estate Commissioners who describe themselves as the 'owners' of the seabed. The CEC are an organisation unique to the United Kingdom with few parallels. Their powers are controversial and reform is under debate. Large areas of land and property in the UK are designated as 'Crown Lands'. They are, in fact, a form of public ownership administered by the CEC under statute. The Crown lands include most of the foreshore and the seabed under the territorial sea. The Crown Estate Act 1961 imposes a statutory duty on the CEC to enhance the value of the Estate and the return from it.

- *"It shall be the general duty of the Commissioners, while maintaining the Crown Estate as an estate in land (with such proportion of cash or investments as seems to them to be required for the discharge of their*

functions), to maintain and enhance its value and the return obtained from it, but with due regard to the requirements of good management.” [Section 1(3)]

- *“Save as provided by the following provisions of this Act, the Commissioners shall not sell, lease or otherwise dispose of any land of the Crown Estate, or any right or privilege over or in relation to any such land, except for the best consideration in money or money’s worth which in their opinion can reasonably be obtained, having regard to all the circumstances of the case but excluding any element of monopoly value attributable to the extent of the Crown’s ownership of comparable land.” [Section 3(1)]*

CEC actively promote marine renewables and offer sites for lease subject to licensing by Marine Scotland. In the recent past, before the introduction of marine planning legislation and associated governance measures, the CEC have acted as quasi planners and have set the spatial agenda *de facto*, inviting developers to bid for the sites of their choice. Questions are asked about the accountability of CEC and the destination of revenues raised from marine renewables. The Scottish Affairs Committee of the UK Parliament have conducted an inquiry and made recommendations for reform including the devolution of the CEC powers to local authorities [Scottish Affairs Committee 2012]. The UK government has decided not to act on these recommendations.

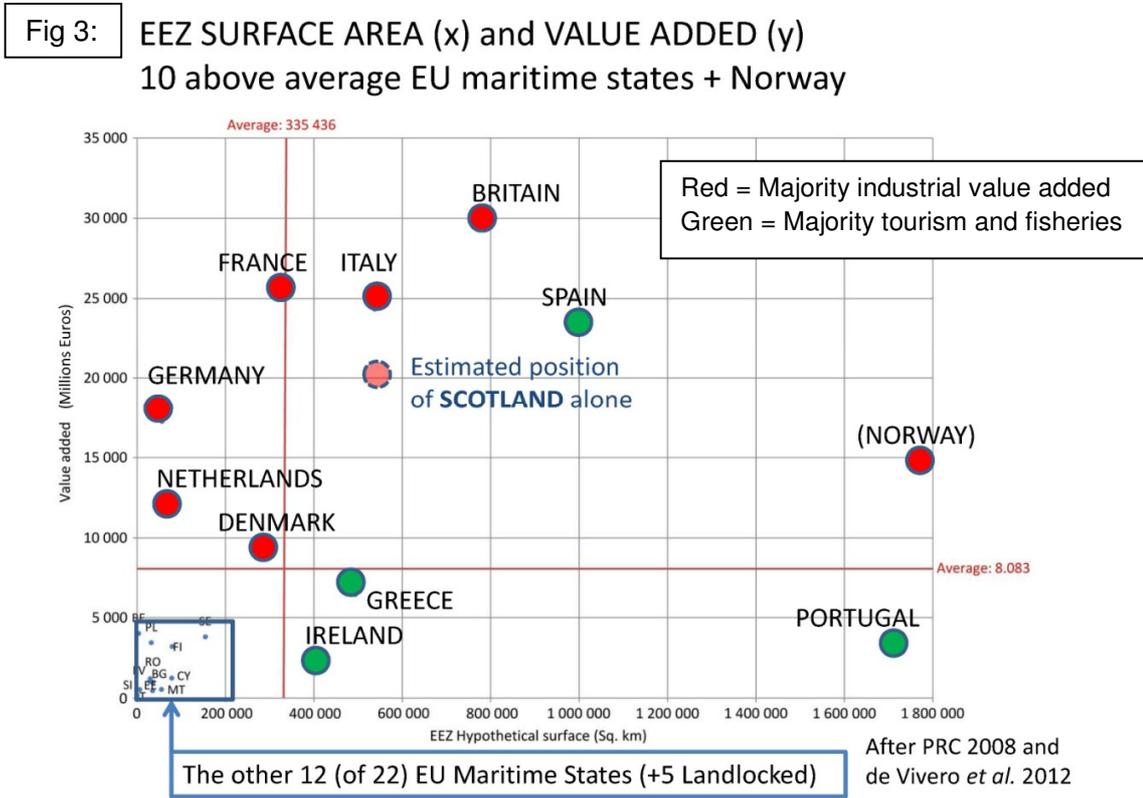
The PFOW plan under study is, therefore, both reactive in responding to a rapidly changing series of events set in motion before a formal planning regime; and pro-active in trying to gain control of events and set the agenda for the future. This is no easy task because of the huge drive by government and business to deploy wave and tidal energy devices, which are an important part of the drive to reduce carbon emissions, and therefore an environmental good. Nonetheless, they are large industrial developments of great potential impact in the coastal zone.

1.2 Socio-economic and political contexts

Socially, economically and politically, the Scottish marine environment is among the most pre-eminent in the European Union. Scotland ranks about 4th by size of marine area and value added to the economy from marine activities (Fig. 3). It possibly has the greatest interest if measured by value added per head of population. Scottish decisions about marine planning and stewardship are therefore highly influential in the European context.

Scotland is a small northern European country. It is one of four countries which together make up the United Kingdom. It is small in population (5.2m) but very significant in area - comprising nearly one third of the land area and more than two thirds of the marine area of the UK. Scotland has its own legal structure and a parliament which has responsibility for most domestic services such as health, education and the environment. Foreign affairs and most taxation measures are reserved to the UK government. The Scottish Parliament was restored in the devolution settlement of 1998 when it re-convened for the first time since the Act of Union with England in 1707. Under the devolution settlement parliamentary powers are variously described as devolved to Scotland; reserved to the UK; or executive devolved (meaning that Scotland administers a UK law but cannot change it. Scottish marine responsibilities vary by activity and area (Fig 4). Within Scotland there is marked socio-economic diversity between communities

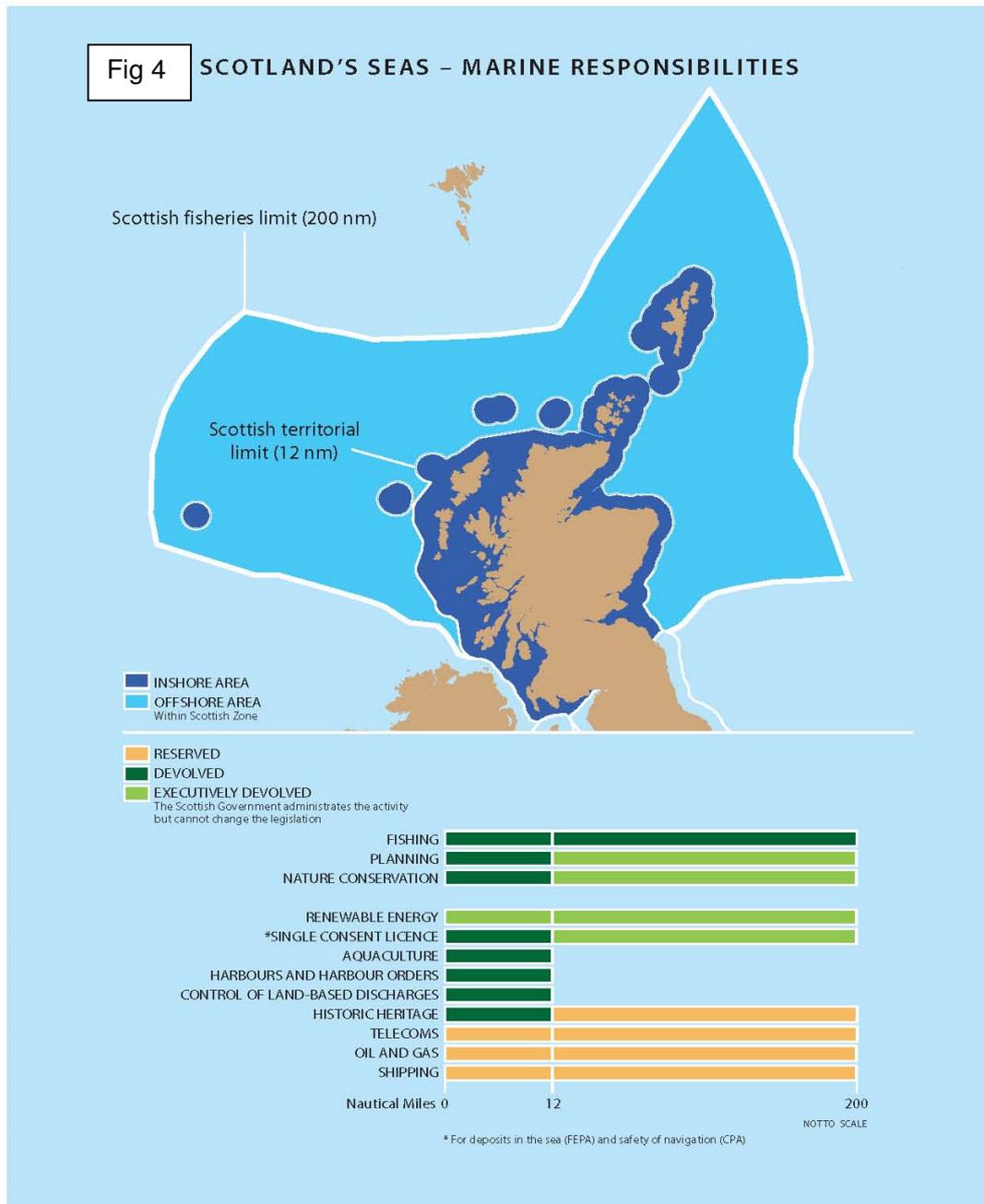
such as the heavily populated business and industrial centres of the Lowlands in the south and the sparsely populated island and rural areas of the Highlands and the far north.



Political power in Scotland has traditionally been dominated by the Labour Party with little support for the Conservatives and Liberal Democrats. In the May 2011 election, a marked loss of support for Labour resulted in the election of a Scottish Nationalist Party (SNP) government with an overall majority. A defining policy of the SNP is Scottish independence from the UK and this debate now dominates the political scene and the day to day management of affairs. An independence referendum is due to be held no later than November 2014. Marine renewable energy plays a key role in supporting the SNP case for independence. The Government believes that Scotland can be a world leader in the technology, manufacture and operation of wave and tidal energy devices. They have an ambitious target to generate all of Scotland's electrical power requirements from renewables by 2020 [Scottish Renewables Roadmap 2011].

The PFOW plan area is in the sparsely populated far north of Scotland. It comprises island and peripheral rural communities retaining strong cultural identity and socio-economic self reliance born of necessity. The indigenous people of the Orkney and neighbouring Shetland archipelagos are of distinct Norse origin but with many immigrants from the south. They have attracted an eclectic mix of contemporary settlers. The extensive terrestrial and seabed

Neolithic archaeology of the islands and the natural beauty of its land, light and seascapes have encouraged unique traditions of art and music. Large areas of land adjacent to the wave sites are designated by UNESCO as a World Heritage Site. The sea is part of the life of the people on land and the boundary between land and sea is blurred. The main physical uses of the seas are fisheries and shipping. The main uses of the land are agriculture and tourism. Less tangible are the inspirations which the physical and spiritual environments give to a thriving cultural and arts community [Schei and Moberg 2000].



When North Sea oil was discovered and developed in the 1970s, Orkney and Shetland councils were granted exceptional powers to control marine development [Zetland County Council Act 1974; Orkney County Council Act 1974]. These powers enabled them to negotiate with the oil companies about the nature and location of their operations and to retain a proportion of the monetary value of the business in the islands. The parliamentary case made for these powers was based primarily based on the special nature of the islands and the need to protect the ‘way of life’ described as “...*certainly distinctive and humane in scale and...very much valued in a world which has seen the squalor which arises from forcing human beings into great conurbations...*” [Hansard 1973]. It was further argued that there should be a “...*retention in the islands of a fair share of the income which will arise from the development...*” Some communities now look to the ZCC and OIC Acts and oil development in the 1970’s as one model for capturing community benefits from new marine renewable development.

Significant social and economic statistics for the UK, Scotland and Orkney are detailed in Table 1 below. The economic structure by employment is shown in Table 2.

Table 1 Significant social and economic statistics

Metric	UK	Scotland	Orkney
GDP 2011	£1517bn	£124bn	£375m (Estimate)
GDP % of EU per capita average	115%	112%	90%
Per capita GDP	£24350	£23400	£18700
Gross value added per capita (2008)	£21100	£20000	£16000
House price average (Dec 2009)	£163000	£157000	£120000
Population	62.3 millions	5.3 millions	20,100 (2005 est.)
Land Area	242000 km ²	79000 km ² (32% UK)	1000 km ²
Marine Area (TS + EEZ)	775000 km ²	525000 km ² (68% UK)	12000 km ² (TS Only)
Population density	257/km ²	67/km ²	20/km ²
GDP growth rate and main drivers of growth	Currently (2012) hovering around zero tending just to the negative. Resumption of weak growth is forecast but is yet to be seen.		Figures n/a but economy appears to be holding up supported by agriculture and renewables activity
Unemployment rate June 2011	3.7%	4.1%	1.4%
Governance capacity index	1.38		
GINI index of income disparity	34	30	n/a
Relative poverty (Scot.Gov. statistics)	n/a	19%	22%

Table 2 Economic structure by employment (excludes self-employed)

	UK %	Scotland %	Orkney %
Total employee jobs	100	100	100
Full-time employees	68.8	67.8	59.5
Part-time employees	31.2	32.2	40.5
Employee jobs by industry			
Manufacturing	10.2	8.7	5.5
Construction	4.8	5.9	9.2
Services:	83.5	81.9	76.8
- Distribution, hotels and restaurants	23.4	22.2	22.8
- Transport and communications	5.8	5.1	9.8
- Finance, IT and other business	22.0	19.1	6.0
- Public administration, education and health	27.0	30.0	34.4
- Other services	5.3	5.4	3.8
(Tourism related - included above)	(8.2)	(8.9)	(11.1)

Source: ONS Annual Business Inquiry Employee Analysis

Table 1 shows the UK to be populous by European standards and a major economy. GDP per capita is above the European average. Scotland is one country of the four which form the UK (England, Scotland, Wales and Northern Ireland). It is slightly less prosperous than England which is by far the most significant country in the UK by size of population and economy. Scotland is small in population with less than 9% of the UK total, but it comprises over 30% of the land area and nearly 70% of the marine area. Activities related to offshore oil and gas, shipbuilding, sea fisheries, aquaculture and marine energy all have their strongest representation in Scotland. Orkney, the area of the PFOW marine plan, is a small island archipelago in the far north of Scotland. It is a peripheral community on the edge of Europe with a per capita GDP below the European average. Employment is more dependent on construction, transport and public services than the country as a whole, and much less dependent on manufacturing, and finance. Orkney, however, is consistently an area of very low unemployment measured over several decades.

1.3 The (international) regional policy framework within which the PFOW plan is nested

In addition to the EU policy framework [Jones *et al.* 2011], the overarching policy frameworks for the PFOW plan are set within the Marine (Scotland) Act 2010 and the related policy setting National Marine Plan. The plan area sits within OSPAR Region II (Greater North Sea) and ICES sea area IVa.

Additionally the PFOW plan area sits within a number of *national* regional designations mainly related to the international frameworks listed above. Marine Scotland consulted recently on the boundaries to be adopted for the Scottish Marine Regions to be designated for statutory MSP.

In the consultation document [Marine Scotland 2011] the various boundaries applying to other policy initiatives and frameworks were summarised (Table 3). The boundaries are all different.

Table 3 PFOW Policy Implementation Initiatives

Policy Initiative	Responsible body	Description
Marine Nature Conservation Review	Joint Nature Conservancy Council (JNCC)	Initiated to provide a comprehensive baseline of information on marine habitats and species, to aid coastal zone and sea use management and to contribute to the identification of areas of marine natural heritage importance.
Charting Progress	UK Marine Monitoring and Assessment Strategy (UKMMAS)	Periodic reviews of the status of the marine environment in UK waters. Charting Progress 2 is the latest report.
Water Framework Directive - Area Advisory Groups	Scottish Environment Protection Agency	Created to manage 'River Basin' areas but extending out for 3nm into coastal waters where most wave and tidal devices are to be located.
Inshore Fisheries Groups	Marine Scotland	A current initiative in the process of implementation. Groups of inshore fishers and other stakeholders acting in an advisory capacity to Ministers for inshore fisheries management.
Local Coastal Partnerships and Regional Policy Areas	Scottish Natural Heritage (SNH)	SNH initiative to promote integrated coastal management. Includes the Scottish Coastal Forum (SCF) but no local group designated in the PFOW area so far. Will prepare 'Regional Policy Statements'.
Local Authority Aquaculture Marine Planning Zones	Local Authorities	Aquaculture is the only marine sector where local authority planning controls apply.
Scottish Marine Regions (SMRs)	Marine Scotland	Proposals out to consultation. SMRs will define the areas for statutory regional MSPs. Each SMR will have an advisory Marine Planning Partnership (MPP) to draft plans and advise Ministers.

2 Objectives and management measures

2.1 Priority operational objective

The non statutory pilot MSP for the PFOW area is under preparation and the operational objectives have not yet been defined by the Scottish Government and Marine Scotland. For the purposes of the case study some likely operational objectives have been assessed (see methods in Appendix 2).

1. Facilitate the generation 1.6GW of wave and tidal energy from the PFOW area by 2020.
2. Deploy and monitor' wave and tidal energy devices ensuring that permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.
(GES³ Descriptor 7)
3. The use of the marine environment is benefiting society as a whole, contributing to resilient and cohesive communities. (HLMO⁴ 6)
4. There is equitable access for those who want to use and enjoy the coast, seas and their wider range of resources and assets and recognition that for some island and peripheral communities the seas play a significant role in their community. (HLMO 9)

The priority operational objective for the PFOW MSP is taken to be the installation of wave and tidal devices with an electrical generating capacity of 1.6GW by 2020. In practice this means the installation of more than one thousand machines in large scale arrays together with associated support infrastructure and services. The planned locations of the arrays are within 3nm of the coast occupying a total area of about 500km².

2.2 Key policies, legislation, regulations and plans that enable/facilitate the achievement of the priority operational objective

Table 4 Key instruments enabling the priority operational objective

Instrument	Provisions
Policies	
Sustainable development of Scotland's marine area and the mitigation of the effects of climate change	The 'General Duties' of the Marine (Scotland) Act 2010 - see below
2020 ROUTEMAP for Renewable Energy in Scotland	Summary of policies for marine renewables in Scotland leading to the priority operational objective of the PFOW plan.
Marine Bill Policy Statement	The policy statement accompanying the draft Marine Bill (now the Marine Act 2010) set out a presumption in favour of sustainable development including within the areas of MPAs.
Legislation	
Marine (Scotland) Act 2010	Establishes and sets out (<i>inter alia</i>) the statutory process for MSP in Scotland and grants powers to ministers related to MSP; MPAs and marine licensing.
Crown Estate Act 1961	Defines the duties, powers and responsibilities of the Crown Estate Commissioners as administrators of Crown Lands which include the seabed in territorial waters.
Electricity Act 1989 (Sections 36 and 37)	Very significant to the planning and consenting process. The act allows ministers to override local planning (marine and terrestrial) granting 'deemed

³ GES = Good Environmental Status Descriptor under the MSFD.

⁴ HLMO = High Level Marine Objective from the UK Marine Policy Statement

	planning consent' where projects of national importance are concerned (see text below).
Energy Act 2004	Relevant to the priority operational objective and planning mainly because of provisions to allow ministers to declare exclusion zones around installations.
Town and Country Planning (Scotland) Act 1997 and later	Section 57(2) relates to the section 36 and 37 consents under the Electricity Act 1989 (above)
Regulations	
Marine consenting and licensing regulations	After the Marine (Scotland) Act 2010
Electricity Works (Environmental Impact Assessment) (Scotland) (EIA) Regulations 2000	Many sets of regulations apply but this set is highlighted with regard to the priority operational objective because they are the first formal part of the consenting process and require answers to all the issues raised.
Public Rights	
Public rights of navigation and fishing	Ancient public rights clarified by case law, most recently in the Crown Estate Commissioners v. Fairlie Ship Slip in 1979. This judgment confirmed the right to alienate seabed subject to no 'material infringement' of public rights.
Plans	
National Marine Plan	See Fig 2 for details of plans and supporting instruments including MSFD process; strategic environmental assessment; habitats regulations appraisal; socio-economic assessment; and link to terrestrial planning.
Sectoral plans for Offshore Wind; Wave; and Tidal power	
Regional marine spatial plans	

2.3 Measures and actions to promote the achievement of the priority operational objective

Table 6 Measures and actions put in place to support the achievement of the main operational objective

Measure/Action	Objective
By Crown Estate Commissioners	
Marketing promotion of marine renewables and invitations to developers to identify and bid for sites	To 'kick start' the marine renewables industry in the UK and optimise rental income from the seabed estate owned by the Crown.
By International, Europe and UK Authorities	
Climate change protocols and renewable energy directives. Carbon emission targets Research and development funding, capital grants, power subsidies (ROCs regime), and prize competitions Legislative support and regulation/de-regulation	To give incentives to the research, development and operation of alternative sources of energy to fossil fuels. In Europe and the UK to encourage 'sustainable development' and the creation of jobs and economic growth in marine space.
By Scottish Government	
Legislative support and funding regime Routemap and targets	To ease the path towards permissions and licensing of marine renewables and encourage research and

Consenting and licensing regime	development. To make Scotland the leading supplier of marine renewable technology and hardware in the world.
By Local Governments	
Marketing promotion of area for marine renewables Support infrastructure planning and construction Assistance to developers	To attract jobs and economic development to 'their' area with incentives and provision of infrastructure.
By Communities	
Community action in support of employment and services	To create community based institutions geared towards attracting jobs and economic development to 'their' community or island (e.g. Community Development Trusts - CDTs)
By Developers	
Research development and testing Business planning and investment finance	Capitalise on available grants and subsidies to help create long term profitable businesses through research and development (R&D)
By Power Utilities	
Grid strengthening to carry power to markets	To build their businesses and fulfil obligations to obtain increasing proportions of their power supply from renewable sources
By Scottish Natural Heritage, NGOs, Universities etc.	
Ecosystem and activity investigation	To build knowledge, protect ecosystem services and avoid conflicts

2.4 Potential conflicts with other priorities and initiatives to address

Table 7 Other priorities and initiatives

Other Priorities	Principal Initiatives to address
Ecosystem objectives	Marine Strategy Framework Directive Habitats and Birds Directives etc.
Terrestrial planning and way of life objectives	Local Development Plan Independence Referendum Consultation Crown Estate Reform Proposals Local Development Trust Movement
Fisheries employment and business development objectives	Orkney Fishermen's Society (Cooperative) MSC Accreditation Orkney Fishermen's Association employment entry scheme
Natural and built heritage and archaeology objectives	World Heritage Site Management Plan Scottish Heritage sub-sea archaeology listing plan
Aquaculture development objectives	Strategic Framework Aquaculture Bill (Scotland)

	Planning Guidance
High level and eco-tourist objectives	Visit Scotland and Visit Orkney Development Plans Orkney Harbours Cruise Boat Programme

The areas of conflict or interaction are explored in more detail in Section 3. The principal known source of conflict is competition for space with other activities and protected habitats/species. The wave and tidal generating devices and the associated moorings and cables will occupy very large areas of near shore marine space conflicting most directly with fishing and shipping activities. The visual impact will be considerable, conflicting with scenic and tourism objectives. The associated terrestrial developments along the coast will conflict with current development policy and plans and take agricultural land into industrial use.

The potential for conflict with ecosystem and conservation objectives is high but as yet unknown. There will be disturbance in all three dimensions of marine space (seabed; water column; and sea surface) and a risk of pollution from the presence of so many machines and service vessels using fuels and hydraulic oils. The question of how much energy can be removed from the system without causing significant change to the ecosystem is the subject of ongoing research. Two of the key policies contained within the Renewables Routemap and the National Marine Plan respectively, are:

- 'Deploy and Monitor' - i.e. the deployment of wave and tidal devices will proceed in parallel with baseline research and monitoring.
- 'Presumption in favour of development' - i.e. any development in the marine environment will be considered within the context of national priorities which provide a context for conflict resolution⁵

The principal measures and initiatives in place (or soon to be in place) to deal with these conflicts and interactions is the marine licensing regime administered by Marine Scotland and informed by the planning framework (Fig. 2)

3 Conflicts

The priority operational objective to deploy wave and tidal energy devices gives rise to a number of conflicts/interactions. Seven categories are proposed by WP6 for the MESMA governance analysis (Table 6) to which we have added an eighth - 'Coast Protection'. Bell and Side [2011] summarised the main headings for the impacts of marine renewable energy devices (MREDs) to be:

- Physical interaction with the ecosystem
- Direct impacts
- Creation of new ecological space

⁵ National Marine Plan, Section 9.2

- Displacement of other activities

For the purposes of this report the conflicts are described as *primary* between environmental conservation and resources use; and *secondary* between different sectors and users.

3.1 Extractive use of living marine resources and wet marine renewables

The main potential conflict between MREDs and fishing is *secondary* - i.e. the displacement and obstruction of fishing. It directly conflicts with the 'public right' to navigate and fish. There is possibly an indirect *primary* conflict whereby the presence of the energy devices creates changes in fish spawning, migration and aggregation patterns which will in turn impact on fishing.

3.2 Extractive use of non-living marine resources

There are currently no extractive uses of non-living marine resources in the PFOW area. No plans are indicated in the NMP for this development.

3.3 Mariculture

The main potential conflict from MREDs is *secondary* with potential space use implications and the effects of noise, pollution and water flow on the operations of adjacent fish farms. Research is currently going on into the possibilities of co-locating renewable devices and aquaculture making use of suitable artificial habitats and operational services. Mariculture itself imposes primary conflicts in the form of pollution, the spread of sea lice and the weakening of the genetic stock of wild fish (because of escapees).

3.4 Commercial Shipping

The main potential conflict is *secondary* relating to obstruction, safety and the spread of debris. It directly conflicts with the 'public right' to navigate the seas and with IMO registered shipping lanes.

3.5 Biodiversity conservation

A principal source of conflict is between the marine renewables deployment and environmental objectives and legislation (e.g. the MSFD and Habitats Directives).

Possible *primary* conflicts include spatial conflict with protected areas (e.g. areas designated under the Habitats Directive); and conflict with marine and coastal ecosystem objectives as a result of changes to ambient conditions (noise; pollution; visual disturbance to species; collisions with marine mammals and fish; smothering; desiccation; loss of carrying capacity and productivity; and changes to local and far field hydrodynamic regimes).

3.6 Marine Renewables

Secondary conflicts include spatial competition between separate arrays of devices in the same or competing ownership; and changes to the hydrodynamic regime and interference in energy profiles between arrays.

3.7 Amenity/recreation/tourism

A *primary* conflict exists between the new industries and uses of the coastal seas and the existing way of life of the local communities. There are direct conflicts with the 'National Scenic Area' and 'World Heritage Site' designations; also to listed examples of submerged Neolithic and other archaeology; changes to the natural environment (e.g. seabird colonies, visual impact etc.) conflict with tourism objectives. *Secondary* conflicts include spatial competition with yachting, boating, angling and diving.

Consideration also needs to be given to the coastal and terrestrial effects of MREDs. All devices require extensive land based support and power export infrastructure and several technologies cross the sea/land boundary in operation. For example, the 'Aquamarine' and 'Seatrixity' devices employ wave energy technologies to pressurise water which is piped ashore to generate electricity in land based turbines.

3.8 Coast protection

Changes to the hydrodynamic regime conflict with natural and built coast protection mechanisms. Possible *secondary* conflicts include conflict with coastal defence strategies as a result of changes to the hydrodynamic regime including far field effects.

4 Governance approach and effectiveness

The main governance approach being adopted in the PFOW non statutory plan initiative is one of 'top down'. The priority operational objective is considered to be one of high national importance. Laws, regulations and measures have been designed to give central government ministers the power to decide on most issues subject to local consultation and advice which the ministers are not obliged to act upon; subject also to the requirements of other legislation including European, UK and Scottish environmental legislation. A 'market' approach is in evidence particularly at this pre-MSP stage where governance has not caught up with the urgency attached to research, development and deployment of marine renewables. The Crown Estate have invited developers to bid for sites and the Marine Scotland have used the bid responses to identify target sites for their wind, wave and tide sectoral plans.

The 'top down' approach to governance in Scottish waters has developed over the last ten years following decades of a central, but light touch and 'hands off' approach. At the turn of the millennium there was much interest in the devolution of inshore fisheries management powers

to regional cooperatives of fishers. Shetland launched the initiative and remains the only area with such powers. After initial enthusiasm, there was failure to implement the policy in other regions largely because of disputes between fishers and their concerns about the costs and risks. The Scottish government has since moved to strengthen central powers combined with the formation of advisory and consultative bodies of stakeholders (e.g. Inshore Fisheries Groups - IFGs). The 'top down' approach is driven by an increased sense of the 'national interest' being at stake (see Ch.5 Incentives)

5 Incentives

5.1 Key incentives summary

The MESMA WP6 Governance Analysis Guidelines have identified several headings for incentives and a complete list is included as Appendix 1. The key incentives applicable to the PFOW case study and its priority operational objective were identified at a workshop in Orkney in September 2011 and are listed below. Before exploring these in more detail, two over-arching incentives are mentioned which drive the priority operational objective for the commercial deployment of 1.6GW of wave and tidal generating capacity in the area by 2020.

- A. The first is the 'Sovereignty Incentive'. Uniquely in Europe, and possibly in the world, the deployment of marine renewables in Scotland is inextricably linked to the ambitions of the Scottish Nationalist Party (SNP) led government for Scotland to be an independent country within Europe (i.e. to leave the United Kingdom). The PFOW area and plan is central to the marine renewable element of this ambition. This incentive is expressed mainly through economic incentives designed to make Scotland the leading supplier of marine renewable technology and hardware to the world.
- B. The second is the 'Climate Change Incentive' which is expressed through economic and legal incentives designed to reduce dependence on fossil fuel energy and make drastic cuts in the emissions of gases contributing to global warming.

The key incentives identified (R) at the September workshop are listed below and relate to the plan currently under development. The incentives *listed in blue italics (S)* relate to alternative scenarios:

- S1 Providing a means to appeal planning decisions;
- S2 Providing vehicles and platforms for negotiation; and
- S3 A re-balancing of governance towards a 'bottom-up' approach

ECONOMIC

E2. Providing certainty to potential industry investors, e.g. through licensing and granting concessions to renewable energy developers in certain marine areas **(R)**

Comment: Seabed lease concessions and licensing arrangements give security of tenure to developers. Also, considerable financial support is available from public funds for the development and deployment of MREDs. Support comes in the form of capital grants and the 'ROCs' (Renewables Obligation Certificates) regime for electricity utilities. ROCs are currently awarded by the government at a rate of 0.9 per MWh for onshore wind; 2.0 per MWh for offshore wind; and 5.0 per MWh for wave and tidal. In addition the Scottish Government is offering incentives such as the 'Saltire Prize'. This offers a prize of £10million for the competitor who achieves the greatest volume of electrical output over a set minimum hurdle of 100GWh over a continuous 2 year period using only the power of the sea.

INTERPRETATIVE

I1. Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of a marine spatial plan **(R)**

Comment: The government 'Sectoral Plans' for marine wind, wave and tidal energy are non-statutory but feed directly into the statutory National Marine Plan. The sectoral plans indicate general areas where marine energy projects are likely to be approved subject to the developer's EIA being satisfactory. The areas have already been subject to SEA and the ultimate sustainable generating capacity determined.

KNOWLEDGE

K1. Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, e.g. establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge **(R)**

K5. Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in developing and implementing marine spatial plans **(R)**

Comment: The uncertainty created by the urgency and unknowns of MREDs development have resulted in a government policy of 'Deploy and Monitor' allowing work to proceed without interruption. The phased introduction of marine planning has identified existing knowledge and the research gap to be filled.

LEGAL

L1. Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, etc in order to ensure the achievement of MSP objectives, such as achieving environmental criteria and providing access rights for particular uses **(R)**

L2. International-regional-national-local legal obligations that require effective implementation of MSP, including the potential for top-down interventions **(R, Marine Scotland Act)**

L4. Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users **(R)**

L7. Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international levels (S1)

L8. Scope for legal flexibility –subsidiarity, adaptive management and local discretionary action – maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of strategic objectives (S2 and S3)

L9. Legal or other official basis for coordination between different countries, between federal and sub-national governments, and between different government agencies/law enforcement units, to address cross-jurisdictional and cross-sectoral conflicts in order to support the achievement of MSP objectives (R)

L11. Establishing legal provisions to ensure the transparency in MSP processes, e.g. statutory requirements for public access to information, appeals, public hearings, etc (R)

Comment: The legal framework for marine planning is in the process of development and the various elements are summarised in the chart in Fig 2. Significant features of the framework are a centrally run system focused on multi-use and a 'case by case' consenting process. It aims to be pragmatic and flexible within a framework of standards and policy to guide decision makers. There are statutory provisions for public consultation which fall short of full participation in the developing case. Incentives L7 and L8 are considered in relation to the alternative scenarios S1, S2 and S3.

PARTICIPATIVE

P1. Developing participative governance structures and processes that support collaborative planning and decision-making, eg user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, etc, including training to support such approaches (S2)

P2. Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to any MSP-related obligations. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect (S3)

P4. Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, etc, recognising that this can lead to an 'upward spiral' (Ostrom 1999) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, etc can lead to a 'downward spiral'(S2)

P5. Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users (S2)

P8. Promoting recognition & realisation of the potential for a the participative governance of a given MSP initiative to influence the higher-wider statutory framework, processes and obligations, i.e. that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution (S3)

Comment: The main participatory incentives are absent from the developing case. There are statutory requirements for public information and consultation but these fall short of full participation and a local say in setting the agenda. The relevant incentives shown refer to the alternative scenarios designed to introduce participation.

5.2 Discussion - developments in governance

The incentives employed to develop the governance regime related to the priority operational objective to develop marine energy are probably going to be effective provided that conflicts can be contained, a highly uncertain proposition. They mainly address national objectives for energy security and development. The economic incentives are powerfully directed towards this end. The interpretative incentives expressed in the 'Sectoral Plans' for offshore wind, wave and tidal energy are given a high priority within the developing planning framework shown in Fig.2. The whole energy programme is accompanied by uncertainty and a lack of knowledge which hinders recognition of conflicts and participation to help resolve them. Industry technology, financial viability, interactions with other users and ecosystem effects are all largely estimates at this time. Knowledge incentives recognise the shortfall but rely on a policy of 'deploy and monitor' to maintain progress. Legal incentives reflect a centrally driven framework in the interests of national objectives and international obligations. The participative incentives are weak and depend on public consultation of what has already been largely decided. After initial curiosity, the consultations in the PFOW area have been poorly attended. If not contained, the conflicts could damage the priority operational objective and breach other economic, social and ecosystem objectives in the Scottish National Marine Plan.

The main scenarios for improving governance in the existing initiative relate to the introduction of participation incentives supported by additional legal incentives. Three levels of participation are considered going from a simple right of appeal (S1) to an institutional basis for negotiation (S2) and a re-balancing towards 'bottom-up' planning process (S3).

6 Cross-cutting themes

The cross-cutting themes and sub-themes listed are mostly relevant to the non-statutory PFOW marine plan and to the priority operational objective of wave and tidal energy development. These are discussed in more detail below:

6.1 Combining top-down role of state and bottom-up participative approaches

- 6.1.1 Balance of the influence of stakeholders and the influence of national-local government in the existing initiative
- 6.1.2 Degree of decentralisation (*i.e.* level of autonomy of sub-national/local governments) and the relative influence of national/federal and sub-national/local governments on the existing initiative
- 6.1.3 Role of EC in promoting MSP at national and ground levels, including promoting stakeholder participation to achieve strategic outcomes
- 6.1.4 Level of consensus, compromise and imposition in the existing initiative
- 6.1.5 Views of stakeholders from different sectors on the priority operational objective, *e.g.* validity, priority

6.1.6 The existing initiative as a vehicle for promoting cooperation and collaboration between different levels of governments (*e.g.* national/federal, regional, and local) and different sectoral agencies in developing and implementing marine spatial plans

6.1.7 Transparency in decision-making processes

6.1.8 Role of NGOs *e.g.* promoting cooperation in fulfilling the priority operational objective; promoting the views of particular communities

Key issues in this theme are the 'balance of influence' and the 'degree of decentralisation'. The ambitions for transparency, consensus and stakeholder engagement are present in both top-down and bottom-up solutions. The balance in the PFOW plan is strongly towards the centre with little decentralisation. The extent to which this matters is followed up in the subsequent themes.

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

6.2.1 General approaches adopted for promoting interactions and dialogue between different sectors, *e.g.* employing forums, bilateral consultations *etc* in order to reduce division, mistrust and conflicts among different sectors and user groups, including the interactions between new (*eg* renewables) and existing sectors (*e.g.* conservation); role of NGOs as intermediaries for resolving inter-sectoral conflicts;

6.2.2 Competition for space between sectors (*e.g.* renewables and conservation) and within sectors (*e.g.* between different renewable companies) as a source of influence on and drive for the existing initiative

6.2.3 The development and implementation of the existing initiative as a vehicle for promoting integrated management of different sectors: influence of the existing initiative over the management of different sectoral activities

6.2.4 Potential winners and losers in the existing initiative, power struggles and displacement issues

6.2.5 Rising role of NGOs in promoting particular agendas and objectives

There is competition for space in the PFOW between marine renewables, other sectoral uses and conservation. From the experience so far it appears that renewables will be given priority with varying degrees of protection given to other interests. International shipping routes enjoy almost complete protection because they are the subjects of international treaty. Natura 2000 areas are legally protected against harm to specified habitats and species. Marine protected areas have less protection because, under government policy, they are presumed to be available for use. Seascape has little protection against visual intrusion but the proximity of the adjacent UNESCO World Heritage Site offers a degree of defence against excessive intrusion. The user groups with least power to influence events are the local community and traditional users such as fisheries, tourist operators, the arts/culture sector and people/communities who place a high value on the Orkney 'way of life'.

6.3 Cross-border issues between countries

6.3.1 Cross-border issues regarding historical fishing access rights under 'relative stability'

6.3.2 Effectiveness of transboundary cooperation and collaboration in the existing initiative, *e.g.* in designing, designating and managing adjoining MPAs for bio-geographical features that cross national borders

6.3.3 Sharing of data and information between different member states in the existing initiative

6.3.4 Role of the EC and the principle of subsidiarity: what can the EC say and not say about cross-border and cross-sector management in MSP?

6.3.5 Mechanisms for cross-border monitoring and integrated assessments

This theme has perhaps less relevance than the others because the PFOW plan area is remote from international boundaries. There could, however, be far field effects from the priority

operational objective which need to be kept under study. Hydrodynamic changes and effects on migratory fish and mammals could be internationally relevant in the future if very high levels of marine renewable activity, extracting very large quantities of energy, are deployed.

6.4 Justice issues

6.4.1 The provision of legal rights to appeal and effectiveness in the use of adjudication platforms at various levels (international, EU and national) in addressing justice issues

6.4.2 Environmental justice issues – conserving marine environment for indirect benefits (ecosystem services) of wider society

6.4.3 Social justice issues – rights of users to access areas/resources for their livelihoods and ‘way of life’

Questions of justice are a major cross-cutting theme in the PFOW and the main basis for proposing the alternative scenarios detailed in Section 5. For peripheral and island communities like Orkney, the introduction of large scale industrial processes like marine energy has far reaching effects on the whole way of life of everyone in the community.

6.5 Influence of different knowledge and uncertainty in decision-making, e.g. different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

6.5.1 Relative influence of expert and local knowledge in decision-making processes

6.5.2 The power of information and innovative communication tools (e.g. mapping and innovative ways of display) in influencing people’s perceptions and behaviour

6.5.3 Effects of uncertainty in decision-making and different options for addressing such uncertainties, e.g. uncertainties regarding the effects of key activities (e.g. wind farms) and of the cumulative impacts of multiple activities; role of the precautionary principle

6.5.4 Transparency on issues arising from uncertainty; i.e. how such issues are communicated, debated and accommodated, e.g. by scientific advisory bodies.

6.5.5 Expanding role of scientific advisory bodies, e.g. ICES in gathering data and providing advice on marine management

6.5.6 Accessibility to and transparency of existing data and information held by expert bodies, within sectors and by different nations

6.5.7 Uneven distribution of data and information between countries and regions; differences in capacity for gathering and providing of data and information

Uncertainty and the effects of uncertainty permeate every level of the implementation of the PFOW priority operational objective. Prolonged uncertainty can be seen to have a profound effect on decision-making and consultation. Information is slow to be made public and consultation events demonstrate little change from the one before leading to loss of interest.

7 Conclusions

The new and developing governance structure for the Pentland Firth and Orkney Waters area is internationally and nationally significant. First, because Scotland is a major European marine state, it has the 4th largest marine area in Europe and a high level of marine activity existing and planned [Fig.3]. Second, because the PFOW area is a designated ‘Marine Energy Park’ and the leading centre in the world for the research, development and deployment of wave and tidal energy. Wave and tidal energy raises particularly important planning questions because of

the geographic extent of proposed arrays, their proximity to shore, and the operations link across the sea/land boundary. The planning process is driven by marine renewables and the priority operational objective to deploy 1.6GW of generating capacity by 2020 [Marine Scotland 2012]. Marine renewables are driven by ambition for the sustainable development of the marine area and the mitigation of the effects of climate change [Marine (Scotland) Act 2010]. The analysis of the emerging governance structure leads to several conclusions.

- The most powerful incentives towards achievement of the priority operational objective are economic in the form of grants, subsidies and prize competitions. The economic incentives are supported by a framework of legal incentives and interpretive/knowledge incentives for research and development.
- The emerging governance process is top-down and centrally driven. It is pragmatic, flexible and encourages multi-use of marine space. The government sets the standards through national, regional and sectoral plans [Fig.2]. Case by case consenting places the burden on developers to prove compliance through their project EIA. Public information and consultation events are required at each stage of the framework and for each project.
- Participation incentives are weak or absent in the emerging case. No powers are specifically devolved to local authorities and users except for the right to be consulted and to form advisory groups such as the regional Marine Planning Partnerships allowed in legislation. Indeed some local powers are specifically curtailed by provisions such as Section 36 of the Electricity Act 1989. This allows ministers to award deemed planning consent for certain projects including both marine and terrestrial elements. In Scotland all marine renewable energy projects in excess of 1MW fall within the scope of Section 36.
- The major cross-cutting themes and sub-themes are issues of justice and of social justice in particular (6.4.3). Orkney claims protection for a 'special' way of life because of its status as a small peripheral island community of unique social and cultural character. It is a non-industrial society with below average earnings but very low unemployment thanks to the availability of traditional sources of employment in agriculture, fisheries and tourism. The introduction of a large scale marine energy industry will have major, and transient, effect. Socio-economic study shows employment peaking during construction and decommissioning and at fairly low levels in operation adding to the 'boom and bust' risk which is prevalent in island economies. The justice argument prompted the award of specific local powers over the oil industry [Orkney County Council Act 1974] and aquaculture [Town and Country Planning (Scotland) Act 1997 and amendments]. They are not so far proposed for marine renewables.
- Remaining work under the MESMA programme is directed towards analysis of the three alternative scenarios - S1 (right of appeal); S2 (institutional basis for appeal); and S3 (a rebalancing towards a bottom-up approach) are proposed for dealing with the questions

of justice and with the other cross-cutting themes of top-down/bottom-up balance; sectoral integration and power issues; and uncertainty in knowledge and decision-making.

APPENDIX 1

List of incentives (section 5 of the Analytical Structure)

R = Relevant to PFOW study; NR = Not relevant; S1 = Scenario 1; S2 = Scenario2; S3 = Scenario 3

Economic incentives

- E1. Promoting and protecting the rights and entitlements of local 'customary' users, *e.g.* through assigning fishing rights to certain marine areas and fish stocks **(NR)**
- E2. Providing certainty to potential industry investors, *e.g.* through licensing and granting concessions to renewable energy developers in certain marine areas **(R)**
- E3. Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with MSP objectives and can generate sustainable income for local people **(NR)**
- E4. Providing fair economic compensation for those users who carry costs as a result of restrictions on their activities that cannot reasonably be offset through compatible alternative livelihoods **(NR)**
- E5. Providing sufficient government funding to support the development and implementation of the MSP, including surveillance and enforcement activities and the use of other economic incentives **(NR)**
- E6. Seeking NGO and corporate funding through endowments to support the development and implementation of the MSP, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot 'capture' MSP governance through an inappropriate degree and type of influence **(NR)**

Interpretative incentives

- I1. Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of a marine spatial plan **(R)**
- I2. Promoting recognition of the potential resource development benefits of MSP, whilst being realistic about such potential benefits and not 'over-selling' them, *e.g.* displaying development zones to potential developers and investors, potential internal and spill over/export benefits of MPAs **(NR)**
- I3. Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of MSP in the SMA **(NR)**

Knowledge incentives

- K1. Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, *eg* establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge **(R)**
- K2. Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms **(NR)**
- K3. Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, *etc.*, *e.g.* conducting studies in collaboration with users on the patterns of biodiversity and resource use within SMAs, including trends **(NR- this has only been done by ICIT, not the planners)**
- K4. Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc* to support the development of a marine spatial plan **(NR)**

K5. Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in developing and implementing marine spatial plans **(R)**

K6. Reducing the barriers in access to information and data held by different agencies, user groups and countries, and promoting the exchange, sharing and integrated use of such information and data in MSP processes, *e.g.* geo-spatial data, ecological trends, fisheries data **(NR)**

Legal incentives

L1. Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc* in order to ensure the achievement of MSP objectives, such as achieving environmental criteria and providing access rights for particular uses **(R)**

L2. International-regional-national-local legal obligations that require effective implementation of MSP, including the potential for top-down interventions **(R, Marine Scotland Act)**

L3. Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfilment of MSP objectives, whilst avoiding a complete 'command-and-control' approach **(Too early to assess)**

L4. Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users **(R)**

L5. Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *e.g.* at national, EU or international level **(Too early to assess)**

L6. Clarity and consistency in defining the legal objectives of MSP, general and zone use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the MSP and existing plans/regulations for the management of individual sectoral activities **(Too early to assess)**

L7. Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international levels **(S1)**

L8. Scope for legal flexibility –subsidiarity, adaptive management and local discretionary action – maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of the priority operational objective **(S2 and S3)**

L9. Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority operational objective **(R?)**

L10. Legal or policy basis for promoting cross-jurisdictional coordination between member states **(R?)**

L11. Establishing legal provisions to ensure the transparency in MSP processes, *e.g.* statutory requirements for public access to information, appeals, public hearings, *etc* **(R)**

Participative incentives

P1. Developing participative governance structures and processes that support collaborative planning and decision-making, *e.g.* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc*, including training to support such approaches **(S2)**

P2. Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to any MSP-related obligations. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect **(S3)**

P3. Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes **(NR)**

P4. Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc*, recognising that this can lead to an 'upward spiral' (Ostrom 1999) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc* can lead to a 'downward spiral'**(S2)**

P5. Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users **(S2)**

P6. Providing for participative enforcement amongst users, *e.g.* peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of SMA restrictions **(NR)**

P7. Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfilment of strategic SMA objectives **(NR)**

P8. Promoting recognition & realisation of the potential for a the participative governance of a given MSP initiative to influence the higher-wider statutory framework, processes and obligations, *i.e.* that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution **(S3)**

P9. Bringing in 'neutral' facilitators to support governance processes and negotiations or training state employees to do so **(NR)**

P10. Employing 'neutral' and widely respected panels to arbitrate on issues, conflicts, options, *etc* and recommend decisions **(NR)**

APPENDIX 2. Methods Employed (N.B. Not yet complete at 01 November '12)

1. Document Analysis

Document analysis has been a main source of data. Documents referenced and studied include:

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2. Participant or non-participant observation

A large number of meetings have been observed including all the main consultation meetings organised by Marine Scotland, the Crown Estate and marine renewable developers. The record of one critical meeting between planners/developers and fishers may be accessed at:

Johnson, K., 2011. *Diary of a stakeholder meeting - the industry meets the fishers*, A report of the meeting between marine energy developers and the fishers of Orkney on Wednesday 9th March 2011 in the Kirkwall Hotel, ICIT, Heriot-Watt University, Orkney. Available at: <http://www.icit.hw.ac.uk/download.htm>

3. Semi-structured interviews

A series of semi-structure interviews have been undertaken with government, regulators, developers and users.

4. Structured questionnaires

The MERiFIC project questionnaire about marine renewables in Orkney and Shetland is being tracked.

5. Stakeholder workshops

Two stakeholder workshops have been organised and the results may be accessed at:

Johnson, K., Kerr, S., Side, J. and Jackson, A., 2011. *Wave and Tidal Energy in the Pentland Firth Area - stakeholders, who needs them?* (report of the SRDG/MESMA workshop on 9th February 2011), ICIT Heriot-Watt University, Orkney. Available at:

<http://www.mreds.co.uk/pdfs/Stakeholder%20Workshop%20Report.pdf>

Kerr, S., Gibb, S., Grist, E., Harendza, A., Harris, R., Jackson, A., Shields, M., and Side J., 2010. Wave and Tidal Energy in the Pentland Firth - how much environmental monitoring is enough? (report of the SRDG stakeholder workshop on 1st December 2009, ICIT Heriot-Watt University, Orkney. Available at: <http://www.mreds.co.uk/pdfs/Pentland%20Firth%20Workshop%20Report.pdf>

6. Future Initiatives

A final workshop and questionnaire under the MESMA programme is planned for Spring/Summer 2013

A7.11 Case study report: The Celtic Sea case study

Basic details of the case study:

Initiative	The Marine Conservation Zone process in south-west England
Description	England's Marine Conservation Zone (MCZ) planning process, with a focus on Finding Sanctuary, a regional stakeholder project tasked with developing MCZ recommendations for south-west England
Objectives	Design a network of MCZs in SW England, taking account of socio-economic impacts
Scale	Nature conservation / MPAs: South-west England's inshore and offshore waters (~95,000 km ²) – though much of the analysis focuses on the wider MCZ process for England as a whole
Period covered	2009-2013
Researchers	Louise Lieberknecht; Peter Jones (University College London)
Researchers' background	Natural Science; Social Science
Researchers' role in initiative	UCL has no role in the process & acts as independent observer, though the lead researcher on the case study, L. Lieberknecht, worked for Finding Sanctuary as MPA Planner from 2007-2011

The next 31 pages reproduce a summary version of this case study report, in the format presented by the authors (including original page numbering!). Following the summary, the full report (328 pages) is reproduced, again in original format with original page numbering.

The summary report should be cited as:

Lieberknecht, L. M.; Qui, W.; and Jones, P. J. (2013) *Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process. Summary and Recommendations*. Summary of a case study report for Work Package 6 of the MESMA project (www.mesma.org). 31pp.

The full report should be cited as:

Lieberknecht, L. M.; Qui, W.; and Jones, P. J. (2013) *Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 328pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.



MESMA Work Package 6

Celtic Sea Case Study Governance Analysis
Finding Sanctuary and England's Marine Conservation Zone process

Summary and Recommendations

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Table of Contents

1 Introduction	3
1.1 Introduction to this governance analysis.....	3
1.2 Positionality, sources, and acknowledgements	3
1.3 Overview of the full report	4
2. Finding Sanctuary and England’s MCZ process.....	5
2.1 The national MCZ process in England	5
2.2 Finding Sanctuary.....	7
2.3 Finding Sanctuary’s outcomes	9
2.4 The national MCZ process between September 2011 and December 2012	9
3. Main findings of the analysis	11
3.1 One process, two approaches.....	11
3.2 The shift in evidence requirements	12
3.3 The ‘cliff’ in stakeholder engagement	16
3.4 ‘Flying blind’: Process-generated uncertainty	17
3.5 Marine protected areas or marine protected features?	18
3.6 Conflicts.....	19
3.7 Incentives	19
3.8 Effectiveness of the MCZ process	20
3.9 A note on the December 2012 public consultation	22
4. Recommendations	23
4.1 Improve clarity in the current MCZ process	23
4.2 Improve transparency, and ensure equal access to information	23
4.3 Be pragmatic about evidence and uncertainty.....	24
4.4 Develop an alternative, more practical approach to conservation objectives.....	25
4.5 Clarify MCZ management – eliminate unnecessary uncertainty.....	27
4.6 Cross-sectoral stakeholder participation: ‘Once More, With Feeling’.....	28
4.7 Diversify the incentives used	29
4.8 Monitor MCZs	30
4.9 Map out an effective review process (adaptive planning and management).....	30
4.10 Establish multidisciplinary expert advice panels.....	31

1 Introduction

1.1 Introduction to this governance analysis

This report presents a summary of the findings of a detailed governance analysis of England's Marine Conservation Zone (MCZ) process, which was conducted over the course of 2012 as a contribution to MESMA, an EU-FP7 project on the monitoring and evaluation of spatially managed marine areas (<http://www.mesma.org/>). The citation and link for the full report that is summarised here is:

Lieberknecht, L. M.; Qiu, W. and Jones, P. J. S. (2013) *Celtic Sea Case Study Governance Analysis - Finding Sanctuary and England's Marine Conservation Zone process*. A report for work package 6 of the MESMA project. 328pp. http://www.geog.ucl.ac.uk/about-the-department/people/research-staff/louise-lieberknecht/2013_01.pdf/view

The analysis focused on the MCZ process in south-west England, i.e. on Finding Sanctuary, a participative stakeholder project that operated within south-west England between 2007 and 2011. Finding Sanctuary was one of four regional MCZ projects tasked with delivering MCZ recommendations to the UK Government. The project was analysed in the context of England's wider, national MCZ process (which was still on-going at the time of writing), in particular covering the period between the end of Finding Sanctuary in the autumn of 2011, and the launch of a national public consultation on MCZ proposals in December 2012.

The governance analysis report was undergoing its final edits at the time the national public consultation on MCZs was launched. The report's publication deadline did not allow time to include an analysis of the consultation documents, so the consultation is referred to in the future tense throughout this document. The analysis essentially took a snapshot of an on-going process. The themes covered (such as conflicts, incentives, evidence and uncertainty) will continue to unfold over time, as will the evolution of the MCZ proposals themselves.

1.2 Positionality, sources, and acknowledgements

University College London (UCL) has played no formal role in the MCZ process at any time. However, prior to taking up her position at UCL in November 2011, the main author worked as Finding Sanctuary's MPA planner (from April 2007 to October 2011).

The analysis draws on the personal experience of the main author, the insights of Peter Jones (who was an independent observer of Finding Sanctuary's stakeholder meetings), as well as a wide range of stakeholder perspectives, gathered through direct observations, Finding Sanctuary's published reports, and interviews conducted over the summer of 2012. It also draws on a long list of grey literature about the MCZ process.

Key references are included in footnotes in this summary document, but readers should refer to the appendices of the full report for a complete description of source materials, including reference lists and full details of the summer 2012 stakeholder interview process.

Thanks are due to Finding Sanctuary's stakeholders and staff for permitting the observation of their work for this research. Particular thanks are due to the 23 former members of the Finding Sanctuary Steering Group who agreed to be interviewed in summer 2012, contributing their time and knowledge to this analysis.

1.3 Overview of the full report

The full report followed a pre-defined structure, designed to facilitate the cross-comparison of specific process elements across multiple European case studies, which are all being analysed within the MESMA project. This pre-defined structure, based on the work carried out by Jones *et al.* (2011)¹ is as follows:

1. *Context*: A description of the process, followed by a description of the socio-economic, political, and policy context for the case study.
2. *Objectives and management measures*: A description of the objectives of Finding Sanctuary and the MCZ process and its legal underpinnings, followed by an overview of existing spatial measures in the region, and the policy context for other relevant sectors and wider marine planning.
3. *Conflicts*: An in-depth analysis of the conflicts emerging during this case study, including a discussion of uncertainty as a driver of multidimensionality and complexity in conflicts.
4. *Governance approach and effectiveness*: An overview of the main governance approach of the process, and its effectiveness in achieving the stated objectives.
5. *Incentives*: An in-depth analysis of the economic, interpretative, knowledge, legal and participative incentives used in the context of the case study.
6. *Cross-cutting themes*: An in-depth analysis of cross-cutting themes within this case study, the most significant being the ways in which the process combines top-down and bottom-up elements, and the impacts of uncertainty within the process.
7. *Conclusion*: A synthesis of the key conclusions of the analysis, followed by a series of recommendations.
8. *Appendices*: Details of the information sources, including the methods and findings of stakeholder interviews.

There are several cross-cutting themes emerging from this case study, which affect virtually every process element. These cross-cutting themes are discussed repeatedly throughout the full report, under different headings, so that the discussion of each process element is complete in itself, and can be extracted for easy cross-comparison with equivalent elements in other case studies. As a result, the full report is a long document (328 pages), and when viewed as a stand-alone report, the repetition may seem superfluous.

In order to avoid repetition, this summary does not follow the same structure. Instead, it presents a brief overview of the process, and summarises the key findings of the analysis. It finishes with a detailed list of recommendations, which are based on the findings of the full analysis.

¹ Jones, PJS, Qiu W, and De Santo EM (2011): *Governing Marine Protected Areas - Getting the Balance Right*. Technical Report, United Nations Environment Programme. ISBN: 978-92-807-3159-0
<http://www.mpag.info>

2. Finding Sanctuary and England’s MCZ process

2.1 The national MCZ process in England

Legal background and objective

Sections 116, 117 and 123 in part 5 of the [Marine and Coastal Access Act \(2009\)](#)² (the Marine Act) require MCZs to be designated in England and Wales, to form a representative network of marine protected areas (MPAs) in conjunction with other types of MPA designation (most significantly, marine *Natura 2000* sites designated under the European [Habitats](#)³ and [Birds](#)⁴ Directives). The Marine Act thereby provides the national legal basis for implementing article 13 (4) of the [EU Marine Strategy Framework Directive](#)⁵ (MSFD), which requires Member States to establish ‘coherent and representative’ MPA networks by 2016.

At the outset of the MCZ process, Government stated a wider aim ‘to develop an ecologically coherent and well-managed network of Marine Protected Areas (MPAs) that is well understood and supported by sea-users and other stakeholders’ (page 4 of [Defra GN1](#)⁶). The definition of the term ‘ecologically coherent’ included the requirement for the network to be representative of the full range of marine flora and fauna present in national waters, thus being consistent with the requirements of the Marine Act and MSFD.

The four regional MCZ projects

Finding Sanctuary was the first of four regional MCZ projects to become established. Put together, they covered England’s territorial and offshore waters, and Welsh offshore waters (separate MPA processes exist for other UK marine areas – these were not the subject of this analysis).

Finding Sanctuary’s planning region encompassed around 95,000 km² of inshore and continental shelf waters off England’s south-west peninsula (see figure 1).

The regional projects were tasked with developing recommendations for MCZ locations, boundaries and conservation objectives. In essence, the planning processes were the same in all four regions. In each



Figure 1 The four regional MCZ planning projects. Map created by the JNCC.

² <http://www.legislation.gov.uk/ukpga/2009/23/contents>

³ http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

⁴ http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

⁵ http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

⁶ Defra (2010) *Guidance on selection and designation of Marine Conservation Zones (Note 1). Guidance on the proposed approach to the selection and designation of Marine Conservation Zones under Part 5 of the Marine and Coastal Access Act* (referred to throughout this analysis as Defra GN1)

<http://archive.defra.gov.uk/environment/biodiversity/marine/documents/guidance-note1.pdf>

regional project, a representative regional stakeholder group was tasked with developing recommendations in line with top-down guidelines (the ENG – see below), with a dedicated project team in place to provide the necessary support.

In September 2011, the regional projects provided their MCZ recommendations to Defra (the Department for Environment, Food and Rural Affairs), and to Defra’s statutory nature conservation bodies (SNCBs – specifically, Natural England and the Joint Nature Conservation Committee or JNCC). The regional projects ceased operating at the end of 2011. The SNCBs reviewed the recommendations and passed their formal MCZ advice to Defra in July 2012, based on the work of the regional projects.

The National Project Board

The National Project Board, responsible for managing the overall process, was initially formed by JNCC, Natural England and Defra, and met for the first time in February 2009. In March 2010, Defra left the National Board and became a ‘critical friend’, leaving the JNCC and Natural England responsible for leading the national MCZ project (these organisations also participated in the project as stakeholders, so these organisations had multiple roles in the process).

The Science Advisory Panel

The Science Advisory Panel (SAP) was established by Defra in 2009, as an independent panel consisting of well-respected scientists. The SAP’s role was to offer objective scientific assessment of site proposals made by the four regional MCZ projects against criteria and guidance provided by the SNCBs, and to provide independent scientific advice to Ministers (full terms of reference for the SAP can be found [here](#)⁷). The SAP’s remit was solely to comment on the achievement of the ecological criteria set out in the ENG (see below), and not on any other issues (e.g. relating to economic or social objectives or governance). There were no economists or social scientists on the panel.

National guidance

Many (in excess of 50) guidance documents were issued by national project partners over the course of the existence of the four regional projects, but for the sake of this analysis, there is a small number of really key ones to be aware of:

- The [Ecological Network Guidance](#)⁸ (referred to throughout this report as the ENG) was particularly important, as it described the ecological criteria that the recommended protected area network configuration had to fulfil. It set out a series of practical ecological design guidelines rooted in best available evidence, e.g. requirements to represent a certain percentage of different habitats within the network.
- The [Conservation Objective Guidance](#)⁹ (COG) was another key guidance document, which prescribed the format for MCZ conservation objectives.
- The [Project Delivery Guidance](#)¹⁰ (PDG) described the national MCZ process in terms of participants, roles, remits and timelines.

⁷ <http://archive.defra.gov.uk/environment/marine/documents/protected/mpasap-tor.pdf>

⁸ JNCC and Natural England (2010a) *Marine Conservation Zone Project - Ecological Network Guidance*. http://jncc.defra.gov.uk/PDF/100705_ENG_v10.pdf

⁹ JNCC and Natural England (2011) *Marine Conservation Zone Project - Conservation Objective Guidance* <http://jncc.defra.gov.uk/PDF/MCZ%20Project%20Conservation%20Objective%20Guidance.pdf>

- Defra produced several overarching policy guidance notes, of which Guidance Note 1 (Defra GN1 – see above) is the most significant in the context of this analysis. It sets out the aims of establishing MCZs, the role of stakeholders in the process, the fundamental network design principles underpinning the ENG, and basic principles underpinning the COG.
- The [draft reference area guidance](#)¹¹ stated that extractive and depositional activities would not be allowed in reference areas, a highly protected type of MCZ, which the ENG stipulated had to form part of the network. The guidance also listed additional ‘potentially damaging or disturbing activities’ that might also face restrictions. The guidance on reference areas was never fully signed off by its authors (JNCC and Natural England).

2.2 Finding Sanctuary

Project timeline and aims

[Finding Sanctuary](#)¹² was the flagship of the four regional projects. It was launched as a pilot project (without any official remit) in 2007, became formalised (with its official role in the MCZ process) over the course of 2009, and delivered its [final report](#)¹³ in September 2011.

Finding Sanctuary’s objectives represented a milestone on the way towards achieving the goal of the wider MCZ process. The project aimed to:

- deliver recommendations for MCZs that would, if implemented, minimise negative socio-economic impacts (whilst meeting the ENG).
- maximise levels of cross-sectoral support for the recommendations.
- ensure the recommended sites are well understood across sectors.

Finding Sanctuary approached MCZ planning at a regional scale (applying systematic reserve network design principles to create a representative MPA network), and aimed to give a significant and meaningful role to a representative cross-section of marine stakeholders within the planning process. These two characteristics set it apart from existing MPA processes in England (e.g. the *Natura 2000* process, established to comply with the EC Habitats and Birds Directives), which are top-down processes with no stakeholder involvement in the initial planning, and are largely carried out on a site-by-site basis, aimed at protecting a limited number of features rather than a representative cross-section of marine biodiversity.

¹⁰ JNCC and Natural England (2010c) *Marine Conservation Zone Project - Delivering the Marine Protected Area Network -Project Delivery Guidance on the process to select Marine Conservation Zones*.

<http://jncc.defra.gov.uk/PDF/Project%20Delivery%20Guidance%20FINAL%20020710%20secure.pdf>

¹¹ JNCC and Natural England (2010b) *Marine Conservation Zone Project - Draft Marine Conservation Zone Reference Area Guidance Document for Regional MCZ Projects*.

http://www.naturalengland.org.uk/Images/MCZ-regional-guidance_tcm6-23451.pdf

¹² http://tna.europarchive.org/*/http://www.finding-sanctuary.org/

¹³ Lieberknecht, L.M.; Hooper, T.E.J.; Mullier, T.M.; Murphy, A.; Neilly, M.; Carr, H.; Haines, R.; Lewin, S.; and Hughes, E. (2011) *Finding Sanctuary final report and recommendations*. A report submitted by the Finding Sanctuary stakeholder project to Defra, the Joint Nature Conservation Committee, and Natural England.

Available to download via a link on: http://tna.europarchive.org/*/http://www.finding-sanctuary.org/ or direct link: http://jncc.defra.gov.uk/PDF/120718_FindingSanctuary_FinalReport_14Sep2011.pdf

Project participants

Finding Sanctuary was managed by a partnership of organisations: Natural England, the Joint Nature Conservation Committee (JNCC), Devon County Council, Cornwall County Council, Dorset County Council, Somerset County Council, South West Food and Drink, the Wildlife Trusts, and the National Trust. These organisations formed a management board that oversaw progress, ensuring that milestones were met on time and on budget.

The above partnership took no active role in formulating the project's recommendations. This task was given to the regional Steering Group, a stakeholder group of 41 members, representing a cross-section of maritime interests in the south-west region:

- commercial fishing (7 representatives from inshore and offshore interests)
- industry (6 representatives, including offshore renewables, ports, and aggregates)
- leisure and tourism (10 representatives from across the range of recreational interests, including leisure boating, scuba diving, and sea angling)
- conservation (5 representatives, including NGOs and statutory bodies)
- land owners (2 representatives)
- academic science (1 representative)
- public sector regulators and enforcers (3 representatives)
- heritage (1 representative)
- military (1 representative)
- local MCZ groups (5 representatives)

In addition, there were five cross-sectoral local MCZ groups (for Dorset, Devon, Somerset, Cornwall, and the Isles of Scilly), who provided feedback to the regional Steering Group on the developing network configuration, and proposed MCZs for their local inshore areas to the regional Steering Group. There was also a set of national and international 'Named Consultative Stakeholders', who had an interest in being kept informed of progress and being given an opportunity to comment, without being full members of the Steering Group.

The stakeholder representatives were supported in their task by a dedicated project team, who provided GIS and planning support, mapped out relevant datasets, explained guidance, liaised with the wider stakeholder community, wrote up meeting reports and mapped out the developing network configuration. The project team worked with professional facilitators ([R K Partnership](#)¹⁴), who provided expert, independent facilitation during regional stakeholder group meetings, and provided advice and support on the detailed planning process design.

The project team also acted as the link with the national MCZ process, writing regular progress reports to the SAP, SNCBs and Defra, as well as liaising with the National Project Board to highlight practical obstacles to progress and suggest solutions to those obstacles. At the end of the project, the project team wrote up the final project report¹³, which included an account of the process and the stakeholders' final MCZ recommendations.

¹⁴ <http://www.rkpartnership.co.uk/>

2.3 Finding Sanctuary's outcomes

The Steering Group's final MCZ recommendations were set out in full detail in part II of Finding Sanctuary's final report. They consisted of 58 recommended MCZs (rMCZs), including 13 recommended reference areas (highly protected MCZs required by the ENG).

Broadly speaking, the recommended configuration of sites met the ENG targets (although the reference areas fell short of the ENG requirements). The recommendations for site boundaries and conservation objectives were accompanied by a detailed narrative on the assumptions and conditions that the recommendations were based on, and the uncertainties that the Steering Group faced in their task.

Each rMCZ put forward by the regional projects came with a list of feature-specific draft conservation objectives, which specified the features that the site would protect if designated, and whether or not each feature was to be

- 'maintained' in 'favourable condition' (for a standard MCZ where the feature is already in favourable condition)
- 'recovered' to 'favourable condition' (for a standard MCZ where the feature is currently in a deteriorated condition)
- 'recovered' to 'reference condition' (for features in reference areas)

This feature-specific format for MCZ conservation objectives was required in the COG, which did not allow conservation objectives to be developed for sites as a whole. This feature-specific approach resulted in a very large number of draft conservation objectives: Finding Sanctuary put forward a total of 587 (and, put together, all four regional projects put forward 1205).

At the end of the project members of the Steering Group felt a significant degree of ownership of the final recommendations. However, because the management of future MCZs remained completely uncertain (see section 3.4), stakeholders strongly felt that the task of planning MCZs remained unfinished. The Steering Group made a joint statement, to accompany their final recommendations, in which they explicitly requested an on-going role within the MCZ process, and a voice in decisions about how MCZs should be managed once designated.

2.4 The national MCZ process between September 2011 and December 2012

Finding Sanctuary's formal phase ended in September 2011, with the delivery of the project's final MCZ recommendations to the SNCBs and Defra. Finding Sanctuary's final Steering Group meeting was in July 2011. The project team ceased to operate at the end of October 2011, with the exception of the project economist and one GIS officer, who remained in post into 2012, in order to deliver a formally required socio-economic Impact Assessment on the project's final recommendations, which was submitted to Defra in July 2012 (along with the SNCB's formal MCZ advice package – see below).

On November 15th, 2011, the Science Advisory Panel published their [final advice](#)¹⁵, which commented on the final recommendations of the four regional projects. The SAP then ceased to

¹⁵ MCZ Science Advisory Panel (2011) *Science Advisory Panel Assessment of the Marine Conservation Zone Regional Projects Final Recommendations*.

Part A <http://www.defra.gov.uk/publications/files/sap-mcz-final-report.pdf>

Part B <http://www.defra.gov.uk/publications/files/sap-mcz-final-report-partb.pdf>

operate. On the same date Environment Minister Richard Benyon released a [Written Ministerial Statement](#)¹⁶ on the MCZ process, outlining the process up until 2013. This essentially stated that a 'first tranche' of MCZs would be designated in the summer of 2013, indicating that the criteria for selecting first tranche sites would be based on levels of supporting scientific evidence. No clear process or timetable was indicated for any subsequent tranches.

Following a series of detailed evidence reviews (see section 3.2), the SNCBs delivered their formal [MCZ advice package](#)¹⁷ (based on the regional project recommendations) to Defra, in July 2012. At the time of writing, there was a lack of certainty over which and how many sites would be implemented in the first tranche of designations. Defra was due to launch a public consultation on how it intended to take forward MCZ proposals in December 2012 (see section 3.9).



Figure 2 Cross-sectoral discussions during the development of MCZ recommendations during a Finding Sanctuary Offshore Working Group meeting. © Peter Jones

¹⁶ <http://www.defra.gov.uk/news/2011/11/15/wms-marine-conservation-zones/>

¹⁷ <http://jncc.defra.gov.uk/page-6229>

3. Main findings of the analysis

3.1 One process, two approaches

The most salient characteristic of the MCZ process is that it consists of a combination of two separate planning approaches:

- Approach 1 is a systematic, broad-scale approach. It focuses on building a biologically representative protected area network, based on the best information currently available. It emphasises transparency, and has strong participative (bottom-up) elements, with cross-sectoral stakeholder platforms given a direct role in the planning process. It also has strong top-down elements, which define the parameters within which the participative process operates, and retain decision-making power. Within approach 1, there would be scope for a strategic, network-scale approach to MCZ management - e.g. implementing the same set of measures across multiple sites, and defining activity restrictions and management measures upfront or as part of the spatial planning process. However, such a strategic approach was not taken within the MCZ process, and MCZ management remains undefined (section 3.4).
- Approach 2 is a more top-down approach, focusing less on the broader regional scale or on the network as a whole. Instead, it targets specific features for protection within MCZs, placing emphasis on obtaining high and detailed levels of evidence on the distribution and condition of individual features at specific locations, to underpin conservation decisions which are made on a case-by-case basis. Planning is characterised by laborious and relatively deterministic pathways, with much weaker participative incentives and a much greater reliance on expert scientific advice from the SNCBs. Stakeholder participation is confined to a public consultation process, with no efforts at incentivising cross-sectoral collaboration. Planning MCZ locations and boundaries is treated as a separate task from planning MCZ management, the latter being left until the final stages of the process.

Finding Sanctuary (and the other regional MCZ projects) set out following approach 1. The ENG provided clear and pragmatic (top-down) guidelines on how to design an ecologically representative and coherent network. These guidelines were anchored in best available data, and incorporated scientifically grounded methods for dealing with uncertainty and data gaps¹⁸.

The participative stakeholder platform provided by the Steering Group incentivised cross-sectoral communication and compromises in the spatial design of the network configuration. The publication of meeting reports and maps of the developing recommendations ensured transparency, which in turn generated feedback from the wider stakeholder community before the recommendations were finalised. Stakeholders involved in the process developed a sense of ownership and understanding of the recommendations.

Over time, however, the wider national MCZ process increasingly shifted from approach 1 to approach 2. The COG (published in early 2011) shifted the focus from building an ecologically coherent network of protected *areas* to the protection of individual species and habitats within the sites, and the end of the regional projects meant an end to transparency in the developing site

¹⁸ Most significantly, by setting targets for including minimum amounts of broad-scale 'surrogate' habitat types in the network – this is explained in more detail in section 6.5.3 of the full report cited in the introduction, as well as within the ENG document itself (see footnote 8 on page 6).

proposals, and an end to participative elements and incentives for cross-sectoral communication within the process.

Within the MCZ process, the two planning approaches have proved to be incompatible. They have clashed and created tensions, rather than interfacing in a seamless manner during the shift between the two. Some of these tensions are explored in the sections below.

3.2 The shift in evidence requirements

Using best available evidence

From the outset of the process, significant efforts were made to ensure that the MCZ process was underpinned by best available information. Several national data gathering contracts were funded by Defra, aimed at delivering consistent, quality assured, best available biophysical and socio-economic information to all four regional projects, focusing in particular on spatial data layers for use in GIS analysis. Their combined cost came over £1.3 million¹⁹. Further spatial datasets were provided by the SNCBs.

Finding Sanctuary project staff also went to a lot of effort to collect regional-scale information for south-west England, not least through collecting and mapping regional stakeholder knowledge ([FisherMap](#)²⁰). Appendix 8 of Finding Sanctuary's final report provides full details of the datasets that were used.

Defra GN1 explicitly acknowledged uncertainty and information gaps, stating that: 'Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.' Finding Sanctuary thus proceeded with its task based on the best available data.

Shifting to an 'evidence-based' approach

In May 2011, Natural England and the JNCC published a document referred to as the '[levels of evidence guidance](#)²¹ (the content and timing of which were probably driven by the emerging recommendations from a review of the evidence underpinning new inshore *Natura 2000* sites – see Graham-Bryce, 2011²²). The guidance indicated that at each successive step in the process, higher levels of evidence would be required in order to proceed, with scientific uncertainty and data gaps becoming increasingly less tolerated at each step. MCZ planning ('site identification') would proceed

¹⁹ Details can be found by entering contract codes MB102, MB106, and MB5301 into the search box here:

<http://randd.defra.gov.uk/Default.aspx?Location=None&Module=FilterSearchNewLook&Completed=0>

²⁰ des Clers, S.; Lewin, S.; Edwards, D.; Searle, S.; Lieberknecht, L. and Murphy, D. (2008) *FisherMap – Mapping the Grounds: recording fishermen's use of the seas*. A report published by Finding Sanctuary. http://findingsanctuary.marinemapping.com/06_all%20project%20reports/Fishermap%20report%20November%202008.pdf

²¹ JNCC and Natural England (2011b) *Marine Conservation Zone Project - Levels of evidence required for the identification, designation and management of Marine Conservation Zones* http://www.naturalengland.org.uk/Images/MCZ-evidence_tcm6-26491.pdf

²² Graham-Bryce, I (2011) *Independent review of the evidence process for selecting marine special areas of conservation* <http://www.defra.gov.uk/publications/files/pb13598-graham-bryce-independent-review-marine-sacs-110713.pdf>

based on best available data, but site designation would require higher levels of evidence, and management decisions (left until the end of the process) would require the highest evidence levels.

Thus, pre-defined evidence ‘hurdles’ would have to be overcome before any conservation action is implemented. In essence, what this described is a shift in the MCZ process, away from working with ‘best available evidence’ (as set out in Defra GN1, quoted above) towards what is being referred to as an ‘evidence-based’ approach. This is one aspect of the shift from approach 1 to approach 2.

The ‘levels of evidence guidance’ was only published at the end of the stakeholder process, so not only does it require the raising of the ‘evidence bar’ at each successive step, but the fact that this would happen was not clearly established at the outset – stakeholders were informed, throughout their planning discussions, that MCZs would proceed on the basis of ‘best available’ evidence.

The content of the November 2011 Written Ministerial Statement (part 2.4) further reflected this shift in the process. It emphasised that there had been ‘gaps and limitations in the scientific evidence base supporting the MCZ recommendations’, and that Defra was therefore commissioning an in-depth review of the evidence base for MCZ recommendations.

Evidence reviews

In between the regional projects submitting their recommendations in September 2011, and the SNCBs finalising their MCZ advice package in July 2012, several evidence reviews were carried out on the regional projects’ recommendations.

1. SAP evidence review:

- The SAP reviewed the evidence presented in the final reports of the regional projects.
- Each recommended site was given an ‘evidence score’ on the basis of the number of literature sources cited within the write-up, and the personal knowledge of the SAP members.
- The SAP did not indicate that evidence scores should be taken as a reason not to proceed with site designation, nor as a basis for fast-tracking some sites over others. In sections 7.3. and 8.7 of part A of their final advice¹⁵, they advised that where there is uncertainty in data, larger areas should be protected and the higher end of ENG target ranges met, in order to safeguard the ecological coherence of the network in the face of uncertainty, i.e. a precautionary approach.

2. SNCB evidence review:

- The SNCBs reviewed the evidence underpinning each one of the draft conservation objectives for the rMCZs submitted by the regional projects.
- The results of this review formed part of their July 2012 MCZ advice package to Defra.
- The SNCBs evaluated the existing evidence for each draft conservation objective, following methods set out in published protocols²³ which explicitly valued recent scientific survey data above all other types of evidence. Each draft conservation

²³ JNCC and Natural England (2012a) *SNCB MCZ Advice Project –Assessing the scientific confidence in the presence and extent of features in recommended Marine Conservation Zones (Technical Protocol E)*

http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf

JNCC and Natural England (2012b) *SNCBs’ MCZ Advice Project Technical protocol F – Assessing scientific confidence of feature condition*

http://jncc.defra.gov.uk/pdf/120106_SNCBs%20MCZ%20Advice%20protocol%20F_confidence%20in%20feature%20condition_v5%200_FINAL.pdf

objective was given a 'confidence score' for feature presence, feature extent, and feature condition.

- The protocols and the resulting SNCB advice were reviewed by an 'independent expert review group' established by Defra, which consisted of five natural scientists (including 2 former SAP members). Their comments reflected a striving for 'objectivity' in the confidence scores. Socio-economic evidence was explicitly excluded from their remit.
 - Given the reductive, feature-by-feature approach to conservation objectives, and the stringent scientific criteria set out in the protocols, it was not surprising that fewer than half of the draft conservation objectives (41%) were given a 'high' confidence score for 'presence' of the feature, with confidence in 'extent' and condition being much lower. For all but 19 out of 1,205 draft conservation objectives put forward by the four regional projects, confidence in feature condition was scored as 'low'.
3. *ABPmer-led evidence review and data gathering:*
- Defra commissioned a separate, independent evidence review project, which was completed by a consultancy (ABPmer). This project did two things:
 - It conducted another evidence review, creating confidence scores for each draft conservation objective, essentially replicating the SNCB's evidence review.
 - It aimed to 'mop up' any existing evidence that had either been missed by the regional projects, or had been newly collected since the end of the regional projects. Little additional relevant information was found.

In addition to the evidence reviews, new survey work was carried out over the course of 2012, which targeted a small number of areas put forward as offshore MCZs. Defra commissioned new offshore surveys which cost of over £4 million ([Defra contract MB0120²⁴](#)). The results from the 2012 offshore surveys were not analysed and written up in time to be taken into consideration during the MCZ evidence reviews.

Interviews carried out in the summer of 2012 with former Finding Sanctuary Steering Group members highlighted a lack of transparency about what had happened within these evidence reviews, and how they will impact the outcomes of the MCZ process (e.g. the selection of sites for the first tranche of MCZs in summer 2013). From the outside, it was not clear to most people whether or not more than one evidence review had taken place, who had carried out which parts of the work, or what bearing the review process would have on the outcomes of the MCZ process.

Problems related to the shift in evidence requirements

Raising the 'evidence bar' at each step in the MCZ process, as laid out in the 'levels of evidence guidance', effectively means that each step undermines the work carried out in the preceding one. One might reasonably ask what the point is of planning a representative network if only a fraction of that network can subsequently be designated, or what the point is of designating sites if no effective management measures can be put in place within those areas, given the increasingly high evidence requirements to justify proposals and eventual management measures.

²⁴<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18221&FromSearch=Y&Publisher=1&SearchText=marine%20conservation%20zones&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

The shift towards increased evidence requirements effectively undermined the hard work carried out by the regional projects' stakeholder groups. Stakeholders committed a lot of time and effort to a process wherein they were instructed to proceed based on best available data, even when they raised queries about data gaps. Following the completion of their task, the process (retrospectively) deemed that this evidence was 'not good enough' for underpinning site designation, after all.

The summer 2012 interviews made it clear that this caused a significant degree of frustration amongst a lot of stakeholder representatives, with several interviewees viewing the shift as a 'stalling tactic'. Almost everyone thought that the evidence requirements should have been decided at the outset, and then remained the same. Only a small number of stakeholder representatives openly stated strong support for the shift to an 'evidence-based' approach (during the interviews or elsewhere), and these were opponents of MCZs, including offshore fishing representatives. South-west based mobile gear fishermen had also previously challenged the evidence underpinning the inshore *Natura 2000* process, leading to the review by Graham-Bryce (2011)²².

Hand-in-hand with a shift away from the 'best available evidence approach', there was a shift towards a 'feature-by-feature' approach, with conservation objectives targeted at specific features (rather than at areas), and made dependent on feature condition. This reductive approach (defined in the COG) requires sound evidence to demonstrate presence, extent and condition of individual species and habitats at specific locations, before conservation objectives can be drafted which will stand up to legal challenge: The COG approach directly fuels the need for evidence, by focussing on individual features rather than on areas.

The 'evidence-hungry', feature-based approach leads the process down a path where MCZs can only be designated in areas where good survey data exists can. Detailed marine biological survey information is concentrated around the shoreline, with the spatial density of survey locations decreasing rapidly with increasing distance from the shore. There are large areas of the UK's continental shelf with no recent, detailed biological survey information available - going down the 'evidence-based' route effectively precludes these areas from designation. This means that offshore features could lack representation in the network, jeopardising the achievement of Marine Act section 123 (the requirement for a representative MPA network), and undermining the ecological coherence of the network as defined in Defra GN1 and the ENG.

A related challenge is that the evidence-based approach narrows down the number of potential spatial network configurations. This undermines the flexibility that was inherent within the ENG, which treated widespread broad scale habitats as ecological 'surrogate' features for which quantitative targets were set. Comprehensive broad-scale habitat maps exist for the continental shelf area (through a combination of modelled data, remotely sensed data, and direct survey data), so this approach opened up a large range of potential network configurations which would have met the ENG targets, thus allowing the spatial flexibility for trade-offs and compromises to be reached. If the options for spatial configurations had been narrowed down significantly from the beginning, there would have been a lot less incentive for stakeholders to participate.

If the legal obligations of the Marine Act and MSFD are to be met, the MCZ process will have to be re-designed to adapt to the levels of evidence that currently exist. If the current detailed, feature-specific approach continues to be pursued, it will not be practically feasible to gather sufficient detailed evidence to underpin the designation of a network of protected areas that will genuinely protect a representative cross-section of marine biodiversity and provide for a degree of coherence.

3.3 The 'cliff' in stakeholder engagement

From a stakeholder's perspective, engagement in Finding Sanctuary was hard work, and it demanded a lot of commitment. Nevertheless, almost all interviewees in the summer 2012 stakeholder interviews stated that they had greatly valued the cross-sectoral discussion platform, and that they had had a sense of ownership of the developing recommendations at the time, with genuine influence on them. Finding Sanctuary's stakeholder process was successful in that it delivered a set of recommendations that were in line with national guidelines, and which had considerable (though not unanimous) stakeholder support.

At the final Steering Group meeting, there was a sense of frustration that decisions within the process were increasingly being taken out of the remit of the stakeholder's influence, particularly in relation to how MCZs would be managed in future. The group made a joint statement highlighting their concerns about this, and expressing a clear wish to continue to have a role in the process. This can be seen both as a strong criticism of the shift in the process (towards approach 2), as well as a demonstration of the success of the participative approach: Stakeholders valued the role they played, and wished for it to continue, in order to complete what they saw as an unfinished task (given that management of sites remained undefined – see section 3.4).

However, stakeholder participation ended abruptly with the end of the regional projects. Over the following 16 months, stakeholder engagement by the national MCZ process was ad-hoc and unequal, and the summer 2012 stakeholder interviews revealed a lack of clarity and genuine transparency in the process. There were significant differences between stakeholder representatives, in terms of how much information they had about the process, and the degree to which they had access to national forums or meetings where MCZs were discussed.

One of the most frequent themes to be brought up was the sense of a complete change in the nature of the process, which many described as a 'pause', a 'hiatus', or 'radio silence'. Several interviewees stated that they felt they had had very little information about the MCZ process since the end of Finding Sanctuary's stakeholder meetings, and it was not clear to them why there was such a long time gap between the submission of their final recommendations and the start of the public consultation.

At the time the analysis was being carried out, it was not clear what would be included in the public consultation due for December 2012, and what influence it would have on subsequent decisions. Beyond the public consultation, there was no clear perspective for stakeholders in terms of how they might access the longer-term implementation process for MCZs, or whether they would be asked to take on any specific role.

The abrupt end ('cliff') of the stakeholder process has led to a sense of disillusionment with the process, disengagement from it, and loss of ownership of the site proposals. The cross-sectoral forum, with its specific role and influence, incentivised stakeholders to reach across sectoral divides to discuss trade-offs and reach compromises. These incentives for collaborative work no longer exist. Instead, the public consultation process and ad-hoc (mostly bilateral) stakeholder engagement within the current process incentivises each sector to revert to their own stances, and where there are conflicts, to fight hard for their own sectoral interests.

3.4 'Flying blind': Process-generated uncertainty

One of the most problematic aspects of the MCZ process is the fact that it has been designed as a sequential process, which treats the spatial design of the network and decisions on site management as separate, isolated tasks. The process started with the spatial planning – 'drawing lines on maps', planning site location and boundaries, and defining conservation objectives. This will be followed by decisions on site designation, still pending at the time of this analysis. Decisions on activity restrictions and management measures will only be taken months or years after site designation, following a separate (yet to be fully designed) planning process, which will be the responsibility of a different set of public bodies from those who oversaw the spatial planning process.

Regional projects were only ever tasked only with recommending site boundaries and conservation objectives²⁵. Regional project participants overwhelmingly felt that the task was not 'complete' and meaningful without considering management of the sites, but they were not empowered to address the issue. As a result, stakeholders were faced with the task of developing recommendations for the location and boundaries of MCZs, without knowing how MCZs would impact on their activities of interest – an uncertainty that one stakeholder interviewed in summer 2012 described as 'flying blind'. This uncertainty is referred to as 'process-generated' uncertainty, because (unlike scientific uncertainty and gaps in survey data discussed earlier) it was created by the design of the process, and hence could have been entirely avoided.

Process-generated uncertainty had negative impacts which reverberated around many elements of the planning process, including the following:

- It led to increased complexity within the conflicts that arose during the stakeholder discussions – there was no way of knowing what 'real' conflicts existed between MCZs and human activities, so that stakeholders had to make assumptions. Much of their conflict revolved around disagreements on what assumptions to base the recommendations on, making discussions lengthy and difficult, slowing progress on the network development.
- It was an obstacle to the finding of genuine, meaningful compromises, because trade-offs that were being considered within the stakeholder group were based on assumptions rather than definitive and shared understanding of what costs and benefits of potential sites would consist of.
- It prevented synergies from being identified and realised. Most representatives assumed a precautionary ('worst-case scenario') stance. Because no-one could be certain that MCZs would not have significant negative impacts on their interests, there was a strong push from most commercial (and some recreational) stakeholders to locate sites away from 'their' areas of interest. With clarity on impacts, compatible activities could have been identified and 'co-located' with MCZs by design. This would have allowed for the use of economic incentives, designing sites in such a way as to build in benefits for those carrying out low-impact activities.

²⁵ Late in the process, the regional projects' remit was expanded to include recommendations for 'management measures', i.e. for *how* any activity restrictions ought to be implemented – for example, through a byelaw or voluntary measure. However, this was an unrealistic task, as there was no way of overcoming the uncertainty described, and it made no difference to the fundamental problem summarised here. For details, please refer to the full governance analysis report, cited in the introduction.

- It prevented the achievement of the objective to develop ‘well understood’ sites – whilst people understood where the boundaries were being drawn, they were prevented from understanding what those boundaries would mean in reality.
- It lowered support for MCZs (because people assumed or feared ‘worst-case scenarios’ for their activity)
- It reduced stakeholder buy-in and support for the process. Process-generated uncertainty was raised repeatedly and emphatically as one of their key concerns, but there was no clear push to address and resolve the problem within the wider, national process.
- It prevented the writing of a genuinely meaningful socio-economic impact assessment.

As a result of process-generated uncertainty, stakeholders had to design their network recommendations on the basis of assumptions (or, in some cases, explicit conditions) about how sites would be managed. Assumptions, conditions and uncertainties were written up as a ‘stakeholder narrative’, which was incorporated into Finding Sanctuary’s final report.

There is no indication that, following the submission of the recommendations, the stakeholder narrative had any bearing on the subsequent process, with its focus on scientific evidence reviews. There is a significant risk that the foundation of the stakeholder recommendations will be undermined in future, if the assumptions that the sites were designed on do not hold true.

3.5 Marine protected areas or marine protected features?

The drawbacks of binding MCZ conservation objectives to individual species and habitats have already been highlighted above, in that this approach generates an unrealistic demand for detailed scientific survey data to underpin site designation. However, the drawbacks of this approach run deeper: It fundamentally goes against the principles of ecosystem-based management to try and protect the marine ecosystem by targeting protection measures solely at its individual component features – and yet, this is exactly the approach required by the COG.

Focussing only on ecosystem components not only loses sight of the MPA network and the ecosystem as a whole, but it also leads to a paperwork-heavy and lengthy designation process (the shift to an ‘evidence-based’ process plays a big part in this, as it requires a detailed ‘audit trail’ of the scientific evidence underpinning each feature-specific conservation objective). Bearing in mind that for the Finding Sanctuary region alone the recommendations included over 500 draft conservation objectives, the COG might be described as a veritable red-tape-generator. As any future MCZ management measures will hinge on the conservation objectives, the COG in its current form is not likely to lead to lean, efficient and understandable management measures. Reducing the number of conservation objectives would effectively mean reducing the number of protected features within the network, which would undermine the legal obligation for the network to be representative of the full range of marine biodiversity.

Section 117 of the Marine act requires that MCZ designation orders state ‘a) the protected feature or features’, and ‘b) the conservation objectives for the MCZ.’ There is no requirement for the conservation objectives to be written specifically and individually for each named protected feature.

It would be more consistent with ecosystem-based management principles to treat MPAs as *areas* to be protected, rather than as areas containing *features* to be protected (it would also be more consistent with the term ‘*marine protected area*’).

3.6 Conflicts

The governance analysis carried out a detailed analysis of conflicts within this case study, focussing specifically on the conflicts that were dealt with during Finding Sanctuary's stakeholder process. These were divided into primary conflicts (between human activities and biodiversity conservation), and secondary conflicts (between different human activities).

There was a long list of both primary and secondary conflicts within the case study, which had a significant impact on the spatial configuration of the project's final recommendations. The most intense and spatially wide-ranging primary conflicts were with commercial fishing, marine renewables, and ports (other primary conflicts were also significant at particular locations). The most significant secondary conflicts were intra-sectoral conflicts within the highly diverse commercial fishing sector, and inter-sectoral conflict between commercial fishing and marine renewables.

The most significant conflict triangle that emerged was between MCZs (biodiversity conservation), commercial fishing, and offshore wind farms. All three either do or have the future potential to occupy significant areas of sea. Commercial fishing activities are often excluded from wind farms for safety reasons, and MCZs may restrict fishing activities, so commercial fishermen (particularly those operating towed gears) stand to lose ground to both. Wind farms have negative environmental impacts (as well as positive ones), so may not be compatible with MCZs.

With two offshore wind farms planned within Finding Sanctuary's planning region, this conflict triangle took up significant amounts of time within the stakeholder discussions, and for much of the planning process, it drove the simultaneous development of two alternative network configurations, based on alternative assumptions about compatibility of MCZs and wind farms (see section 3 of the full governance analysis report).

As highlighted above, primary conflicts were both intensified and rendered complex by the process-generated uncertainty about activity restrictions and management measures within MCZs. Another significant driver of conflict was a perceived 'race for space', especially driven by the increasing interest in offshore renewable development, and MPAs.

3.7 Incentives

The governance analysis considered the ways in which the MCZ process has (to date) used a long list of possible incentives in order to achieve its objectives. The analysis considered economic incentives (e.g. providing for economic benefits for low-impact users within sites), interpretative incentives (e.g. promoting awareness of the benefits of protected areas), legal incentives (e.g. legal obligations to implement protected areas), knowledge incentives (e.g. valuing and combining different kinds of knowledge in the process), and participative incentives (e.g. establishing collaborative stakeholder groups and empowering them to influence the process).

The list of 36 specific incentives that was considered in this analysis was adapted from the analysis of 20 real-life MPA case-studies carried out by Jones *et al.* (2011)¹. The incentives are explained in detail in the full governance analysis report, with a description of how each one was (or was not) used within the MCZ process.

There were three main findings of the incentives analysis:

- To date, the MCZ process has only made full use of a relatively small number of incentives, compared to the total number considered in the analysis. There are many incentives that could potentially have been used but weren't.
- The pattern of use of incentives differs markedly between categories. The use of economic incentives was made a practical impossibility by the lack of clarity on which activities will be permissible within MCZs.
- The range and diversity of incentives used has decreased markedly since the end of the regional projects, with the number in use having more than halved. Participative incentives were heavily used during the regional projects, but have since been dropped entirely. Jones *et al.* (2011) concluded that increasing the number and diversity of incentives within an MPA process creates more resilient systems of governance, so the shift in the MCZ process can be seen as a weakening of it.

3.8 Effectiveness of the MCZ process

The stated aim of the MCZ process is 'to develop an ecologically coherent and well-managed network of Marine Protected Areas (MPAs) that is well understood and supported by sea-users and other stakeholders' (see section 2.1). The legal objective defined in the Marine Act was to have a biologically representative network in place by 2012. The MCZ process has not delivered its objective within the planned timescale.

It is too early to say for certain whether the process will meet the stated objective in the medium to long term. Progress is not promising. It is not clear which or how many sites will be included in the first tranche of designations in 2013, but it is highly unlikely that they will all be included. Therefore, the first tranche of MCZs (in combination with existing MPAs such as SACs) will probably fall short of an ecologically coherent network (as defined by the ENG criteria), and it is not clear whether there will be subsequent tranches that will maintain the ENG as a benchmark.

Some of the key criticisms of the process emerging from this analysis have been summarised in the previous sections (additional shortcomings of the process are detailed in the full governance report, e.g. a compression of the regional projects' timescales as a result of delays in key guidance documents).

Despite the negative overall assessment of the governance approach in the MCZ process, the analysis also highlighted that several elements of the process were successful, especially during the earlier stages of the planning process which predominantly followed approach 1:

- All four regional projects delivered MCZ recommendations, on time, that met the ENG guidelines (with the exception of reference areas). Given the difficulties, conflicts and uncertainties faced by the stakeholders, this is a remarkable achievement, and a credit to the commitment and hard work of the stakeholder representatives involved.
- At the end of Finding Sanctuary, stakeholders from across the range of sectors felt that they had had a genuine opportunity in shaping the recommendations (within the possible options defined by the ENG parameters). The Steering Group went as far as issuing a joint statement expressing a wish for a continued role in the process, reflecting the fact that they valued their role within the participative elements of the process.

- The ENG can be seen as a success, and an important early achievement of the process. It passed several rounds of scientific scrutiny, but still contained pragmatic, quantitative design guidelines, which allowed the development of a representative network even in the face of data gaps and scientific uncertainties. Most of these guidelines which were simple enough to be presented to stakeholders in a reasonably straightforward manner. The stakeholders were able to understand the benchmark their work was being assessed against at the time, and the project team were able to provide them with clear, visual feedback on the progress that the group was making towards meeting that benchmark.
- Finding Sanctuary's project team, as a dedicated support structure for the regional stakeholder process, were able to establish trust and working relationships with stakeholders across a wide range of sectors. They provided a point of access for information about all aspects of the on-going process, and were able to respond to stakeholder needs in pragmatic and non-bureaucratic ways. As reflected in feedback from the Steering Group, and in the summer 2012 stakeholder interviews, this support was valued by stakeholders.
- Based on their day-to-day experience at the 'sharp end', the project team were also able to provide practical feedback and advice on the developing process to the national project partners, who were further removed from the stakeholder process.
- The iterative nature of the planning process, despite ending up being very compressed in time, functioned as a way for the SAP to obtain an insight into progress and provide feedback. In addition, it also allowed Defra, SNCB staff, and the wider stakeholder community to do the same.
- The transparency of the process catalysed interest and feedback from the bottom up, where people realised they might be affected by MCZs when the developing network maps were circulated (e.g. in the case of the wind farm developers and the ports sector, amongst many). Although this, in itself, did not resolve any conflicts, it allowed the Steering Group to work towards resolving issues wherever possible, before the recommendations were finalised.
- The bottom-up pressure from regional projects for support in data gathering catalysed a national effort in bringing together existing biological and socio-economic marine spatial datasets, which can now serve as a resource for wider marine planning, as well as having provided a sound basis for the regional MCZ projects to work from.

Approach 1, and the regional project model in particular, should therefore not be dismissed as a workable model for integrating participative and top-down elements in future marine spatial planning processes. Arguably, the process was making significant and timely progress towards meeting the overall objective, once the regional projects had become established, key datasets collated, and the ENG published. The systematic, broad-scale planning approach was consistent with achieving a representative network, and the strong participative incentives served to improve understanding and support, as well as being consistent with the ecosystem-based approach (recognising humans as an integral part of the wider ecosystem).

However, the full realisation of these advantages depended on the consistent implementation of approach 1. With the process increasingly shifting to approach 2, key concerns (such as process-generated uncertainty) remained unresolved, and the increasingly detailed and reductive focus led to delays, with evidence reviews and tranching of sites significantly slowing down progress towards a representative and well-managed network. The cessation of the participative elements of the

process and the lack of recognition of the stakeholder narrative as an integral part of the final recommendations has led to the undermining of stakeholder effort, disengagement from the process, and a loss of the social capital (trust and confidence in the potential for mutual cooperation) that had been generated within the process.

This summary report ends with a detailed series of recommendations on how the current MCZ process could be improved, and on how a regional-project-style stakeholder process could be better implemented in future. This would require a genuine political will for the objective to be achieved, for difficult decisions (on site management) to be taken upfront, and a willingness to change long-established ways of working within the SNCBs and other organisations (e.g. the established methods of the *Natura 2000* process).

3.9 A note on the December 2012 public consultation

As the full report of this governance analysis was in its final editing stages, in December 2012, the public consultation on MCZs was launched by Defra, set to run until March 31st, 2013 (see [here](#)²⁶).

Out of the 127 MCZ recommended by the four regional MCZ projects nationally, 31 were being consulted on for possible designation in 2013 (with fewer than 50% of the conservation objectives that the regional projects had recommended for these sites). No reference areas were included. Fifteen of Finding Sanctuary's 58 recommended MCZs were included. The consultation questions focused on individual sites and conservation objectives, not on the network as a whole.

The consultation materials placed considerable emphasis on scientific evidence underpinning the proposed sites and feature-specific conservation objectives, and little emphasis on any accompanying stakeholder narrative.

No further clarity was provided on likely MCZ management. The impact assessment's management scenarios included in the consultation documents were described as 'illustrative' (despite the fact that 'cost' had served as a criterion for selecting which sites to progress, along with the degree of underpinning evidence, and the degree of risk of ecological damage).

There was no clear roadmap for any future MCZ tranches, nor for a review of the approach to reference areas, nor for a process of implementing the 'tranche 1' sites following designation, other than to say that a reconstitution of the regional stakeholder groups was 'unlikely'.

The fundamental conclusions of the governance analysis were unaffected by the release of the consultation documents, which reflected a continued shift towards approach 2, and a further slowing of progress towards a representative and well-managed network of MPAs. However, a full analysis of the consultation documents, was beyond the scope and timeline of the governance analysis report. At the time of finalising the analysis, the MCZ process clearly has a long way to go yet, and the conflicts, incentives and cross-cutting themes discussed here will continue to unfold over time.

²⁶ <http://www.defra.gov.uk/consult/2012/12/13/marine-conservation-zones-1212/>

4. Recommendations

The following is a detailed list of recommendations by the main author, based on the findings of the analysis. They are primarily aimed at those who (at the time of writing) are responsible for managing the on-going MCZ process. However, many of these recommendations have relevance beyond the MCZ process in England, and may serve as a way of applying lessons learnt from this case study to current or future processes of a similar kind, either in the UK or further afield.

The recommendations are based on the assumption that there is a genuine will and commitment to achieving a representative, well-understood, and well-managed network of protected areas. As such, they boil down to recommendations on how to shift the MCZ process back to 'approach 1' as defined in section 3.1, and on how best to implement elements of approach 1 in this and other processes.

4.1 Improve clarity in the current MCZ process

- **Establish clear responsibilities**, ensuring that all key aspects of the process have a lead person or organisation responsible for delivery.
- Ensure that responsible organisations / individuals have sufficient resource and support to allow them to fulfil their responsibilities. That includes appropriate, timely, and fit-for-purpose advice (e.g. clear and practical advice on appropriate activity restrictions). Identify clear responsibilities for producing such advice.
- **Establish a clear process for amending roles and responsibilities**, and making any other necessary adaptations or amendments to the wider process, in the face of changing circumstances or unforeseen challenges.
- **Map out (and publish) a clear process and timetable for future MCZ tranches.**
- **Map out (and publish) a clear process and timetable for MCZ implementation** (including the development and implementation of management measures).
- **Map out (and publish) a clear process and timetable for MCZ monitoring**, backed up with the necessary resource.
- **Map out (and publish) a clear process and timetable for adaptive management** (MCZ reporting, and future reviews of the network).

4.2 Improve transparency, and ensure equal access to information

- Ensure all of the above is clearly communicated to *all* interested parties (stakeholders).
- **Establish a clear central point of access for comprehensive and up-to-date information** about the MCZ project for stakeholders or any interested members of the public. Make sure it is the first hit on Google.
- **Keep and publish a record of all meetings** between SNCBs and / or Defra, and any interested stakeholders, where the MCZ process has been an agenda item, or any update about the process has been provided by Defra / SNCBs.
 - This should include meetings not organised by Defra / SNCBs.
 - Any information about the MCZ process provided at these meetings should be easily accessible to the wider public, through a central point of access.
 - Full minutes should be published for any meetings chaired / organised by Defra / SNCBs.

- **Strive for maximum transparency, including in substantive issues.**
 - Openly provide answers about progress on substantive issues in response to queries on such matters, e.g. which sites look likely to go forward, which ones look like they will not, and why. Caveat responses as appropriate (e.g. ‘this is work in progress, things might change, but this is where we are currently at’). As far as is reasonably possible, such information should be made available upfront (e.g. online).
 - Make draft documents available on request. Caveat / mark appropriately as work in progress. Highlight whether or not comments or feedback will be listened to, and if yes, indicate when and through what process people should provide it.
 - Create a working culture within the Defra ‘family’ where staff are supported and encouraged to provide such open answers, rather than a working culture that routinely differentiates between ‘internal facing’ and ‘public facing’ information, with the latter requiring lengthy multi-level internal sign-off procedures before any information can be released, thereby preventing swift, simple and straightforward answers to outside questions.
 - Openly share the reasoning behind any significant or potentially controversial decisions (‘show your workings’). This should include evidence relied upon, but should not be limited to scientific data.

4.3 Be pragmatic about evidence and uncertainty

- **Adapt the process to the available evidence, rather than the other way around.** A legal, planning, decision-making, and implementation process can be designed to suit real-world circumstances. Evidence, on the other hand, cannot be designed to fit the specifications of an idealised, pre-determined process.
- Broad-scale knowledge and coarse-scale evidence require a broad-brush process. Only where detailed, fine-scale information exists will a detail-oriented process have any chance of succeeding. Given the broad spatial scope of the MCZ process, a broader approach is more likely to yield success than a fine-scale approach.
- To be consistent with the principles of EBM, and to meet the legal requirement under the Marine Act and MSFD to put in place a biologically representative and coherent MPA network, focus on the system (and network) as a whole, rather than ‘salami-slicing’ the process to the point that all decisions hinge upon individual features (system components), and whatever detailed data is available for these at a limited number of localities.
- **Draw a clear line under the gathering of evidence, and proceed with decision-making and implementation** on the basis of what is known, accepting and acknowledging existing data gaps and scientific uncertainties, and the fact that better information will always be just around the corner. Accept the use of surrogates (broad-scale habitat data), even where there is uncertainty in modelled datasets mapping their expected distribution.
- The previous point is obviously not a recommendation to *stop* scientific research and survey work, or to stop striving for better access to and sharing of existing data. Quite the opposite, this should continue in *parallel* to decision-making and implementation, in order to be able to improve on the network in future reviews.
- As far as possible, **focus basic ecological research effort on data-poor areas**. This research should be viewed as an on-going effort to continuously improve the available evidence base,

rather than as something that has to happen before any decisions can be taken, filling in evidence gaps whilst going through a process where every step has to overcome a higher evidence hurdle than the previous.

- **Design the process to be adaptive**, i.e. map out a process whereby decisions can be revised and updated in the light of newer, better, and more detailed data emerging over time. Whenever a review or new decision-making process takes place, draw together all the best available data at that point in time (see below).

4.4 Develop an alternative, more practical approach to conservation objectives

- There needs to be a significant change in the way that conservation objectives (COs) are drafted and developed for MCZs. This change should focus on several goals:
 1. Reducing front-loaded costs, realising conservation benefits sooner
 2. Streamlining the process, minimising red tape
 3. Consistency with the principles of ecosystem-based management
 4. Adapting COs to the amount and detail of evidence available
 5. Increasing clarity and minimising uncertainty on management at an early stage
- The main recommendation is to separate the list of protected features for each MCZ from the conservation objective(s) for that MCZ. A designation order for an MCZ requires both, but there is no legal requirement for each individual feature to have its very own individually drafted and specific CO, and there is no requirement for each CO to be linked specifically to one individual feature. Thus, **in each designation order, separately state:**
 - **The list of features to be protected in the MCZ**
 - **The conservation objective(s) for the MCZ**
- It is not clear how easy it will be to amend an MCZ designation order, once it is in place. Therefore, it is important to think about a way in which an order can be drafted that is strong enough to base management measures on, but flexible enough to ensure it does not become obsolete with new survey data emerging.
- **Draft a list of features to be protected in each MCZ:**
 - The Marine Act definition of ‘feature’ is broad. When drafting the list of features to be protected in an MCZ, it would be possible to **use a nested approach. Start with broad features** that are known for certain to occur in the site (at the most basic level, that could include ‘seafloor and its associated biodiversity’). Where fine-scale data exist, specific species and habitats (or other ecological features) could be added. The advantage of a nested approach would be that it allows progress despite data gaps, but at the same times allows whatever the best available data is to add to the detail in the order. Here are two hypothetical examples (they are focussed on the seafloor, but this approach could be used for other components that are important for the integrity of the ecosystem, such as food webs – including pelagic elements coupled with particular seafloor environments through benthic-pelagic coupling, or predictable / seasonal aggregations of mobile fauna):
 - data-poor site: ‘The features to be protected in this MCZ are the seafloor, and associated flora, fauna, and geological / geomorphological features.’

- data-rich site: ‘The features to be protected in this MCZ are the seafloor, and associated flora, fauna, and topographical features. This includes species and biotopes a, b, c (...), and geomorphological feature x.’
 - **Separate the list of features in the ENG from the pool of features listed in the site designation order.**
 - There may be strong overlap, but conceptually, the ENG should serve as pragmatic design guidelines on how to put together a coherent and representative network, not as an equivalent of the species and habitats list of the Habitats Directive annexes.
 - The ENG addresses scientific uncertainty, using broad-scale habitat targets as surrogates or proxies, a pragmatic way of maximising the likelihood that the network as a whole will ‘protect a bit of everything’ in the face of an imperfect evidence base. But it makes little sense to include proxy or surrogate broad-scale habitat features on the designation orders’ lists of features to be protected in the site:
 - Over time, a better set of proxies might emerge, e.g. a different broad-scale environmental habitat classification system, and it might be sensible to change the ENG in a future network review process (see below).
 - Over time, improved spatial data will become available to more accurately map out the broad-scale habitat types in the existing classification (or the habitat categories of a new and improved, alternative classification system, should that become available). If new survey work reveals existing broad-scale habitat data to be inaccurate for a specific site, and the habitats are listed on the designation order as features to be protected in the site, the legal validity of the designation order is undermined (raising the likelihood of successful legal challenges of the process).
- **Draft conservation objectives for the *site*, not features:**
 - In line with the principles of EBM, **pitch conservation objectives at the scale of the site, rather than individual features.** Establish marine protected *areas* (as opposed to ‘marine protected features in some areas’). This would reduce the number of COs by an order of magnitude, thereby cutting back the red tape associated with them, simplifying and streamlining the implementation process.
 - **State conservation objectives that address human activities and impacts**, rather than environmental features. We know more about these, and know which cause the most direct impacts on the marine ecosystem. In any case, it is not practically feasible to manage the marine environment (in the same way that the terrestrial environment can be managed, e.g. by planting trees, exterminating rats, or implementing grazing regimes). It is, however, feasible to manage human behaviour at sea. This is where marine conservation action has to be focused, so that is what the COs should focus on.
 - This is in line with advice from the SAP. In paragraph 7.1.4. of their final advice (and repeated in paragraph 8.5.3.), they recommend an alternative approach to setting conservation objectives in the face of uncertainty: ‘[...]

an alternative approach is recommended, where insufficient information is available at present to define the condition of features for which the MCZ is designated: Given that ecological change within rMCZs is inevitable, the stated goal should not be to return these areas to an unknown pre-existing state but to mitigate damaging practices within them.'

- As an example, a CO might state something like 'Conservation objective for this MCZ: to protect this area and the features within it from activities causing significant direct physical impacts, such as x, y and z.'
- This would also have the advantage of allowing site management to be planned in conjunction with the site selection and drafting of conservation objectives, rather than kicking these difficult discussions 'into the long grass', thereby paving the way for a process that reduces or eliminates process-generated uncertainty with all its corrosive impacts.

4.5 Clarify MCZ management – eliminate unnecessary uncertainty

- One of the key findings of this analysis is that on-going uncertainty about MCZ management has been highly damaging within the MCZ process (see section 3.4). This uncertainty is generated by the process, and can therefore be eliminated by altering the design of the process.
- It is important to develop some clear, pragmatic MCZ management principles (i.e. **develop clarity on activity restrictions and management measures that will apply within MCZs**). This could go hand-in-hand with developing COs along the lines suggested in the previous point.
- Consider developing a list of activities *compatible* with MCZs, rather than a list of activities *not* compatible with MCZs. This would prevent loopholes (e.g. by modifying an activity slightly in order for it to be different from one listed as not compatible). This principle should be carried over into the development of byelaws or CFP measures.
- **Be strategic – approach the development of management measures and activity restrictions at the scale of the network.** The upfront approach suggested in the previous point would enable the process of developing and implementing management measures to be more efficient. Rather than develop specific byelaws on a case-by-case basis, measures could be applied to several sites at the same time, thereby reducing the burdens on responsible authorities, and reducing the overall number of regulations in place. The regulatory environment would also be much simpler to navigate and understand for stakeholders.
- Permits should be used in an intelligent way to **support low-impact activities, particularly in inshore sites, in order to encourage a sense of local site ownership and support**, bearing in mind the social, cultural and economic value of certain activities in local areas (e.g. traditional cove fishing in Cornwall). In other words, use the economic incentives that become possible once MCZ management requirements are clarified.
- **Future processes should clarify activity restrictions and management measures upfront, or alongside spatial boundary planning.** Management planning and boundary planning should not be treated as separate, isolated tasks.

- This could be done by pre-defining different types of MPA, with different levels of restriction, and tying ENG-style targets to each type. This would make it possible to ensure that there is sufficient representation of each type of MPA within the network, and that if particular features have particular known sensitivities, these are represented in areas with sufficiently high protection levels.
- Alternatively, restrictions could be suggested through a participative approach, at the same time as planning site location. A mechanism would be needed to ensure that these suggestions meet a sufficient standard (ecologically / environmentally), which could take the form of minimum protection standards being defined upfront, or it could be achieved through an iterative planning process with scientific expert feedback provided at each stage on whether or not the suggested protection levels are sufficient to result in the desired environmental outcomes. The latter approach would depend on the scientific feedback carrying genuine weight in subsequent decision-making.

4.6 Cross-sectoral stakeholder participation: ‘Once More, With Feeling’

- The cross-sectoral platform of the Finding Sanctuary process brought a lot of benefits to the MCZ process. It did not resolve fundamental conflicts and differences in world views, but it created better understanding between sector representatives, established working relationships, and created a forum within which genuine compromises and synergies were sought. In the current process, there is no incentive for stakeholders to seek such compromise. During the public consultation process that is about to start, it is highly likely that each sector will revert to fight exclusively for their own interest, irrespective of whether that is to the detriment of others. Given that no sites are yet designated, and no management has been decided, everyone will still consider that there is everything left to fight for. In the medium to long-term, **the process should seek to re-establish on-going, representative, cross-sectoral dialogue, in order to incentivise co-operation and compromise.**
- The stakeholder process should be genuinely inclusive, representative, and balanced. Bilateral engagement, ad-hoc groups, and public consultation do not incentivise cooperative behaviour.
- Endeavour to integrate with, build on, and support existing local and regional cross-sectoral platforms, where they already exist (e.g. estuary forums, coast forums).
- **Any future stakeholder process should be designed without a ‘cliff’** of the sort experienced in the MCZ process – **there should be continuity** to the use of participative incentives. Stakeholders are not a commodity to be ‘dipped into’ periodically, and establishing trust and relationships takes time. Once a group dissipates, the social capital generated through its existence is at risk. An on-going group (or set of groups) should ideally be established to serve as **a stakeholder platform with a role in wider marine planning, not just MCZs.**
- If a stakeholder group is established as a ‘task-and-finish’ group, then it is important that the task they are given is a complete task from the stakeholders’ perspectives. In the MCZ process, a lot of frustration and loss of engagement was created by the fact that they were asked to ‘draw lines on maps’, with management discussions happening in parallel / left

inconclusive. There was a sense, at the end of Finding Sanctuary, that the ‘important discussions’ were still to be had in future, and the group would have no role in them.

- The stakeholder group has to have a **clear role** (including clear tasks) to focus on, and it has to wield genuine and significant influence. This has to be meaningful from the perspective of the participants, i.e. **there has to be something in it for them**. Otherwise, there is no focus to the group interactions, nor is there any incentive to participate and be constructive. Trying to retain complete control over outcomes from the top down will create tensions, so the courage is required to empower stakeholders to fulfil their remit.
- Ensure that appropriate and **continuous, bespoke support** is provided to any on-going stakeholder process, including the provision of information and data, appropriate (practical) guidance where necessary, facilitation, and open reporting (transparency matters).
- **Continuity of membership** is important to building and maintaining relationships, trust, and group dynamics. The same goes for the people providing support to the stakeholder group – continuity is important in order to build up trust.
- **Manage expectations**. As an example, be careful about using the word ‘consensus’. Realistically, in a process dealing with controversial matters over very large spatial scales, it is very unlikely that stakeholders with fundamentally opposing views will reach genuine ‘consensus’ (there will always be some stakeholders who would prefer MPAs did not exist at all). What *can* realistically be aimed for is a compromise, where people agree to an outcome on the basis that they can ‘live with it’, rather than it being something they would actively want to promote.
- Establish a clear, transparent, and preferably participative process for reviewing and amending the process, e.g. stakeholder group membership and role (i.e. have in place the necessary process elements for being adaptive).
- **Don’t shift the goalposts** from the top down. In the MCZ process, the stakeholder group were given the ENG as the benchmark against which their recommendations were assessed. With the shift to an ‘evidence-based’ approach, this benchmark is falling by the wayside, thereby undermining the work of the stakeholders. If amendments have to be made to the process in the face of changed circumstances, go through a clear and transparent process of adaptation, as defined in the previous point.
- On any matters that fall under the remit of the stakeholder process, **do not let individuals, individual sectors, or lobby groups influence outcomes from outside the stakeholder platform**. That disempowers the group, and is a disincentive to cooperation.

4.7 Diversify the incentives used

- Since the end of the regional MCZ projects, there has been a loss in the number and diversity of incentives used in the MCZ process. Shifting back to approach 2 (as defined in section 3.1) would allow a diversification of incentives used: In addition to the legal and interpretative incentives currently in place, the process should combine economic, knowledge, and participative incentives. A full list and description of possible incentives can be found in section 5 of the full report cited in the introduction.

4.8 Monitor MCZs

- Map out a clear impact monitoring strategy, both for environmental impacts as well as socio-economic impacts.
- If insufficient resource is available to monitor impacts at all sites in detail, monitor the impacts of representative subsets of sites.
- **Monitor activities as well as impacts** (in line with the final SAP advice¹⁵). Automated remote navigation and communication technology makes this a more realistic prospect to achieve for all sites than detailed impact monitoring. Activity monitoring can a) indicate effectiveness of a site (are impacts genuinely being reduced or removed through the designation and management measures?), and b) if done in real-time, form part of enforcement.
- Monitoring cycles should be timed in a way that ties in with any future review timetables, being mindful of the time it takes to process information, analyse it, and share it with the actors involved in the review process.

4.9 Map out an effective review process (adaptive planning and management)

- Over time, new information will emerge from scientific research, offshore surveys, better access to existing information (where data ownership has, to date, proved to be a barrier), and data from MCZ monitoring. It is therefore important to keep the network under review.
- In order to maintain integrity of the network, and consistency with the ecosystem-based approach, **periodically review the network as a whole**, rather than individual sites on a case-by-case basis.
- The review process should consider the network configuration, i.e. location, number, and size of sites. In view of new data, is the network representative? Could it be more efficient?
- The review process should consider levels of protection within the sites. Based on monitoring data, are the levels of protection appropriate to the achievement of conservation objectives?
- The review process should consider management measures and their effectiveness. Are they being adhered to? Are enforcement models working?
- The review process should consider the ENG (as well as the network). Improved data (e.g. a better 'surrogate' habitat classification system, or improved species-area curves) may enable refinement and improvement of the ENG in future, i.e. a better translation of the seven network principles in Defra GN1 into pragmatic, quantitative design guidelines.
- The review process should consider socio-economic developments, especially in view of developing marine plans. Are there new priorities and goals in other sectors that conflict with the network? Can amendments be made to accommodate them without compromising the ecological integrity? Can new synergies be found?
- The review process should give a significant role to a cross-sectoral stakeholder platform (or series of regional platforms).
- **The review process should be an on-going process**, with a timetable for a review every few years. This could integrate with the six-yearly reporting cycle required by the Marine Act.

4.10 Establish multidisciplinary expert advice panels

- The SAP membership in the MCZ process was limited to natural scientists, and the remit of the SAP was limited to providing advice on scientific questions. Because the SAP's expertise and remit were so narrowly defined, the panel could not engage fully in the wider range of practical and socio-economic considerations that led the stakeholder groups and regional project teams to embark on a particular approach or make particular decisions.
- A further disadvantage of the narrow remit of the SAP was that the project staff and stakeholders could only turn to the SAP if they had ecological / scientific questions. There was no equivalent panel of experts for addressing legal, social, economic, governance, or even wider spatial planning questions.
- In future processes of a similar nature, **consider establishing cross-disciplinary expert panels, including natural scientists, spatial planning experts, economists, social scientists with relevant expertise, and legal experts.** This would provide stakeholders and staff with a wider pool of expertise to draw upon, and make it easier for a process to effectively integrate different strands. It would also allow each individual expert to learn about wider aspects and realities of the process they are being asked to provide advice to, thereby enabling cross-disciplinary learning, and making it possible for them to jointly 'reality-check' their input and provide more practical advice. Such a multidisciplinary approach may even act as an incentive for experts to participate.
- **Ensure that the power and remit of any expert panel is clearly defined, transparent, and not undermined** through a process design where the advice carries no weight in decision-making.



MESMA Work Package 6

Celtic Sea Case Study Governance Analysis
Finding Sanctuary and England's Marine Conservation Zone process

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Table of Contents

Cover Note	7
About the main author (statement of positionality)	7
Acknowledgements.....	8
About the references in this report	8
1. Context.....	9
1.1 Introduction	9
1.1.1 Introduction to the case study.....	9
1.1.2 History of Finding Sanctuary	9
1.1.3 The Finding Sanctuary region.....	12
1.1.4 Finding Sanctuary within the context of the English national MCZ Project	13
1.1.5 Participants in the regional project.....	16
1.1.6 Final recommendations	22
1.1.7 Beyond Finding Sanctuary: The on-going national MCZ project.....	25
1.1.8 Basic timeline of Finding Sanctuary and the on-going MCZ process	27
1.2 Socio-economic and political context of the case study.....	29
1.2.1 Main economic and social indicators.....	29
1.2.2 The UK’s maritime economy	31
1.2.3 Population density	33
1.2.4 Administrative structure (England).....	34
1.2.5 Government bodies with marine responsibilities.....	35
1.3 Regional policy framework	38
2 Objectives and management measures.....	39
2.1 Priority Objective of this case study	39
2.2 Context for marine protected areas in England.....	40
2.2.1 Legal underpinning of MPAs in England	40
2.2.2 The Marine Policy Statement.....	45
2.3 Existing spatial conservation measures	48
2.4 Sectoral legislation, policy, and objectives	50
2.4.1 Overview	50
2.4.2 Planning legislation and nationally significant infrastructure projects.....	50
2.4.3 The context for the marine renewable energy sector.....	53
2.4.4 The context for commercial fisheries	58
2.5 Multi-sector integration.....	62
3 Conflicts.....	66

3.1 The five dimensions of conflict in this case study.....	66
3.1.1 Introduction to the five conflict dimensions.....	66
3.1.2 Existing ‘real’ conflicts (dimension 1)	67
3.1.3 Assumed conflicts (dimension 2)	68
3.1.4 Conflicts about assumptions (dimension 3).....	68
3.1.5 Conflicts about what restrictions should apply (dimension 4)	69
3.1.6 Philosophical conflicts (dimension 5).....	69
3.2 Driving forces behind the conflicts in this case study.....	71
3.2.1 Uncertainty	71
3.2.2 Differing world views	71
3.2.3 The ‘race for space’	71
3.3 Primary conflicts	73
3.3.1 Overview of primary conflicts.....	73
3.3.2 Commercial Fishing.....	74
3.3.3 Renewable Energy.....	81
3.3.4 Ports.....	90
3.3.5 Recreational activities.....	95
3.3.6 Aggregate extraction.....	98
3.3.7 Waste Disposal.....	99
3.3.8 Aquaculture.....	99
3.3.9 Submarine cables.....	100
3.3.10 Reference Areas.....	100
3.4 Secondary conflicts (inter-sectoral)	106
3.4.1 Renewable energy and commercial fishing	106
3.4.2 Recreational angling and commercial fishing	106
3.4.3 Shipping and other activities.....	106
3.5 Secondary conflicts (intra-sectoral, within commercial fishing).....	107
3.5.1 The diversity of the fishing sector.....	107
3.5.2 Gear conflict.....	107
3.5.3 Inshore / offshore conflict	108
3.5.4 Conflict over engagement with the MCZ process.....	108
3.6 Key conflict triangles, trade-offs and synergies	110
3.6.1 Renewables, fishing and conservation.....	110
3.6.2 Renewables, shipping lanes and conservation	112
4 Governance approach and effectiveness.....	114
4.1 Governance approach.....	114

4.1.1 One process, two approaches.....	114
4.1.2 Top-down and bottom up elements of the MCZ process.....	115
4.1.3 Decentralised elements in the MCZ process	116
4.2 Inter-sectoral integration.....	117
4.3 Effectiveness – is the process on track to meet the operational objective?	119
5 Incentives	121
5.1 Incentives used in this case study.....	121
5.1.1 Introduction to the incentives used.....	121
5.1.2 Economic Incentives	122
5.1.3 Interpretative Incentives.....	125
5.1.4 Knowledge Incentives	128
5.1.5 Legal Incentives.....	136
5.1.6 Participative Incentives.....	141
5.2 How to improve governance through better use of incentives.....	153
5.2.1 Incentive summary overview.....	153
5.2.2 Improving governance through better use of incentives	155
6 Cross-cutting themes	160
6.1 Top-down versus bottom-up elements within the MCZ process	160
6.1.1 Top-down / bottom-up interactions and the clash of planning approaches.....	160
6.1.2 Tensions between regional and national levels within the MCZ project.....	161
6.1.3 The Ecological Network Guidance	170
6.1.4 Role of the Science Advisory Panel.....	175
6.1.5 Natura 2000 and MCZs	177
6.1.6 Tensions between stakeholders and Government organisations	177
6.1.7 Successful integration between top-down and bottom-up elements.....	178
6.2 Inter-sectoral integration and related power issues	180
6.2.1 Inter-sectoral integration and power issues evident within Finding Sanctuary.....	180
6.2.2 Inter-sectoral power issues within the national MCZ process.....	181
6.2.3 Environmental NGO pressure outside the MCZ process	186
6.3 Cross-border issues between countries.....	187
6.3.1 MCZs and the EU Common Fisheries Policy.....	187
6.3.2 Engaging with international fishermen.....	188
6.4 Environmental and social justice issues.....	189
6.4.1 Environmental and social justice within the MCZ process	189
6.4.2 Concerns about disproportionate impacts on inshore fisheries	189
6.4.3 The ‘fisheries defence’ in the Marine Act.....	190

6.4.4 Fishing – an unregulated activity	191
6.4.5 The current MCZ process: fair and equitable?.....	193
6.5 Different Knowledges and Uncertainty.....	195
6.5.1 Different knowledges and uncertainty within the MCZ process – an overview.....	195
6.5.2 Different Knowledges	196
6.5.3 Uncertainty	198
6.5.4 Designing a representative network in the face of uncertainty: the ENG.....	200
6.5.5 Working with best available evidence	203
6.5.6 The shift to an ‘evidence based’ process	205
6.5.7 Conservation Objectives: Fuelling the need for evidence	223
6.5.8 Process-generated uncertainty.....	233
6.5.9 Addressing process-generated uncertainty informally within Finding Sanctuary.....	237
6.5.10 Addressing process-generated uncertainty formally in the national MCZ process.....	249
6.5.11 Impacts of process-generated uncertainty.....	260
7 Conclusion.....	277
7.1 The clash and the shift between two approaches	277
7.1.1 One process, two approaches.....	277
7.1.2 The shift	280
7.1.3 The clash	282
7.1.4 Which is the better approach?	283
7.2 Stakeholder participation: The cliff.....	287
7.3 Marine Protected Areas or Marine Protected Features?	288
7.4 Evidence fit for the process? A process fit for available evidence?.....	289
7.5 Flying Blind	290
7.6 Political will	291
7.7 Where do we go from here?.....	295
7.7.1 Improve clarity in the current MCZ process	295
7.7.2 Improve transparency in the current MCZ process, and ensure equal access to information	295
7.7.3 Be pragmatic about evidence and uncertainty.....	296
7.7.4 Develop an alternative, more practical approach to conservation objectives.....	297
7.7.5 Clarify MCZ management	299
7.7.6 Cross-sectoral stakeholder participation: ‘Once More, With Feeling’	300
7.7.7 Diversify the incentives used	301
7.7.8 Monitor MCZs	301
7.7.9 Map out an effective review process (adaptive planning and management).....	302

7.7.10 Establish multidisciplinary expert advice panels	302
7 Appendices.....	304
Appendix 1 Sources.....	304
Appendix 2 Reference list	307
Appendix 3 List of MCZ-related grey literature	310
Appendix 4 Summer 2012 stakeholder interviews	313
A4.1 The interview process.....	313
A4.2 Background information and interview outline, as provided to interviewees.....	314
A4.3 Summary of interview themes	318
Appendix 5 List of Abbreviations	326
Appendix 6 Epilogue.....	328

Cover Note

About the main author (statement of positionality)

I have a general background and interest in marine conservation, and am supportive of the operational objective of this case study (implementing a representative marine protected area network in English waters).

I used to play a direct role in the initiative that is the main subject of this case study, as Finding Sanctuary's MPA planner, from the start of the project's pilot phase in 2007 until the project's end in October 2011. My role combined technical work and project management, including process planning and design, liaison with stakeholders, and liaison with national project partners. I attended virtually all of the project's stakeholder meetings (with the exception of Local Group meetings), which means that I have first-hand knowledge of the interactions between stakeholders, their conflicts, and the tensions between top-down and bottom-up elements of the process.

On the one hand, this means that I have a very comprehensive and detailed level of insight into the Finding Sanctuary project, bringing a depth of knowledge to this analysis that would have been impossible for an outside observer to achieve.

On the other hand, it means that my perspective on the process is inevitably a regional project perspective. I do not have the same level of insight into the day-to-day realities and challenges of other project participants, e.g. national partners and Government. I cannot remove myself from my direct experience of the regional perspective, and it has no doubt influenced some of the conclusions of this analysis.

I have endeavoured to bring in a level of objectivity by referring to a range of source materials throughout my work. They are described in appendix 1. The analysis draws on the insights of Peter Jones (who was an independent observer of the process), as well as a wide range of stakeholder perspectives, gathered through direct observations, reports, and interviews. This means that my own perspective and experience is tempered through multiple other perspectives that have been brought into the analysis.

Since taking up my research position at UCL in November 2011, I have had no further formal role or involvement in the on-going national MCZ process.

I am, however, likely to respond to a public consultation on MCZs that is imminent at the time of writing this. Depending on the scope and content of the consultation, I intend to state my support for implementing a representative network of marine protected areas, my support for a transparent and participative approach to planning and decision-making, and concerns I have over the integrity of the work that was carried out by Finding Sanctuary's regional stakeholder group up until 2011. I may make reference to this analysis in my response, and to the recommendations at the end of this report.

Acknowledgements

This analysis draws heavily on the published record of Finding Sanctuary's stakeholder meetings, and on independent observations of those meetings (by Peter Jones). Thanks are due to the project's stakeholders (and staff) for permitting the observation of their work for this piece of research, and for the amount of time and effort that they committed to the project itself.

Particular thanks are due to the 23 former members of the Finding Sanctuary Steering Group who agreed to be interviewed in summer 2012 (see appendix 4), contributing their time and knowledge to this research.

Some of the descriptive passages of text in this report, which describe the Finding Sanctuary process (roles and membership of stakeholder groups and project partners, project timeline - particularly in section 1), are based on part I of Finding Sanctuary's final project report (see appendix 1 for a full citation). This provided an existing, comprehensive description of Finding Sanctuary's process, and therefore covered a significant part of the context to this analysis. Acknowledgements are due to my former Finding Sanctuary colleagues and co-authors of that report.

This work was funded through MESMA, an EU-FP7 project on monitoring and evaluation of spatially managed areas (<http://www.mesma.org/>).

About the references in this report

This report contains a lot of references to the materials published by Finding Sanctuary – stakeholder meeting reports, the project's progress reports, and the project's final report (see appendix 1 for further details and links). Finding Sanctuary stakeholder meeting reports are referred to by abbreviated stakeholder group name and number, e.g. IWG1 = Inshore Working Group meeting 1, OWG2 = Offshore Working Group meeting 2, JWG3 = Joint Working Group meeting 3, SG4 = Steering Group meeting 4. The composition and role of these groups is described in section 1. Appendix 1 contains a full chronological list of their meetings.

This analysis also refers to a significant amount of grey literature, including Government guidance documents that were key elements of the process. Because several of them were published around the same time, and authored by the same organisations, referring to them in the 'standard' way would have become confusing ('NE & JNCC 2011a, NE & JNCC 2011b, etc.'). Instead, important grey literature documents have been given names or abbreviations in the text. Wherever possible, the first mention of a particular document is hyperlinked to an online version, with the url given in footnotes. A full list of all the grey literature referred to in the text is provided in appendix 3, whilst a standard reference list for academic journal articles and research reports is given in appendix 2.

Where the analysis refers to websites, the relevant text is hyperlinked, and urls are given in footnotes. The urls and links are up to date at the time of writing, but may cease to become functional in future. A small number of particularly important passages have been copied from websites and inserted as quotations.

1. Context

1.1 Introduction

1.1.1 Introduction to the case study

This analysis centres on Finding Sanctuary, an initiative that took place within the wider Celtic Sea region. It was a stakeholder-centred planning project, tasked with delivering recommendations to the UK Government on the location, boundaries and conservation objectives for Marine Conservation Zones (MCZs) in south-west England. The initiative operated within the context of a wider national process, also the subject of this analysis (but with a focus on the south-west).

Finding Sanctuary was the flagship of four English regional projects¹, each of which covered a different area of English waters. The regional projects fed their final recommendations into a wider process, the English national Marine Conservation Zone (MCZ) project, which is still on-going at the time of writing. Although this MESMA case study focuses on Finding Sanctuary, the wider English national MCZ project is frequently referred to in this governance analysis, because it is a crucial part of the overall pathway that will ultimately determine whether and how the regional project recommendations will be implemented on the ground.

Most of the text in this 'context' section is based on part I of [Finding Sanctuary's final report](#)² (a 45 MB PDF file, which can also be downloaded in smaller sections via a link on [Finding Sanctuary's website](#)³, and via [this](#)⁴ JNCC webpage; the full citation is provided in appendix 1). It provides a detailed description of Finding Sanctuary's process, including the people and organisations involved, their roles, and the project's evolution and remit.

1.1.2 History of Finding Sanctuary

Project origins

The idea for Finding Sanctuary originated from a recognition by staff at English Nature⁵ that better stakeholder involvement and a strategic, regional-scale approach were needed for marine conservation planning in England, particularly for the design and planning of Marine Protected Areas (MPAs). Existing MPA processes in England (e.g. the *Natura 2000* process, established to comply with the EC Habitats and Birds Directives) were top-down processes with no stakeholder involvement in the initial planning, and were largely being carried out on a site-by-site basis, aimed at protecting a limited number of features rather than a representative cross-section of marine biodiversity.

¹ Within MESMA, 'region' means an international region rather than a region within a country (page 6 of the MESMA WP6 Guidelines). Confusingly, In the UK, Finding Sanctuary is referred to as a 'regional project', where 'region' is defined as a region within England. The same is true for the three other 'regional projects' that were part of the national MCZ project (figure 1.1). Because the term is used consistently in all the existing literature and communications relating to MCZ planning in England, this report uses 'region' to mean 'region within England', unless indicated otherwise. This is inconsistent with the MESMA definition, but hopefully less confusing than breaking with the established use of the term in the context of this particular initiative.

² http://jncc.defra.gov.uk/PDF/120718_FindingSanctuary_FinalReport_14Sep2011.pdf

³ www.finding-sanctuary.org

⁴ <http://jncc.defra.gov.uk/page-6230>

⁵ Later to merge with other public bodies to become Natural England

The concept of systematic conservation planning (developing coherent protected area networks which follow a set of common ecological design principles) had been around for several years (e.g. Cabeza and Moilanen, 2001; Pressey *et al.*, 1993), and increasing effort was being directed by scientists and conservation practitioners internationally towards applying that concept to the marine environment (e.g. Airamé *et al.*, 2003; Evans *et al.*, 2004; Leslie *et al.* 2003; OSPAR 2005; Palumbi, 2003; Roberts *et al.*, 2003; Sala *et al.*, 2002). In the UK, the concept was tested in the Irish Sea Pilot project, carried out for Defra's Review of Marine Nature Conservation (Vincent *et al.*, 2004).

The Great Barrier Reef Marine Park Authority had just successfully completed an ambitious project to develop a comprehensive zoning plan for the Great Barrier Reef Marine Park⁶, which came into effect in 2004 (Day *et al.*, 2002; Day *et al.*, 2005). In California, the Marine Life Protection Act Initiative⁷ was being established, which has since embarked on a successful process of establishing a network of MPAs in the coastal waters of California.

The processes in Australia and in California differed from the approach being followed in the UK at that time in two ways: They approached MPA planning at a regional scale (applying reserve network design principles to create systematic regional MPA networks, rather than individual sites), and they also gave a significant and meaningful voice to a wide range of marine stakeholders within the planning process.

In 2003, a small area within Lundy Special Area of Conservation (SAC) was designated as the first marine no-take zone (NTZ) in the UK, in a process that involved local fishing representatives. Following the establishment of the Lundy NTZ, other sites started to be discussed for suitability in the south west by a variety of organisations. It was the combination of observing successful processes for developing MPA networks in other parts of the world, combined with the desire to build on the success of Lundy, that led English Nature to propose the South West MPA network project, which was to become Finding Sanctuary.

The initial and pilot phases of the project

The project initially started as a regional pilot project with no official remit. It was subsequently formalised, and given an official role by the UK Government, which was to deliver recommendations for Marine Conservation Zones (MCZs), a designation required under new national legislation, the Marine and Coastal Access Act 2009 (see section 2.2.1).

Finding Sanctuary developed through three phases: an initiation phase from 2004-2007, a pilot phase (2007-2009, when the project had no official remit), and the formal phase until 2011 (when the project had an official remit).

English Nature initiated the project in July 2004 through a partnership with Devon County Council, Cornwall County Council and South West Food and Drink. These organisations formed what became the Regional Project Board. A Project Development Officer started work in January 2005.

Through 2005 the Regional Project Board was widened to include the Wildlife Trusts, Dorset County Council and the Joint Nature Conservation Committee (JNCC). At this early stage, the involvement of stakeholders at a regional and local level was established as a key principle of the project's planning

⁶ http://www.gbrmpa.gov.au/_data/assets/pdf_file/0014/7007/RAP_RestoringTheBioOfGBR.pdf

⁷ <http://www.dfg.ca.gov/mlpa/intro.asp>

approach. In addition to funding from English Nature, funding from the National Trust, Financial Instrument for Fisheries Guidance (FIFG), Cornwall County Council and Esmée Fairbairn Foundation helped to launch the project at the beginning of 2007, marking the beginning of the pilot phase.

The Finding Sanctuary pilot project was launched through a regional stakeholder workshop on April 25th 2007. The workshop was attended by 107 delegates, with a broad representation of sectors from the south-west region. The principal objective for the workshop was to select a stakeholder group to participate in the planning of a regional MPA network, and to define their broad remit. This stakeholder group became known as the Steering Group. The Steering Group was significantly expanded during the transition from the pilot phase to the project's formal phase. The smaller Steering Group which had operated during the pilot phase was subsequently referred to as the 'initial' Steering Group. The formation and composition of the initial Steering Group is described in detail in Finding Sanctuary's final report.

During the two-year pilot phase, the project developed and tested a planning model whilst not having any formal responsibility. The project team was able to think and learn together with stakeholders about how group decisions could be made on an MPA network, and what support would be necessary to achieve this. The project team also focused on building GIS capacity, on gathering ecological and socio-economic spatial information to underpin planning, and on building awareness of the project amongst stakeholder groups.

Because of a gap in the availability of spatial activity data for fishing and recreational activities, the pilot project set out to collect and map this information through interviews with fishermen and recreational stakeholders. Gathering information about human use of the sea directly from stakeholders is an approach that had previously been used in the context of MPA planning in North America (see Ecotrust's work with [Open OceanMap](#)⁸). Finding Sanctuary developed the FisherMap project (see [des Clers et al., 2008](#)⁹), based on a similar concept of interviewing fishermen about which areas they use, and getting them to draw those areas on charts for digitisation and subsequent GIS analysis. The FisherMap approach was later applied to recreational sea users, in a project referred to as 'StakMap'.

The formalisation of the project

As the pilot phase progressed, Defra¹⁰ became increasingly interested in the project's stakeholder-centred, regional-scale planning model as a possible way of planning Marine Conservation Zones (MCZs), a new type of MPA designation planned under new national legislation (the Marine and Coastal Access Act 2009, which at the time was known as the Marine Bill, as it had not yet been enacted by Parliament). The project team therefore increasingly worked with personnel from Natural England and the JNCC to help develop what was to become the national MCZ project, marking the start of the transition to the formal project phase. That included input into the initial formulation of the national [Project Delivery Guidance](#)¹¹ (PDG), which defined the official remit of four regional projects and regional stakeholder groups, set out the roles and responsibilities of all

⁸ <http://www.ecotrust.org/ocean/OpenOceanMap.html>

⁹ http://findingsanctuary.marinemapping.com/06_all%20project%20reports/Fishermap%20report%20November%202008.pdf

¹⁰ The UK Government's Department for Environment, Food and Rural Affairs

¹¹ <http://jncc.defra.gov.uk/PDF/Project%20Delivery%20Guidance%20FINAL%20020710%20secure.pdf>

process participants, as well as the timelines of the process. It also included providing feedback on the developing [Ecological Network Guidance](#)¹² (ENG – see sections 1.1.4 and 6.1.3), and highlighting the data gathering support and the guidance that would be needed from national partners in order to be able to achieve the task within the time available.

The transition to the formal phase occurred during 2009, during which the English national MCZ project was established, with three other regional projects modelled on Finding Sanctuary, covering other regions of English waters (figure 1.1).

End of the project and next steps

Finding Sanctuary and the other three regional projects are no longer operational. Finding Sanctuary's formal phase ended in September 2011, with the delivery of the project's final MCZ recommendations to England's statutory nature conservation bodies (SNCBs – in this case study, 'SNCBs' specifically refers to Natural England and the JNCC), and to Defra. Finding Sanctuary's final Steering Group meeting was in July 2011. The project team ceased to operate at the end of October 2011, with the exception of the project economist and one GIS officer, who remained in post into 2012, in order to deliver an impact assessment on the project's final recommendations to Defra in July 2012 (see section 6.5.11).

At the time of writing this analysis, England's MCZ project is being driven by the SNCBs and Defra. Since MCZ advice to Defra is formally the responsibility of the SNCBs, the SNCBs reviewed the regional project recommendations and provided their own [MCZ advice package](#)¹³ (based on the regional project recommendations) to Defra in July 2012. Defra intend to consider this advice package, and subsequently run a public consultation on however they intend to take the proposals forward. This public consultation is due to start in December 2012.

Part I of Finding Sanctuary's final report describes the initiation and pilot phases in more detail. The remainder of this governance analysis, however, focuses exclusively on the formal phase of the project, and on subsequent steps in the on-going national MCZ process (except where indicated otherwise). This is important, because the composition of Finding Sanctuary's stakeholder group during the pilot phase was significantly different, and the planning process itself was still under development during the pilot.

1.1.3 The Finding Sanctuary region

At the start of the project's pilot phase, Finding Sanctuary's planning region was defined to include coastline of the counties of Dorset, Devon and Cornwall, the surrounding territorial sea, and the UK Continental Shelf area beyond the 12 nautical mile limit, as far as the continental shelf break. The northern limit was drawn at the boundary between two [JNCC regional seas](#)¹⁴, the Western Channel and Celtic Sea, and the Irish Sea. The north-western boundary was defined along the Welsh 12 nautical mile limit, and median line in the Bristol Channel. Somerset County Council joined the project partnership in 2009, so the project planning area was extended in the north-east, to include the shoreline of Somerset and North Somerset as far as Avonmouth, and the sea beyond as far as

¹² http://jncc.defra.gov.uk/pdf/100705_ENG_v10.pdf, also available at http://www.naturalengland.org.uk/Images/100608_ENG_v10_tcm6-17607.pdf

¹³ <http://jncc.defra.gov.uk/page-6229>

¹⁴ <http://jncc.defra.gov.uk/page-1612>

the median line with Wales. The Severn Estuary beyond Avonmouth was not included, as it is already protected under several designations.

The landward baseline was defined as the high water mark (i.e. intertidal areas were included in the planning region). The requirements under the Marine and Coastal Access Act 2009 (section 2.2.1) are that the potential areas for MCZs extend up to the limit of saline intrusion. However, for all practical purposes, OS Boundary-Line mean high water was used as the project's GIS baseline as this is a low-cost detailed GIS coastline suitable for mapping at relatively close scale (1:10,000).

The final planning area covered a total area of 93,000km², abutting the Balanced Seas MCZ project on the Hampshire border, and the Irish Sea Conservation Zones Project in the north. Figure 1.1 shows the Finding Sanctuary region in the context of the other three regional projects. Figures 1.2 and 1.3 (in section 1.1.6) show the Finding Sanctuary region at a closer scale, with the outlines of the areas included in the project's final network recommendations.

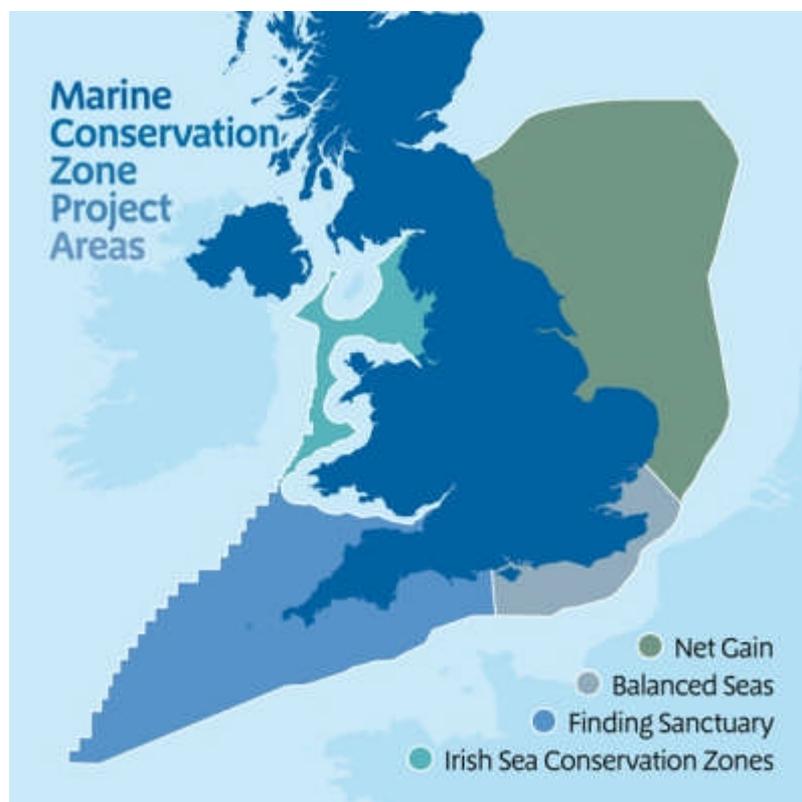


Figure 1.1 The four regional MCZ planning projects. Map created by the JNCC.

1.1.4 Finding Sanctuary within the context of the English national MCZ Project

The National Project Board

The National Project Board was initially formed by JNCC, Natural England and Defra, and met for the first time in February 2009. In March 2010, Defra left the National Board and became a 'critical friend', leaving the JNCC and Natural England responsible for leading the national MCZ project (these organisations also participated in the project as stakeholders, so these organisations had multiple roles in the process).

The Terms of Reference of the National Project Board were set out in the MCZ Project Delivery Guidance (the PDG - see section 1.1.2), and focus on their role to deliver the UK Government's policy to establish an ecologically coherent network of MPAs by 2012. It is now acknowledged that this deadline will not be met, and the first set of MCZs is due to be designated in 2013. The responsibility of the National Project Board is to provide strategic direction in the management of the national MCZ project, and to provide the funding. While the four regional projects existed, it was also to ensure there was cross-partner agreement on project planning, management and delivery of products across the four projects.

The four regional projects

In addition to Finding Sanctuary, three other regional projects were formed through 2009: The Irish Sea Conservation Zone Project for the Irish Sea, Net Gain for the North Sea, and Balanced Seas for the English Channel and South East England. Put together, the four projects covered English territorial waters, and UK offshore waters adjacent to England, Wales and Northern Ireland (figure 1.1). The formal requirement from Finding Sanctuary and the other regional projects was to provide recommendations for MCZ locations, boundaries and conservation objectives, and to pass these recommendations to the SNCBs (who would review the recommendations and subsequently pass the advice to Defra).

In essence, the planning processes were the same in all four regions: a regional stakeholder group was tasked with developing recommendations in line with top-down guidelines (the ENG – see below), and the project team provided the necessary support (gathering and mapping datasets, communicating with stakeholders, organising planning meetings, reporting back to the national project partners – see below). However, there were differences in the way the stakeholder groups were structured, and in some of the practical approaches taken to solving the task in hand. These differences were largely the result of the different geographies of the four regions. The size and shape of each project region and its coastline meant that each project faced its own set of logistical challenges, and each region had its own balance of stakeholder interests to consider.

The Science Advisory Panel

The Science Advisory Panel (SAP) was established as an independent panel consisting of well-respected scientists in December 2009. The SAP was appointed by Defra and chaired by Dr Peter Ryder, former Deputy Chief Executive and Director of Operations of the Met Office. The panel members were Professor Juliet Brodie (Natural History Museum, London), Professor Callum Roberts (University of York), Dr Keith Hiscock (Marine Biological Association, Plymouth), Professor Michel Kaiser (University of Wales, Bangor), Dr Jason Hall-Spencer (University of Plymouth), Professor Mike Elliott (University of Hull), Professor Graham Underwood (University of Essex) and Dr Beth Scott (University of Aberdeen).

The SAP's role was to offer objective scientific assessment of site proposals made by the four regional MCZ projects against criteria and guidance provided by the SNCBs, and to provide independent scientific advice to Ministers (full terms of reference for the SAP can be found [here](#)¹⁵). The SAP provided feedback to the regional projects following each progress report, and clarified questions regarding the interpretation of the national Ecological Network Guidance (ENG – see

¹⁵ <http://archive.defra.gov.uk/environment/marine/documents/protected/mpasap-tor.pdf>

below). Their advice was based on ensuring that the developing regional recommendations were meeting the ENG, and that shortfalls in the design of the network were addressed.

Defra produced a [factsheet](#)¹⁶ about the SAP which stated that the SAP would, at the final stage of the process, report to the Secretary of State to help an informed decision on the implementation of the regional recommendations. The final SAP advice was published in November 2011, providing the SAP's assessment of the final recommendations from all four regional projects. It is available [here](#)¹⁷.

Note that the SAP's remit was solely to comment on the achievement of the ecological criteria set out in the ecological network design guidance, and not on any other issues (e.g. relating to economic or social objectives or governance). There were no economists or social scientists on the panel.

National guidance

As stated above, the regional stakeholder group had to develop its recommendations in line with national guidelines. Many (in excess of 50) guidance documents were issued by national project partners over the course of the existence of the four regional projects, but for the sake of this analysis, there is a small number of really key ones to be aware of:

- The [Ecological Network Guidance](#)¹⁸ (referred to throughout this report as the ENG, and discussed in detail in section 6.1.3) was particularly important, as it described the ecological criteria that the recommended protected area network configuration had to fulfil – it provided the ecological benchmark that Finding Sanctuary worked towards. It set out a series of practical ecological design guidelines rooted in best available evidence, e.g. requirements to represent a certain percentage of different habitats within the network.
- The [Conservation Objective Guidance](#)¹⁹ (COG) was another key guidance document, which prescribed the format for MCZ conservation objectives, which Finding Sanctuary was tasked with drafting as part of the planning process. The COG proved to be a highly significant element of the process, and is discussed in more detail in section 6.5.7.
- The [Project Delivery Guidance](#)²⁰ (PDG, already referred to in section 1.1.2 above) described the national MCZ process in terms of participants, roles, remits and timelines.
- Defra produced several overarching policy guidance notes, of which [Guidance Note 1](#)²¹ (henceforth referred to as Defra GN1) is the most significant in the context of this analysis. It sets out the aims of establishing MCZs, the role of stakeholders in the process, the fundamental network design principles underpinning the ENG, and basic principles underpinning the COG.
- The [draft reference area guidance](#)²² was important when it came to planning reference areas, a highly protected type of MCZ, which the ENG stipulated had to form part of the recommended network. It stated that extractive and depositional activities would not be allowed in reference areas, and contained a long list of additional 'potentially damaging or

¹⁶ <http://archive.defra.gov.uk/environment/marine/documents/protected/mpasap-factsheet1010.pdf>

¹⁷ <http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/sap/>

¹⁸ http://jncc.defra.gov.uk/PDF/100705_ENG_v10.pdf

¹⁹ <http://jncc.defra.gov.uk/PDF/MCZ%20Project%20Conservation%20Objective%20Guidance.pdf>

²⁰ <http://jncc.defra.gov.uk/PDF/Project%20Delivery%20Guidance%20FINAL%20020710%20secure.pdf>

²¹ <http://archive.defra.gov.uk/environment/biodiversity/marine/documents/guidance-note1.pdf>

²² http://www.naturalengland.org.uk/Images/MCZ-regional-guidance_tcm6-23451.pdf

disturbing activities' that might also face restrictions. The guidance on reference areas was never fully signed off by its authors (JNCC and Natural England), it remained in 'draft' until the end of the regional projects.

Other guidance documents are referred to where relevant in this report. A full list (with hyperlinks to the documents) is provided in Appendix 3.

1.1.5 Participants in the regional project

The Project Partnership (Regional Project Board)

The Finding Sanctuary Regional Project Board was set up in July 2004, initially consisting of English Nature (later to become Natural England), Cornwall County Council, Devon County Council, and South West Food and Drink. Dorset County Council joined in August 2005, the JNCC in February 2005, the Wildlife Trusts in August 2006, the National Trust and RSPB in November 2007, and Somerset County Council in February 2009.

The Project Board was responsible for overseeing the delivery of the project and had overall legal, financial and management responsibility for the project. Early in the process (at the beginning of the pilot phase), it made the decision to follow a stakeholder-driven process for the development of MPAs, rather than taking a direct role in designing MPAs themselves.

The Steering Group

The Steering Group was a representative cross-sectoral group of marine stakeholder representatives. Part I of Finding Sanctuary's final report describes in detail how the group was formed, and how membership evolved over the course of the project. Appendix 2 of the same report gives a full list of names of people who sat on the group, including substitutes. The group included representatives of the following sectors and organisations (see next page):

SECTOR	SUBSECTOR	ORGANISATION
Commercial Fishing	Inshore	New Under Ten Fishermen's Association
	Inshore	South Coast Fishermen's Council
	Inshore/ Offshore	North Devon Fishermen's Association
	Offshore	South West Fish Producers Organisation (SWFPO)
	Inshore/Offshore	Cornish Fish Producers Organisation (CFPO)
	National	National Federation of Fishermen's Organisations (NFFO) SW Committee
	Commercial Handliners	South West Handline Fishermen's Association
Leisure & Tourism	Canoe & Kayak Paddle Sport	Canoe England & British Canoe Union
	Leisure Boating	Royal Yachting Association (RYA)
	Scuba Diving	Professional Association of Diving Instructors (PADI)
	Scuba Diving	British Sub Aqua Club (BSAC)
	Spearfishing	British Spearfishing Association
	Recreational Sea Angling	Bass Anglers Sports Fishing Society (BASS) & The Angling Trust Conservation Group
	Recreational Sea Angling	Brixham Sea Angling Club
	Recreational Sea Angling	Cornish Federation of Sea Anglers (CFSA)
	Tourism	South West Tourism
	Charter Boat Skippers	Offshore Adventure Dive Charter & Professional Boatmen's Association
Commercial & Industry	Aggregates	British Marine Aggregate Producers Association (BMAPA)
	Offshore Renewables	Renewable UK
	Offshore Renewables	Regen South West
	Regional Development and Economy	South West Regional Development Agency
	Shipping & Ports	British Ports Association
	Shipping & Ports	British Chamber of Shipping
Conservation	Conservation NGOs	Royal Society for the Protection of Birds (RSPB)
	Conservation NGOs	The Wildlife Trust
	Conservation NGOs	Marine Conservation Society (MCS)
	Statutory Conservation (offshore)	Joint Nature Conservation Committee (JNCC)
	Statutory Conservation (inshore)	Natural England (NE)
Owners	Land Owners	The Crown Estate
	Land Owners	The Duchy of Cornwall
Science	Scientific Advisors	Marine Biological Association (MBA)
Statutory Bodies & Local MCZ Groups	Enforcement	Inshore Fisheries and Conservation Authorities
	Enforcement	Marine Management Organisation
	Environment Agency	Environment Agency
	Local MCZ Group	Somerset & North Somerset
	Local MCZ Group	Dorset
	Local MCZ Group	Devon
	Local MCZ Group	Cornwall
Local MCZ Group	Isles of Scilly	
Heritage	Historic Environment	English Heritage
Military	Ministry of Defence	Ministry of Defence

The Steering Group's responsibility was to develop MCZ recommendations in line with the ecological design criteria set out in the ENG, balancing the needs and interests of the different sectors represented. Steering Group meetings were designed and led by a professional facilitator.

With support from the facilitator, a Steering Group Protocol was developed which set out the Steering Group's role in developing a set of MCZ recommendations to Government; the Group's responsibility in ensuring that different stakeholder views and perspectives were heard and considered, and that details on work progress were communicated back to constituents (i.e. other people within the wider sectors represented by each individual on the group).

In order to manage the amount of work that was necessary, the Steering Group (SG) formed two smaller subgroups, the Inshore Working Group (IWG) and the Offshore Working Group (OWG), which subsequently merged to form the Joint Working group (JWG). The Working Groups had frequent (monthly) meetings, during which they carried out the detailed MCZ planning work on behalf of the wider Steering Group, which met less frequently to review the progress made. Another subgroup (the Process Group) was formed to work with the project team and facilitators on process matters, such as dealing with applications for Steering Group membership, and adaptation of working protocols. Like with the Working Groups, Process Group decisions were reviewed by the wider Steering Group.

Named Consultative Stakeholders

Named Consultative Stakeholder (NCS) status was devised to accommodate organisations and individuals who had been invited onto the Steering Group, but for different reasons chose not to take up their place. With membership of the Steering Group strictly limited, it was also a useful secondary status for those organisations which were not granted Steering Group membership. With this status, stakeholders were able to provide information to the Steering Group, and comment on work emerging from the Steering Group, but they had no direct participation in the network design process. They were:

- British Water Ski (February 2010)
- UK Cable Protection Committee (February 2010)
- British Association of Shooting and Conservation (February 2010)
- EDF Energy (July 2010)
- Trinity House (August 2010)
- Marine and Coastguard Agency (September 2010)
- MPA Coalition (September 2010)
- Comité National des Pêches Maritimes et des Elevages Marins (October 2010)
- Irish South and West Fish Producers Organisation (October 2010)
- Pêcheurs de Manche et d'Atlantique (October 2010)
- Rederscentrale (November 2011)
- Angling Trust (December 2011)
- Cruising Association (January 2011)
- Surfers Against Sewage (February 2011)
- Pelagic Regional Advisory Council (February 2011)
- Cornwall Council (March 2011)
- The British Marine Federation (September 2010)
- Plymouth University School of Geography, Earth & Environmental Sciences (April 2010)
- The Shellfish Association of Great Britain transferred from Steering Group to NCS status in February 2011

Local Groups

Whilst the regional Steering Group was ultimately responsible for developing the project's recommendations, Local MCZ Groups were set up to ensure that local perspectives could be heard when the regional network was being shaped. They were also intended to help ensure that Finding Sanctuary had access to local ecological data, and other spatial data where relevant, such as estuary management plans.

Local Groups provided site suggestions to the regional Steering Group, and they also reviewed the regional Steering Group's progress and provided feedback on the developing recommendations from a local perspective. Each Local Group was managed by a co-ordinator who worked in close collaboration with the Finding Sanctuary project team to organise meetings. The Local Group co-ordinators also sat on the regional Steering Group, to ensure effective two-way communications between the local and regional levels.

There were five Local Groups in total: Dorset, Devon, Somerset, Cornwall, and the Isles of Scilly. With the exception of Cornwall, which already had an MPA group in existence, the groups were set up by Finding Sanctuary in collaboration with a local partner. The aim was to establish a balanced and representative membership of stakeholders who have excellent knowledge of their sector and area. A full list of the individuals who formed part of the Local Groups is presented in Appendix 3 of Finding Sanctuary's final report, with the organisations and sectors they represented. An overview of sectors represented is included here:

- Cornwall:
 - Conservation (x 3)
 - Spearfishing & recreational diving
 - Angling (x 2)
 - Tourism (x2)
 - Commercial Fishing (x4)
 - Statutory fisheries regulation
 - Statutory nature conservation (x 2)
 - Local Authority
 - Maritime archaeology
 - Aquaculture
 - Maritime industries
 - Ports & harbours
- Devon:
 - Maritime archaeology (x 2)
 - Conservation (x 6)
 - Economy and commerce (x 2)
 - Commercial Fishing (x 4)
 - Local Communities (x 7)
 - Diving (x2)
 - Landowner
 - Marine Education (x 2)
 - Ports and Harbours
 - Angling (x 3)
 - Statutory Nature Conservation
 - Renewable Energy
 - Science (x4)
 - Watersports and recreation

- Dorset:
 - Commercial fishing (x12)
 - Statutory fisheries regulation (x2)
 - Recreational sea angling (x2)
 - Conservation
 - Statutory nature conservation
 - Aquaculture
 - Planning
 - Charter boats (x3)
 - Recreational boating (x2)
 - Local Authority (x2)
 - Ports and harbours
- Isles of Scilly
 - Local Authority (x2)
 - Conservation (x 4)
 - Diving
 - Statutory fisheries regulation (x2)
 - Planning
 - Commercial Fishing (x2)
 - Angling
 - Boatman
 - Renewable Energy Projects
 - Local Authority
 - Ports and Harbours
- Somerset
 - Local Authority (x3)
 - Boat Anglers
 - Marine Education
 - Coastal Partnership
 - Ports
 - Science
 - Recreational Anglers
 - Maritime archaeology (x2)
 - Conservation (x7)
 - Recreational Boating
 - Statutory fisheries regulation
 - Charter boats
 - Commercial/ Consultants
 - Statutory nature conservation (x2)
 - Tourism
 - Watersports

Project Team

The Project Team provided support to the decision-making process through the provision of data, communications and stakeholder outreach:

- Stakeholder support
 - Organising and preparing for planning meetings
 - Responding to enquiries, managing criticism and other feedback for the process
 - Organising membership changes
- GIS and planning support
 - Sourcing and processing of relevant spatial data,
 - Support of the FisherMap (Fishing activity mapping) and StakMap (Leisure activity mapping) projects
 - Preparation of hard copy and interactive maps for stakeholders to use during planning meetings
 - Preparation of initial MCZ site options (referred to as focus areas and building blocks) in line with the ENG
 - Digitising stakeholder site suggestions and updating maps of the developing network configuration following planning meetings
 - Writing up of meeting records, development of network statistics and data reporting
 - Development of ENG-related statistical feedback tools for use during planning meetings
 - Preparation of progress reports, final report and presentations to the SAP
- Liaison
 - Collecting spatial activity data from fishing and recreational stakeholders at a club and individual level (FisherMap and StakMap)
 - Communicating with stakeholders to ensure they were aware of the project and its progress, feeding back communications to the project team, supporting local and regional stakeholder group work
- Communications
 - Using web sites, forums and news media to ensure awareness of the project
 - Help stakeholders communicate with their constituents
 - Ensure co-ordination between other regional MCZ projects and within the national MCZ project
- Impact Assessment (delivered in July 2012, see section 6.5.11)
 - Development of the impact assessment to communicate what the likely economic, environmental and social consequences of the recommended MCZs will be
 - Development of financial models for fisheries impacts
 - Meetings with stakeholders to check facts and figures

Facilitators

Rob Angell from R K Partnership, together with two associates, Lynn Wetenhall and Jim Welch, provided professional advice on the organisation and management of the overall process, to enable stakeholders to work effectively. This included providing advice on the sequence, number, participation and style of meetings to ensure that the work was completed on time. For each planning meeting (i.e. Working Group and Steering Group meeting), the facilitator worked in collaboration with the project team to design the agenda, to define the main tasks of the meeting, and determine the materials that would be needed to achieve the task.

The facilitator designed each stakeholder planning meeting in detail and then facilitated each of these deliberative sessions. His responsibility was to help stakeholders achieve the objectives of the

meeting, guiding participants through the agenda, facilitating discussions and negotiations, and helping to ensure that any issues that arose were dealt with collaboratively and constructively.

The facilitator provided advice on process issues that arose within the project, to ensure that it maintained its integrity and impartiality. For example, there were questions over how to address specific dilemmas / disagreements that arose during the process, such as that of locating MCZs with offshore wind farms. The facilitator's advice meant that this was tackled both within and outside the deliberative sessions. Other examples included when to pass on information to stakeholders; and what information they would need in order to consider the issues at hand and therefore make informed choices or recommendations and; how to deal with the need for expert input to the deliberative sessions.

1.1.6 Final recommendations

The Steering Group's final MCZ recommendations consisted of 58 sites, including 13 recommended reference areas (highly protected MCZs required by the ENG). The site recommendations are set out in full detail in part II of Finding Sanctuary's final report. Figures 1.2 and 1.3 show the areas that formed part of the final recommendations.

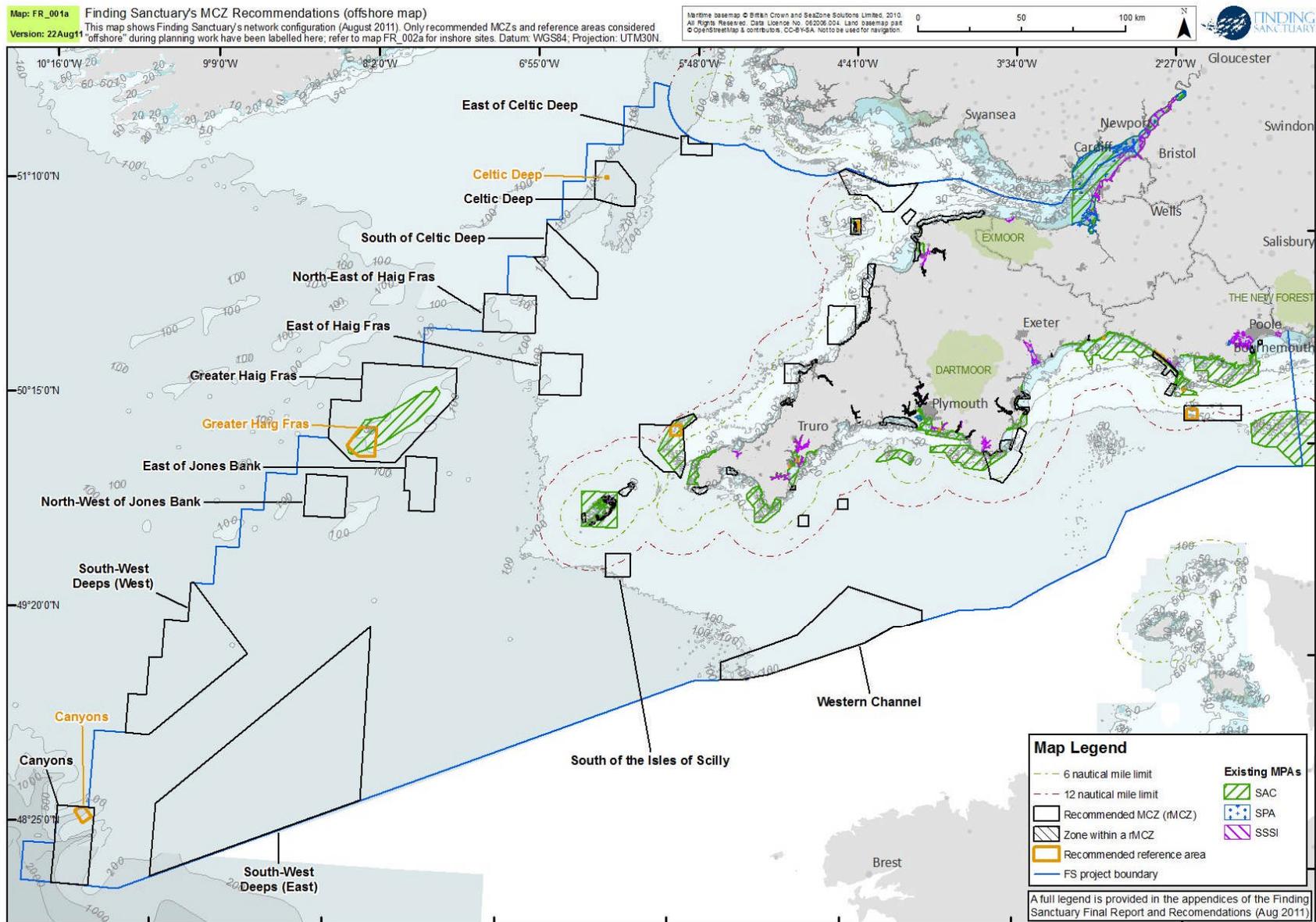


Figure 1.2 Outlines of the sites included in Finding Sanctuary's final MCZ recommendations, offshore sites labelled. For full details, see Finding Sanctuary's final report (citation and links in appendix 1).

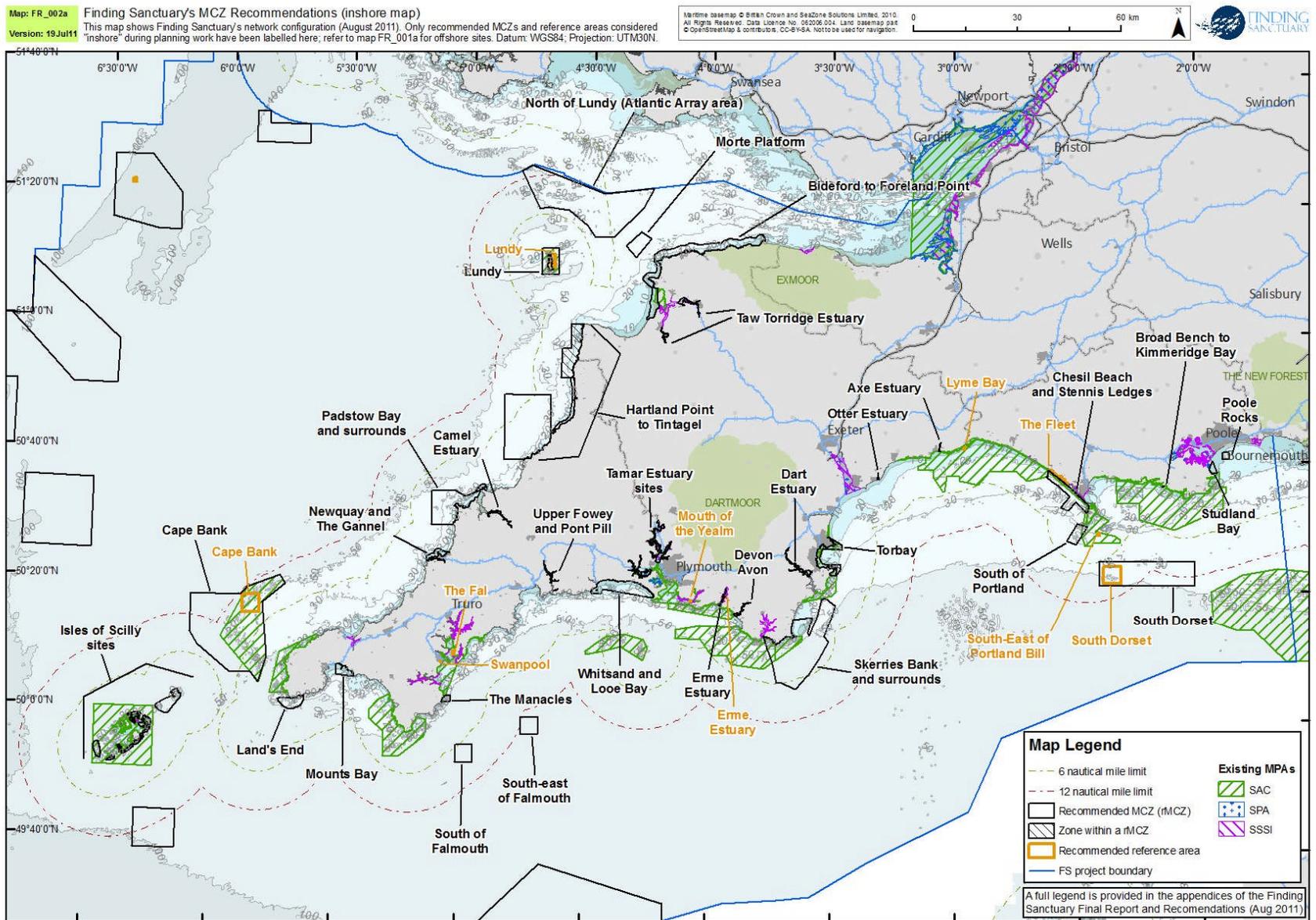


Figure 1.3 Outlines of the sites included in Finding Sanctuary's final MCZ recommendations (inshore sites). For full details, see Finding Sanctuary's final report (citation and links in appendix 1).

1.1.7 Beyond Finding Sanctuary: The on-going national MCZ project

Finding Sanctuary delivered its final recommendations to Defra, the JNCC, and Natural England at the beginning of September 2011. Finding Sanctuary's stakeholder groups ceased to operate after July 2011, and the regional project team disbanded in October (with the exception of the project economist and a GIS expert, who continued to work on the formal impact assessment into 2012).

On November 15th, 2011, the Science Advisory Panel published their final advice, to accompany the final recommendations of the four regional projects. The SAP has since ceased to operate.

On the same date, November 15th, 2011, Environment Minister Richard Benyon released the following [Written Ministerial Statement](#)²³ on the MCZ process, outlining the process up until 2013:

'As part of the Government's commitment to implementing in full the provisions of the Marine and Coastal Access Act, we are creating a network of national protected areas in British seas to ensure our underwater wildlife flourishes in years to come. We are clear that looking after the wildlife and habitat in our seas is just as important as looking after those on land.

The Government's first step to identifying new Marine Conservation Zones (MCZs) in English waters was taken forward through four regional MCZ projects managed by the Statutory Nature Conservation Bodies, who are Natural England and the Joint Nature Conservation Committee. The regional projects provided their recommendations for proposed sites for MCZs on 8 September. These have been reviewed by the independent Science Advisory Panel (SAP) and their advice to the SNCBs and Defra is being [published today on Defra's website](#).

The Marine and Coastal Access Act requires the establishment of a network of conservation sites in the UK marine area. In English waters the network will comprise European Marine Sites, Sites of Special Scientific Interest, sites designated under the Ramsar Convention and Marine Conservation Zones (MCZs). The Act requires that the network must conserve or improve the UK marine environment and protect a range of representative features.

The regional MCZ projects have done excellent work in bringing stakeholders together and making site recommendations, but it is clear from the SAP's advice that there are a number of gaps and limitations in the scientific evidence base supporting the MCZ recommendations.

It is important that we get this right. It is vital that we have an adequate evidence base for every site if we are to create successful well-managed MCZs. An adequately robust evidence base will be essential when we come to implement management measures.

Defra will therefore be commissioning significant additional work to support MCZ designation including an in depth review of the evidence base for all the regional projects' site recommendations and committing additional resources to carrying out seabed and habitat monitoring.

Protecting our marine environment is essential and the Government remains fully committed to establishing MCZs to contribute to an ecologically coherent UK network.

²³ <http://www.defra.gov.uk/news/2011/11/15/wms-marine-conservation-zones/>

However, the need to strengthen the evidence base for the MCZ recommendations means this is going to take longer than the ambitious target first put forward. We are likely to be able to designate some MCZs fairly quickly where the supporting evidence is adequate. However, for others we anticipate that more investigation will be needed before they can progress towards designation.

Natural England and the Joint Nature Conservation Committee will provide the MCZ impact assessment and their formal advice in July 2012. This is six months later than previously planned and this revised timetable will enable them to address the recommendations from the Independent Review of the Evidence Process for Selecting Marine Special Areas of Conservation (published July 2011) and take account of any further evidence obtained from the work that Defra is now commissioning. We will give careful consideration to all the advice received before undertaking formal public consultation on MCZs by the end of 2012. This consultation will include all sites recommended by the Regional Projects with clarity on how and when work on them will be taken forward. It is envisaged that the first MCZ designations will take place in 2013.

Defra and delivery partners will work together ensuring that early management measures are put in place to provide effective levels of protection for designated sites and continuing to build the evidence base for future designations. Defra will also take the opportunity, working with stakeholders and SNCBs, to look at other marine features which may benefit from spatial protection.

This phased approach to designation will also allow more scope to shape the English network taking account of sites being considered by the devolved administrations and neighbouring Member States.'

The statutory nature conservation bodies (JNCC and Natural England) delivered their formal MCZ advice to Government in July 2012. It consisted of a commentary on the regional project recommendations, which was delayed by six months, because of a lengthy evidence review process that was undertaken following the delivery of the regional project recommendations. The evidence review process is described and analysed in section 6.5.6.

At the same time (July 2012), the regional project economists delivered their formal impact assessments on the MCZ recommendations. The impact assessment aims to assess the social, environmental and economic costs and benefits of implementing the MCZs as recommended, serving as an important aid to the decision-makers in Government (section 6.5.11 covers some background detail on the MCZ impact assessment, in the context of a discussion about how the impact assessment work was hampered by process-generated uncertainty).

Defra is due to run a public consultation on MCZs in late 2012, and has stated that a 'first tranche' of MCZs will be designated in 2013. Those interested in keeping up-to-date with the on-going process may like to start with [Natural England's MCZ pages](http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/default.aspx)²⁴, [JNCC's MCZ pages](http://jncc.defra.gov.uk/page-4525)²⁵, or [Defra's MCZ pages](http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/)²⁶.

²⁴ <http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/default.aspx>

²⁵ <http://jncc.defra.gov.uk/page-4525>

²⁶ <http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/>

1.1.8 Basic timeline of Finding Sanctuary and the on-going MCZ process

Figure 1.4 (overleaf) illustrates the pathway for planning MCZs in England, up to the point of their designation. The legal background to the whole process came from national and international legislation (described in section 2.2.1 of this report), which defined a legal objective of implementing a representative MPA network.

Over the course of 2009, Finding Sanctuary was formalised, and three other regional projects set up (see section 1.1.2). Each regional project formed a representative regional stakeholder group, which had the task of developing recommendations for MCZ location, boundaries, and conservation objectives. At the outset, there were national and regional-scale efforts to gather socio-economic and environmental data in order to inform regional stakeholder deliberations on how to construct the spatial configuration of the network, within the parameters of the ENG.

The circular arrow around the 'regional stakeholder group' at the centre of the diagram illustrates the iterative nature of the regional projects' work over the course of 2010 and 2011. At the end of each planning iteration, progress reports from each regional project were sent to the SAP, the SNCBs, Defra, and Named Consultative Stakeholders (including international stakeholders) for review and feedback. This feedback was then used to inform subsequent planning iterations.

In 2011, the regional projects finished their task, and formally passed recommendations to the SNCBs, who then reviewed them and provided their own MCZ recommendations to Defra. The diagram shows the timeline that was originally planned, according to which the SNCB advice was due late in 2011. There was a delay to this original timeline, largely because of an in-depth evidence review carried out by the SNCBs before they delivered their advice (see section 6.5.6).

The diagram also illustrates that the impact assessment was originally intended to be developed through the same iterative process that generated the recommended network configuration, over the course of 2010 and 2011. In reality, this was hampered by process-generated uncertainty, and in the end, the impact assessment was not finalised until July 2012, the same time that the SNCBs passed their MCZ advice package to Defra (see section 6.5.11).

At the time that this analysis is being completed, the SNCB advice package has been submitted to Defra, but the next step indicated on the diagram (the formal public consultation) has not yet been launched. Defra are intending to launch a public consultation on how they intended to take forward the MCZ proposals in December 2012. Following the public consultation, the Secretary of State for the Environment is due to designate a 'first tranche' of MCZs in the summer of 2013.

At the time of writing, there is no clear planned timeline for the MCZ implementation process beyond 2013 (including for the definition of site management measures).

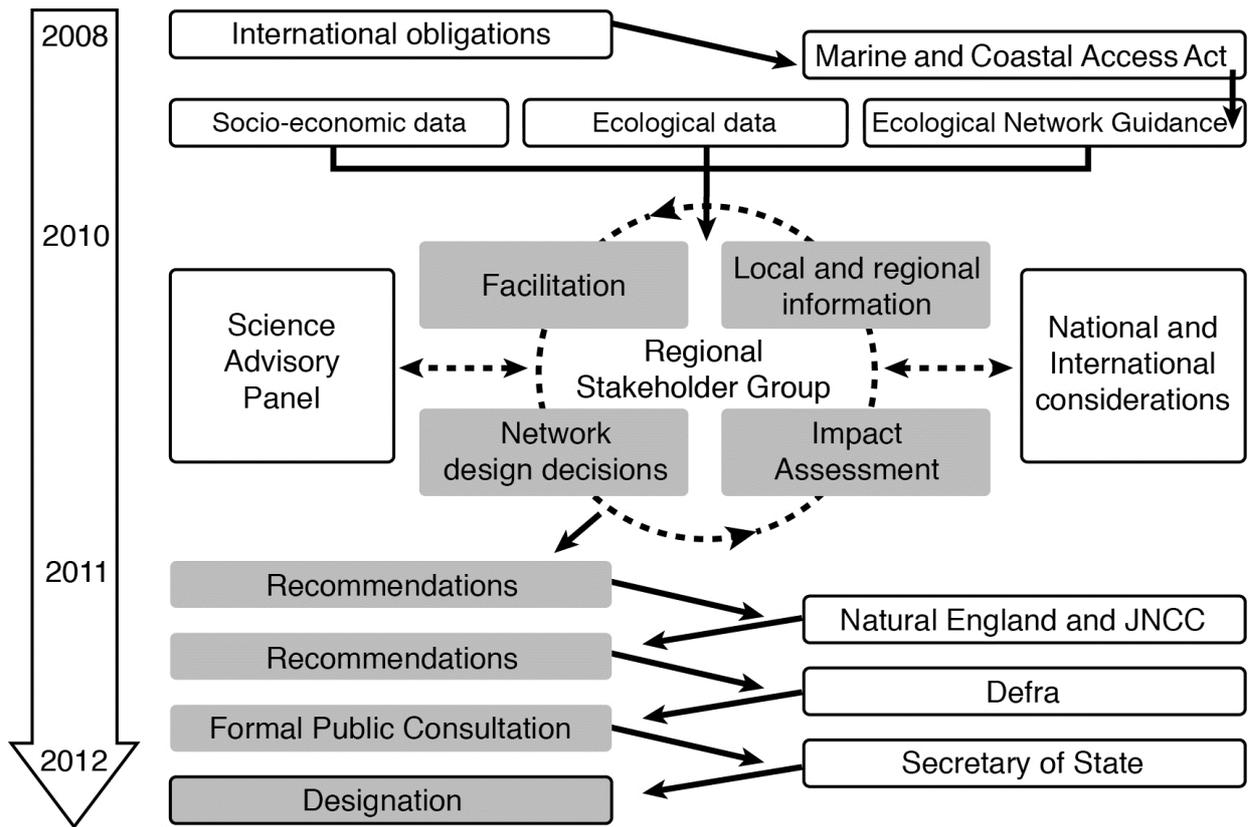


Figure 1.4 Visual representation of the MCZ planning process in England. The diagram is adapted from the [first MCZ project newsletter](http://jncc.defra.gov.uk/page-5235)²⁷, released by the JNCC and Natural England. Finding Sanctuary was one of four regional projects responsible for delivering the first set of recommendations (to Natural England and the JNCC).

²⁷ <http://jncc.defra.gov.uk/page-5235>

1.2 Socio-economic and political context of the case study

1.2.1 Main economic and social indicators

At the time of writing, the [CIA world factbook](#)²⁸ estimates the UK GDP at \$2.173 trillion (2010 estimate), making it the 8th largest in the world. The national economy contracted during the world financial crisis, from \$2.256 trillion (2008 estimate) to \$2.146 trillion (2009 estimate). Per capita GDP is estimated at \$34,800 (2010), with an unemployment rate of 7.8% (2010 estimate). Real growth rate of GDP for 2011 is estimated at 1.1%, a slight slowdown from 2010 (1.4%), following a recession triggered by the global financial crisis (in 2009, GDP shrank by -4.4%).

The UK is the third largest economy in Europe. The service sector (especially banking, insurance and business services) is the biggest part of the national economy, employing 80.4% of the labour force, and contributing 77.6% of the GDP. Industry, which accounts for 18.2 % of labour force and 21.7% of GDP), has been declining in importance. Agriculture employs just 1.4% of the labour force and contributes 0.7% to GDP. From the early 1990s onwards, the UK enjoyed a period of economic growth, brought to a halt by the global financial crisis in 2008 which due to the importance of the financial sector hit the UK economy hard. (Source: CIA World factbook, 2010 estimates).

With slow growth, high public deficit and debt levels, and the impacts of the euro-zone debt crisis, the economic situation in the UK remains difficult and uncertain. With the aim of reducing the deficit, the current Government is implementing austerity measures, with controversial cuts in public spending that have led to fears of increased inequality and associated social problems (Coote 2010). The Gini index is given as 34 (for 2005), with 1999 estimates stating that the 10% lowest income households share 2.1% of the national total, whereas the highest income 10% share 28.5%.

The [World Bank governance capacity indices](#)²⁹ for the UK (2010) are as follows:

- voice and accountability 1.31
- political stability 0.4
- government effectiveness 1.56
- regulatory quality 1.7
- rule of law 1.77
- control of corruption 1.48
- average 1.38

Headline economic statistics for England are quite heavily skewed by the City of London, which is economically like a different country. National average figures therefore do not fully reflect the situation within the counties of south-west England which lie along the coast of the Finding Sanctuary region. This is illustrated by figure 1.5, which shows average GVA per head for different NUTS³⁰ 2 regions in England, based on 2009 figures from the UK's [Office for National Statistics](#)³¹ (ONS). The regions abutting the Finding Sanctuary area are highlighted in red. Figure 1.6 shows the same, but with London excluded. Dorset and Somerset have an average per capita GVA that is comparable to the average for the whole of England (minus London), whilst Devon falls just below it.

²⁸ <https://www.cia.gov/library/publications/the-world-factbook/>

²⁹ http://info.worldbank.org/governance/wgi/sc_country.asp

³⁰ NUTS stands for the French *nomenclature d'unités territoriales statistiques*, referring to the EU's standard Nomenclature of Territorial Units for Statistics. Information can be found at

http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction.

³¹ <http://www.ons.gov.uk/ons/index.html>

The comparatively remote far west region of Cornwall and the Isles of Scilly stands out as having the lowest per capita GVA in England.

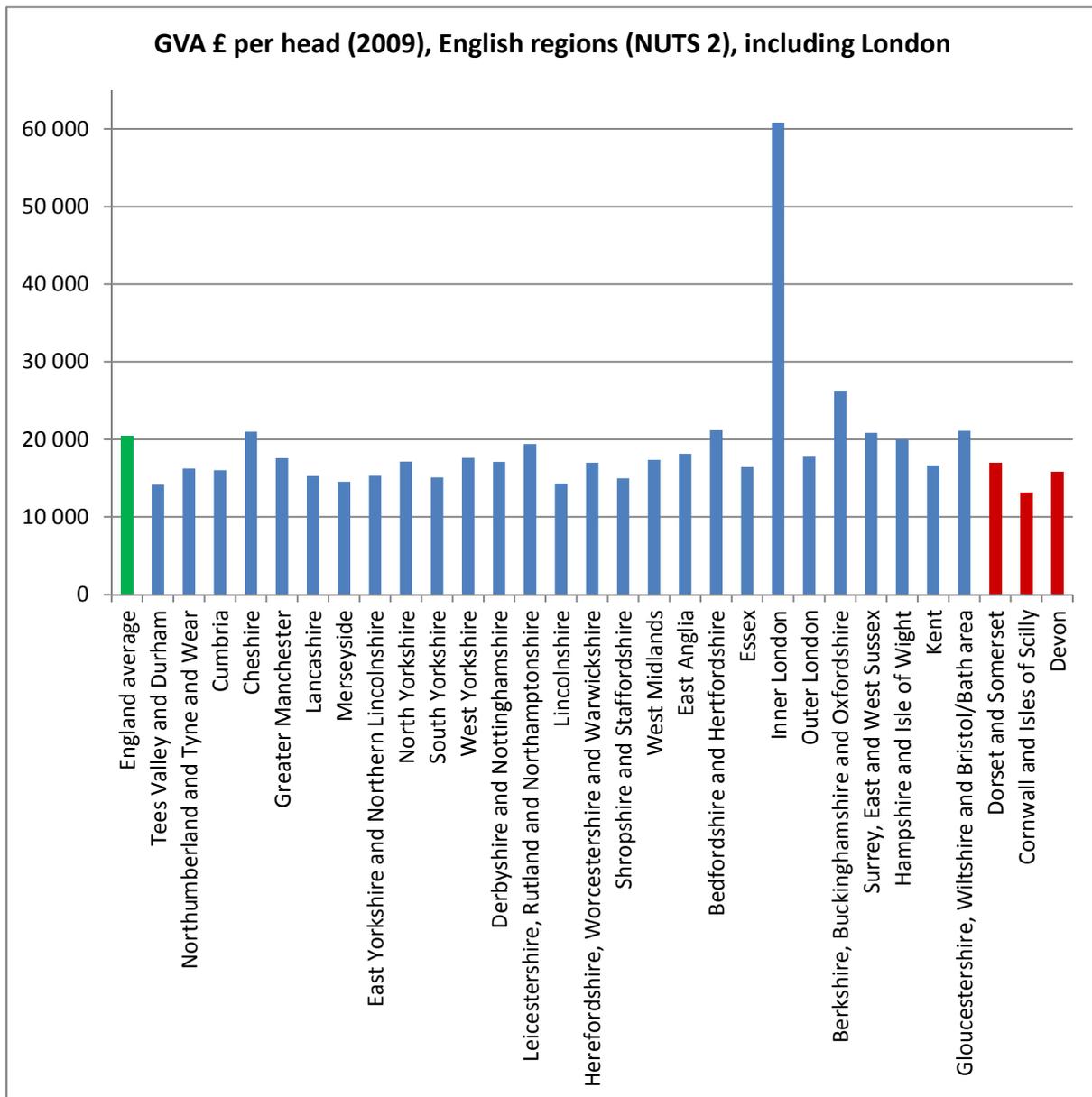


Figure 1.5 Average GVA per head for different NUTS 2 regions in England, based on 2009 figures from the ONS. The England average is shown in green, and the regions abutting the Finding Sanctuary area are shown in red. © Crown Copyright, 2011.

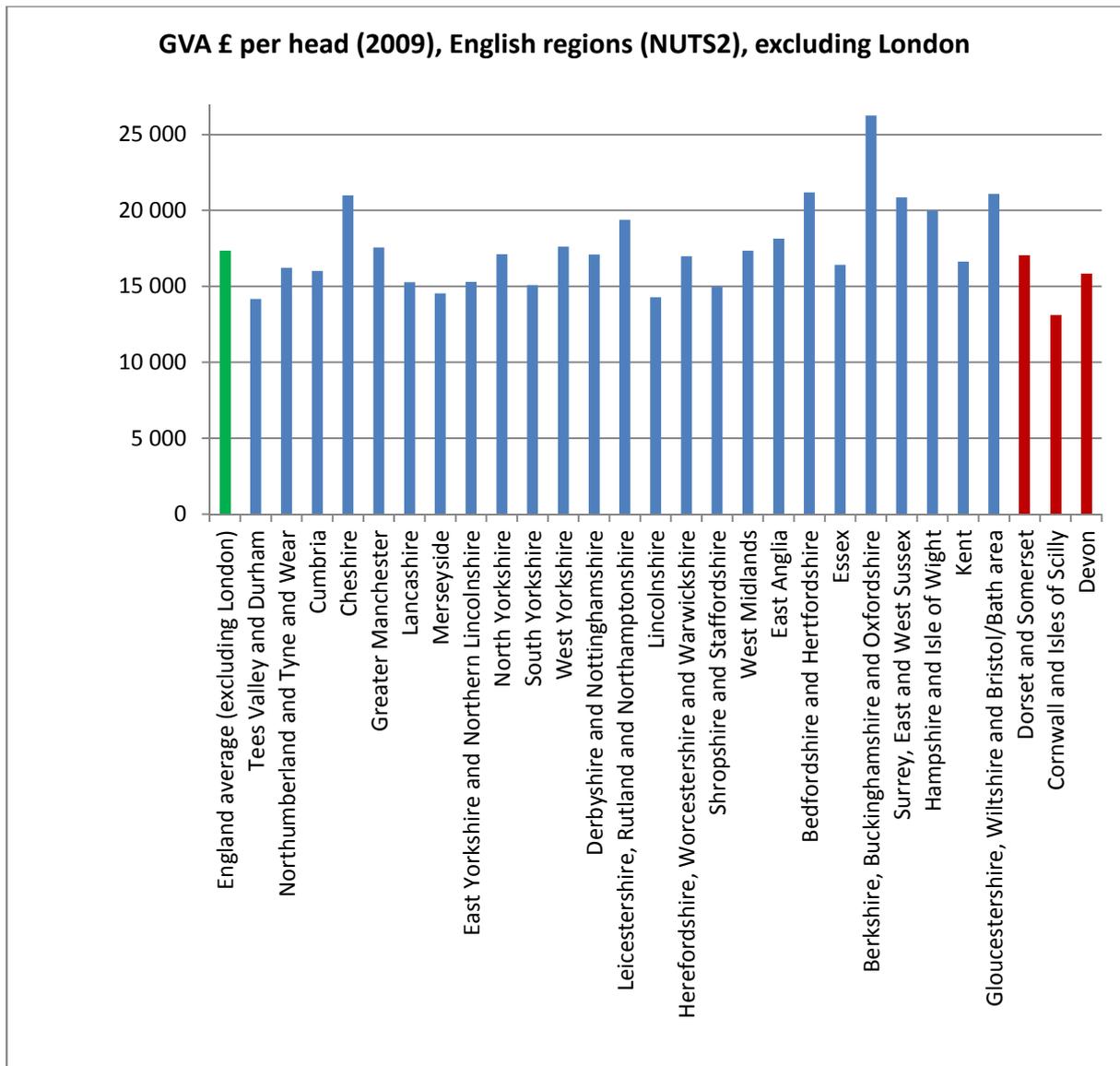


Figure 1.6 Average GVA per head for different NUTS 2 regions in England, with London removed, based on 2009 figures from the ONS. The England average (excluding London) is shown in green, and the regions abutting the Finding Sanctuary area are shown in red. © Crown Copyright, 2011.

1.2.2 The UK's maritime economy

Suárez de Vivero and Rodríguez Mateos (2012) compare the value added and total employment figures for maritime sectors in different European countries. In terms of absolute figures of employment and income generated, the UK stands out amongst European nations as having a particularly significant maritime sector. The authors highlight that the UK falls in a small group of European countries where the a significant proportion of maritime income and employment comes from a technology-energy base, with 50% or less of the volume of employment linked to the more 'traditional' maritime activities of fisheries and tourism. In particular, the authors highlight that the UK marine renewables sector is projected to grow significantly over the next two decades.

Pugh and Skinner (2002) estimated that in 1999-2000, marine-related activities (excluding tourism) contributed 3.4% of the UK's GDP, whereas Pugh (2008) provides an estimate of 4.2% for all marine-related activities (the author states that differences in methodology between the reports means that the difference should not be interpreted as an indication of trends).

In a report for The Crown Estate, Pugh (2008) provides an analysis of marine-related activities in the UK economy. One of the main conclusions of the report is that there is no simple way to generate a comprehensive indicator of the level of marine-related activities in the UK economy, principally due to the fact that only a few marine activities are separately and uniquely identified in national statistics. Nevertheless, the report collates figures for a whole range of maritime sectors, based on a combination of official national statistics and industry sources. A summary is shown in table 1.1 below (based on table 14b in the report).

Table 1.1 A summary of economic figures for maritime sectors in the UK. Based on table 14b in Pugh (2008).

Sector	Year	Turnover £m	Gross value added £m	GDP=1000	Employment	UK=1000
Oil and gas	2005	28,693	19,845	18.1	290,000	9.4
Ports	2005	8,108	5,045	4.6	54,000	1.8
Shipping operations	2004	8,820	3,399	3.1	28,100	0.9
Leisure and recreation	2005-6	7,435	3,326	3	114,670	3.7
Equipment	2004	7,880	3,268	3	181,688	5.9
Defence	2005-6	8,185	2,841	2.6	74,760	2.4
Cables	2005-6	4,993	2,705	2.5	26,750	0.9
Business services	2004	3,006	2,086	1.9	14,100	0.5
Ship and boat building	2004	2,720	1,193	1.1	35,000	1.1
Fish	2004	3,740	808	0.7	31,633	1
Environment	2005-6	981	482	0.4	16,035	0.5
R and D	2005-6	797	426	0.4	10,360	0.3
Construction	2005-6	558	228	0.2	6,200	0.2
Navigation and safety	2005	450	150	0.1	5,000	0.2
Aggregates	2006	242	114	0.1	1,670	0.1
Licence and rental	2005-6	93	90	0.1	50	0
Education	2006	73	52	0.05	350	0.01
Renewable energy	2005-6	32	10	0.01	50	0
Totals		86,806	46,041	42	890,416	29

This table does not reflect the rate and direction of change in some of the listed sectors, which is described in more detail in the report. Commercial sea fishing, for example, is a small and slowly declining part of the UK economy in purely financial terms (the report does not describe cultural and social values of the sector, though recognises that in some coastal regions such as south-west

England, commercial sea fishing retains more significance than elsewhere). The marine renewable energy sector, on the other hand, whilst small in terms of the contribution at the time the figures were collated for (mid-2000s), is a rapidly growing sector which is expected to gain significance over the coming decades. The marine sector generating the most income is the oil and gas industry, which makes a very important contribution to the UK economy, although resources in UK waters are declining (income has remained high as a consequence of rising oil prices).

As with the statistics reported in section 1.2.1, there are big regional differences. The Finding Sanctuary region contains no oil and gas resource, for example, but a lot of potentially exploitable wind, wave and tidal energy resource. Leisure and recreational activities are significant, with tourism being an important part of the regional economy. Information on the regional economy of south-west England can be found via the [South West Observatory](#)³².

1.2.3 Population density

England is a densely populated country. Based on figures from the ONS, the population density for England averages at just over 400 people per km² (the ONS standard area measurement for England's land area is 13027866.98 ha, and most recent population estimate - for 2010, published in 2011 - is 52,234,045).

However, there are very big regional differences, with some cities in England having over 2,500 people per km², so that the urban areas (especially London) skew the national average significantly. Regional figures for south-west England are significantly lower, as shown in the table 1.2 below.

The figures in table 1.2 are from a [Wikipedia article](#)³³ that contains a table of figures for all English counties, from calculations based on 2010 ONS data (population estimates and standard area measurements). The source data tables are referenced, cited as accessed in October 2011, and can be downloaded from the [ONS website](#)³⁴. Further information can also be found in the most recent (at the time of writing) edition of the [ONS 'regional trends' report](#)³⁵ for the south-west.

Table 1.2 Population and population density in south-west England's counties. Source: ONS figures.

Region	Total population	Population density per km ²
Devon	750,000	112
Somerset	525,200	126
Dorset	404,700	153
Cornwall	535,300	151
Isles of Scilly	2,100	128

³² <http://www.swo.org.uk/>

³³ http://en.wikipedia.org/wiki/List_of_English_counties_by_population

³⁴ www.ons.gov.uk

³⁵ <http://www.ons.gov.uk/ons/rel/regional-trends/regional-trends/no--43--2011-edition/index.html>

1.2.4 Administrative structure (England)

National government (UK)

England is part of the United Kingdom, a parliamentary democracy with a constitutional monarch. The UK has a unitary system of government (where power is held in the centre), although some powers have been devolved to the Scottish Parliament, the National Assembly for Wales and the Northern Ireland Assembly. The arrangements are different for each. The UK Government remains responsible for national policy on all matters that have not been devolved, including foreign affairs, defence, social security, macro-economic management and trade.

Because England has no tier of government equivalent to the devolved administrations, the UK Government is also responsible for government policy in England on all the matters that have been devolved to Scotland, Wales or Northern Ireland.

Local government (England)

Local government in England has extensive powers and duties regarding education, transport and planning, education, police and emergency services, and health and social services. Local government structure in England is complex, the product of many centuries of evolution and cumulative reforms, and it is not consistent across the country.

For administrative purposes, England is divided into local government areas that have either a one-tier local government structure (unitary authorities and metropolitan counties), or a two-tier local government structure ('shire' counties divided into districts). In the latter, local government responsibilities are split between the county and district levels. Some (but not all) districts are further split into parishes.

There are also 'ceremonial' or 'geographical' counties that are commonly referred to as geographical subdivisions of England, which have their roots in history. Some of these have the same names as administrative subdivisions, but their boundaries aren't necessarily identical.

The coastline of the Finding Sanctuary area adjoins Dorset, Somerset, Devon, Cornwall and the Isles of Scilly. The Isles of Scilly have the smallest unitary authority in England, representing just over 2000 people. It is a case apart from other English unitary authorities, in that Cornwall Council (Cornwall's unitary authority) maintains some responsibility for the Isles of Scilly, e.g. in the area of health.

The NUTS level 1 and 2 divisions in the south-west do not coincide exactly with geographical county borders or with administrative counties. The NUTS level 1 'south west' region encompasses areas beyond those relevant to the case study (Gloucestershire and Wiltshire to the north and east of the Finding Sanctuary coastline). Further information is available on the [UK Government's website](http://www.direct.gov.uk)³⁶.

³⁶ <http://www.direct.gov.uk>

1.2.5 Government bodies with marine responsibilities

The following is an overview of the key government bodies with powers and duties relating to marine environmental management, fisheries and marine spatial planning. The overview does not cover bodies who deal with maritime navigation and safety, which is the remit of the Department for Transport (DfT) with its associated agencies, such as the Maritime and Coastguard Agency and Trinity House.

The main UK government department responsible for environmental issues and sustainable development in England's maritime area is the [Department for Environment, Food and Rural Affairs \(Defra\)](#)³⁷. Defra is the UK government department responsible for policy and legislation in the following areas:

- the natural environment, biodiversity, plants and animals
- sustainable development and the green economy
- food, farming and fisheries
- animal health and welfare
- environmental protection and pollution control
- rural communities and issues.

Defra works directly in England, and generally lead on negotiations internationally. They also work closely with the devolved administrations in Wales, Scotland and Northern Ireland.

The [Department of Energy and Climate Change \(DECC\)](#)³⁸ does not have any specific marine environmental or planning remit, but its work is highly relevant to marine spatial planning in the UK, because of the UK's commitment to renewable energy development, including marine renewables. Similarly, the [Department for Business, Innovation and Skills \(BIS\)](#)³⁹ is working to foster sustainable growth of maritime industry.

The [Crown Estate](#)⁴⁰ is a non-ministerial department that owns the seabed to 12 nautical miles. It was established under the [Crown Estate Act \(1961\)](#)⁴¹, and is charged by Parliament with responsibility for managing the properties owned by the Crown. The Crown Estate owns 55% of the foreshore (i.e. between mean high and low water) and the seabed out to the 12 nautical mile territorial seas limit, as well as rights vested in the Crown to explore and exploit the natural resources of the UK Continental Shelf out to 200 miles from the coast. The Crown Estate manages leases for offshore renewable energy developments in these marine areas.

In addition, there are a number of non-departmental public bodies ('quangos') with powers and responsibilities relating to management of the marine environment.

The [Marine Management Organisation \(MMO\)](#)⁴² is a relatively new body that was established in 2010, following the passing of the [2009 Marine and Coastal Access Act](#)⁴³. Their purpose is to 'make a

³⁷ <http://www.defra.gov.uk/>

³⁸ <http://www.decc.gov.uk>

³⁹ <http://www.bis.gov.uk/>

⁴⁰ <http://www.thecrownestate.co.uk/>

⁴¹ <http://www.legislation.gov.uk/ukpga/Eliz2/9-10/55>

⁴² <http://www.marinemanagement.org.uk/>

⁴³ <http://www.legislation.gov.uk/ukpga/2009/23/contents>

significant contribution to sustainable development in the marine area and to promote the UK government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas' (cited from their website). The MMO has responsibilities in planning, regulating and licensing activity in the UK's marine area. Their responsibilities include:

- implementing a new marine planning system designed to integrate the social requirements, economic potential and environmental imperatives of our seas
- implementing a new marine licensing regime that is easier for everyone to use with clearer, simpler and quicker licensing decisions
- managing UK fishing fleet capacity and UK fisheries quotas
- working with Natural England and the Joint Nature Conservation Committee (JNCC) to create and manage a network of MPAs (marine conservation zones and European marine sites) designed to preserve vulnerable habitats and species in UK marine waters
- responding to marine emergencies alongside other agencies
- developing an internationally recognised centre of excellence for marine information that supports the MMO's decision-making process.

The [Joint Nature Conservation Committee \(JNCC\)](http://jncc.defra.gov.uk/)⁴⁴ is a non-departmental public body responsible for advising the UK Government and devolved administrations on UK-wide and international conservation matters. In the marine environment, the JNCC's remit covers advice on conservation matters between the 12nm limit and the limits of UK jurisdiction (the 200 nautical mile limit or the UK Continental Shelf Designated Area limit). Within England's territorial waters (0-12 nautical miles), [Natural England](http://www.naturalengland.org.uk/)⁴⁵ has equivalent responsibilities.

The [Environment Agency](http://www.environment-agency.gov.uk/default.aspx)⁴⁶ (EA) is an executive non-departmental public body with powers and responsibility to regulate a wide range of activities and industry to achieve environmental standards set out in legislation (e.g. for air and water quality), and to work with a wide range of partners to improve the natural environment for the benefit of wildlife. In the marine environment, these responsibilities extend to some inshore and coastal water bodies (e.g. estuaries).

[The Inshore Fisheries and Conservation Authorities \(IFCAs\)](http://www.marinemangement.org.uk/fisheries/ifcas/index.htm)⁴⁷ are a new type of authority established under the [2009 Marine and Coastal Access Act](http://www.legislation.gov.uk/ukpga/2009/23/contents)⁴⁸. They have responsibility for regulating fisheries and ensuring biodiversity conservation within English inshore waters (to 6 nautical miles). Inshore waters and the adjacent coastal regions are divided into different IFCA districts. The IFCAs are formed by representatives from each of the local authorities that fall within the district, in addition to representatives of other public bodies (e.g. Natural England, MMO, EA) and local persons of knowledge, appointed by the MMO. IFCAs have powers to make byelaws regulating human activities for the purpose of fisheries management and conservation within their districts, and to enforce those regulations.

⁴⁴ <http://jncc.defra.gov.uk/>

⁴⁵ <http://www.naturalengland.org.uk/>

⁴⁶ <http://www.environment-agency.gov.uk/default.aspx>

⁴⁷ <http://www.marinemangement.org.uk/fisheries/ifcas/index.htm>

⁴⁸ <http://www.legislation.gov.uk/ukpga/2009/23/contents>

The Finding Sanctuary area intersects with the districts of four IFCA:

- | | |
|--------------------------|--|
| 1. Southern IFCA | Borough of Poole (Unitary)
Bournemouth BC (Unitary)
Dorset County Council
Hampshire County Council
Isle of Wight Council
Portsmouth City Council (Unitary)
Southampton City Council (Unitary) |
| 2. Devon and Severn IFCA | Bristol City Council
Devon County Council
Gloucestershire County Council
North Somerset Council (Unitary)
Plymouth City Council (Unitary)
Somerset County Council
South Gloucestershire Council (Unitary)
Torbay BC (Unitary) |
| 3. Cornwall IFCA | Cornwall Unitary authority |
| 4. Isles of Scilly IFCA | Council of the Isles of Scilly |

Prior to the passing of the Marine and Coastal Access Act in 2009, some of the responsibilities that are now with the MMO and IFCA's lay with public bodies that now no longer exist, the Maritime and Fisheries Agency and the Sea Fisheries Committees (SFCs). The start of Finding Sanctuary pre-dates the enactment of the Marine and Coastal Access Act 2009, so the passing of the new legislation with the subsequent re-structuring and new formation of government bodies took place during the lifetime of the Finding Sanctuary.

[The Centre for Ecology, Fisheries and Aquaculture Science \(CEFAS\)](#)⁴⁹ is another executive agency of Defra, who provide scientific advice, manage related data, and conduct scientific research related to Defra's key priorities and strategic objectives in the marine and freshwater environment. CEFAS work with a range of scientific institutes in the UK and internationally. In addition to the UK Government, they also provide advice to a range of other UK government agencies, and the Welsh Assembly Government.

[Seafish](#)⁵⁰ is a non-departmental government body founded in 1981 by an Act of Parliament. It offers services to different sectors of the seafood industry, from catching and aquaculture to processing and distribution.

⁴⁹ <http://www.cefass.defra.gov.uk/>

⁵⁰ <http://www.seafish.org/>

1.3 Regional policy framework

The European policy framework is described in Qiu and Jones (2013). The Finding Sanctuary area is mainly located within OSPAR region III (Celtic Seas), though the eastern boundary also extends into OSPAR region II (Greater North Sea). The area intersects with several ICES areas, including VIIe, VIIf, VIIg, VIIh and VIIj2.

At the time of writing, there is an EC Life+ funded project called [PISCES](http://projectpisc.es)⁵¹ in operation, which is aiming to develop guidelines for implementing an ecosystem-based approach to managing the Celtic Sea through a series of stakeholder workshops involving stakeholders from different countries. The project outputs will not feed into any formal marine spatial planning processes, but are meant to inform future marine management. Through its work with international stakeholders, the project also aims to test and demonstrate a wider stakeholder process, build a shared understanding of ecosystem-based management across sectors and national boundaries, and enable better communication. The PISCES project area extends considerably further west than the Finding Sanctuary area, encompassing Irish, French and Spanish waters. The project is being delivered by WWF-UK in Partnership with The Environment Council and WWF Spain, and with technical support from SeaWeb in France, and The Coastal & Marine Resources Centre in Ireland.

Viewed in the national context, the Finding Sanctuary area is a large planning area, which encompasses or overlaps with many areas that already have some form of designation, and areas that are managed in some way by a host of different organisations and partnerships. The Finding Sanctuary project collated a lot of information on the boundaries of designated and managed areas, and some of these boundaries can be viewed on interactive PDF maps which can be downloaded along with the final project report via a link from the [project's website](http://projectpisc.es)⁵². Examples include:

- Estuarine areas managed through estuary partnerships
- Inshore Fishery and Conservation Authority areas
- Marine *Natura 2000* sites, and Sites of Special Scientific Interest (designated under national legislation)

⁵¹ <http://projectpisc.es/>

⁵² www.finding-sanctuary.org

2 Objectives and management measures

2.1 Priority Objective of this case study

The priority objective that this governance analysis focuses on is the designation and implementation of a national representative marine protected area network, as required under the Marine and Coastal Access Act (2009). In particular, the analysis zooms in on south-west England, and is therefore framed around the objective of achieving a representative network in waters off the south-west peninsula, in order to contribute to the wider, national network.

Even more specifically, this analysis focuses on the on-going process to plan, designate, and implement Marine Conservation Zones (MCZs), under the Marine and Coastal Access Act (2009). MCZs will form a significant part of the overall network, but other types of designation (which are planned and implemented through separate processes) will also be included. Most significantly, the network also includes marine *Natura 2000* sites, designated under EU legislation. This governance analysis focuses on the MCZ process, and not on the processes that are in place to plan and implement other designations.

As highlighted in section 1, the MCZ planning process is still on-going at the time that this analysis is being finalised. However, the regional MCZ projects have completed their tasks. Much of the focus of this governance analysis is therefore on Finding Sanctuary, the south-west regional MCZ project. Finding Sanctuary's objective was to deliver stakeholder recommendations for a configuration of MCZs in south-west England, to complement existing MPAs in line with the requirements of the ENG, and based on best available evidence. In addition, Finding Sanctuary aimed to:

- deliver recommendations for MCZs that would, if implemented, minimise negative socio-economic impacts (whilst meeting the ENG).
- maximise levels of cross-sectoral support for the recommendations.
- ensure the recommended sites are well understood across sectors.

The latter two objectives (maximising levels of stakeholder support and understanding of MCZs) reflected national goals. Government's stated policy aim is 'to develop an ecologically coherent and well-managed network of Marine Protected Areas (MPAs) that is well understood and supported by sea-users and other stakeholders' (page 4 of Defra GN1). The definition of the term 'ecologically coherent' includes the requirement for the network to be representative.

Finding Sanctuary's objectives represented a milestone on the way towards achieving the goal of the wider MCZ process, which is the creation of an ecologically coherent network of marine protected areas. The wider MCZ process, in turn, is driven by the broader objective of achieving Good Environmental Status as defined in the EU Marine Strategy Framework Directive (MSFD), and the requirements of the Marine and Coastal Access Act 2009 (both are explained in section 2.2 below).

At the time of writing, the MCZ designation and implementation process is still in the future. As far as is possible, the governance analysis looks at the MCZ process beyond Finding Sanctuary. The assessment of effectiveness of the process in section 4, for example, is more focused on the wider priority objective (implementing a national representative network) than on the specific 'milestone' goals of Finding Sanctuary.

2.2 Context for marine protected areas in England

2.2.1 Legal underpinning of MPAs in England

There are a number of binding EU directives and regulations which are relevant to marine spatial planning, including marine protected areas. They are reviewed in [Qiu and Jones \(2013\)](#). As an EU Member State, EU directives are transposed to UK national legislation. The EU directives that are directly relevant to this case study, and their related national legislation, are discussed in more detail below.

EU Habitats and Birds Directives

In the words of the European Commission, the Habitats Directive, together with the Birds Directive, constitutes the ‘cornerstone of the EU’s conservation policy’ (see [here](#)⁵³ for more information and links to the text of the legislation). The Birds Directive provides for the protection of wild birds through the designation of Special Protection Areas (SPAs). The Habitats directive provides for the protection of over 1,000 animals and plant species, and over 200 habitat types, in Special Areas of Conservation (SACs). Together, SACs and SPAs form the *Natura 2000* network of protected sites, which aims to maintain the ‘favourable conservation status’ of the species and habitats listed in the directives.

The vast majority of the Habitats Directive listed species and habitats are terrestrial (or freshwater) features: There are just 9 marine habitat types and 18 marine species for which marine *Natura 2000* sites are designated. Marine *Natura 2000* sites now constitute around 20% of the *Natura 2000* network. Significant gaps still exist, particularly in offshore environments.

Both MCZs and marine *Natura 2000* sites are set to contribute to England’s representative MPA network, but there are major differences in terms of the criteria for designation:

- Firstly, the MCZ planning process can take socio-economic considerations into account. Conversely, whilst socio-economic factors can be taken into account when formulating management measures for *Natura 2000* sites once they have been designated, the selection and designation process itself is not affected by economic and social considerations. *Natura 2000* sites are designated purely on scientific grounds, as illustrated in the case judgements by the European Court of Justice on the Lappel Bank SPA (C-44/95) and Severn Estuary SAC (C-371/98 – details for both cases can be searched for [here](#)⁵⁴). There is no requirement for involving stakeholders.
- Secondly, *Natura 2000* sites are designated to protect specific conservation features (the species and habitats listed in the directives), rather than to achieve broader-scale ecological representativeness. As stated above, the Habitats Directive features include just 9 marine habitat types and 18 marine species, while the Birds Directive covers endangered and migratory birds. MCZs, on the other hand, can be designated for any species or habitat, and the Marine and Coastal Access Act specifically requires the full range of marine biodiversity to be represented in an MPA network (see below).

⁵³ http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

⁵⁴ <http://curia.europa.eu/juris/recherche.jsf?language=en&text=C-371/98>

The Habitats and Birds Directives have been transposed into UK national legislation by the [Conservation of Habitats and Species \(Amendment\) Regulations 2012](#)⁵⁵ and [Offshore Marine Conservation \(Natural Habitats, &c.\) \(Amendment\) Regulations 2012](#)⁵⁶, both of which came into force on 16 August 2012. The former applies to the terrestrial and inshore (up to 12 nautical miles) environments, while the latter applies to offshore waters. Both are amendments of previous versions of the regulations, the [Conservation of Habitats and Species Regulations 2010](#)⁵⁷ (2010 Regulations) and the [Offshore Marine Conservation \(Natural Habitats, &c.\) Regulations 2007](#)⁵⁸ (2007 Regulations).

EU Marine Strategy Framework Directive

The EU Marine Strategy Framework Directive 2008 (MSFD) is considered to be a very important step forward in conserving marine ecosystems in Europe and ensuring the sustainable use of ocean resources (Salomon 2009). The MSFD envisages an ecosystem-based approach to marine management in Europe. Its main goal is to achieve Good Environmental Status (GES) of Europe's seas by 2020. The Directive defines GES as: 'The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive' (further information and links to the text of the legislation can be found [here](#)⁵⁹).

In order to work towards achieving GES, Article 13 (4) of the MSFD requires member states to establish 'coherent and representative networks of marine protected areas (MPAs)' by 2016, which include marine *Natura 2000* sites, and MPAs designated under national legislation or agreements. Establishing coherent and representative networks of MPAs is the only required measure that is explicitly mentioned in Article 13 of the MSFD (Programme of Measures), therefore it is a core element in delivering the ecosystem-based approach envisaged in the MSFD. The requirement of establishing 'coherent and representative networks of marine protected areas (MPAs)' also implies that protection needs to be extended to the marine species, habitats and ecosystems that are not listed under the Habitats and Birds Directives, as protecting only the 9 listed marine habitats and 18 listed marine species (in addition to birds) cannot constitute an ecologically representative network.

Marine and Coastal Access Act (2009)

The direct legal underpinning for MCZ designations in the UK is provided through the [Marine and Coastal Access Act \(2009\)](#)⁶⁰ (referred to henceforth as the Marine Act). The Marine Act provides the national legal basis for the implementation of the MSFD requirement to establish a representative MPA network in England and Wales (other devolved parts of the UK have their own legislation).

The Marine Act provides for the designation of marine conservation zones (MCZs), which can be designated for any marine species or habitat. The Marine Act thereby makes it possible to build a representative MPA network, with MCZs complementing marine *Natura 2000* sites, and nationally designated Sites of Special Scientific Interest (SSSIs – these are designated under the [Wildlife and](#)

⁵⁵ <http://www.legislation.gov.uk/uksi/2012/1927/contents/made>

⁵⁶ <http://www.legislation.gov.uk/uksi/2012/1928/contents/made>

⁵⁷ <http://www.legislation.gov.uk/uksi/2010/490/contents/made>

⁵⁸ <http://www.legislation.gov.uk/uksi/2007/1842/contents/made>

⁵⁹ http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

⁶⁰ <http://www.legislation.gov.uk/ukpga/2009/23/contents>

[Countryside Act 1981](#)⁶¹, and the overwhelming majority are terrestrial, although some extend over intertidal or estuarine areas, thereby making a small contribution to a future MPA network).

Section 116 of the Marine Act empowers the appropriate authority (in England, that is the Secretary of State for the Environment) to make orders to designate MCZs. They can be designated anywhere within the continental shelf area, including territorial seas and offshore regions.

Section 117 sets out the grounds on which MCZs can be designated. These are broad. MCZs can be designated for the purpose of conserving:

- (a) marine flora or fauna
- (b) marine habitats or types of marine habitat
- (c) features of geological or geomorphological interest.'

Section 117 of the Marine act also requires that

- 'The order for designating an MCZ must state
- (a) the protected feature or features
- (b) the conservation objectives for the MCZ.'

Section 117 contains another significant phrase, which sets the Marine Act apart from the Habitats and Birds Directives, in that it states:

'In considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have regard to any economic or social consequences of doing so.'

Section 119 requires the appropriate authority to

'consult any persons who the appropriate authority thinks are likely to be interested, or affected by, the making of the order'.

Section 123 of the Marine Act is perhaps the section that is most immediately relevant to the priority objective of this case study, in that it *requires* the appropriate authority to designate MCZs under section 116, and it *requires* that these MCZs form part of an ecologically representative network of protected areas. The following text reproduces subsections 1-4 of section 123:

'Creation of network of conservation sites

(1) In order to contribute to the achievement of the objective in subsection (2), the appropriate authority must designate MCZs under section 116.

(2) The objective is that the MCZs designated by the appropriate authority, taken together with any other MCZs designated under section 116 and any relevant conservation sites in the UK marine area, form a network which satisfies the conditions in subsection (3).

(3) The conditions are—

- (a) that the network contributes to the conservation or improvement of the marine environment in the UK marine area;

⁶¹ <http://www.legislation.gov.uk/ukpga/1981/69>

(b) that the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area;

(c) that the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site.

(4) For the purposes of subsection (2), the following are “relevant conservation sites”—

(a) any European marine site;

(b) the whole or part of any SSSI;

(c) the whole or part of any Ramsar site.’

The above highlights that, in addition to MCZs, *Natura 2000* sites (European marine sites), and SSSIs, the MPA network also includes Ramsar sites, which are designated under the [Ramsar Convention on Wetlands](#)⁶². Ramsar sites in England are usually also designated as *Natura 2000* sites.

Section 124 of the Marine Act places a duty on the appropriate authority to submit a report to Parliament on the implementation of the MPA network every six years, starting on 31 December 2012 (because of the delay in the MCZ process described in section 1.1.8, however, the first tranche of MCZs will not in fact be designated until the summer of 2013). This report has to cover:

‘(a) the number of MCZs which the authority has designated during the relevant period;

(b) in relation to each such MCZ—

(i) the size of the MCZ, and

(ii) the conservation objectives which have been stated for the MCZ;

(c) the number of MCZs designated by the authority in which the following activities are prohibited or significantly restricted—

(i) any licensable marine activity;

(ii) fishing for or taking animals or plants from the sea;

(d) information about any amendments which the authority has made to any orders made under section 116;

(e) the extent to which, in the opinion of the authority, the conservation objectives stated for each MCZ which it has designated have been achieved;

(f) any further steps which, in the opinion of the authority, are required to be taken in relation to any MCZ in order to achieve the conservation objectives stated for it.’

Section 126 requires any public authority having a function that may have a significant effect on an MCZ (e.g. consenting, licensing, or issuing permits for specific activities) to notify the appropriate statutory conservation body if the authority believes that there is or may be a significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ. The public

⁶² http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1_4000_0

authority must wait until the expiry of 28 days (beginning with the notification date) before making a decision on whether to grant authorisation for the activity in question, or to carry out an act which may affect the site. The public authority must not proceed until it is satisfied that this will not hinder the conservation objectives of the MCZ, subject to the following exceptions:

- 'a) there is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of those objectives,
- b) the benefit to the public of proceeding with the act clearly outweighs the risk of damage to the environment that will be created by proceeding with it, and
- c) the person seeking the authorisation will undertake, or make arrangements for the undertaking of, measures of equivalent environmental benefit to the damage which the act will or is likely to have in or on the MCZ.'

The Marine Act does not make specific provisions for the management of different activities in MCZs. Section 128 enables the Marine Management Organisation (MMO) to make byelaws for the protection of individual MCZs in England, prohibiting or restricting certain activities in the MCZ to prevent damage to the site. In addition, the MMO can also introduce permits authorising certain activities. The Marine Act requires that the MMO must make copies of the draft byelaw available to the public, and that the byelaw must be confirmed by the Secretary of State before taking effect (Section 129). However, the latter requirement does not apply if the MMO thinks that there is an urgent need for protecting an MCZ, in which case an emergency byelaw can be implemented, which can remain effective for up to a year. The Secretary of State may revoke such emergency byelaws. In addition, an 'interim byelaw' may be issued if the MMO considers there are or may be reasons for the Secretary of State to designate an area as an MCZ (section 130). The interim byelaw can remain in force for up to year, however, the Secretary of State may revoke it.

In addition to the provisions for MCZs, the Marine Act also provides for the creation of the Marine Management Organization (MMO), the development and implementation of an integrated marine planning system, the improvement and streamlining of the system for licensing marine activities, and the reformation of inshore fisheries management. The Marine Act is the overarching legislative framework for marine planning in England and Wales. Marine plans are being developed separately (sequentially) for different regions. The MMO is the planning authority for delivering marine plans in England. It is currently preparing the first marine plan for the East Inshore and East Offshore areas in England⁶³. At the time of writing, the marine planning process is moving on to a region off the south coast that includes the south-eastern part of Finding Sanctuary's project region.

The Marine Act also introduced a new marine licensing system, which streamlines and consolidates various requirements previously under separate legislations. The MMO is responsible for most marine licensing in English inshore and offshore waters. The new marine licensing system incorporates requirements under the [Environmental Impact Assessment and Natural Habitats \(Extraction of Minerals by Marine Dredging\) Regulations 2007](#)⁶⁴. Licensable activities include construction (including for renewable energy development with a capacity of 1-100 MW), dredging (including aggregate dredging), deposit, cables and pipelines.⁶⁵

⁶³ <http://www.marinemangement.org.uk/marineplanning/areas/east.htm>

⁶⁴ <http://www.legislation.gov.uk/uksi/2007/1067/contents/made>

⁶⁵ <http://www.marinemangement.org.uk/licensing/index.htm>

2.2.2 The Marine Policy Statement

The [Marine Policy Statement](#)⁶⁶ (MPS) is the guidance document for wider marine planning in the UK. It is a statement encompassing multiple sectors, including marine biodiversity conservation, and is therefore more directly relevant to MPAs than the more sector-specific policy context for key sectors (introduced in section 2.4).

The MPS is intended to ensure that marine resources are used in a sustainable way, in line with the UK's [high level marine objectives](#)⁶⁷, and thereby:

- Promote sustainable economic development;
- Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change⁴ and ocean acidification and adapt to their effects;
- Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and
- Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.

According to the MPS, the purpose of marine planning is to

- Achieve integration between different objectives;
- Recognise that the demand for use of our seas and the resulting pressures on them will continue to increase;
- Manage competing demands on the marine area, taking an ecosystem-based approach⁶;
- Enable the co-existence of compatible activities wherever possible; and
- Integrate with terrestrial planning.

The MPS envisages that

'Once adopted, Marine Plans will have the same effect on authorisation or enforcement decisions in the UK marine area as the MPS, including the requirements and conditions attached to authorisations and the enforcement action that will be taken to ensure compliance. Where the decision is not taken in accordance with the MPS and relevant Marine Plans, the public authority must state its reasons.

[...]

The MPS and Marine Plans form a new plan-led system for marine activities. They will provide for greater coherence in policy and a forward-looking, proactive and spatial planning approach to the management of the marine area, its resources, and the activities and interactions that take place within it.'

The MPS further specifies that the process of developing marine plans needs to be based on an ecosystem approach, and a sound evidence base. Where evidence is inconclusive, decision makers should make reasonable efforts to fill evidence gaps, but will also need to apply precaution within an overall risk-based approach, in accordance with the sustainable development policies of the UK Administrations. This will apply equally to the protection of the natural marine environment, impacts

⁶⁶ <http://www.defra.gov.uk/publications/files/pb3654-marine-policy-statement-110316.pdf>

⁶⁷ <http://archive.defra.gov.uk/environment/marine/documents/ourseas-2009update.pdf>

on society and impacts on economic prosperity. This is important context for this particular case study analysis, as balancing the need for timely decisions against the need and desire to fill evidence gaps before taking decisions is a significant and problematic issue within the MCZ process (see section 6.5).

The MPS states that:

‘Properly planned developments in the marine area can provide environmental and social benefits as well as drive economic development, provide opportunities for investment and generate export and tax revenues. The marine planning system will help to promote these benefits in contributing to the achievement of sustainable development. There will therefore be a presumption in favour of sustainable development in the marine planning system.’

The last sentence in this quote is particularly significant, as it implies that economic development opportunities will be given a high priority in most cases within the marine planning system. However, the MPS also reflects that Marine Plans should fulfil international and national environmental obligations, particularly those within the EU MSFD, the EU Water Framework Directive, and the EU Habitats and Birds Directives.

With specific regards to MCZs (and MPAs in Scotland), the MPS states the following:

‘In deciding to designate MCZs and MPA, the appropriate authority will be required under the Marine and Coastal Access Act 2009 to have regard to this MPS.

Marine plan authorities and decision makers should take account of how developments will impact on the aim to halt biodiversity loss and the legal obligations relating to all MPAs, their conservation objectives, and their management arrangements. Through the process of developing Marine Plans, and their subsequent implementation and monitoring, marine plan authorities may identify that amendments or additions should be made to these spatial designations and this information should be provided to the relevant administration for consideration.

Marine plan authorities and decision-makers should take account of the regime for MPAs and comply with obligations imposed in respect of them. This includes the obligation to ensure that the exercise of certain functions contribute to, or at least do not hinder, the achievement of the objectives of a MCZ or MPA (in Scotland). This would also include the obligations in relevant legislation relating to SSSIs and sites designated under the Wild Birds and Habitats Directives.’

Such statements are important, as MCZ planning preceded integrated marine planning in the UK. The statements imply that the spatial designations of MCZs may be amended, or new sites may be added in light of the emerging marine planning process, provided that this is done in a way that is consistent with, or at least does not hinder, the conservation objectives of an MCZ.

With respect to MCZs, the Marine Act requires that all public authorities must *have regard to* the MPS in carrying out their functions. The Act also requires all public authorities taking authorisation or enforcement decisions that affect or might affect the marine environment to do so *in accordance with* the MPS, unless relevant considerations indicate otherwise. However, this requirement does not apply to decisions on applications for an order granting development consent under the

Planning Act 2008 (i.e. for nationally significant infrastructure projects). In these cases, decisions must *have regard to* the MPS.

Marine renewable energy developments with a capacity over 100 MW qualify as nationally significant infrastructure projects, and the national policy framework for the planning of such development is provided through the [National Policy Statement for Renewable Energy Infrastructure](#)⁶⁸ and the [National Policy Statement for Energy](#)⁶⁹. As [Appleby and Jones \(2012\)](#)⁷⁰ note, terms like 'have regard to' and 'in accordance with' are quite weak in defining the legal power of the MPS, making it possible for public authorities to circumvent the MPS in the planning and management of sectoral activities.

⁶⁸ <http://www.official-documents.gov.uk/document/other/9780108510793/9780108510793.pdf>

⁶⁹ <http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/consents-planning/nps2011/1938-overarching-nps-for-energy-en1.pdf>

⁷⁰ <http://www.sciencedirect.com/science/article/pii/S0308597X11000686>

2.3 Existing spatial conservation measures

As the planning and designation of MCZs is still an on-going process, no management measures have yet been implemented specifically for MCZs. However, within the Finding Sanctuary area, various types of spatial measures and actions have been implemented, aimed at environmental protection and biodiversity conservation.

There are 46 existing marine protected areas in the Finding Sanctuary area. The vast majority are small coastal and intertidal sites. They consist of Sites of Special Scientific Interest (SSSIs), and *Natura 2000* sites (SACs and SPAs, including new SACs that are still going through the lengthy process of becoming formally designated, i.e. candidate SACs, and Sites of Community Importance or SCIs). The most significant and sizeable existing MPAs are SACs (or candidate SACs / SCIs), which cover large areas of inshore rocky reef habitat, and two large offshore reef areas. There is also one existing MCZ, which covers the area of the Lundy SAC. This was designated in January 2010, as the first MCZ in the UK, covering a total area of 3,065 hectares⁷¹ (Lundy is an exceptional case – no other MCZs exist at the time of writing). These existing MPAs are shown on the maps in figures 1.2 and 1.3.

In addition, there is also a statutory closure in place in Lyme Bay, closing 60 square miles to towed fishing gear. The Lyme Bay closure was put in place in 2008 in the form of the [Lyme Bay Designated Area \(Fishing Restrictions\) Order 2008](#)⁷². This replaced a previous voluntary agreement that was in place in the same area, on a much smaller scale ([Fleming and Jones, 2012](#)⁷³). The area of this closure is now included within the area of an SCI, and the MMO is looking at further measures to regulate fisheries, for example through vessel position monitoring systems and fishing license conditions in areas not covered under the existing fishing restrictions order⁷⁴.

There are only a limited number of legal measures in place which restrict or ban activities upfront within existing MPAs. In 2003, a small area (330 ha) within the Lundy SAC was designated as the first marine no-take zone (NTZ) in the UK. Dredging and demersal trawling is prohibited in the outer area of the Fal & Helford SAC in Cornwall, under the [Fal & Helford Designated Area \(Fishing Restrictions\) Order \(2008\)](#)⁷⁵. This order replaces a previous voluntary agreement restricting the amount of dredging activity in the area to 15 days a month in November and December. Scallop dredging and demersal trawling has been banned in the inner estuarine parts of the SAC since October 2003 under an Environment Agency byelaw (the Fal and Helford Sea Fisheries District Methods of Fishing (Dredges) Byelaw).

In managing the impacts of anchoring and boating, there are a number of voluntary agreements in place to protect sensitive species and habitats, for example, Voluntary No-Anchor Zones (VNAZs) have been set up to protect seagrass meadow in Studland Bay⁷⁶ and eelgrass in the Helford estuary⁷⁷.

⁷¹ <http://www.lundymcz.org.uk/mcz>

⁷² <http://www.legislation.gov.uk/uksi/2008/1584/contents/made>

⁷³ <http://www.sciencedirect.com/science/article/pii/S0308597X11001217>

⁷⁴ http://www.marinemangement.org.uk/protecting/conservation/lyme_bay.htm

⁷⁵ <http://www.legislation.gov.uk/uksi/2008/2360/made>

⁷⁶ http://www.dorsetwildlifetrust.org.uk/voluntary_no_anchor_zone_vnaz.html

⁷⁷ <http://helfordmarineconservation.co.uk/publications/newsletters/eelgrass-an-update/>

There are other spatial measures in place within the region, which restrict marine activities in certain places for purposes other than conservation, but which may have incidental environmental benefits. These include anchoring and fishing restrictions at archaeological sites, fisheries management byelaws, and voluntary agreements between fishermen aimed at limiting gear conflicts. They are not covered in detail here.

2.4 Sectoral legislation, policy, and objectives

2.4.1 Overview

In the Finding Sanctuary case study area, important socio-economic sectors that potentially conflict with the priority objective include:

- marine renewable energy objectives
- port developments
- commercial fishing interests
- recreational use (e.g. boating or recreational angling)

For the recreational sector, there is little in the form of national strategic plans or policies, despite the importance of the sector in the management of marine activities, and its economic importance. The conflicts between the priority objective and this sector were also less significant, and more localised, than conflicts with other sectors (see section 3). For the first three, however, there is a long list of relevant legislation, national policy documents, and national / international objectives, which are briefly introduced in the remainder of this section.

Section 2.4.2 introduces planning legislation relevant to the marine environment, and the national policy statement for the energy sector. This section is relevant for ‘nationally significant infrastructure projects’ in the marine environment, including large offshore wind farms and large port developments. Section 2.4.3 provides more specific detail on relevant context for the marine renewables sector, which is of increasing significance in south-west England, and which was involved in some of the key conflicts in this case study (see section 3). Section 2.5.5 covers context for the commercial fisheries sector, and section 2.5.6 briefly discusses interactions between sectoral policies and legislation.

This section should be viewed as an introduction to important context, rather than an exhaustive analysis of the marine legal and policy landscape for the UK. Detailed planning and licensing processes for regulated plans or projects that do not qualify as ‘nationally significant’ (e.g. aquaculture installations, port activities etc) are not covered.

2.4.2 Planning legislation and nationally significant infrastructure projects

Planning Legislation

The [Planning Act \(2008\)](http://www.legislation.gov.uk/ukpga/2008/29/contents)⁷⁸ established the Infrastructure Planning Commission (IPC) for granting development consent orders (DCO) for nationally significant infrastructure projects (NSIPs), including marine projects, e.g. large offshore wind farms. The IPC has, since April 2012, been replaced by the Planning Inspectorate, established under the Localism Act (2011) (see below). Following consideration of application, the Planning Inspectorate makes a recommendation to the Secretary of State. For offshore renewable NSIPs, the Secretary of State for Energy and Climate Change makes the final decision on whether or not to grant the DCO for the project.

⁷⁸ <http://www.legislation.gov.uk/ukpga/2008/29/contents>

Part 2 of the Planning Act provides for the Secretary of State to make National Policy Statements (NPSs). Section 104(3) highlights the importance of NPSs in relation to decision making on NSIPs, requiring applications to be decided

‘in accordance with any relevant national policy statement, except to the extent that one or more subsections (4) to (8) applies.’

Subsections 104(4) to 104(8) only apply where, on deciding the application in accordance with NPSs:

- The decision would lead to breaching of international obligations or statutory duty;
- The decision would be unlawful;
- The adverse impact of the development is considered to outweigh its benefits; or
- A condition prescribed for deciding an application otherwise than in accordance with a national policy statement would be met.

Section 5 of the Planning Act states that the policy set out in a national policy statement may in particular:

- set out, in relation to a specified description of development, the amount, type or size of development of that description which is appropriate nationally or for a specified area;
- set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for a specified description of development;
- set out the relative weight to be given to specified criteria;
- identify one or more locations as suitable (or potentially suitable) or unsuitable for a specified description of development;
- identify one or more statutory undertakers as appropriate persons to carry out a specified description of development;
- set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of a specified description of development.

The [Localism Act \(2011\)](#)⁷⁹ introduced major changes to the Planning Act (2008) and the planning system in England and Wales. Following the Act, the independent Infrastructure Planning Commission was abolished, and its responsibility for taking decisions for NSIPs was handed over to Government ministers. The NPSs, which are intended to guide such decisions by Government ministers, can be voted on by Parliament. The Act empowered the Secretary of State to abolish regional strategies, which were first introduced in 2004 to set out where new developments should take place at a regional level. The Act also requires local authorities to be consulted before the preparation of proposals for certain developments. Overall, the Localism Act gives local authorities and communities more power and responsibilities in development planning. The impacts of the Local Act on marine NSIPs in the offshore renewable industry and other marine industries are not yet clear.

⁷⁹ <http://www.legislation.gov.uk/ukpga/2011/20/contents/enacted>

Overarching Energy National Policy Statement (EN-1)

EN-1 sets out the overarching policy framework for energy NSIPs, including assessment principles for decision making regarding energy infrastructure projects. It was drafted before the Localism Act, so it still makes reference to the IPC. It states that:

‘given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the IPC should start with a **presumption in favour of granting consent to applications for energy NSIPs**. That presumption applies unless any more specific and relevant policies set out in the relevant NPSs clearly indicate that consent should be refused.’ (paragraph 4.1.2, bold emphasis added)

Regarding the relationship between EN-1 and the Marine Policy Statement (see above), EN-1 states that:

‘the Marine and Coastal Access Act 2009 provides for the preparation of a Marine Policy Statement (MPS) and a number of marine plans. The IPC must have regard to the MPS and applicable marine plans in taking any decision which relates to the exercise of any function capable of affecting the whole or any part of the UK marine area. **In the event of a conflict between any of these marine planning documents and an NPS, the NPS prevails for purposes of IPC decision making given the national significance of the infrastructure.**’ (paragraph 4.1.6, bold emphasis added)

EN-1 also states that that a development consent for energy infrastructure projects may include a deemed marine licence from the MMO, and that:

‘applicants should consult the Marine Management Organisation (MMO) on nationally significant projects which would affect, or would be likely to affect, any relevant marine areas as defined in the Planning Act 2008 (as amended by s.23 of the Marine and Coastal Access Act 2009). The IPC consent may include a deemed marine licence and the MMO will advise on what conditions should apply to the deemed marine licence. The IPC and MMO should cooperate closely to ensure that energy NSIPs are licensed in accordance with environmental legislation, including European directives.’ (paragraph 4.10.4)

National Policy Statement for Renewable Energy Infrastructure (EN-3)

Together with EN-1, EN-3 provides the primary decision-making framework for the Planning Inspectorate on nationally significant projects, including offshore renewable projects over 100 MW. EN-3 sets out environmental considerations to which the examining authority and the developer should have regard.

National Policy Statement for Ports

The [NPS for ports](#)⁸⁰ provides a framework for decisions on new nationally significant port development. Under the Planning Act (2008), port developments are considered as NSIPs if the estimated incremental annual capacity exceeds:

- 0.5 million teu for a container terminal;
- 250,000 movements for roll-on roll off (ro-ro);

⁸⁰ <http://assets.dft.gov.uk/publications/national-policy-statement-for-ports/111018-ports-nps-for-das.pdf>

- 5 million tonnes for other (bulk and general) traffic; or
- a weighted sum equivalent to these figures taken together; or
- cases referred to by the Secretary of State.

The IPC must decide an application for ports infrastructure in accordance with this NPS, unless it is satisfied that to do so would:

- lead to the UK being in breach of its international obligations;
- be in breach of any statutory duty that applies to the IPC;
- be unlawful;
- result in adverse impacts of the development outweighing its benefits;
- be contrary to regulations about how the decisions are to be taken

With the Localism Act coming into force, the decision-making power of the IPC has been returned to the Secretary of State for Transport.

The NPS states that:

‘the Government believes that there is a compelling need for substantial additional port capacity over the next 20–30 years, to be met by a combination of development already consented and development for which applications have yet to be received’

and that:

‘Given the level and urgency of need for infrastructure of the types covered as set out above, **the IPC should start with a presumption in favour of granting consent to applications for ports development.** That presumption applies unless any more specific and relevant policies set out in this or another NPS clearly indicate that consent should be refused. The presumption is also subject to the provisions of the Planning Act 2008.’ (bold emphasis added)

The NPS sets a number of key considerations the decision-makers should take into account when making decisions on proposals for new port development, including environmental impacts and the need to provide an Environmental Statement. An ‘appropriate assessment’ is required for *Natura 2000* sites. In relation to MCZs, the NPS states that:

‘the decision-maker is bound by the duties in relation to MCZs imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.’

As indicated through the use of bold emphasis in the above quotes, the NPSs tend to emphasise the importance of economic development, and there is a general ‘presumption’ that NSIPs, by virtue of being ‘nationally significant’ should go ahead.

2.4.3 The context for the marine renewable energy sector

Relevant legislation

In addition to the planning legislation covered above, which applies to regulated marine industries in general, there are some pieces of legislation that are relevant more specifically to the offshore marine renewable energy sector.

Under Sections 36 and 37 of the [Electricity Act \(1989\)](#)⁸¹, developers need to seek consent from the Secretary of State to build electricity generating stations of over 50 MW (onshore) or over 1 MW in UK territorial waters (offshore), as well as overhead lines and associated. At present, the MMO is responsible for section 36 applications for offshore wind farms, wave devices, and tidal devices, with a capacity between 1 and 100 MW. Applications for offshore renewable installations over 100MW qualify as NSIPs, and are required to obtain a DCO from the Planning Inspectorate (see previous section).

Under the [Energy Act \(2004\)](#)⁸², the UK's offshore area outside the territorial areas was declared as a 'Renewable Energy Zone' (REZ), and as such opened for the production of renewable energy. The licensing regime under the Electricity Act (1989) was widened to include transmission, distribution and generation in the territorial sea and in the REZ. The Energy Act (2004) empowers the Crown Estate to issue leases for renewable development out to the edge of the UK Continental Shelf, within the REZ. It also empowers the Secretary of State to declare safety zones around offshore renewable energy installations, in which certain activities may be specified or prohibited. This function (declaration of safety zones) has since been transferred to the MMO under the Marine Act (section 13).

The [Energy Act \(2008\)](#)⁸³ includes a number of important new provisions in relation to renewable energy development. It strengthened the [Renewables Obligation](#)⁸⁴ (the UK's main mechanism for subsidising renewables development, described in more detail below), and enabled additional subsidies in the form of [feed-in-tariffs](#)⁸⁵ for small-scale low-carbon electricity generation projects with a capacity up to 5 WM.

The [Climate Change Act \(2008\)](#)⁸⁶ introduces legally binding targets for carbon emission reduction in the UK, including a target of at least an 80% cut in greenhouse gas emissions by 2050, to be achieved through action in the UK and abroad. The Act also sets a binding target for a reduction in emissions of at least 34% by 2020. Both targets are against a 1990 baseline.

Finally, there is an important piece of European legislation, in the form of the [EU Renewable Energy Directive \(2009\)](#)⁸⁷. This sets targets for all Member States, such that the EU will reach a 20% share of energy from renewable sources by 2020. It sets a target for the UK to achieve 15% of its energy consumption from renewable sources by 2020. This is arguably the strongest driver for the development of the renewables industry. However, the directive does not set more specific targets for individual renewable technology (e.g. offshore versus onshore).

Offshore renewable energy policy

In addition to the Climate Change Act and the EU Renewable Energy Directive, the main policy drivers for offshore renewable energy are:

⁸¹ <http://www.legislation.gov.uk/ukpga/1989/29/contents>

⁸² <http://www.legislation.gov.uk/ukpga/2004/20/contents>

⁸³ <http://www.legislation.gov.uk/ukpga/2008/32/contents>

⁸⁴ http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/renew_obs/renew_obs.aspx

⁸⁵ http://www.decc.gov.uk/en/content/cms/meeting_energy/Renewable_ener/feedin_tariff/feedin_tariff.aspx

⁸⁶ <http://www.legislation.gov.uk/ukpga/2008/27/contents>

⁸⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=Oj:L:2009:140:0016:0062:en:PDF>

- The [UK Renewable Roadmap](#)⁸⁸, which identifies eight renewable technologies that ‘have either the greatest potential to help the UK meet the 2020 target in a cost effective and sustainable way, or offer great potential for the decades that follow’. These include offshore wind and marine energy, which are expected to reach 1 and 33-58 TWh of capacity by 2020, respectively.
- The [UK Renewable Energy Strategy](#)⁸⁹, with a lead scenario which suggests that by 2020 about 30% or more of electricity generation – both centralised and small-scale – could come from renewable sources, compared to around 6.7% today (source: [DECC](#)⁹⁰).

The mandatory EU targets for renewable energy are underpinned by growing concerns about energy security. A [report](#)⁹¹ published in 2011 by the UK’s Energy and Climate Change Committee⁹² highlighted that the UK is a net energy importer, and that its dependence on imported oil and gas is increasing. Achieving energy security while meeting emission reduction targets is ostensibly at the top of the political agenda, and promoting renewable energy enables both goals to be met. However, this is tempered by strong on-going political support for the exploration of fossil fuels. The UK Chancellor’s 2012 Autumn Statement to Parliament indicates strong support for shale gas exploration, a strategy that the UK’s Energy and Climate Change Committee is critical of (see [here](#)⁹³ for recent media coverage).

Offshore renewable energy subsidies

The offshore renewable industry in the UK is currently heavily subsidised, at levels that far exceed the subsidies provided to onshore renewable projects. These subsidies are important drivers of development in the offshore renewables sector, particularly in the current economically difficult and uncertain climate.

The main mechanism through which the UK government incentivise renewable developments is the Renewable Obligation Certificate (ROC), first introduced in 2002. This system works as follows (source - [DECC](#)⁹⁴):

- Ofgem (the Office of the Gas and Electricity Markets) issues ROCs to electricity suppliers for every unit (MWh) of green electricity they generate. Some technologies get more, others less.
- Licensed UK electricity suppliers are required to meet a specified target in the proportion of electricity they produce from renewable sources.
- Electricity suppliers present ROCs as evidence of whether or not they are meeting their obligations.

⁸⁸ http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/re_roadmap/re_roadmap.aspx

⁸⁹ http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/energy%20mix/renewable%20energy/renewable%20energy%20strategy/1_20090717120647_e_@@_theukrenewableenergystrategy2009.pdf

⁹⁰ http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/renewable_ener.aspx

⁹¹ <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenergy/1065/106502.htm>

⁹² This is a select committee of Members of Parliament, appointed by the UK House of Commons to examine the expenditure, administration, and policy of the Department of Energy and Climate Change and associated public bodies.

⁹³ <http://www.guardian.co.uk/environment/2012/dec/05/autumn-statement-green-measures-at-a-glance>

⁹⁴ http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/renew_obs/renew_obs.aspx

- If they don't have enough ROCs, they pay a penalty, known as the buy-out price.
- The buy-out price for each ROC is set by Ofgem, and updated annually to reflect changes in the Retail Prices Index. The price for 2012/2013 is £40.71 per ROC.
- The total amount in the buy-out fund is divided up again amongst all suppliers, in proportion to how many ROCs they have presented. The more ROCs they have, the more money they get from the buy-out fund.

The levels of subsidy vary across different renewable technologies, with bandings reviewed periodically to reflect changes in market condition and advances in technology. At the time of writing, the UK Government had just announced new bandings for renewable technologies for the period 2013-2017. The new bandings will be effective from 1 April 2013, and are expected to provide £20-25 billion of new investment to the renewable industry between 2013 and 2017. Based on [DECC figures](#)⁹⁵ (shown in table 2.1), the changes introduced by the banding review are:

- a reduction in the support for onshore wind from 1 ROC to 0.9 ROC,
- closure of band for new solar photovoltaic projects at or below 5 MW, subject to consultation,
- an increase in the support for offshore wind but this is to reduce progressively over time as the technology matures, and
- an increase in the support for small-scale (below 30 MW) tidal stream and wave technology from 2 to 5 ROCs.

Table 2.1 The middle column shows current levels of support (ROCs per MWh) for different renewable energy technologies, and levels originally planned for future wind subsidies, which have now been revised. The right hand column shows revised subsidies that will be implemented from April 1st, 2013. There is a reduction in the subsidy for onshore wind, but an increase in subsidies for offshore technologies. There is an intention to reduce subsidies in the longer term.

Technology	Current levels of support and original future plan (ROCs per MWh)	Revised future levels of support (ROCs per MWh)
Offshore wind	current 2 2013/14 2 2014/15 1.5	2013/14 2 2014/15 2 2015/16 1.9 2016/17 1.8
Onshore wind	1	0.9
Tidal impoundment (range) – tidal barrage or tidal lagoon (<1GW)	2	2013/14 2 2014/15 2 2015/16 1.9 2016/17 1.8
Tidal stream	2	5 , up to a 30 MW project cap, and 2 above the cap.
Wave	2	5 , up to a 30 MW project cap, and 2 above the cap.

⁹⁵ http://www.decc.gov.uk/en/content/cms/news/pn12_086/pn12_086.aspx

Marine renewable development in south-west England

The marine renewables sector is a growing sector in south -west England. Leases have been granted for two offshore wind farm developments:

- A wind development zone to the west of the Isle of White, which in 2009 was awarded to the company Eneco, an integrated energy distribution company specialising in the production, transmission, trading, supply and metering of energy. Eneco have formed a partnership with EDF energy, and plan to develop an area of 723.7 sqkm within the development zone, a project referred to as the Eneco Wind Park or the [Navitus Bay Wind Park](#)⁹⁶.
- A wind development zone in the Bristol Channel, which was awarded to the company RWE npower renewables, who are the UK division of European renewable energy company RWE Innogy. The planned project put forward by RWE npower renewables is called the [Atlantic Array](#)⁹⁷. It is a 1,500MW (1.5GW) wind farm. Following a public consultation on the project, there were some alterations to the proposal, which in its revised form is planned to cover 283.4 sqkm.

There is also a wave project in the case study area, the [WaveHub](#)⁹⁸ off the north coast of Cornwall. It provides infrastructures for the demonstration and operation of wave energy devices for a sustained time. The 12-tonne hub is linked to the UK's grid network via a 25km, 1300 tonne subsea cable operating at 11kV. The project holds a 25-year lease for eight square kilometres of sea with an excellent wave climate. WaveHub has the necessary consents and permits for up to 20MW of wave energy generation and offers a clearly defined and fully monitored site for marine energy production.

The south-west marine region has recently been designated as a 'Marine Energy Park', which RegenSW describe as follows on their [website](#)⁹⁹:

- a collaborative partnership between local and national government, Local Enterprise Partnerships, technology developers, academia and industry.
- a physical and geographic zone with priority focus for marine technology development, energy generation projects and industry growth.

They state that the core objective of the south-west Marine Energy Park is to

'create a positive business environment that will foster business collaboration, attract investment and accelerate the commercial development of the marine energy sector.'

⁹⁶ <http://www.navitusbaywindpark.co.uk/>

⁹⁷ <http://www.rwe.com/web/cms/en/354740/rwe-innogy/sites/wind-offshore/developing-sites/atlantic-array-offshore-wind-farm/the-proposal/>

⁹⁸ <http://www.wavehub.co.uk/>

⁹⁹ <http://www.regensw.co.uk/projects/offshore-renewables/marine-energy-/marine-energy-parks>

2.4.4 The context for commercial fisheries

Offshore fisheries – The EU Common Fisheries Policy (CFP)

On the basis of Article 9 of the [CFP](#)¹⁰⁰, Member States can take non-discriminatory measures to minimise the effect of fishing on the conservation of the marine ecosystems within 12 nautical miles of their coast. In other words, the UK, in principle, has sole jurisdiction over fisheries management within its territorial waters, where non-UK fishing vessels have no right of access. For MCZs, this means that fisheries management measures for inshore sites can be implemented directly through IFCA and the MMO, without having to put in place CFP measures.

The situation is complicated by the fact that in many areas, fishing vessels of other member states also have access to territorial waters between 6-12 nautical miles, under a ‘partial derogation’ of the CFP based on historical rights (something commonly referred to as ‘grandfather rights’). The waters up to 6 nautical miles off south-west peninsula England are fished by non-UK vessels with grandfather rights. Any measures to restrict non-UK fishing vessels with grandfather rights between the 6 and 12 will require a consultation procedure with the Commission, other member states, and the Regional Advisory Council (RAC), and will be subject to approval from the Commission.

Beyond territorial waters, fisheries are managed as a common EU resource under the CFP, with a right of access for vessels from all member states. Any measures to restrict fishing activities *for all EU vessels* in offshore MCZs would therefore have to be put in place through CFP measures. Under Article 10 of the CFP, it is possible for member states to take measures in offshore waters under their sovereignty or jurisdiction *if such measures are only applicable to their fishing vessels*. Such unilateral measures are controversial, as they mean that a member state would discriminate against its own fishermen, placing them at a disadvantage to fishermen from other member states, who would not be affected unless a CFP measure was also put in place to that effect ([De Santo and Jones 2007](#)¹⁰¹).

For offshore MCZs, CFP Article 10 means that the UK Government *could* decide to put in place unilateral restrictions for UK fishermen, but it does not have powers to put in place the same restrictions for other EU vessels. The only way a measure can be put in place that affects everyone alike is through a CFP measure, which has to be approved by the Council of Ministers. Early on in Finding Sanctuary, fishing representatives raised concerns over the potential for unilateral restrictions to be imposed upon them in offshore sites, without affecting their EU colleagues. Needless to say, this was not a popular prospect. In response, Defra made a clear statement to the regional projects, to the effect that any fisheries restrictions in MCZs beyond 6 nautical miles (i.e. including inshore waters fished by non-UK vessels with grandfather rights) would be implemented through CFP measures, so that UK fishermen in UK waters would not be put at a disadvantage to non-UK fishermen.

Under the CFP, restrictions can be placed on fishing activities through several mechanisms, though so far such measures have only been applied in a handful of situations for biodiversity conservation purposes (see Qiu and Jones 2013). The most relevant measures to MPAs are CFP ‘technical

¹⁰⁰ http://ec.europa.eu/fisheries/cfp/index_en.htm

¹⁰¹ <http://www.homepages.ucl.ac.uk/~ucfwpej/pdf/Tensions%20Marine%20Policy.pdf>

measures'. The European Commission's [web pages](#)¹⁰² list the following examples of possible CFP technical measures:

- minimum landing sizes
- minimum mesh sizes for nets
- closed areas and seasons
- limits on by-catches (catches of unwanted or non-target species)
- requirement to use more selective fishing gear to reduce unwanted by-catch)
- measures to prevent damage to the marine environment.

Article 8 of the CFP also allows member states to take emergency measures, the maximum duration of which is 3 months, if there is evidence of a serious and unforeseen threat to the marine ecosystem resulting from fishing activities. This emergency procedure was adopted in 2003 and 2004 to close bottom trawling in the area around Darwin Mounds under the Common Fisheries Policy, in anticipation of future SAC designation in order to conserve deep-water corals in the area. The closure was made permanent in 2004 (Council Regulation 602/2004).

A '[user's guide](#)' to the CFP¹⁰³, produced by the European Commission, admits that the implementation of technical measures has, in the past, not been effective (because of overly complex and lengthy processes to put them in place). It highlights a move towards more regional-based approaches, with new measures envisaged as being driven in part by the relevant RAC. However, it does not go into further detail on how this might happen, or how that would improve the implementation of technical measures, or speed up decision-making.

The CFP is currently undergoing reform (see [here](#)¹⁰⁴ for a 'CFP reform watch' website set up by three MEPs from the European Parliament's Green group). [Symes \(2012\)](#)¹⁰⁵ is highly critical of the CFP reform process. In his view, it is failing to address one of the fundamental problems in the process through which CFP measures are adopted, which is the fact that it is a lengthy and centralised decision-making process through the Council of Ministers. With 27 member states, many of which have limited or no direct marine or fisheries interest, the paper states that there is a tendency for political alliances and 'horse-trading' to slow down and block effective decision-making.

Because of the on-going reforms, the exact process that will have to be gone through in order to implement future CFP technical measures remains to be defined. However, it is safe to assume that it will be significantly more time-consuming and complex than the process of implementing equivalent IFCA byelaws in MCZs within six nautical miles, rather than providing a simple and swift mechanism facilitating effective offshore protection measures. This is an unfortunate situation, as the EU CFP is, in effect, directly interfering with the successful fulfilment of the obligations that EU member states have under other EU legislation (the Habitats and Birds Directives, and the MSFD).

¹⁰² http://ec.europa.eu/fisheries/cfp/fishing_rules/technical_measures/index_en.htm

¹⁰³ http://ec.europa.eu/fisheries/documentation/publications/pcp2008_en.pdf

¹⁰⁴ <http://cfp-reformwatch.eu/>

¹⁰⁵ <http://www.maritimestudiesjournal.com/content/11/1/6>

Inshore fisheries

Within 6 nautical miles, the CFP does not apply, and the UK has sole jurisdiction over fishing activity. The legislative context for the regulation of sea fisheries in the UK is complex, so this should be seen as a brief introduction rather than a comprehensive analysis.

The [Sea Fisheries Regulation Act 1966](#)¹⁰⁶ provided for the establishment of Sea Fisheries Committees (SFCs) with extensive byelaw-making powers. Subject to ministerial approval, SFCs could, within their districts, put in place byelaws prohibiting or restricting any form of sea fishing, or the deposition of any material on the seabed. The SFCs were still in existence at the start of Finding Sanctuary's pilot phase, but with the Marine Act in 2009, they ceased to exist. Most of the SFC staff and the existing SFC byelaws transferred to the newly established IFCAs (see section 1.2.5).

The [Sea Fish Conservation Act 1967](#)¹⁰⁷ provided for Ministers to prohibit fishing except under authority from a licence, and for them to place restrictions on the landing size of fish, fishing gear, fishing seasons, or fishing activities for a particular sea fish. Some of these provisions were subsequently amended in the [Fisheries Act 1981](#)¹⁰⁸, and the [Sea Fish Conservation Act 1992](#)¹⁰⁹. The [Sea Fisheries \(Wildlife Conservation\) Act 1992](#)¹¹⁰ is an extraordinarily brief (1 ½ page) piece of legislation that requires Ministers and other responsible bodies to:

- '(a) have regard to the conservation of marine flora and fauna; and
- (b) endeavour to achieve a reasonable balance between that consideration and any other considerations to which he is or they are required to have regard'

when fulfilling their obligations under other sea fishery legislation. The [Salmon Act 1986](#)¹¹¹ provided for byelaws to protect salmon and their migration.

Since the enactment of the Marine Act in 2009, it is the IFCAs who are primarily responsible for the management of fisheries in England's inshore waters (within 6 nautical miles). Defra published [IFCA byelaw guidance](#)¹¹² in March 2011, which describes the provisions and scope of IFCA byelaws as follows:

'6.1 Section 156 of the 2009 Act sets out a non-exhaustive list of the types of activities for which IFCAs may make byelaws (including emergency byelaws) to manage sea fisheries resources in their district.

6.2 Provisions that may be made by a byelaw under section 156 include prohibiting or restricting the exploitation of sea fisheries:

- (a) in specified areas or during specified periods;
- (b) limiting the amount of sea fisheries resources a person or vessel may take in a specified period.

¹⁰⁶ <http://www.legislation.gov.uk/ukpga/1966/38/contents>

¹⁰⁷ <http://www.legislation.gov.uk/ukpga/1967/84/contents>

¹⁰⁸ <http://www.legislation.gov.uk/ukpga/1981/29/contents>

¹⁰⁹ <http://www.legislation.gov.uk/ukpga/1992/60/contents>

¹¹⁰ http://www.legislation.gov.uk/ukpga/1992/36/pdfs/ukpga_19920036_en.pdf

¹¹¹ <http://www.legislation.gov.uk/ukpga/1986/62/contents>

¹¹² <http://archive.defra.gov.uk/environment/marine/documents/interim2/ifca-byelaw-guidance.pdf>

6.3 The provisions cover:

- permits (including conditions for the issue, cost and use of permits)
- vessels
- methods and gear, (including the possession, use, retention on board, storage or transportation of specified items)
- protection of fisheries for shellfish, including monitoring by:

(a) requiring vessels to be fitted with specified equipment;

(b) requiring vessels to carry on board specified persons for the purpose of observing activities carried out on those vessels;

- marking of gear
- identification of items
- information that those involved in the exploitation of sea fisheries resources in an IFCA district must submit to the IFCA. ‘

The guidance also highlights that IFCA must consult with stakeholders before making a byelaw, that the MMO will provide quality assurance, that Natural England have an advisory role, and that byelaws must be signed off by the Secretary of State. Despite the extensive byelaw-making powers of the IFCA under the Marine Act, current Government policy strongly favours minimising the number of new byelaws passed (following the [Hampton Review](#)¹¹³). For inshore MCZs, this means that policy favours voluntary measures over byelaws. In the words of Defra’s IFCA byelaw guidance,

‘regulators should only intervene when there is a clear case for protection and **legislation should be the last resort when considering options for regulation.**’ (bold emphasis added)

Given the large number of potential new inshore MCZs, in addition to inshore *Natura 2000* sites, this does raise a question over the likely strength and effectiveness of future environmental protection measures within those sites.

Because the CFP does not apply to inshore waters, the implementation of fishing restrictions within MCZs within 6 nautical miles could happen much faster than in offshore MCZs. This raised concerns among inshore fishing representatives very early in Finding Sanctuary’s planning process, in that they feared that fishermen operating small inshore vessels might suffer disproportionately compared to those on larger offshore vessels, if inshore restrictions were to come into force sooner than offshore restrictions, or if more inshore restrictions were implemented inshore than offshore. Once this concern was understood by other stakeholder representatives, it was shared more widely – most felt that a disproportionate impact on small inshore vessels (compared to larger offshore vessels, which arguably cause more environmental impacts) would not be fair or desirable.

¹¹³ <http://www.hm-treasury.gov.uk/d/bud05hamptonv1.pdf>

2.5 Multi-sector integration

Although integrated marine plans are being pursued by the MMO, planning for offshore renewables (wind farms) and for MPAs (both MCZs and *Natura 2000* sites) in south-west England preceded the development of marine plans. The planning processes for marine renewables and for MPAs were carried out independently from the wider marine planning process, and from each other. The same is true for planning processes for other regulated marine industries, but in south-west England, marine renewables and MPAs are the most significant ‘new’ activities in terms of the amount of marine space they might end up occupying. The other sector that ‘occupies’ large spatial areas is, of course, commercial fishing (which differs from the other two in that it is not confined to specific, demarcated areas). Because of their (potentially) large spatial footprints, integration between these three sectors ought to be a priority.

Although it was focussed on an environmental objective, the Finding Sanctuary process provided a platform where cross-sectoral integration between MCZs and other sectors could be discussed during the MCZ planning process. As discussed in section 3 (conflicts), a lot of discussions revolved around avoiding negative impacts of MCZs on sectoral activities, and trade-offs between sectors when considering different options for sites. So, whilst Finding Sanctuary had a single-sector objective, it succeeded in addressing that objective within the context of a multi-sectoral reality.

However, with a small number of exceptions (e.g. the Atlantic Array wind farm area – see section 3), it did so primarily by stakeholders favouring MCZs located away from the areas they had interest in for their activities, rather than striving to find synergies between MCZs and compatible activities. Section 6.5.11 discusses how the finding of synergies was hampered by process-generated uncertainty over which activities would be permissible in future MCZs. Furthermore, there has been no continuity of that cross-sectoral stakeholder platform, nor any expansion of its remit beyond providing recommendations on MCZs, so Finding Sanctuary has had a limited impact on multi-sector integration in marine spatial planning.

As the first marine plan for the East inshore and offshore areas is still being finalised, it remains to be seen whether and to what degree the MMO’s marine plans will address the spatial conflicts between different sectoral activities. It is likely that, to begin with, marine plans will simply provide a framework for marine planning and licensing, providing guidance and a set of principles on which decisions will be based. They will also draw together information on the *status quo* in terms of the spatial distribution of human activities at sea. This is a logical first step towards creating strategic and forward-thinking marine spatial plans that will ultimately drive the location of different activities (‘ocean zoning’), although it is unclear whether this will happen in future. It does not seem to be the current objective of marine planning.

In terms of the interaction between MPAs and marine renewable developments, there is no national strategic advice on how spatial conflicts between them will be dealt with. Decisions on compatibility or non-compatibility are case-specific. In 2010, Natural England and the JNCC provided a guidance note to the regional projects (including Finding Sanctuary), entitled ‘[Additional guidance for regional MCZ projects on planning for areas where licensed, planned or existing socio-economic activities occur](#)’¹¹⁴. This stated that:

¹¹⁴ http://jncc.defra.gov.uk/PDF/MPA_300710_MCZsWhereLicensedPlannedOrExistingActivitiesOccur.pdf

- ‘All areas should be considered in the MCZ planning process, regardless of existing, licensed or planned activities;
- Synergies between MCZ objectives and existing, licensed and planned activities should be planned for, creating co-location ‘win wins’

However, because of a lack of clear guidance on what activities were compatible with what marine features, in practice it was impossible to follow this advice (see section 6.5.8, on process-generated uncertainty). The Atlantic Array, a planned wind farm area that was included in the final MCZ recommendations, was an exceptional case, and agreement was only reached after extensive bilateral discussions between the developer and Natural England (which took place outside the forum of the regional project), during which a level of certainty was provided to the developer that an MCZ designation would not pose an obstacle to the planned development.

Under the [EU SEA Directive](#)¹¹⁵, a Strategic Environmental Assessment (SEA) is required for proposed plans or programmes likely to have significant environmental effects. The European Commission (link the same as the previous one) summarises the SEA process as follows:

‘an environmental report is prepared in which the likely significant effects on the environment and the reasonable alternatives of the proposed plan or programme are identified. The public and the environmental authorities are informed and consulted on the draft plan or programme and the environmental report prepared’.

The SEA Directive applies to offshore renewables developments in the UK. In 2008 / 2009, DECC conducted an SEA on its (then) a draft plan/programme to hold further rounds of offshore wind leasing and offshore oil and gas licensing in United Kingdom waters. It published a [post-consultation report](#)¹¹⁶ in 2009, which highlighted the fact that the MCZ planning process was underway, and recommended that

‘where offshore wind developments are proposed and do not conflict with the conservation objectives of MCZs, preference should be given to locating wind farms in such areas to mitigate potential spatial conflict with other users’.

As highlighted above, this aim was not achieved, despite the fact that it was seen as a desirable aim both by DECC (who carried out the SEA), and by Defra’s advisory bodies (as evidenced by the SNCB guidance note cited above).

For specific major infrastructure projects, an Environmental Impact Assessment (EIA) may be required under the [EU EIA Directive](#)¹¹⁷, which is transposed into UK legislation by the [Infrastructure Planning \(Environmental Impact Assessment\) Regulations 2009](#)¹¹⁸. An EIA is part of the process of obtaining an order for development consent (Planning Act 2008).

In addition, for projects that are likely to have a significant impact on *Natura 2000* sites, an ‘appropriate assessment’ may be required under the EU Habitats Directive. Developers are required to provide information for the Competent Authority to undertake a test on whether the proposed development is likely to have a significant effect on a *Natura 2000* site. The Competent Authority

¹¹⁵ <http://ec.europa.eu/environment/eia/sea-legalcontext.htm>

¹¹⁶ http://www.offshore-sea.org.uk/consultations/Offshore_Energy_SEA/OES_Post_Consultation_Report.pdf

¹¹⁷ <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

¹¹⁸ <http://www.legislation.gov.uk/uksi/2009/2263/contents/made>

may undertake an ‘appropriate assessment’ as part of the consent process. For nationally significant infrastructure projects, this ‘Competent Authority’ is DECC (for energy projects) or the Department for Transport (for port developments). For developers applying for a Marine Licence, the ‘Competent Authority’ is MMO.

EIAs, SEAs, and appropriate assessments are ways of ensuring that environmental considerations are not ignored during sector-specific planning and development, but they do not integrate environmental planning with sector-specific planning, nor do they facilitate cross-sectoral dialogue.

There are several marine multi-sector stakeholder forums in existence operating at different levels of scale, with different objectives. Some of these are led by Government, some are industry led. Examples include:

- the [Fishing Liaison with Offshore Wind and Wet Renewables Group](#) (FLOWW)¹¹⁹, a group set up in 2002 to facilitate discussion between the fishing industry and marine renewables industry. It is chaired by The Crown Estate, and includes representatives from both industries and relevant government departments.
- the [Marine Industries Liaison Group](#) (MILG)¹²⁰, set up by Defra’s Marine Science Committee, to facilitate dialogue between UK marine industry sectors and Government, providing a forum for sectors to input their views and to raise relevant science issues.
- the [Seabed User and Developer Group](#) (SUDG)¹²¹, an industry-led group which describes itself as an ‘informal grouping whose participants have a common interest in sustainable development within the UK’s marine environment’. It includes representatives from the ports, renewable energy, offshore oil & gas, and submarine cabling sectors.

At a more local level, there are a large number of multi-sectoral platforms representing those with an interest in a specific region or water body. In the south-west, they include a long list of estuary partnerships, and county-level management forums, for example (this list is not exhaustive):

- the [Severn Estuary Partnership](#)¹²², which describes itself as ‘independent, estuary-wide NON-statutory initiative led by local authorities and statutory agencies’, working with ‘all those involved in the management of the estuary, from planners to port authorities, fishermen to farmers and many more with an interest in the future of the estuary’.
- the [Tamar Estuary Consultative Forum](#)¹²³, a council-led group which describes itself as ‘the estuary management partnership that brings together stakeholders to promote the delivery of integrated management for the Tamar estuaries and nearby coastal areas in order to ensure long term sustainability’.
- the [Devon Maritime Forum](#)¹²⁴, an independent voluntary organisation that aims to ‘facilitate communication between a network of marine stakeholders, raising the profile of marine and maritime concerns and promoting broad debate in order to achieve sustainability on our coasts and seas’.

¹¹⁹ http://www.decc.gov.uk/en/content/cms/meeting_energy/wind/offshore/stakeholder/stakeholder.aspx

¹²⁰ <http://www.defra.gov.uk/mscc/groups/marine-industries-liaison-group/>

¹²¹ <http://www.sudg.org.uk/about.php>

¹²² <http://www.severnestuary.net/sep/partnership.html>

¹²³ <http://www.plymouth.gov.uk/tecf>

¹²⁴ <http://www.devonmaritimeforum.org.uk/>

- the [Dorset Coast Forum](http://www.dorsetforyou.com/402820)¹²⁵, a strategic coastal partnership that aims to ‘promote a sustainable approach to the management, use and development of Dorset’s coastal zone, which will ensure that its inherent natural and cultural qualities are maintained and enhanced for the benefit of future generations’. It aims to achieve this through ‘encouraging co-operation and dialogue between the different interests and users of the Dorset coast; encouraging the gathering and dissemination of knowledge, and the carrying out of necessary research in relation to the physical processes, natural environment and human use of the Dorset coastal zone; reviewing existing national, regional and local coastal policies and working towards the production of integrated policies specific to the Dorset coastal zone.’

The more area-specific groups (estuary forums, and marine /coastal partnerships) usually aim to be representative of all stakeholder interests, but they tend to be resource-poor, often relying on voluntary engagement by sector representatives, and they do not always have any official role or remit in marine planning or decision-making processes. The degree of influence they have on real-world outcomes is not always clear, nor is it likely to be consistent across groups. The national-scale groups (like SUDG and MILG), while their membership extends across multiple sectors, are not truly representative cross-sectoral groups (nor do they aim or claim to be).

The MMO have a [stakeholder engagement strategy](http://www.marinemanagement.org.uk/about/documents/stakeholder_engagement.pdf)¹²⁶ which highlights the stakeholder analysis they carry out to ensure that they engage effectively across all interested sectors and groups. In that sense, they are building the necessary foundations for multi-sector planning and decision-making. They also mention a ‘stakeholder focus group’, although it is not clear what that group’s exact role or membership is, whether it is a group with continuous membership, or whether it operates on a more ad-hoc basis depending on what issues the MMO needs addressing. There is no obvious plan to establish cross-sectoral, representative stakeholder platforms, either at the national level, or at the regional level, to serve as regular and formal collaborative advisory bodies in the marine planning process (i.e. along the lines of the Finding Sanctuary model). There might be benefits of such an approach for cross-sectoral integration, although it is resource-intensive.

¹²⁵ <http://www.dorsetforyou.com/402820>

¹²⁶ http://www.marinemanagement.org.uk/about/documents/stakeholder_engagement.pdf

3 Conflicts

3.1 The five dimensions of conflict in this case study

3.1.1 Introduction to the five conflict dimensions

The analysis of the conflicts within this case study focuses to a large extent on the conflicts that emerged within the stakeholder group meetings. The analytical framework that this analysis follows (based on the work of Jones *et al.*, 2011) differentiates between primary conflicts (between conservation and resource use), and secondary conflicts (between users). Both types occur in this case study.

In analysing the conflicts and disagreements within the stakeholder group, it became evident that many of the conflicts were complex and multidimensional. Much of the complexity was caused or exacerbated by uncertainty about management measures and activity restrictions in MCZs - the 'process-generated uncertainty' discussed at length in section 6.5.8. Stakeholders within the Finding Sanctuary project were not provided with any certainty over which activities will ultimately be permitted in MCZs, which ones will be excluded from MCZs, and which ones will be restricted, modified or regulated in order to reduce their impacts. Stakeholders were not given the power or remit to take decisions or make explicit recommendations on the matter, either. This key uncertainty is still not resolved at the time of writing, because the MCZ process is designed in such a way that decisions on restrictions and management measures will not be taken until after site designation.

The process-generated uncertainty meant the stakeholder group was not able to have a firm, shared understanding of how a given MCZ in a given location would impact on the interests of the various stakeholder sectors represented. Nevertheless, the stakeholder group had the task of deciding the locations at which to recommend MCZs - they had to make joint decisions on where to draw recommended MCZs on a map, without knowing the consequences of their recommendations (an interviewee in the summer 2012 stakeholder interviews described this as 'flying blind').

Rather than being able to describe clear conflicts between restrictions within the conservation zones and sectoral activities on the ground, the conflicts that emerged during their MCZ planning discussions were based on a mixture of assumptions, fears, hopes, and suspicions on how MCZs would (or would not) impact on activities. There were considerable disagreements on what assumptions might be realistic, and strong disagreements on what restrictions *should* ideally be put in place (irrespective of what might realistically happen). These disagreements were interwoven with disagreements over where to locate MCZ boundaries within the developing network configuration, based on expected impacts weighed up against the requirements of the ENG.

This complexity makes it hard to distil out a clear narrative to describe the conflicts in this case study. In an attempt to help provide a better description, this analysis has identified five dimensions that might be interwoven within any one conflict:

- 1) Existing 'real' conflicts (manifest on the ground)
- 2) Assumed conflicts (based on shared assumptions)
- 3) Conflict about what assumptions to make (about what restrictions will realistically apply)
- 4) Conflicts about what restrictions *should* apply (irrespective of what will realistically happen)
- 5) Philosophical conflicts

The above five conflict dimensions can be used as labels to help describe the nature of the conflicts arising during this case study. They should not be seen as exclusive categories – a ‘single’ conflict (between two individual sectors regarding a single location, for instance) might carry elements of several dimensions, interwoven with each other to create a complex set of exchanges, difficult to untangle and resolve.

The five dimensions refer to various ways in which spatial conflicts manifest themselves, i.e. conflicts over ‘what happens where / what can’t happen where’ (in this case study, that means ‘where MCZs go’). They can be regarded as manifestations of conflict about the *outcomes* of the MCZ process.

There was also a significant degree of conflict about the MCZ *process* itself, i.e. conflict about the definition of roles, remits and responsibilities for different organisations involved, and the support they would either need to provide to others or receive from others in order to be able to fulfil them; conflict over the most suitable technical approaches to take (e.g. how best to design conservation objectives, how to address scientific uncertainty); and conflict about the timing and sequencing of taking key decisions (particularly on activity restrictions).

The distinction between *process* and *outcome* conflicts is not a clear one: People would generally argue in favour of ways of designing the process which they expected would result in outcomes they favoured. In that sense, ‘process conflict’ could just as well be added as a sixth ‘dimension’ to the above list, an additional way in which a basic conflict might manifest itself, in addition to (for example) dimension 4 and 5. However, within the structure of the analytical framework used for this report, a lot of the process conflict is best described within the context of analysing the way in which Finding Sanctuary attempted to mesh together ‘top-down’ and ‘bottom-up’ approaches, which is covered in section 6.1, under ‘cross-cutting themes’. For that reason, the differentiation between process and outcome conflict is maintained, and process conflict is not included here.

3.1.2 Existing ‘real’ conflicts (dimension 1)

This refers to conflicts that are taking place or have taken place on the ground, or which have played out in some other immediate ‘real-world’ sense. It is possible to distil out some relatively straightforward *secondary* conflicts within this category, e.g. between fishermen using pots and fishermen using towed gear. Another example is the conflict between shipping lanes and wind farms (the examples given here are all discussed in more detail later in this section). Although offshore wind farms have not yet been built in the Finding Sanctuary region, it is certain that they cannot coexist with a shipping lane (for safety reasons), and this known incompatibility has a direct impact on the selection of areas currently earmarked for wind farm development. In that sense, the conflict is already manifesting itself in reality, despite wind farm construction being in the future.

The two above examples are ‘straightforward’, in the sense that there is certainty over what the conflicting activities are, and over the spatial locations where the conflicts occur (or would occur in future scenarios, in the case of a new activity being planned). This certainty makes it possible to work out compromises to help resolve this type of conflict through spatial planning (separating out conflicting activities), or to explore trade-offs. That is not to say that all type 1 conflicts would necessarily be ‘straightforward’ to resolve – finding compromises and making balanced decisions might be very difficult, especially in areas that are heavily used by many competing sectors / interests. However, at least the clarity provides a firm foundation for constructive, spatially focussed discussions to take place on how to resolve them.

A clear finding of this analysis is that, with the important exception of reference areas (see section 3.3.10), none of the *primary* conflicts emerging from this case study are ‘real’. As a direct consequence of the way the process has been designed, with decisions on restrictions and management measures left until *after* site designation, the stakeholder group operated under great uncertainty (‘flying blind’). There were (and still are) no clear, unambiguous conflicts between MCZs and human activities. This is profoundly significant, because it means the stakeholder group was not able to resolve and ‘real’ conflicts, or explore any ‘real’ trade-offs and compromises. Instead, their time and effort (and that of the project staff and facilitators) was spent trying to untangle multidimensional conflicts riddled with uncertainties, in order to make progress on the site recommendations. This affected the content and quality of the final recommendations and the project’s final report.

3.1.3 Assumed conflicts (dimension 2)

Finding Sanctuary attempted to address the process-generated uncertainty by getting the stakeholder group to formulate a set of shared assumptions on restrictions and management measures in MCZs, in order to be able to negotiate compromises in network design based on those assumptions. For example, there was a shared assumption that dumping and disposal would not be allowed within MCZs – so the primary conflict with dumping and disposal can be labelled as an ‘assumed conflict’.

Section 6.5.8 discusses the negative impacts of process-generated uncertainty within this case study in more detail, but it is worth reflecting at this point that if wrong assumptions are made, any compromises achieved by the stakeholder group to resolve assumed conflicts will become invalid, so that the outcome of the negotiations is undermined.

Furthermore, if activities that were assumed incompatible with MCZs will in fact be allowed to continue once the sites are in place, then some of the time and effort of the stakeholder process will have been wasted on dealing with assumed conflicts that never materialise into anything ‘real’. One might argue that this time and effort would have been more productively spent on dealing with ‘real’ conflicts, especially in view of the cost of running the stakeholder process for all involved.

3.1.4 Conflicts about assumptions (dimension 3)

Every attempt was made during Finding Sanctuary to formulate a set of joint (shared) assumptions on which to base the site recommendations (see section 6.5.9), but in reality it was difficult to do. Not all participants in the stakeholder process shared the same set of assumptions about how human activities will be restricted in MCZs once they are implemented. As a result, some of the conflict emerging during their discussions related to what assumptions to record, rather than reflecting any assumed or real conflicts between MCZs and other activities, thereby adding a third dimension of complexity.

The conflict about what assumptions to record was compounded by concerns that the statement of an assumption on a particular activity restriction would:

- make that restriction more likely to become reality in future, and/or
- imply *support* for that restriction, and / or
- imply or acceptance that the restriction would be reasonable and justified (there were strong disagreements about what restrictions *should* apply – see dimension 4).

This set of concerns was the key reason why the offshore fishing representatives would not agree to the assumption that mobile bottom-towed gears will be excluded from MCZs, despite the rest of the group agreeing this was realistic, and despite the fact that much of the network design process had tried to avoid the areas most intensively used by those gears (see sections 3.3.2 and 6.5.9).

3.1.5 Conflicts about what restrictions should apply (dimension 4)

The conflicts about what assumptions to make (about restrictions that will *realistically* be implemented) were tightly interwoven and fuelled by disagreement between different stakeholders on what restrictions *should* be implemented in an ideal world.

Different people had very different views on whether restrictions to particular activities would be necessary or appropriate in order to afford sufficient protection to the environment. Some of the conflict about appropriate restrictions was clearly driven by socio-economic interests rather than a 'science-based' argument about the assessment of impacts (e.g. the conflict over whether exclusion of bottom-towed gears was appropriate), though many stakeholder representatives ultimately stated that they did not consider that they had the necessary scientific knowledge to be able to make any informed judgements, and therefore requested clear 'official' guidelines that would provide them with clarity on what restrictions would apply in MCZs. These clear guidelines were never issued (see section 6.5.8).

3.1.6 Philosophical conflicts (dimension 5)

Finding Sanctuary's stakeholder group consisted of a constellation of people who would not naturally expect to work together to achieve a common objective. Some of the Steering Group members had directly conflicting interests, and the group represented different world-views. In particular, the importance of biodiversity conservation was (and is) viewed by some as the foundation of sustainable development, whereas others viewed (and still view) conservation as simply another 'sectoral activity' to be accommodated amongst others.

Therefore, there is a dimension to the conflicts within this case study which might be described as 'philosophical'. There is often a sense of distrust, prejudice and basic lack of understanding between people representing different world views, or representing 'opposing' sectors who would not normally have much incentive for collaboration. All of this was evident in the interactions within the Steering Group, especially at the start of the planning process.

This 'fifth' conflict dimension differs significantly from the previous 4, in that differences in world view are also an important *driving force* behind conflicts (this is why 'differences in world view' also pops up as a heading in section 3.2.2).

There was some history of conflict between sectors within the case study area (e.g. see Fleming and Jones, 2012), which compounded the sense of distrust and perception of 'other' sectors being adversaries rather than people to work together with. One instance in which this played out within Finding Sanctuary was in the intense discussion within the Steering Group in response to the application from the Marine Conservation Society (MCS) to join the group. At SG3 (June 2010), the group had a long, conflicted debate over possible MCS membership, with strong objections to them joining the SG coming in particular from several fishing representatives. The observer notes for the meeting highlight the strength of feeling and the language used during the discussions – MCS were seen as 'divisive' and as 'enemies' by some fishing representatives. Once MCS had joined the group,

however, there was little evidence of any heavy animosity between fishing and MCS representatives within the forum of the Steering Group.

Whilst fundamental differences in world-view persisted throughout the process, within the forum of the Steering Group, there was a reduction in distrust and prejudice over time, as Finding Sanctuary progressed, and people got to know each other and understand each other's positions better. This was most noticeable amongst members of the Working Groups, the smaller groups of stakeholder representatives the met most frequently and worked most intensively to solve the project's task (see section 1).

During the stakeholder interviews carried out in summer 2012, many interviewees stated that they had valued the cross-sectoral stakeholder process, where the same group of people worked together intensively and over a significant period of time, because relationships were established and a sense of trust built up within the group. Several interviewees stated that, at the start of the process, they thought that there were misconceptions and preconceived ideas amongst individual representatives about other sectors and their activities. Many felt that the process had been an opportunity to learn about each other, and develop an understanding of each other's positions. These statements about collective learning, the establishment of working relationships and a build-up of trust confirmed the perceptions of the observer, project team and facilitator as the planning process progressed, which was that the existence of the cross-sectoral platform with its specific role within the process helped, over time, to reduce dimension 5 conflict.

However, the interview responses also highlighted that since the end of the stakeholder process, there has been a dissipation of that sense of trust and understanding, and a hardening of sectoral stances, so the fifth conflict dimension has become a lot more significant again since the regional project ceased operating (see appendix 4).

3.2 Driving forces behind the conflicts in this case study

3.2.1 Uncertainty

As already described in the introduction to this section, uncertainty was a key driver of conflict in this case study – not simply a driver of conflict, but also a driver of *complexity* within the conflicts. The second and third conflict dimensions described above are created entirely by the process-generated uncertainty designed into the MCZs process. The fourth and fifth dimensions would have existed irrespective of that uncertainty, although the fourth dimension was exacerbated by it (because decisions had not been taken, it was worth fighting). The fourth dimension is also driven, to some extent, by scientific uncertainty about the degree of environmental impact caused by different activities. Section 6.5 analyses the significant impacts of uncertainty on this case study in more detail.

3.2.2 Differing world views

The fifth conflict dimension described above refers to different world-views regarding the importance of biodiversity conservation within the context of economic and social development. These differences were an important driver of primary conflicts in this case study.

Generally speaking, participants in this case study either accepted the idea that there is a need to protect the environment, or they accepted that most people believe it to be necessary. As a result, there was no overt conflict over whether or not *any* environmental protection efforts should be made within the region, including establishing MPAs. However, it was clear that some consider biodiversity conservation and environmental sustainability as the foundation for medium- and long-term social and economic sustainability, while others view conservation as simply another ‘demand’ competing with other sectoral uses (in the case of MCZs, demand for space). The latter view was common. Those who held it would usually voice little opposition to MCZ proposals as long as they saw no danger of those proposals impacting on ‘their’ sector.

The analytical framework applied here labels conflicts between biodiversity conservation and resource use as ‘primary’ conflicts, essentially elevating their status over ‘secondary’ conflicts which do not involve conservation. This is significant - it illustrates that the analytical framework itself is based on a world-view where environmental sustainability underpins social and economic sustainability, rather than the three being ‘equal’ in importance. This world view is generally thought of as being embedded within the ‘ecosystem-based approach’ to marine spatial planning.

The fundamental difference in world views relating to the importance of biodiversity conservation and environmental sustainability is an important driver of conflict not just within this case study, but also much more widely in national and in European marine spatial planning. For example, the EU MSFD, and much of the Marine Act, can be seen as based on an ecosystem-based approach to marine management, whereas the sectoral ‘National Policy Statements’ for NSIPs (section 2.4.2) embody the view that nature conservation measures and MPAs ‘compete’ with economic development.

3.2.3 The ‘race for space’

An important driving force for primary and secondary conflicts is the fact that there are multiple human activities competing with each other (and with conservation) for marine space.

An important factor contributing to increasing competition for space is the fact that the Finding Sanctuary project coincided with a time of increasing interest in offshore renewable developments, in part driven by the UK's commitment to the 20/20 target (in the 2009 EU Renewable Energy Directive, discussed in section 2.4.3). There are already two big areas licensed for offshore wind farms within the Finding Sanctuary regions, with specific plans by developers to construct wind farms (the Atlantic Array in the Bristol Channel, and the Eneco Wind Park or Navitus Bay development off Dorset – see section 2.4.3).

There is also interest in developing technological expertise in wave and tidal renewable technology as an economic growth sector within the region. A clear example is the WaveHub project, first conceived by the South West Regional Development Authority (SWRDA). WaveHub provides a platform for testing and demonstrating wave energy devices. It holds a 25-year lease of a small area of sea (8 square km) off the north Cornish coast, where the necessary licenses, consents and seabed infrastructure are in place for installing such devices (for more information see [here](#)¹²⁷).

Throughout Finding Sanctuary, there was an expectation that the offshore renewables sector was likely to grow in future, with increasing demands on maritime space. There is now (at the time of writing) a slightly greater degree of uncertainty about the level of political support and availability of subsidies for renewable developments in the south-west region, with the UK Government recently announcing cut-backs to subsidies for terrestrial wind-farms (see section 2.4.3), and the discontinuation of the SWRDA. However, most people still expect to see growth in offshore renewables over the long term, and the south-west region has large wave, wind and tidal energy resource compared to other English maritime areas.

Another factor contributing to the 'race for space' is the requirement of the MSFD and the Marine Act to put in place a representative network of marine protected areas.

The renewable energy sector and the conservation sector are, therefore, both increasingly making demands on maritime space which compete with the demands of existing sectors, most notably fisheries (as the most wide-spread existing activity), and also ports and shipping, military and recreational activities.

¹²⁷ <http://www.wavehub.co.uk/about/>

3.3 Primary conflicts

3.3.1 Overview of primary conflicts

Primary conflicts between nature conservation interests and economic interests run through the whole MCZ planning process. Some stakeholders had concerns early on that the process (and the wider policy context) was too focussed on achieving ecological goals – they perceived that socio-economic impacts were being treated as a secondary consideration. This is reflected in the following excerpts of OWG2:

‘There is also a concern that the policy is forcing us down the route of looking at ecological considerations first and then socio-economic impacts second. It was pointed out by an OWG member that this process is different as stakeholders are involved throughout and are able to make their opinions/concerns heard early on. The group were also reminded that socio-economic impacts were considered when the building blocks were first drawn and that areas of high fishing intensity were avoided where possible whilst still meeting the targets set by the ENG.’

Early in the planning process, the SAP took exactly the opposite view, namely that the developing network configuration design work being carried out by Finding Sanctuary was focussed too much on avoiding socio-economic impacts, with insufficient emphasis on reaching ecological goals (beyond representativity and replication). This is illustrated in the following comment in their first feedback report to Finding Sanctuary (SAP1), following the first planning iteration in July 2010:

‘We noted that the design measures that seemed to be being applied were to avoid areas being fished and achievement of the representativity and replication criteria. More attention to ecological considerations is needed in the next stage and the SAP expected the balance to be rectified to ensure that areas of ecological importance are fully taken into account.’

This tension between the stakeholder working groups and the SAP persisted through the process (e.g. see subsequent SAP feedback documents - SAP2, SAP3). To a large degree, this was a consequence of the composition of the SAP (exclusively natural scientists, as the panel did not include economists or social scientists), and their remit (see section 6.1.4). It is also a ‘fifth dimension’ conflict, driven by fundamental differences in views on the importance of nature conservation.

In terms of primary conflicts with specific sectors, the most significant and most obvious primary conflict was with the commercial fishing sector (in particular, mobile demersal gear fishing), a conflict which predated the Finding Sanctuary project and continued throughout it. Another very significant primary conflict existed with the renewable energy sector. Both these primary conflicts were recognised early on as significant within the stakeholder group (e.g. IWG1, OWG1), and both are manifest across large spatial areas – the conflict with fishing applied to the whole planning region, while the conflict with renewables became somewhat less significant with increasing distance from the shore.

Notable primary conflicts also emerged with ports and associated activities, and some recreational activities (especially relating to anchoring of recreational boats). These conflicts tended to be associated with specific localities within the region.

There were also primary conflicts with aggregate extraction, waste disposal, aquaculture, and submarine cables. These activities take place in relatively small and clearly demarcated areas within the region, and it was largely possible for the stakeholder group to avoid including areas licenced or earmarked for these activities in the developing network. In that sense, this set of conflicts was less significant, although they had a clear impact on the shape of the final recommendations.

Each primary conflict is described in more detail below, with references to stakeholder meeting reports illustrating how each one manifested itself during the MCZ planning process.

3.3.2 Commercial Fishing

Introduction to primary conflicts with commercial fishing

The primary conflict between biodiversity protection and commercial fishing was evident throughout the MCZ planning process. It consisted of a multi-layered set of interactions rather than a single conflict, for two main reasons: firstly, because of the process-generated uncertainty driving the conflict into multiple dimensions as described in section 3.1 above, and secondly, because 'commercial fishing' is not a single, coherent sector. The 'commercial fishing sector' covers a wide range of very different activities: different vessel sizes and gear types, different ranges / areas fished, different species targeted, different economic and social significance. The 'commercial fishing sector' therefore cannot be treated as a homogeneous entity that is easily understood and represented within a stakeholder process (there are, in fact, significant secondary conflicts *within* the sector, see section 3.5).

Reflecting the diversity within the sector, this section differentiates between primary conflicts with mobile gear fishing, and conflicts with static gear fishing. Broadly speaking, bottom-towed mobile fishing gear types were assumed incompatible with MCZs, because of their physical impact on the seabed. Static gear types were assumed to be compatible with MCZs, but there was still conflict (fuelled by process-generated uncertainty).

Primary conflicts between commercial fisheries and reference areas are discussed separately. It was clear from the draft reference area guidance that these sites would not allow any form of fishing activity, so in this instance, the fishing representatives faced no process-generated uncertainty. Given the restrictive nature of the reference areas, the conflicts were intense. However, because of the reduced uncertainty, they were relatively clear-cut 'dimension 1' conflicts, lacking much of the multidimensional complexity of the conflicts for MCZs in general.

Before going into more detail on mobile gear, static gear, and reference areas, a general observation relating to the whole set of primary conflicts with commercial fishing is the importance of the fifth conflict dimension (philosophical conflicts). There had been a history of conflicts between conservation and fishing in south-west England which had played out in multiple arenas before the beginning of Finding Sanctuary, leading to a great degree of distrust and bad feeling between representatives of the two sectors.

One significant arena where this conflict had flared up was during the process that led to the closure of approximately 60 square miles of Lyme Bay to shellfish dredging and demersal trawling, in order to protect reefs with pink sea fans (*Eunicella verrucosa*) under the Wildlife and Countryside Act 1981 (see Fleming and Jones, 2012). The beginning of Finding Sanctuary's pilot phase coincided with the tail end of the Lyme Bay process, and the project's liaison officers reported a lot of unease amongst

the affected fishing community resulting from the Lyme Bay closure. Many fishermen felt a sense of betrayal over what happened, stating that prior to the closure of the large area, they had worked constructively with conservationists to come to a joint voluntary agreement to close smaller areas within Lyme Bay to benthic dredging and trawling. When the larger area was closed by the then Fisheries Minister, Jonathan Shaw, many affected fishermen felt betrayed by conservation organisations, including Natural England and the Wildlife Trusts, who they saw as having campaigned and exerted pressure on Government to implement the large closure, whilst simultaneously working with fishing organisations towards 'mutually agreed' smaller voluntary closures.

The conflict over the Lyme bay closure was reflected in acrimonious exchanges between south-west fishing representatives and Natural England in the pages of *Fishing News* between July and November 2010. In an article published in the paper on July 16th, 2010, Natural England were accused of anti-fishing bias, and of misrepresenting sub-standard scientific evidence in order to underpin their recommendations to Government. As discussed in detail in section 6.5.6, these accusations were strongly refuted by Natural England, and an independent review, triggered by this conflict, found no issues with the evidence underpinning their advice. There had previously been strongly worded statements made on both sides, one notable example (often referred to, including in the July 16th Article in *Fishing News*) being Helen Philips, Natural England's CEO, referring to scallop dredging in Lyme Bay as 'rape and pillage' of the seabed, in a presentation given at the Coastal Futures Conference in London in January 2009 (see section 6.1.6).

It is against this background of pre-existing conflicts between conservation organisations and fishermen (there had been other examples in other areas within the region) that the Steering Group was established, and it took time, effort and goodwill to establish working relationships within the group. Many local fishermen felt strong antipathy towards Natural England and conservation NGOs, which meant that a lot of work was needed by Finding Sanctuary's liaison officers to establish enough trust in the project to allow constructive engagement with a fully representative cross-section of the fishing sector (beyond the Steering Group membership, e.g. for FisherMap).

The philosophical conflict dimension persisted throughout the process, with the offshore / mobile gear fishing representatives fundamentally opposed to MPAs in principle, and all fishing representatives (inshore and offshore) opposed to reference areas. At times, this manifested itself as 'process conflict'. Fishing representatives frequently stated that they felt 'outvoted' and 'outnumbered' within the Steering Group, and that the group should contain a larger proportion of fishing representatives. Offshore / mobile gear representatives, in particular, felt that fishing representatives should have more power over decisions than other stakeholders, because they thought that their livelihoods stood to be affected more than that of people in other sectors (a point that other sector representatives did not necessarily agree with). This issue about representation was raised continuously throughout the process, and was again raised by fishing representatives interviewed in summer 2012 (see appendix 4).

Conflict with mobile bottom-towed fishing

The primary conflict with mobile bottom-towed fishing wove together elements of conflict dimensions 2-5. It was an assumed conflict (second dimension), in that most people on the stakeholder group (and the project team) assumed that mobile bottom-towed fishing gear would

not be allowed within MCZs. However, representatives of this type of fishing (offshore fishing representatives, and one of the inshore fishing representatives) did not agree with this assumption, largely because of concern that accepting such an assumption would either indicate *support* for a restriction on such gears in MCZs, or would make it more likely as an outcome. So there was conflict over what assumption to make (third dimension), fuelled by disagreements over what restrictions *should* be put in place (fourth dimension), which were largely down to basic philosophical disagreements (fifth dimension).

The remainder of this section describes in a bit more detail how this conflict evolved through the process of developing the MCZ recommendations, and the impact it had on the network development, illustrated with examples. It is not a comprehensive review of every instance in which the conflict manifested itself, as that would take up far too much space.

Although people's assumptions were not systematically recorded the initial planning stages like they were later on, Finding Sanctuary's stakeholder meeting reports and progress reports reflect the evolution of assumptions about fishing gear. From the very beginning of the developing network configuration taking shape, efforts were made to meet ENG criteria whilst minimising the selection of areas most intensively fished, especially by mobile bottom-towed gear. This was based on the (initially implicit, subsequently explicit) assumption that these would be restricted within MCZs.

Upon request from the working groups, the project team initially developed some broad 'focus areas and 'MCZ building blocks' to help start the discussions on developing the network (IWG1, IWG2, OWG1, OWG2). The project team carried out [Marxan](#)¹²⁸ (Ball *et al.*, 2009) analyses to help underpin this work, with the aim of identifying the areas of highest fishing utility, and areas most intensively used by mobile fishing gear fisheries. Marxan scenarios were developed that aimed to meet key elements of the ENG whilst avoiding those areas as far as possible (this work is documented in the appendices of Finding Sanctuary's final report, and in OWG3 and IWG2). Most MCZ building blocks were discussed as 'seafloor protection' areas, where the assumption was that the seafloor features would be protected from physical impacts.

Throughout the subsequent process of developing the network recommendations, there are many instances where stakeholders modified, removed or proposed new sites to avoid overlap with fishing activities, most frequently, mobile fishing gear activity. These are documented throughout the series of stakeholder meeting reports. These changes fundamentally affected the final configuration of rMCZs, as potential impacts on mobile gear fishermen were considered for almost every individual site (as reflected in the rMCZ site report narratives in Finding Sanctuary's final report).

No attempt is made here to draw out a comprehensive list of all of the recorded instances where changes were made to the developing network in order to avoid potential impacts on mobile gear fishermen, but one example of a significant change made relatively late in the process is the reconfiguration of the large South West Deeps rMCZs into two separate blocks with a 'trawl corridor' in between, angled to accommodate the direction commonly taken by mobile gear vessels when fishing in this region (JWG1).

In the early planning stages (IWG1, IWG2, OWG1, OWG2), stakeholders' assumptions were implicit in much of their discussions (e.g. when arguments were made to keep MCZs away from areas that

¹²⁸ <http://www.uq.edu.au/marxan/index.html?p=1.1.1>

are intensively fished by demersal trawlers, that was generally based on an implicit assumption that MCZs would impact on that activity or stop it entirely, leading to negative impacts on the fishing sector, and displacement of fishing effort).

For a while, potential MCZs (or MCZ building blocks, as they were referred to in the first and second planning iterations) were discussed in terms of an unofficial interim protection level framework (see section 6.5.9), which differentiated between ‘water column’ and ‘seafloor’ sites. Most areas under discussion fell into the latter category, which was defined as follows:

‘In a building block categorised as sea floor protection, activities that impact the sea floor significantly would be restricted, i.e. no anchoring, no mobile benthic fishing gears, no dredging, no aggregate extraction. Static fishing gears or anything happening in the water column would be fine.’ (quoted from Finding Sanctuary’s second progress report)

The clarity provided by the interim protection level framework was limited, in that it was very rough, and it was not endorsed by national project partners. Stakeholders and project team alike were left with few options other than to make assumptions over what activities would or would not be permitted within MCZs, and proceed with the planning task on the basis of those assumptions.

As the process progressed, with support from the facilitator, stakeholders were asked to make those assumptions explicit, and record them along with the developing recommendations (from OWG4 and IWG3 onwards - the development of this stakeholder narrative is fully covered in section 6.5.9).

The general assumption that benthic towed fishing gear would not be allowed within MCZs was maintained throughout the entire planning process. Most stakeholders agreed that this assumption should be recorded as part of the recommendations, either because they supported a ban on these types of fishing gear within MCZs, or because they assumed that such a ban would be put in place (irrespective of whether or not they actively supported it). However, the representatives of offshore and mobile gear fishermen objected strongly to the recording of this assumption. They went to great lengths to make that objection clear throughout the process (e.g. see appendix 1 of SG6).

The same fishing representatives who objected to the ‘no benthic towed fishing gear’ assumption also argued strongly, throughout the process, for locating MCZs away from areas intensively fished by those same gears, because they were concerned about displacement effects, and negative impacts on the sector. Several other stakeholder representatives became frustrated, pointing out that there was a logical inconsistency in arguing both positions.

The conflict described here was in essence a ‘fourth dimension’ conflict, i.e. a conflict over what restrictions *should* be put in place. Fishing representatives feared that agreement to the ‘no benthic towed gear’ assumption being recorded would be perceived by decision makers as their agreement with the restriction itself.

From their perspective, therefore, it made sense to fight ‘their corner’ on both fronts (arguing for MCZs to be kept away from their prime fishing grounds in the first place, and also arguing that they assumed their activity would not need restricting within MCZs). This position was prudent, despite the logical inconsistency, and the frustrations this caused with other members of the stakeholder group. Because the decisions on activity management in MCZs were still a long way in the future, everything was left to fight for: The design of the process (with complete uncertainty about activity restrictions throughout the stakeholder negotiations) directly fuelled this conflict, and directly disincentivised constructive and collaborative work across sectors.

The following series of quotes extracted from OWG7 provide an illustration of this conflict. The repetition of points in different parts of the report reflects the intensity of the discussion, and the amount of time spent trying to develop a shared set of assumptions to underpin the MCZ recommendations:

- The fishing industry feels they cannot support the blanket ban of demersal mobile trawling in sea floor protection areas. The recreational and renewables sector highlighted the fact that every effort has been made both to avoid areas of high fishing intensity when first designing the building blocks, and later, when shaping the boundaries. The whole process the OWG have gone through has been to reduce the impact on activities such as fishing.
[...]
- The assumptions that have been made so far have shaped the network. If they were different, then of course the network may well have been shaped differently.
- The group feel it would be unfair to undo the assumptions and all the work that has already been done. Information can be added to the narrative to highlight the impacts that various sectors feel will be present if the selected sites are designated.
[...]
- The point was made that throughout the planning process, the Working Groups have been working on the assumption that mobile trawling is not compatible in building blocks for sea floor protection. For this very reason, mobile fishing activity was taken into account from the outset in order to avoid many of the areas of highest fishing intensity in an effort to reduce the effect the MCZ designations would have on the most heavily affected sectors.
- For now, the OWG will remain working on the assumption that mobile bottom trawling will be restricted in seafloor protection sites.
[...]
- Although the fishing industry representative recognises that the OWG has already gone through this process, they don't share the same view. The OWG however have discussed this assumption on several occasions and agreed to restrict mobile demersal fishing in all seafloor protection sites unless otherwise explicitly stated.

The 'vulnerability assessment' process which developed draft conservation objectives further exacerbated this fourth dimension conflict late in the process, by challenging the general assumption of mobile gear exclusion that had been made by most of the group, i.e. it increased uncertainty. This caused consternation amongst several members of the stakeholder group, creating significant tension late in the planning process (see section 6.5.10).

The primary conflict with mobile gear fishing continues to be significant within the MCZ process at the time of writing this report. Given that the process-generated uncertainty has still not been resolved, and will not be resolved until after sites are designated, there is still much to 'fight' for, both by the conservation sector and the offshore and mobile gear fishing representatives. Environmental NGOs are now actively campaigning for the full implementation of all recommended MCZs, while the MPA Fishing Coalition (MPAC – see section 6.2.2) is putting pressure on Government to put minimal restrictions on on-going fishing activities.

In the absence of representative cross-sectoral stakeholder platforms since the end of the regional projects, there no longer is a forum within which to address the conflict collaboratively. There is no clear role for stakeholders to jointly influence decisions on site management in future, nor any other

incentive for reaching compromise through constructive engagement (see section 5.2). This has led to a hardening of stances on both sides, as highlighted in the summer 2012 stakeholder interviews (appendix 4).

Conflict with static gear fishing

The primary conflict with static gear fishing, especially those activities carried out by small, inshore vessels, was a lot less significant than that with mobile gear / offshore fishing activity. In fact, static gear was assumed to be compatible with MCZs by the stakeholder group throughout the planning process (this is recorded from IWG3 onwards).

Uncertainty about the validity of the assumption (third dimension conflict) was evident in several discussions, including at IWG4, when the group discussed whether or not they might need to assume that caps on total static gear effort might be implemented in MCZs, and where those caps might be drawn. The group agreed to maintain their basic assumption that static gear would be allowed, but the uncertainty persisted.

As the group had no guarantee that their assumption would hold true, it was often highlighted when sites within the developing recommendations overlapped with areas of particular importance for static gear fishermen, with concerns recorded about potential impacts on the sector, should the assumption not hold true after sites are implemented. For example, IWG3 records concerns about integrating the area of the Start Point Inshore Potting Agreement (IPA) off south Devon in the network, in case it disrupted an on-going and well-established agreement for managing the area, which took a long time to establish. This site was included in the final recommendations, but only on the basis that the current management would be kept in place (see section 6.5.11 for further discussion of this site, in the context of problems raised by process-generated uncertainty).

Some potential sites in areas of high importance for static gear fishermen were removed from the developing network as a result of feared impacts (this can be viewed as the conflict manifesting itself in the second dimension – assumed conflict, leading to sites being selected elsewhere). One example is the area of the Mid-Channel Potting Agreement, which was excluded from the developing network configuration at OWG2 (like the IPA, this site is discussed in a bit more detail in section 6.5.11).

Despite the uncertainty and some fears about impacts on static gear fishermen, in general, MCZs (except reference areas) were seen more as an opportunity than a threat by static gear representatives. This is because of on-going gear conflict between static and mobile gear fishermen. Based on the assumption that mobile gears would not be allowed in MCZs, these areas would in fact become more accessible to static gear fishermen, potentially increasing fishing opportunities for them. This secondary conflict between different fishermen, and its impacts on the design of the MCZ recommendations, is discussed further in section 3.5.

Conflict between commercial fishing and reference areas

This section deals specifically with the engagement of fishing representatives in Finding Sanctuary's reference area discussions. A more general discussion about conflicts surrounding reference areas is provided in section 3.3.10.

As stated in the introduction to this section, the conflict between reference areas and commercial fishing was much less complex than the conflicts for MCZs described above, because it was clear that

reference areas would exclude all forms of fishing, if implemented. In that sense, this was the most 'real' of the primary conflicts with fisheries.

All fishing representatives clearly and unanimously stated their opposition to reference areas. Their objection was voiced early in the process (IWG1) and continued to the final Steering Group meeting, as documented within the official record of the process.

At IWG1, worries were raised that if reference areas were located close to the coast, this would have disproportionate impact on inshore fishermen, especially small-vessel, static gear fishermen who are seen as having less ability to seek alternative fishing grounds than those operating larger vessels. A trade-off was recognised between minimising impacts on inshore static gear fishermen and ease of access for scientific research (secondary conflict):

'It is felt that choosing locations for reference sites will be the most contentious part of this process. Mobile gear fishermen are more able to adapt to closures, static gear fishermen have much less range and leeway. Therefore it would be better, where possible, to avoid situating reference sites in areas where static boats fish heavily. If a more remote area is chosen, it would be more advantageous for the fishing industry, but less so for accessibility by the scientific community for research/monitoring.'

Because of the contentiousness of reference areas, there was a decision taken to leave them until the later stages of network planning, once the wider MCZ recommendations had taken shape (IWG1). Serious work on reference areas started when the inshore and offshore working groups were amalgamated into a single working group (JWG1). Fishing representatives at this meeting stated upfront that they would not participate in discussions about selecting reference areas, as agreed within a wider industry meeting earlier that month:

'In the fishing industry meeting on 7th December 2010, the south west fishermen discussed the ENG requirement for selecting reference areas and decided they would not take part in any way in discussions regarding reference areas. This is because the fishing industry doesn't accept the scientific basis for the need for reference areas, nor do they recognise the legislative need for them. For that reason they have chosen to abstain from discussions.'

Although this statement was made unanimously by all fishing representatives, it is possible that with a bit more time in the process, and a firm top-down commitment that reference areas would be implemented, constructive engagement would have occurred, at least with some of the fishing representatives. Despite fundamentally disagreeing with the concept of reference areas and no-take zones, and their joint statement that they would 'abstain' from the process, several fishing representatives remained present in the room throughout the reference area discussions, even providing occasional comments on specific locations to the rest of the group, reflecting the wish amongst some of them to remain part of the conversation.

Since the end of the stakeholder process, the conflict about reference areas has continued, with MPAC challenging their legal basis (see section 6.2.2). The Marine Act contains no specific requirement for reference areas (though it does not preclude them, either, and highly protected sites would fall within the range of management measures possible under the legislation). Based on statements made by some of the interviewees in the summer 2012 stakeholder interviews, it seems that the political appetite for reference areas has diminished significantly, and at this stage, it is uncertain whether or not any of these sites will be implemented (see appendix 4).

3.3.3 Renewable Energy

Renewable energy primary conflicts

The marine renewables sector in south-west England is currently small, in terms of its contribution to the economy. There are at present no major commercial offshore energy operations in place. However, throughout Finding Sanctuary there was an expectation that the sector would grow (see section 2.4.3). The process coincided with a time when there was major interest in offshore wind farm development in the south-west region, where there are two major areas licensed by the Crown Estate for wind farm development. Two specific projects are planned in these areas – the [Atlantic Array](#)¹²⁹ (by rwe-npower) off the north coast of Devon, and the [Navitus Bay Wind Park](#)¹³⁰ off the Dorset coast.

In addition to wind, the south-west region also has a significant tidal and wave energy resource, with increasing interest in developing devices to exploit these forms of energy. A testing and demonstration area is already in place for wave devices at the [WaveHub](#)¹³¹ in north Cornwall.

Primary conflicts with renewable energy developments began to emerge very early in the MCZ planning process. During the February 2010 SG meeting, stakeholder representatives had the opportunity to draw sites on a map which they thought should not become MCZs, stating the reasons why. This was before the first ‘focus areas’ and ‘MCZ building blocks’ were drawn, and before the network configuration as a whole had begun to take shape. At that meeting, marine renewables (existing, planned, or potential future developments) were cited as reasons for several sites that were drawn as ‘no MCZ’ sites. Although the meeting record does not show who drew areas or made comments about them, this does highlight that at least some of the stakeholder representatives already had concerns very early in the process that an MCZ designation would impede development of renewable energy infrastructure:

- The WaveHub area or proximity to the WaveHub were given as reasons for 5 ‘no MCZ areas’
- Wind energy was mentioned for 3 ‘no MCZ areas’
- Tidal energy was mentioned in 5 comments, 4 of those stated that no place with significant tidal energy resource should be made an MCZ, including ‘most estuaries’

Like other primary conflicts, to a large extent the conflicts with offshore wave, wind and tidal energy development were driven by uncertainty about how these activities would be impacted through MCZ designation. Sector representatives were not just concerned about what restrictions or mitigation measures they would have to adhere to on the ground within MCZs, they were also concerned about potential added costs to the process of gaining the necessary permissions to be able to start construction (EIA process), the potential for added complexity and delays within this process, and additional costs of environmental monitoring within these sites. Their concerns extended beyond the potential locations of the electricity generating devices themselves: They also feared impacts on cable installation and maintenance within any MCZs intersecting potential future cable routes. Their fears extended beyond the boundaries of potential MCZs, as they worried about restrictions on activities within a certain distance of MCZ boundaries.

¹²⁹ <http://www.rwe.com/web/cms/en/354740/rwe-innogy/sites/wind-offshore/developing-sites/atlantic-array-offshore-wind-farm/the-proposal/>

¹³⁰ <http://www.navitusbaywindpark.co.uk/>

¹³¹ <http://www.wavehub.co.uk/>

Crucially, renewable sector representatives feared that the combined uncertainties raised by the MCZ process would make investment in offshore renewable development seem more risky to potential investors, thereby reducing investment in the sector. This point was made at discussions from an early stage in the process (e.g. IWG2, IWG3), and is illustrated by the following comment recorded at OWG7 (as well as by further comments cited in the section focussing on wind developments, below):

‘If MCZs are co-located with renewable energy sites, then there will be implications:

- Attracting the funding in the first place as sites with MPA designations within them will be less attractive to potential investors
- Potential additional costs for mitigation measures
- Possible delays caused due to the designation
- Additional costs due to monitoring needed once in place’

The following comments illustrate how the uncertainty led to stakeholders with an interest in renewables opposing co-location of MCZs and (potential or current) renewable development areas, a stance which hardened over the course of the process as it became evident that the uncertainty would not be resolved within the timeframe of Finding Sanctuary (the exception was the Atlantic Array area, which is covered below):

‘[The Crown Estate] is a big investor in renewables. Current stance is not to support the co-location network because there is no info on what restrictions may be put in place. However in principle we would like to support co-location.’ (IWG expert meeting in November 2010)

‘The renewables industry is hardening its view against co-location of wind farms and MCZs since it could damage the consents process and lead to extra costs. They are not getting more definitive compatibility guidance, however they do recognise that the public sector seems to be generally more positive about co-location.’ (OWG7)

The concerns about uncertainty posing a risk to investment in the sector persisted throughout the stakeholder process and beyond. Based on statements recorded during the summer 2012 stakeholder interviews, it is possible that the concerns are justified. The Marine and Coastal Access Act requires the MMO to give ‘material consideration’ to possible conservation objectives within areas which are ‘likely’ to be designated as MCZs, when dealing with applications for licensed activities within those areas. According to interviewee statements, some investors currently regard all 127 recommended MCZs as ‘de facto’ designated because of this, and are less willing to consider investment in applications within these sites.

The interview statements emphasized that, at this point, the uncertainty is seen as more of a problem than whatever the future MCZ-related restrictions or added costs to the sector might be – simply knowing what they will be would reduce the risk, and enable potential developers and investors to plan for them. Thus, greater certainty would reduce the conflict, even if additional cost or mitigation were required within MCZs.

Of the primary conflicts with marine renewables, the conflict with wind farms was the most significant, because the technology is well developed, and with the Atlantic Array and the Eneco / Navitus Bay Wind Park, there are specific plans for commercial-scale wind farm developments within the area (with stakeholder comments highlighting the large amount of investment that has already

been made into developing these areas - e.g. see comments at SG3, IWG3). Wave and tidal energy developments are further in the future, so there was less immediate conflict around them. Nevertheless, concerns about the potential future development of the wave and tidal energy sector had an impact on the developing recommendations, and concerns about negative impact on investment in the sector were significant, as illustrated by this comment from The Crown Estate at the November 2010 IWG expert meeting:

‘Investor risk is a particular concern for wave and tidal. At Strangford Lough £3m of mitigation was required before that got consent. It’s particularly difficult because it’s a new industry and a precautionary approach is taken in the EIA process.’

Since the end of Finding Sanctuary, the South West Regional Development Agency has been abolished by Government (in March 2012). The SWRDA was an important supporter of and investor in the south west marine renewables sector, e.g. through backing the WaveHub, and commissioning research into the potential for future growth in the sector (PMSS, 2010). According to statements made in the summer 2012 interviews, this led to a period of uncertainty and a degree of concern within the sector. Furthermore, the UK Government recently (in 2012) announced plans to reduce subsidies for the sector in the medium term (see table 2.1, in section 2.4.3). The uncertainties surrounding MCZ proposals therefore add to existing wider uncertainties within the sector.

However, table 2.1 also shows that offshore renewables are being favoured over onshore renewables, with a significant increase in subsidies for tidal stream and wave technology, and subsidies for offshore wind being twice as high as subsidies for onshore wind.

The south-west region, in particular, is still seen as an area for offshore renewable growth. In January 2012, the ‘South West Marine Energy Park’ was launched, a partnership between national and local government, Local Enterprise Partnerships, the Universities of Plymouth and Exeter, and industry, with the aim of speeding up progress of marine power development (see [here](#)¹³² for DECC’s press release). On balance, it is likely that marine renewables will continue to increase in importance within the south west, and make increased demands on marine space within the region, which is likely to continue to drive primary and secondary conflicts about the use of marine space in the future.

Wind farms

Because wind farms generate energy from renewable sources, thereby reducing the reliance on fossil fuels and carbon emissions, they are widely seen as ‘green’ developments. It was highlighted early in the process (e.g. IWG1) that offshore wind farms will potentially take up a large spatial footprint. There is also limited flexibility on where they can be built. There are practical constraints (e.g. depth, substratum, available wind resource, distance from shore / national grid access) as well as regulatory restrictions on where they can be built. Because of this limited flexibility, any clashing demands (for use by activities that are incompatible with wind farms) on marine space are likely to lead to conflicts.

Given the large spatial footprint of MCZ recommendations that was necessary to meet the ENG criteria, and the uncertainty over what activity restrictions will be implemented in MCZs, one of the

¹³² http://www.decc.gov.uk/en/content/cms/news/pn12_003/pn12_003.aspx

most significant conflicts during the development of MCZ recommendations ended up being between two 'green' activities: wind farms and marine biodiversity protection in MCZs.

There was a degree of scientific uncertainty about the specific impacts that wind farms might have on the local environment of south-west waters. However, there is a considerable amount of empirical evidence emerging from environmental impact monitoring of wind farms that have already been constructed elsewhere in European waters. An extensive review was carried out by Wilson *et al.* (2010), who differentiate between what they see as 'detrimental' and 'beneficial' impacts. Amongst potentially detrimental impacts, they cite the noise, turbidity, and physical impacts on seabed sediment habitat, especially during the construction phase, as well as electromagnetic fields generated during the operational phase, with their knock-on effects on fish and benthos, in particular. Impacts on marine mammals and seabirds were considered less severe by the authors.

Amongst 'beneficial' impacts, Wilson *et al.* (2010) include the potential for the hard substrate of the wind turbine foundations to act as artificial reefs providing habitat for a diversity of species, increasing productivity and providing nursery habitat for a number of commercial species. They also mention the fact that exclusion of trawlers from wind farms provides protection to the benthic environment and a reduction in fishing pressure. Trawling exclusion zones are generally put in place around turbines for safety reasons, thus removing negative environmental impacts from fishing and other activities¹³³.

Several Steering Group members recognised the potential for both beneficial and detrimental environmental impacts of wind farms, and turned to the SAP for advice on the likely compatibility of wind farms and MCZs. The SAP advised that the ecological integrity of the overall network would not be compromised by co-locating *some* MCZs with wind farms, as long as each broad-scale habitat was represented within at least one MCZ that was *not* co-located with a wind farm. This advice was workable and pragmatic, and could easily have been integrated into the network design. It provided flexibility to build synergies between wind farms and environmental protection into the network, something which many stakeholders were keen on, in order to reduce impacts on other sectors (see below). In that sense, the scientific uncertainty, in itself, was not an obstacle to progress, nor a driver of conflict.

However, the SAP was ultimately not empowered to make any decisions on MCZ management, and the design of the process meant there was no guarantee that their advice would have any bearing on future MCZ management decisions. Therefore, the SAP advice on wind farms, despite its clarity and pragmatism, did not provide any reassurance to the renewable energy representatives. Their basic stance continued to be highly sceptical of co-locating MCZs and wind farm areas (because of the risks to their sector associated with the on-going uncertainty, discussed on the previous pages). Again, therefore, it was *process-generated* uncertainty that drove this primary conflict throughout the planning discussions (in this instance, primarily a dimension 2 conflict).

As an aside, the SAP advice on wind farms also took a strategic, network-scale approach to management considerations – again, an approach that was prevented through the design of the MCZ process, where management decisions are to be taken strictly on a site-by-site basis, hinging

¹³³ For the official guidance on safety zones around wind farms, and details of the application / consents process for offshore wind developments, see <https://www.og.decc.gov.uk/EIP/pages/offshore.htm>.

upon conservation objectives that are targeted at individual species and habitats in individual locations (see section 6.5.7).

Because of the potential beneficial environmental impacts of wind farms (the trawling exclusion zones in particular), several stakeholder representatives regarded wind farms as a positive opportunity for MCZ planning, rather than areas of conflict, and stated so early in the process (IWG1). By co-locating wind farms and MCZs, the environmental benefits of a wind farm could be capitalised upon and integrated into the MPA network, thus making the areas 'count' towards the ENG target. This would reduce the combined spatial footprint of MPAs and wind farm, minimising its potential combined interference with other sectors (particularly, fisheries – see section 3.6.1). The following stakeholder comment (IWG1, April 2010) encapsulates the idea:

'The law stipulates that you must allow 500m around each fixed object in the sea, and therefore there may not be potential for mobile gears to be used in between wind farm turbines. Therefore wind farms will by their very nature form a contribution to the MPA network through their exclusion of certain types of fishing activity.'

Based on similar reasoning, early on (OWG1, IWG1 – before the SAP advice on wind farms had been received), the project team had included both existing wind farm areas in the region within the set of potential MCZ building blocks for discussion by stakeholders (the Atlantic Array area, and the round 3 area west of the Isle of Wight, where the Navitus Bay proposal now exists). This was based on the assumption of compatibility with MCZs –i.e. that wind farm developments would go ahead unaffected in these areas, irrespective of an MCZ designation. This assumption of compatibility had been implicit in the creation of the building blocks, and was clearly articulated and recorded at the June 2010 SG meeting (SG3).

Despite voicing a degree of understanding and support for co-location in principle (e.g. IWG1), representatives from the renewable energy sector strongly opposed these areas early on, for the reasons discussed above. At the June 2010 SG meeting (SG3), several representatives of sectors and activities related to the development of wind farms raised serious objections to the drawing of the 'wind farm area' MCZ building blocks, and to placing the building block maps in the public domain, fearing that this would be a significant factor putting off investors – even with clear statements on the maps that they did not represent definite MCZ recommendations, and with accompanying statements that the wind farm areas were only discussed on the assumption that wind farms would not be affected by MCZs. These representatives strongly urged to remove these building blocks and find alternative sites of equal ecological merit elsewhere, as is reflected in these comments, all of which refer to building blocks overlapping with wind farm areas (from SG3):

'[...] risk to investors from the building block sites have not been considered. [...] The Crown Estate Disagrees with location of MCZ on the Round 3 Windfarms.'

'Find sites of equal ecological merit elsewhere.'

'Highlight that the building block around the Atlantic Array was deliberately chosen to establish whether a windfarm (with its restrictions on other activities) can be considered compatible with any of the goals of the ENG, in which case an MCZ and a windfarm could be located in the same place.'

'Has to be clear that the intention is not to stop or undermine the Atlantic Array (explain why site is included).'

‘MCZ and windfarm co-location requires further research and an absolute public statement regarding the issue from Finding Sanctuary’

‘Release of this [sic] maps into public domain could be incendiary and injurious to business interests.’

There was such heated discussion around the inclusion of the Atlantic Array area in particular, that the project team added a footnote to the SG3 meeting report, to re-iterate what their intention had been when the building blocks were initially created:

‘The building block and focus area around the Atlantic Array generated a lot of discussions at the SG meeting. It is worth re-iterating the following, as was done verbally on the day: the PT have had contradictory guidelines and advice on whether MCZs and windfarms are compatible. None of this has been formal advice, and we would like to get to the bottom of this issue. Including the building block around the Atlantic Array aimed to generate discussions around the suitability of this area within the SG, as well as to get clearer scientific feedback from the SAP, and policy guidance from national partners. The building block was drawn based on the assumption that the Atlantic Array will go ahead as planned, and there is no intention within the PT to use the potential location of an MCZ as a reason to argue against windfarm developments going ahead in this area.’

This statement (made verbally at the meeting) had prompted renewables representatives to state that the PT were ‘irresponsible’:

‘It is irresponsible of Finding Sanctuary to nominate MCZ in areas earmarked for renewables on the basis of stimulating discussion because in the current financial market this could scare off investors.’

The comments reflect that the objections were compounded by the commitment of Finding Sanctuary to be transparent, which meant that all meeting reports (including maps of building blocks) were made public, even for very early discussions. There was fear about of these maps, e.g. fear that they would be presented as ‘definitive’ rather than a reflection of sites under discussion at the beginning of a planning process that would deliver recommendations to Government.

At IWG2 (which happened after SG3), a temporary solution was adopted, which was to develop two alternative developing network configurations. These two alternative configurations persisted until the final iteration in the planning process:

- A ‘co-location’ configuration, based on an assumption of compatibility between wind farms and MCZs. This included the Atlantic Array area and parts of the round 3 wind farm development site off Dorset (where the plans for the Eneco Wind Park / Navitus Bay were subsequently released).
- A ‘no co-location’ configuration, based on an assumption of incompatibility between wind farms and MCZs, which did not include any areas licensed for wind farm development.

At IWG2, there was also a much more conciliatory tone from the renewables sector, through their working group representative, putting more emphasis on highlighting the nature of their concerns, instead of an outright rejection of the idea of co-location:

‘Round 3 wind farm sites seem to be the biggest controversy at the moment. From speaking to a broader range of constituents, renewable representatives don’t want to rule out co-

location of sites without knowing the management measures of potential MCZ sites. They feel the need to de-risk the process somehow, by looking at alternative places we could put MCZs. Multi-million pound sites could be made unviable/unattractive to investors if designated with management measures that aren't compatible with renewable use. Particularly for wind farm sites, the renewables sector would like the IWG to look elsewhere to reduce the risk for the developing sites. Progress with a dual track approach was suggested; one with MCZs and renewables co-locating, and the other with MCZs being in separate areas from potential wind/wave energy sites. However, it was noted that what we are currently doing through looking at building blocks is already allowing for this dual track approach. '

'Wind devices have a 20-25 year lifespan and all the licensed areas may not be developed. It is therefore felt there is little point in disregarding the possibility of co-location or to stop looking at certain areas as potential MCZ sites. However, it is essential to be clear on any assumptions being made about co-location, when considering building blocks. '

Stakeholder representatives recognised that the dual-track approach they took, in effect, represented opposite approaches to dealing with the same basic uncertainty:

'It is recognised that the approach taken for drawing iA9 [an area avoiding overlap with a planned wind farm off Dorset] is the opposite to the reasons stated for incorporating block iR1 (the area covered by the Atlantic Array plans). Avoiding windfarm areas upfront (on the assumption they might not be compatible with MCZs) vs. including windfarm areas upfront (on the assumption that they will be compatible with MCZs) are opposite approaches to dealing with the same uncertainty over whether co-location of windfarms and MCZs will be possible.'

The quotes above illustrate that the stakeholder group recognised that there was more than one dimension to the conflict that they were trying to address, even if they did not describe it in those terms. They understood that the assumed (dimension 2) conflict between MCZs and wind farms might never materialise into a real (dimension 1) conflict, so they came up with alternative scenarios. They also understood that the complexity in their conflicts was driven by avoidable uncertainty.

In the case of the Atlantic Array, the conflict was eventually resolved through direct talks between Natural England and rwe-npower (the energy company developing the site). The company was given more certainty about the impacts of co-location on their planned operations at this specific site, deemed the impacts acceptable, and the site was included in the final recommended network configuration, with the acceptance of the wind farm developer (see JWG4 / JWG5).

It is important to understand that this resolution was *not* achieved through the Finding Sanctuary stakeholder process. Instead, it required a set of lengthy discussions (a 'mini appropriate assessment' – see the quote below), which extended through 2010 and 2011, between Natural England and the wind farm developer. Finding Sanctuary merely triggered the discussions. The regional stakeholder group and project team had no involvement in them, although they knew they were happening, because representatives of the renewable industry openly talked about the fact (e.g. at the IWG expert meeting in November 2010):

'Presentations were given by both Eneco and RWE on the two R3 sites providing background to the companies and project timelines. Additional discussion points were:

[...]

- RWE is engaged with Natural England to define the likely process of assessment associated with MCZs – likely to be a mini appropriate assessment. This evidence will allow it to come to a more informed judgment about compatibility and any associated management and mitigation measures. RWE and Natural England hope to complete the assessment on this by January 2011.
- Eneco is not as advanced as RWE in identifying its project area but believes that there is sufficient space within the zone for an MCZ when it has selected an area.'

The report from JWG4 records the following statement made by the RWE n-power, the developers of the Atlantic Array, to the Finding Sanctuary project:

"RWE is developing the Atlantic Array offshore wind farm within the outer Bristol Channel under an Agreement for Lease with The Crown Estate. Both the Atlantic Array project area (IR1) and the Morte Platform (IQ6), which lies across an export cable route from the wind farm, have been put forward by Finding Sanctuary as potential Marine Conservation Zones. The purpose of this statement is to provide our assessment of the compatibility of an MCZs in these areas with an offshore wind farm. We have been engaged with Natural England since September 2010 in addressing the inherent uncertainties presented by co-located MCZs. We were concerned that co-location would present higher consenting and monitoring hurdles than would otherwise be the case and that engineering solutions would potentially be constrained. This was undesirable in a site that is technically very challenging with a combination of deep water and significant tidal range. We have also engaged with the North Devon Biosphere Group, which has promoted MCZs within the Bristol Channel including the Morte Platform. RWE supports the view that the MCZ network should be developed efficiently to secure the maximum ecological gain at the least socio-economic cost. We understand that co-location of an MCZ with the proposed Atlantic Array will reduce the area which will be closed to other sea users, particularly fishermen. The non-colocation networks included within the 3rd Progress report submitted to the SAP on 28 February 2011, included additions to areas in the Western Deep, we note that the Finding Sanctuary Project Team has since put forward an alternative MCZ to the west of the Atlantic Array in a non-co-location scenario, to be considered by the Joint Working Group on the 6 April 2011. We understand that this new proposal, and/or areas within Western Deep will only be present in a non-co-location network, and that fishing activity in these areas is likely to be restricted through management measures. Co-location in our view will therefore minimise areas that will be closed to other human users of the sea – particularly fishermen, provided that the network is adjusted to correspond to remove those areas which are only proposed within a no-colocation scenario. Should the outcome of the Joint Working Group (060411) put forward a non-colocation network significantly different to those described we may wish to review the decision we have reached today. For these reasons we support a co-located MCZ at the Atlantic Array and at the Morte Platform. In due course we would very much welcome the opportunity of providing input to the choice of management measures for the relevant MCZ."

For the Eneco site off Dorset, the outcome was different. Once the plans for the Eneco wind park (now called Navitus Bay) were released, the developers requested (through their representative on the Steering Group) that the section of the round 3 licence area they had earmarked for development be left out of the developing network completely. Because the plans were developed later than the Atlantic Array plans, it was not possible for Eneco to go through a 'mini appropriate assessment' process with Natural England within the timescale of Finding Sanctuary. The stakeholder group excluded the site, and found alternative sites nearby to make up the ecological requirements of the ENG.

This has knock-on effects for fishermen in Dorset, as they face a bigger combined footprint of recommended MCZs and planned wind farms on their doorstep than they might have done in a 'co-location' scenario. The outcome for the Eneco site therefore illustrates how the process-generated uncertainty created lost opportunities for the elusive 'win-wins' that were one of the stated aims of the stakeholder process (see section 6.5.11).

Wave and tidal

The primary conflict between biodiversity protection in MCZs and marine renewables also extended to wave and tidal energy exploitation. There is significant wave and tidal resource in the south-west region. The potential future development of devices to exploit this energy was considered by stakeholders at various stages of network development, with direct influence on the shape of the network.

From early in the process, stakeholder comments were recorded which reflected a degree of concern where MCZ building blocks overlapped with areas of tidal, wind and wave energy. The concerns were larger for areas close to shore, where there may be more future interest in exploiting these energy sources. The following example is from SG2 in February 2010:

'Areas with significant tidal stream (most estuaries) should either not be designated or should allow energy extraction, as tidal energy can only be harnessed where it exists and is vital to support government objectives on CO2 reduction.'

There are several specific examples of areas that were avoided for inclusion in the recommendations, or areas where boundaries were modified to exclude areas of potential future interest to wave and tidal energy developers. Some examples are given below.

There is a test project in place off north Cornwall for testing wave energy devices, the WaveHub (see above). The report from IWG6 records a letter sent by the manager of the WaveHub project stating the project's objection to an MCZ being located within their area, as they feared it may impede their work and affect future technological developments. The IWG agreed not to include the WaveHub area within the network.

Areas off headlands were often highlighted as areas where strong tidal streams occur, with renewables representatives stating a preference for avoiding their inclusion within the network. However, tidal races are also often areas of high biodiversity or unique character, making them areas of ecological importance. The stakeholder group had to balance these considerations against each other, as is illustrated by the examples of Portland Bill and Hartland Point.

At Portland Bill, there were overwhelming conservation reasons for including the site in the network, resulting in the South of Portland Bill rMCZ despite its potential impacts on future tidal energy development (see the narrative recorded for this site in Finding Sanctuary's final report).

Hartland Point was discussed as another area of high biodiversity, and a suggestion was made by conservation representatives to extend an existing potential MCZ further to the south-west around the headland. However, on the basis of objections from the renewables sector (who highlighted several other high tidal resource areas already within potential MCZs or existing SACs), this extension was not added (IWG7).

Off the far south-western tip of Cornwall (the area around Gwennap Head), the working groups had for a while considered two alternative options for the site that became the Land's End rMCZ in the final recommendations. One of the sites extended around the whole headland, whereas the other extended around just part of it, leaving a 'gap' between the site and a new SAC to the north as a 'corridor' for potential cables to run to possible future wave energy developments further offshore. Following discussion of these two options, the smaller of the two was ultimately selected for inclusion in the network (JWG4).

Many of the discussions about potential impacts on future wave and tidal developments were informed by information provided by the renewables industry, through a research project it commissioned called ORRAD¹³⁴. The research resulted in a published report (PMSS, 2010) containing maps of rough areas of potential interest to the sector. The renewables representative on the working groups was able to bring additional, more detailed (but unpublished) maps from the same piece of research, to better inform the stakeholder group discussions.

3.3.4 Ports

Representatives from the ports sector were concerned about potential impacts of MCZs on port activities from the start of the process. At SG2 in February 2010 SG meeting, a statement was recorded that

'MCZ should not be designated in areas where their existence and/or management will have a constraint on the activities of Port authorities and their customers.'

This strong position was maintained by representatives of the ports sector throughout the MCZ planning process.

This primary conflict became significant when the Environment Agency proposed to the IWG that they should include a long list of estuaries within the network, in order to protect spawning grounds, nursery habitats, and in order to be able to manage estuaries as whole ecological units, partly to help deliver objectives under the Water Framework Directive (IWG4). When the estuaries were added to the developing network maps as building blocks (i.e. as sites under discussion), this elicited a strong reaction from the ports sector, who perceived it as a 'bias towards designating building blocks in port areas' (SG4).

The ports sector representative initially asked the IWG not to include any area that overlapped with a port authority area, or any area within a 5-10km radius of a port authority area (IWG5). This would have excluded most of the coastline of the region, so it was not a realistic request if the ENG were to

¹³⁴ Offshore Renewables Resource Assessment and Development Project

be met. The IWG took the view that more detailed information was required on the specific concerns of the ports on a site-by-site basis, before any decisions could be made on which sites to include in the final recommendations.

The Environment Agency and the ports sector were not directly represented on the IWG (although both were represented in the Steering Group). The ports sector representative provided substantial feedback via the Steering Group. In addition, the IWG held an 'expert' meeting, with invited experts from sectors not directly represented on the IWG, prior to IWG6. At this expert, a ports sector representative highlighted the need to speak to individual port authorities within the estuaries under discussion, as they are independent statutory bodies that were not directly represented within the stakeholder groups (the ports representatives that engaged directly with the process were from trade associations, and felt unable to represent specific ports).

Because it was not possible for the IWG to engage directly with every port authority in the region, two IWG members attended a separate, short series of 'estuaries' meetings, supported by the project team, at which specific port authorities and the Environment Agency were present. In addition, the ports representative on the Steering Group liaised with each port authority to provide feedback on the developing MCZ proposals directly back to the project team, for them to process and either write it up within the narrative and / or bring it back to the working groups as appropriate. The agreement to proceed in this way is recorded in the IWG6 report.

The ports sector and the Environment Agency were both represented at the expert meeting prior to IWG6. The Environment Agency described the reasons why they wanted to include the estuaries, and provided environmental data to the project to back up their proposals (see the appendices of Finding Sanctuary's final report). They saw all the proposed estuaries as important, i.e. they did not group or rank them in order of importance for designation (despite a request from the IWG to do so, as was noted in IWG6). At the expert meeting, the ports sector stated their objection and the reasons for it at length:

'Ports have similar concerns to renewables – risk of extra mitigation costs, loss of development opportunities; also concerned that ports are already heavily regulated so why add another designation layer and that they are not given opportunity to participate in WGs in a manner proportionate to their stake, particularly given EA prioritisation of estuaries to be designated MCZs.

MACCA [*Marine Act*] 2009 articles 125 & 126 give general & specific duties to public authorities. Ports & harbours are public bodies & therefore have statutory & legal responsibilities – ports responsibilities relate to navigation, but also include environmental – ports are highly legislated and environmentally responsible. The purpose of emphasising this is because it is not simply a case of agreeing management measures. Each and every time a licence application is made this will introduce a further requirements on the public body when making a 'decision'.

- Ports are questioning the reasons for co-location of MCZs and port jurisdiction on the basis that protection exists. Examples were given.
- The socio-economic value of ports is significant and this should be factored into the decisions. The potential cost implications is significant.

- It should be noted that industries that are linked to ports are wide-ranging: Freight and passenger transport, processing, storage, fishing, leisure, visiting yachts – and they often provide an economic driver with local, regional and in some cases national significance as well as a vibrant, pleasing looking harbour. Ports act as gateways to communities and are economically significant. Once a port closes its potential is permanently lost although should co-location be appropriate it is noted that this is unlikely to happen.
- Existing regulations for ports & harbours include: WFD, Water Resources Act, EIA regs, NERC, MARPOL regs, FEPA licenses for deposits, Port Safety Code, Coastal Protection Act, new marine licensing
- Future development: the future changes quickly with new types of projects both small and large. This is important from an economic perspective as this is enabled by the port and has local, regional and national significance depending on the project e.g Portland Gas
- MCZ's can bring uncertainties (eg where licenses are required) affect the ability to attract finance for such projects.'

During the discussion session at the same meeting, they provided specific examples to illustrate some of their points, based on their experience of operating in areas with existing designations:

'Ports: iA11: The MCZ covers some of Poole Harbour Commissioners statutory area including the harbour approach channel. This requires regular maintenance dredging which could be constrained by the designation. Also any future capital dredging work could be inhibited, reducing the potential for future development of the port. Given that it's a common habitat (sand/mixed sediment) – is there not a similar site with less socioeconomic issues? It also goes into Poole Harbour, why?

Ports: Allowing dredging through iA11 won't work out that simply in practice. Additional studies would be required leading to costs and delays e.g. a recent project was required to undertake a £600k EIA as a result of Habitats Directive regs, which was equal to 20% of project cost and took 2 years. There is a need to apply for a license for most things a port wants to do – MCZs will be another layer of complexity, which may inhibit what ports are legally obliged to do e.g. maintain navigable channels; This was provided as a specific example and should be taken as one example of the implications of co-location of ports and MCZs that could be applied to other ports in the south west. '

These comments make clear that the ports representatives were not simply concerned about what activities might ultimately be banned or restricted within MCZs overlapping with port areas. They were equally concerned about additional burdens placed on them as public authorities, potentially having to deal with 'yet another layer of red tape' whenever they wish or need to carry out or license a given activity, and the cost that this would entail both to port authorities and to potential developers. They were also worried about the impacts of MCZs on attracting investment in future port development, given the uncertainties attached to such a designation. In summary, their concerns were, in many ways, similar to the concerns of the renewables sector (see section 3.3.3).

Again, uncertainty was a key catalyst of the ports primary conflict – uncertainty about future activity restrictions in MCZs, and uncertainty about future added regulatory burdens. The strength of their ports sector reaction to the estuary proposals can be seen as a 'worst-case-scenario' reaction –

because no-one could give them any clarity or certainty on what MCZs would mean for them, there was no reason for them not to fear significant impacts. The design of the process made it impossible to resolve the uncertainty fuelling this conflict. Management decisions were (and still are) in the future. Furthermore, the site-by-site / feature-by-feature approach that is being embarked upon to underpin management decisions (see section 6) prevents a more strategic, upfront, network-scale set of management measures that could greatly reduce the amount of 'red tape' faced by stakeholders wishing to carry out specific activities in MCZs.

Much of the ports / estuary conflict can be described as 'second dimension', i.e. as an assumed conflict, with the ports sector making a 'worst-case-scenario' set of assumptions. The following extract from IWG6 highlights that the stakeholder group was well aware of this fact (though of course they did not put it in those terms):

'The Group suggested that the conflict may not be real- if the Ports and Harbours sector detail their concerns to the IWG and the EA detail what level of protection (and restrictions) they would suggest there may not actually be a conflict. It was suggested that the Ports and Harbours sector's key concerns may be around strategic development and MCZs adding another layer of bureaucracy.'

To a much lesser degree, elements of the conflict played out in the 'third dimension', with discussion (more than outright conflict) over what assumptions to agree on, as illustrated in another extract from the record of the long, complex 'estuaries' discussion at IWG6:

'Some of the Group would have concerns about restrictions to leisure activity, including casual moorings in estuaries. The Group felt that they could be overcome by clarifying the assumptions for each MCZ e.g. the assumption may be that launching and moorings can continue within estuaries.'

There was a discussion around whether the Group could agree to the assumption that current ongoing leisure activities can continue in estuaries. The Group felt that some leisure activities may be affecting the features present so this overriding assumption would not make sense. The IWG suggested that the EA may be able to help them define their assumptions by detailing what leisure activities would impact features in each estuary and therefore need some form of management.'

Earlier in the process, the complexity created within this primary conflict as a result of uncertainty was apparent by the ports sector input into the network-level narrative, formulated at SG4. When asked to record their assumptions about the developing network, the ports representative contributed the following:

- MCZs will have no impact on existing and future harbour revision orders, general directions, pilotage directions
- Ports are limited to their jurisdiction and will not change existing spatial planning by ports and harbours
- No additional administration, resource, legal or technical specialists associated with co-location of a port and an MCZ both on and off the water
- Will not change existing management practices on and off water, for example vessel and activity management, speed or timing restrictions
- No impact on existing emergency response-weather, pollution or security

- No impact on dredging required for maintenance of safe navigation channels
- No impact on berthing, mooring and anchoring of small and large vessels
- No impact on ship building, maintenance, refurbishment and repair
- No impact on maintenance, refurbishment and repair of port and harbour infrastructure
- Recreational activities within harbours will not be affected
- Ship access and egress to and from harbours will not be affected
- No additional impact on harbour regulation generally
- No additional impact on an already complex management regime

However, when asked to record their expected implications of MCZs, they stated:

- Additional legal, financial burdens
- Restriction on a range of users
- Compromise maritime safety, efficiency, security and environmental protection which are inextricably linked to existing port management practices
- Risks complicating an already complex management system and one that caters for environmental and ecological management.
- Major impacts to ports and their role for the UK economy, trade and travel
- Users will no longer be able to operate in ports
- Loss of income from users
- Without a port there can be no management of the site

It is evident that the stated implications do not match the stated assumptions. The assumptions can be viewed as a 'wish list', whereas the implications can be regarded as a 'fear list', based on a 'worst-case scenario' set of assumptions. The 'wish list' can be seen as one side of the argument in dimension 4 (a wish list about what restrictions 'should' apply). The 'fear list' can be seen as one side of the argument in dimension 2 (assumptions /fears about what will actually happen). This is a clear example of how different conflict dimensions were interwoven with each other during the stakeholder meetings, resulting in complex discussions, and outputs which at times seemed to lack logical consistency (as in the above example).

The 'wish list' / 'fear list' approach taken by the ports sector is a direct parallel of the dual approach taken by the offshore and mobile gear fishing representatives, who on the one hand opposed MCZs in intensively fished areas (fear of impacts), and on the other hand objected to the assumption that MCZs would restrict their activity (their 'wish list'). Section 6.5.11 provides more detailed discussion of uncertainty as a driver of this kind of complexity.

The complexity of this conflict, fuelled by uncertainty, in combination with the intensity of the port sector objection to estuarine MCZs, resulted in the 'estuary discussions' taking up large amounts of time during meetings before any sort of decisions were reached (e.g. at IWG6, IWG7, JWG2, JWG3). A compromise was eventually reached in JWG3, with a subset of the estuaries initially proposed by the Environment Agency being selected for inclusion in the MCZ recommendations. Discussions focused on which estuaries would contribute to the FOCI¹³⁵ targets in the ENG, weighed against the

¹³⁵ FOCI stands for 'Feature of Conservation Importance', and refers to a list of rare, threatened or otherwise important species and biotopes with their own specific targets in the ENG.

stated objections and concerns from the ports sector. In several instances, upper reaches of estuaries were included, with lower reaches left out in order to avoid impacts on ports.

Since the end of the Finding Sanctuary stakeholder process, the conflict between ports and MCZs has become very acrimonious at one specific locality, the Fal estuary in Cornwall. Finding Sanctuary recommended a reference area near St Mawes, opposite the port of Falmouth, to protect maërl beds, seagrass beds and associated flora and fauna. The JWG had selected this site in preference to alternative options, considering that it would be less likely to cause controversy, e.g. compared to Studland Bay in Dorset, one alternative option also discussed (details are in the record of the JWG meetings).

Strong objections to this reference area were made by Falmouth Harbour Commissioners. There was already a history of conflict between the conservation sector and Falmouth Harbour Commissioners and Falmouth Docks & Engineering Company. The latter are planning a significant expansion of Falmouth harbour, to enable it to accommodate larger cruise ships, thereby creating several hundred new jobs and providing a boost to the local economy. However, the area is an existing SAC, so an appropriate assessment was required before the MMO could grant the necessary licenses for the development to go ahead. The appropriate assessment (and advice from Natural England) highlighted that the development might have an adverse impact on the integrity of the SAC, because construction of the expanded harbour would mean dredging the local maërl beds, one of the protected features. As a result, the MMO did not allow the development to go ahead, without further research into the likely impacts through a dredge trial (which started in September 2012).

The conflict around the possible expansion of Falmouth harbour has been intense. The formal process is documented on the [MMO website](#)¹³⁶, and there has also been extensive local and national media coverage of this conflict (e.g. [in the Guardian](#)¹³⁷, [the local press](#)¹³⁸ and [the BBC](#)¹³⁹).

The intense conflict in this area is around development within an existing SAC, so it was not caused by the MCZ process. However, the recommendation of a reference area within this SAC, albeit a very small one (ca. 500m in diameter), added fuel to the existing conflict, resulting in additional and sometimes acrimonious exchanges (mentioned during the summer 2012 stakeholder interviews). The way in which the debate about this reference area has become interwoven with the existing conflict between SAC protection and the proposed harbour development is further illustrated in [this position statement by Cornwall Wildlife Trust](#)¹⁴⁰, which states their support of the recommended reference area, but also goes into detail on the related SAC / harbour development conflict.

3.3.5 Recreational activities

Anchoring

Recreational activities include a variety of activities that have different levels of impact on the marine environment and consequently caused different levels of primary conflict within Finding Sanctuary. The most significant of the primary conflicts with recreational activities related to

¹³⁶ http://www.marinemanagement.org.uk/licensing/public_register/cases/falmouth.htm

¹³⁷ <http://www.guardian.co.uk/environment/2012/feb/04/falmouth-dredging-environment-tourism-row>

¹³⁸ http://www.falmouthpacket.co.uk/in_port/9603090.Dredging_trial_plan_revealed/

¹³⁹ <http://www.bbc.co.uk/news/uk-england-cornwall-16776479>

¹⁴⁰ http://www.cornwallwildlifetrust.org.uk/conservation/position_statements/fal_docks_dedge_and_the_reference_area_for_maerl

anchoring of recreational vessels (e.g. sailing yachts and other pleasure craft, dive boats and angling boats), which caused significant conflict for specific localities, such as wrecks (popular angling and diving spots), and sheltered anchorages / popular shoreline destinations for recreational vessels (e.g. Studland Bay in Dorset).

At IWG6, the group agreed to a general assumption that ‘anchoring of small vessels is acceptable within MCZs, apart from in areas where specific sensitive features occur, which will be specified later.’ Some debate ensued over the following meetings over how to define ‘small vessel’, as is reflected in the narrative of the project’s final report, but (with the exception of specific locations such as Studland Bay), there was limited dimension 3 conflict about recording this assumption.

Studland Bay in Dorset was a location with particularly significant conflict surrounding the anchoring of recreational boats. The location had a long history of conflict pre-dating start of FS, between local conservationists intent on protecting extensive local seagrass beds with associated sea horse populations, and recreational boat users using the area both as a sheltered anchorage and a popular day trip destination from nearby urban areas (e.g. Poole and Bournemouth). Studland Bay has an attractive beach, with local businesses (café and pub) benefitting from trade brought by recreational boat users.

There were many discussions within the Dorset Local Group as well as the regional level working groups about whether or not to include this site in the MCZ recommendations (which it was in the end), and also whether or not to locate a reference area within the bay (which the stakeholder group decided against). The conflict between recreational boat users and environmentalists in this location pre-existed Finding Sanctuary, with the project merely providing an additional arena for it to play out in. The conflict is significant enough to have attracted national media attention (in [this Daily Telegraph article](#)¹⁴¹).

At SG3 (June 2010), an argument was made that if anchoring was damaging to seagrass, then the seagrass would no longer exist where there has been anchoring – so anchorages should be kept as they are, in ‘equilibrium’ with the environment. This was countered by the statement from conservation representatives that ‘recovery’ is needed, the potential for which can only be measured in the absence of significant direct physical pressures. Another argument made by representatives of recreational boating was that there are laws that protect right to navigate safely. Since seagrass grows in sheltered, shallow locations, seagrass areas (Studland Bay, in particular) provide safe, sheltered anchorages, and safety should not be compromised in order to protect seagrass and associated species. This exchange is recorded (in the form of brief notes and keywords) in the SG3 meeting report:

‘Keep anchorages as they are as if worth protecting then already in equilibrium with environment – manage to prevent expansion – but recovery is also a requirement

Many anchorages have evolved with time & are well established as safe & ‘in the right place’.

If anchorages are restricted it has legal implications as has an effect on ability ‘to navigate safely’ (small 500m FOCI should not significantly affect safety).’

¹⁴¹ <http://www.telegraph.co.uk/earth/wildlife/8615766/Sailors-vs-seahorses-the-battle-of-Studland-Bay.html>

In the case of Studland Bay, permanent eco-moorings were frequently brought up as a potential management measure that would allow boats to use the area without anchor damage to the seagrass (e.g. JWG3). But because the group had no power to make decisions on site management, and because several representatives highlighted practical obstacles to putting eco-moorings in place (e.g. the cost and responsibility of installation, maintenance and insurance, the prospect of mooring charges creating conflict with boat users, potential difficulty in obtaining insurance cover), this did not present a viable compromise for the group. This is an example of the MCZ process design posing an obstacle to the stakeholder group developing solutions to existing conflicts – management decisions are still in the future, and the stakeholder group was not empowered to have any input into them.

A compromise was eventually reached within the JWG, by putting forward the site as an MCZ, but not locating a reference area in it (JWG3, JWG4). Instead, a reference area was recommended to cover seagrass beds in the Fal estuary (which added fuel to a different local conflict there – see the ports conflict description in section 3.3.4 above). This compromise did not, however, resolve the on-going local conflict between conservationists and recreational boat users in Studland Bay, which has continued since the end of Finding Sanctuary (as was reflected in statements made during the summer 2012 interviews).

Angling

There was a general assumption throughout the planning of the MCZ recommendations that recreational angling would be permitted in MCZs (as recorded throughout the series of stakeholder meeting reports, the second and third progress reports, and the project's final report). The main concern with respect to angling was the concern that anchoring of angling boats might no longer be permitted at popular angling locations within MCZs, e.g. wrecks.

At SG3 (and early OWG meetings), the 'G' building blocks off Dorset that were under discussion at the time were highlighted as areas used by angling charters, who drop anchor at angling spots even beyond 12 nautical miles. At SG3, suggestions were made to allow anchoring at specific locations within MCZs, but (like the eco-moorings in the case of Studland Bay), the group did not have the power or remit to find conflict solutions through the design of site management.

Generally speaking, primary conflict with recreational anglers was limited during the stakeholder discussions, with angling and charter boat representatives more likely to be supportive of MCZs, especially in inshore areas, and to protect nursery grounds in estuaries (e.g. JWG2, JWG3).

Angling is a significant economic activity in the south-west region, however, with large numbers of people (hundreds of thousands annually) participating. If MCZs were to significantly restrict angling at popular angling spots in future, this would probably lead to significant conflict. Angling representatives were, on the whole, sceptical about reference areas.

Non-motorised craft, surfing

Early in the process (SG2), some concerns were voiced about the potential for non-motorised recreational craft (including surfboards) to be restricted in MCZs. However, throughout the process there was a general assumption that there would be no restrictions imposed on non-motorised craft, so rather than reflecting any serious conflict, these early comments reflect fears that were fuelled by the absence of any clear indication on how the sites will be managed in the future.

Throughout the process, the project team continued to receive concerned feedback from recreational users (e.g. kayak associations), but within the Steering Group, there was little conflict (as everyone agreed on the assumption that it was unlikely these activities would be impacted). People were more likely to see potential benefits for non-motorised recreational craft arising from other activities being restricted (another comment recorded at SG2).

Scuba diving

As with non-motorised craft, early in the process (SG2) there were requests not to include specific sites within the recommendations because of them being important dive sites. However, throughout the remainder of the process, there was an assumption (with no associated conflict) that scuba diving would be compatible with an MCZ, and indeed would benefit from protection of the seabed, and potential restrictions of other activities. As with recreational angling, any concerns voiced were with regards to anchoring of dive boats at popular dive locations.

3.3.6 Aggregate extraction

The south-west region is not a significant area for aggregate extraction, compared with other areas of England's seas (e.g. the eastern Channel). For this reason, the primary conflict with this activity was much less severe within Finding Sanctuary than it in other regional projects.

Nevertheless, there are several small areas licensed for aggregate extraction within the region (in the Bristol Channel, and off Dorset), and there is further aggregate resource present within the region (though not licensed for extraction). There was a general assumption that aggregate extraction would not be permitted within MCZs (see the narrative in progress report 2, progress report 3, and the project's final report). Therefore, there was some degree conflict between MCZs and this sector.

The existing licenced aggregate extraction zones were highlighted as areas to exclude from MCZ recommendations as early as SG2 (February 2010). At SG3 (June 2010), Steering Group feedback to the IWG included a comment highlighting that some of the building blocks off Dorset overlapped with an existing aggregate extraction area.

Later in the planning process, feedback from stakeholder representatives with an interest in the aggregates sector continued to highlight the potential future economic losses if areas with aggregate resource were to be 'sterilised' by including them within MCZs. Another point of concern was the uncertainty over whether an MCZ designation may mean aggregate extraction would not be allowed within a certain 'buffer distance' from the site boundary, to avoid the impacts of sediment plumes, and what that distance might have to be (e.g. at the IWG expert meeting prior to IWG 6):

[Comment from The Crown Estate]: iA11 overlaps with a high value area of possible future aggregates activity & the value estimate is £6million per sqkm. The aggregates option area is currently going through planning - whilst there is no overlap with existing licenses, there may be issues regarding plumes and these need to be considered in the assumptions. The option area is just over 1km from the edge of iA11 – don't know if that's an issue.'

Again, uncertainty over how MCZs (and potential buffer zones around them) might impact future activities was fuelling parts of this conflict, and making it more complex.

In the end, the recommended MCZs were far enough away from areas of immediate interest to the aggregates industry, so this primary conflict was ultimately not very significant within the stakeholder group (see IWG7).

3.3.7 Waste Disposal

There are several waste (dredge spoil) disposal sites within the south-west region. From early in the process, there was a general assumption that waste disposal would not be compatible with MCZs (see progress report 2, progress report 3, and the final report), so the process sought to avoid including existing disposal grounds within recommended MCZs. Like with aggregate extraction areas, the question over 'buffer distances' was raised for several locations, because of concerns over the potential impacts of sediment plumes extended beyond the boundary of disposal sites and into any nearby MCZs.

This primary conflict was a comparatively clear-cut dimension 2 conflict – most people agreed that waste disposal was unlikely to be permitted within future MCZs. Because existing dumping and disposal grounds are clearly demarcated areas which occupy a small overall footprint, the significance of this conflict within the scope of the project was limited.

Nevertheless, there are several specific locations where this conflict had a bearing on the shaping of the final recommendations. Perhaps the most significant example is the shifting of the 'East of Celtic Deep' offshore recommended MCZ from its initially proposed location in order to prevent it overlapping, or being located too close to, a planned new offshore dumping ground for dredged material from Milford Haven in Wales. This shift was agreed despite the new location potentially having more impact on offshore fisheries (JWG4). Another notable example is the rMCZ in Mounts Bay, the size of which was reduced significantly from an earlier proposal, in order to avoid overlap with existing disposal grounds in the bay (JWG4).

For some of the building blocks off the Dorset coast, concerns about nearby dumping grounds were highlighted at SG2, and fed from the Dorset Local Group to the IWG (e.g. IWG6). Concerns about impacts from the Rame Head dumping ground on the nearby recommended MCZ in Whitsand Bay in Cornwall were discussed, but it was agreed to keep the site within the recommendations (JWG4).

This primary conflict remains an issue for one of the recommended MCZs, off Padstow in north Cornwall. It was noted by the working group at the end of the process (JWG6) that the boundary of this recommended sites overlaps with the southern portion of an existing dredge spoil dumping ground. The assumption was that the remainder of the dumping ground would continue to be used by Padstow Harbour Authority in future (who currently hold a license to dispose of dredged material within the site). However, there was an acknowledgement that the designation of this site would bring a degree of uncertainty over future renewals of this license (JWG6).

3.3.8 Aquaculture

At the end of the planning process, the 'vulnerability assessment' (see section 6.5.10) opened up a conflict with the aquaculture industry within the Dart estuary recommended MCZ. The vulnerability assessment had highlighted a risk of non-native farmed oysters (*Crassostrea gigas*) escaping from oyster farms in the estuary, and establishing wild populations. As a potential mitigation measure, it had been suggested that there may be a requirement for oyster farms to use triploid (infertile) oysters rather than diploid (fertile) stock. However, several concerns were raised by representatives

of the aquaculture industry and their regulators, and fed back to the stakeholder group. One was that the non-native oysters had already become established outside the farms, so any attempt at preventing this would be too late. Several problems with the supply of triploid stock from within the UK, as well as the risk of importing disease from non-UK triploid stock, were also highlighted, with an objection to this potential mitigation measure (JWG6).

3.3.9 Submarine cables

The south-west region contains significant telecommunication cable routes, including cross-channel routes to France, and transatlantic routes out of Cornwall. In addition, the potential future development of offshore renewable technology will increase the need to install and maintain submarine power cables.

There was a general assumption that cables would be compatible with MCZs. However, relatively late in the process, the national compatibility matrices (see section 6.5.10) increased the level of uncertainty relating to the validity this assumption, especially when considering cable maintenance works or the laying of new cables. This uncertainty is reflected in several comments made during the IWG expert group meeting prior to IWG6.

Many of the concerns about impacts on submarine cables related to renewable energy developments, discussed above in section 3.3.3.

3.3.10 Reference Areas

The unfolding of Finding Sanctuary's reference area conflicts

The ENG included the requirement to represent all broad-scale habitats and FOCI¹⁴² present within the region within reference areas – a small subset of highly protected MCZs where all forms of extraction, construction, significant disturbance and deposition would be prohibited. From the earliest planning stages, it was clear that reference areas would be the most contentious aspect of the stakeholder group's task, as was stated, for example, in IWG1, at which the stakeholder group agreed not to discuss reference areas until later in the process. The discussions remained difficult and contentious throughout, with some stakeholder group members stating that they found the reference area work to be much harder than other parts of their task (see JWG4 meeting evaluation and feedback).

The stakeholder discussions on reference areas started in earnest when the JWG was formed, which first met in December 2010. At the request of the stakeholders, the project team developed a long list of possible reference area options, to help the group focus their discussions (see JWG1).

The south west fishing industry had been holding a series of meetings in parallel to the Finding Sanctuary working group meetings. At a meeting prior to JWG1, they decided that they would not engage in any discussion about reference areas, and the fishing representatives on the JWG unanimously made the following statement at JWG1:

‘In the fishing industry meeting on 7th December 2010, the south west fishermen discussed the ENG requirement for selecting reference areas and decided they would not take part in

¹⁴² FOCI stands for ‘Feature of Conservation Importance’, and refers to a list of rare, threatened or otherwise important species and biotopes with their own specific targets in the ENG.

any way in discussions regarding reference areas. This is because the fishing industry doesn't accept the scientific basis for the need for reference areas, nor do they recognise the legislative need for them. For that reason they have chosen to abstain from discussions.'

The fishing representatives maintained this position until the end of the project (see the project's final report), although fishing representatives remained present during the reference area negotiations, and as highlighted in section 3.3.2, some did make a contribution to the discussion (to highlight negative impacts of the reference area options, rather than to make positive suggestions for reference areas, e.g. see the 'presentation' section in SG6). The facilitator and the remainder of the stakeholder group accepted the refusal to participate as the fishing industry's position, but stated the door would remain open throughout the process should they wish to engage constructively at any point in the discussions (e.g. JWG2, JWG3).

Reference areas were contentious with several other sectors and representatives, not just commercial fishing. Objections to, and/or significant concerns about them were raised by representatives with an interest in marine renewables, the operation and maintenance of submarine cables, recreational angling, coastal discharges, coastal development, dredging and deposition, charter boats, and mooring / anchoring. In summary, virtually all stakeholder representatives (except conservationists) were sceptical about reference areas, or overtly opposed to them. There was a lot of concern about disproportionate impacts on human activities.

Even the proposal to include the existing no-take zone (NTZ) at Lundy within the reference area recommendations was not uncontroversial. At JWG2, the representative of the renewables sector highlighted that a reference area would in fact be a much stricter level of protection than the existing NTZ: Whilst the NTZ prohibits removal of resources, it does not automatically prevent construction of tidal energy devices within it (there is a significant tidal energy resource at Lundy).

There was also particularly strong concern over the implications of a reference area designation intersecting existing cable routes, as there were fears that this might impede future cable maintenance work being carried out. As a consequence, the group worked hard to avoid placing reference areas over cable routes (JWG2, JWG3).

Some members of the stakeholder group were concerned about what they perceived to be a 'science-driven' approach to the drawing of the initial reference area options by the project team (focussing on meeting ENG targets, using biological and biophysical datasets), which seemed different from the more participative approach taken with wider MCZs. Many were concerned that as a result of the ENG criteria, and the spatial distribution of available survey datasets, there was a concentration of reference area options in inshore waters, which are more heavily used by a more diverse range of people than offshore waters. The overall sense within the group was that they were trying to select the 'least bad' options, rather than 'the best' – reflecting a general discomfort about the impacts that these sites might have on people (JWG1, JWG2, JWG3, JWG4, and observer notes). This is also reflected in the record of discussions at SG6, where members of the JWG presented their reference area work in terms of 'striving to make them more palatable'.

The JWG put forward 13 reference areas within the final set of MCZ recommendations. These went some way towards meeting the ENG targets, but failed to meet them in their entirety. This was acknowledged by the JWG and the SG, but the stakeholder group felt that they had done the best they could. They were keen to ensure this message would be heard, as there was concern that

someone outside Finding Sanctuary (the SAP or the SNCBs) would recommend additional reference areas to make up the ENG targets, undermining the support of the group to the recommendations as a whole. This is reflected in the record of SG6:

‘The JWG explained that in all their work on Reference Areas, they have strived to make them more palatable. The SAP has already commented that the Reference Areas are too small. A Steering Group member proposed that the group respond to the SAP feedback to say that it is not possible to make these sites any larger and provide the reasoning. The group was informed that the JWG has agreed that the work that they have done is the best that they can do. The representative for regional renewables was concerned that the message needs to be stronger to stop further development of reference areas being taken over after Finding Sanctuary. There needs to be a strong steer to the SAP and SNCBs to say that the Steering Group felt this is the best approach to have taken. The representative for Regional Development and Economy who sits on the JWG explained that issues arose when looking at data for Features of Conservation Interest (FOCI). A lot of FOCI appeared in the inshore which typically are areas of high socio-economic activities and so this caused difficulties for discussion on potential locations. They went on to suggest that more detailed guidance was needed on certain aspects of Reference Areas such as how close a Reference Area can be to a certain activity.

[...]

The representative for aggregates suggested a statement in the report saying that the group built the Reference Area component of the network based on the ENG and broadly got consensus for, say, 80% of this but to get the extra 20% would compromise the balance and agreement within the Steering Group. It needs to be made clear in the final report the reason why the work reached this point, the risk of doing more work within the Steering Group and the risk of outside influence on the gaps in the Reference Area component of the network.’

There was a particular site-specific reference area conflict in the Isles of Scilly. Early in the process, SAP comments had indicated that they thought there needed to be a reference area in the Isles of Scilly (IWG1). There was strong objection to this from within the Isles of Scilly Local Group, however, who had been very proactive in putting forward their own local MCZ recommendations (see first progress report), but did not consider reference areas appropriate or necessary within the Isles of Scilly. This created a dilemma for the JWG, who on the one hand accepted that meeting the ENG targets would require a reference area in Scilly (in order to represent a limited distribution habitat present there), but who on the other hand did not wish to undermine the strong cross-sectoral support and ownership of the local MCZ recommendations (JWG2, JWG3, JWg4, JWG5). In the end, the Isles of Scilly Local Group suggested two ‘non-disturbance areas’ as part of their locally recommended sites. These fell short of the ‘reference area’ definition, so they were included in the final recommendations, but not counted as part of the recommended reference area set (see final project report).

Given all of the above, it is perhaps surprising that the independent observer of the process noted several times how constructive the reference area discussions were within the confines of the JWG, with efforts on all sides to try and meet the ENG criteria on the one hand, and minimise negative impacts on the other hand.

Comparative lack of complexity in reference area conflicts

The primary conflicts about reference areas, whilst amongst the most intense within the process, were a lot less complex than the primary conflicts about MCZs in general. This is because there was much less uncertainty underpinning this discussion – the draft reference area guidance (section 1.1.4) made it clear that reference areas would prohibit all extractive and depositional activities, with potential limits on an additional long list of potentially damaging and disturbing activities. There was some residual uncertainty, e.g. about whether reference areas would impact on surrounding activities (this question was raised at SG6), and uncertainty relating to the ‘potentially’ damaging and disturbing activities in the draft reference area guidance – however, compared to MCZs in general, there was a lot of clarity over what these sites would mean.

Whilst the highly protected status of these sites was highly controversial (and the basis for it contested – see below), the clarity provided by the draft reference area guidance meant that there was very little time spent by stakeholders discussing questions like ‘yes, but what do we *mean* by reference areas?’, or ‘what restrictions *should* apply in reference areas?’. In other words, there was very little second, third or fourth dimension to these primary conflicts. Instead, the discussions tended to focus on the spatial task at hand, i.e. the task of finding locations for reference areas where ENG targets could be met. In that sense, the reference area primary conflicts are the closest that Finding Sanctuary came to dealing with primary conflicts in the first dimension – ‘real’ conflicts.

The primary conflicts about reference areas did have significant ‘fifth dimension’ manifestations. Many stakeholders were uncomfortable with the concept of reference areas, with many objecting to the concept outright. Conversely, conservation representatives favoured the concept on the basis that high levels of protection would deliver high conservation benefits. This boils down to different views on how important conservation is, relative to economic activities.

Lack of clarity about the rationale underpinning reference areas

Many conservationists support the implementation of highly protected marine reserves (including no-take zones) as conservation measures in their own right, to contribute to biodiversity conservation and support ecosystem services. This view is supported by many conservation scientists (e.g. see Partnership for Interdisciplinary Studies of Coastal Oceans, 2011), and was shared by conservation representatives on Finding Sanctuary’s Steering Group.

However, the formal rationale underpinning reference areas in the ENG was not that they would provide conservation benefits in their own right - the ENG stated, in essence, that reference areas are intended as scientific experiments, areas where direct impacts are to be removed, in order to be able to observe what changes occur in their absence, thereby obtaining an ecological benchmark against which the status of other sites (containing the same features) can be monitored. For that reason, the ENG required an example of each feature to be represented within the set of reference areas.

Nevertheless, conservationists involved in the MCZ process still saw reference areas as an opportunity to increase the overall conservation benefits of the network, and were therefore keen to select the ‘best’ (most biologically diverse, least impacted) sites within the region as reference areas. Therefore, the reference area discussions within the stakeholder group mixed together the ‘conservationist’ rationale for implementing highly protected areas with the ‘ENG’ rationale for selecting sites to act as scientific benchmarks.

At JWG2, for example, the observer noted a common theme that came up repeatedly within the discussions: Based on their view that it was important to derive maximum conservation benefit from reference areas, conservation stakeholders would argue for the selection of the 'best' examples or most biodiverse areas as reference areas. Other stakeholders argued that, if reference areas are selected to cover the 'best examples' of particular features, then clearly whatever activities are ongoing in those locations are not impacting negatively on the feature, and therefore there is no reason to impose restrictions. This exchange is focused on the likely (or unlikely) conservation merits of reference areas in particular locations, not on designing areas that would best serve as 'benchmarks'.

The ENG rationale for reference areas, in turn, led some stakeholders to question the logic behind the requirement to select reference areas to represent all features, including unique or limited distribution features. They questioned how a unique site could serve as a benchmark for others (this applied, for example, to the Isles of Scilly reference area conflict described above).

The idea that reference areas would serve as scientific benchmarks also led to comments that in order to achieve their stated aim, they needed to be designed by scientists, using appropriate scientific experimental design criteria, and that it made little sense to try and plan them within a stakeholder forum that was trying to weigh up socio-economic considerations as well as the requirement to meet the ENG.

What emerges from this analysis is that while the conflicts about reference areas suffered much less of the complexity derived from uncertainty on activity restrictions, they instead suffered a degree of complexity derived from different ideas, wishes or interpretations of the purpose that reference areas should serve – many conservationists saw them as opportunities for maximising conservation benefits, rather than reference areas in the strict interpretation of the rationale stated in the ENG. The highly restrictive nature of these sites also fuelled the intensity of primary conflicts, which spanned multiple sectors.

Challenges of the legal basis for reference areas

Opponents to reference areas, in particular the commercial fishing sector, sought to challenge the legal basis for including reference areas within the network from an early stage, e.g. JWG3:

'Commercial fishing stated that the fishing industry representatives are adamantly opposed to the government policy to include reference areas as part of the network of MCZs and they consider there to be no legitimate requirement under the Marine and Coastal Access Act. They believe it is a disproportionate measure and unnecessary for monitoring the ecological performance of MCZs and is a policy that has a careless disregard for peoples' livelihoods. There is also insufficient time and information available to the regional projects to make robust selections of sites.'

Section 117 of the Marine Act describes the grounds for which MCZs can be designated, and these are conservation grounds (i.e. they do not include 'for the purpose of researching reference condition'). However, the legislation does not prevent the conservation objectives for a site to include 'recovery to a scientific reference condition', and highly protected sites are possible within the available range of management measures. Thus, highly protected areas are made *possible* within the scope of the Marine Act, but the legislation does not *require* such sites to be implemented, neither for conservation purposes, nor for the purpose of establishing scientific benchmarks.

The likely future for reference areas

The official advice on MCZs which Natural England and the JNCC provided to Defra in July 2012 highlighted the fact that the reference areas recommended by the regional projects (not just Finding Sanctuary) fall short of the ENG requirements. They described the approach used to select reference areas as 'flawed', and recommended a 'review of the process'. They did not, however, provide any analysis of what the flaws in the process consisted of, nor do they offer any specific suggestions for how, when, or by whom a review process ought to be undertaken (section 4, [SNCB MCZ advice](#)¹⁴³).

Despite the SNCB advice seeming to indicate the need for further work on reference areas, the Government seems to have limited appetite to implement these sites in the face of strong opposition, and potential legal challenges from commercial interests.

The summer 2012 stakeholder interview responses point to an uncertain future for reference areas, with some respondents stating that they had been given strong signals from Defra and the Fisheries Minister that these sites would not go ahead. However, there is no official information available at present over which of the recommended MCZs (reference areas included) will be implemented by when, or whether any sites will be dropped entirely. Some clarity may be provided at the start of the national consultation on MCZs, scheduled for December 2012.

¹⁴³ <http://jncc.defra.gov.uk/PDF/MCZProjectSNCBAdviceBookmarked.pdf>

3.4 Secondary conflicts (inter-sectoral)

3.4.1 Renewable energy and commercial fishing

As early as the first OWG meeting (OWG1), it was recognised that offshore wind farms will be competing with the fishing industry for space when development takes place in the future. Wind farm operators are generally required to implement exclusion zones around each wind turbine, for reasons of safety¹⁴⁴. Depending on how far individual wind turbines are spaced apart in relation to such exclusion zones, this can mean that wind farms in effect become fishery exclusion zones, thereby leading to a displacement of fishing effort, and potentially detrimental impacts on the fishing industry. Some stakeholders feared that displaced fishing effort could also have detrimental environmental impacts, as reflected in this comment from SG2:

‘Some uses of the sea and seabed in the future, such as offshore wind farms, will result in the displacement of other activities, which will then change the level of activity in other areas and it is likely this will also change the level of impact which occurs.’

This secondary conflict is a key conflict within this case study, because fishermen perceive a combined threat from renewables development and MPAs, with both (potentially) displacing them from fishing grounds. Some fishermen perceive a ‘race for space’ or ‘land grab’, squeezing them out of their grounds, with MCZs being brought in at the same time as offshore wind farms. This leads to a triangle of conflicts between renewables, fisheries and conservation (see section 3.6.1).

3.4.2 Recreational angling and commercial fishing

There is a degree of conflict between recreational sea anglers and commercial fishermen, with some angling associations campaigning for blanket restrictions of commercial fishing activity in inshore waters in order to provide for better catches for recreational anglers (the so-called ‘golden mile’ – for example, see [here](#)¹⁴⁵).

Whilst this was mentioned during some of the wider stakeholder discussions within Finding Sanctuary, this conflict had little direct bearing on the development of the MCZ recommendations. There was a general assumption that angling would be allowed in MCZs, and MCZs (except reference areas) therefore had much stronger support from recreational anglers than from commercial fishermen.

3.4.3 Shipping and other activities

There is a degree of conflict between shipping and other activities, commercial fishing and renewable energy developments in particular. There are well-established, busy shipping lanes within the Finding Sanctuary region, e.g. through the English Channel, and around Land’s End and the Isles of Scilly. Some of these are regulated through IMO (International Maritime Organisation) Traffic Separation Schemes. This secondary conflict was recognised as an opportunity for synergy within the stakeholder group, who placed some of the rMCZs within Traffic Separation Schemes in order to reduce the primary conflicts with commercial fishing and renewables.

¹⁴⁴ For the official guidance on safety zones around wind farms, and details of the application / consents process for offshore wind developments, see <https://www.og.decc.gov.uk/EIP/pages/offshore.htm>

¹⁴⁵ http://www.sacn.org.uk/Articles/The_Golden_Mile.html

3.5 Secondary conflicts (intra-sectoral, within commercial fishing)

3.5.1 *The diversity of the fishing sector*

There is no such thing as one single homogeneous 'commercial fishing sector'. In reality, 'commercial fishing' encompasses a broad range of activities with different social and economic character, from very small inshore vessels setting crab and lobster pots within defined local areas, to large industrial offshore trawlers covering ranges of hundreds of miles. There are big differences in species targeted, the volume caught, and the gear types used. Different groups of people are involved in different parts of the fishing industry, and there are significant tensions and conflicts between some of these groups.

Apart from the conflict between renewables and commercial fishing, the most significant secondary conflict encountered within this case study was intra-sectoral conflict between static and mobile gear fishermen.

3.5.2 *Gear conflict*

Conflict between static and mobile fishing gear is a physical reality on the ground, with instances of static gear being towed away by mobile gear fishermen. In order to avoid such conflicts, there are instances of voluntary agreements between fishermen to partition out areas of sea amongst each other, either on a temporary or long-term basis. This has happened offshore, within the international Mid-Channel Potting Agreement, and inshore, with the Start Point Inshore Potting Agreement (IPA) in south Devon – the latter now having become formalised through local byelaws. Both areas are discussed in more detail in section 6.5.11.

Fishing gear conflict had a direct bearing on the developing MCZ recommendations. The Mid-Channel Potting Agreement had been on the table for potential consideration as an offshore MCZ, but was not included within the recommendations because of fears that future management measures associated with MCZ status would disrupt established ways of reducing this conflict. The IPA was included within the network, but again there were significant concerns amongst fishing representatives about potential future MCZ status interfering with a well-established management scheme that is already in place (e.g. see SG2). The site was recommended on the condition that the existing management regime is maintained.

Amongst inshore static gear representatives, MCZs were to an extent seen as an opportunity to create better access to fishing grounds for themselves. This was based on an assumption that mobile fishing gears would be excluded from MCZs, meaning static gear operators would face no gear conflict.

One specific location where this conflict played out very clearly within the process was in Poole Bay. Early in the process, there was an MCZ building block covering the whole of Poole Bay, following a proposal from the Dorset Local Group to include this area (IWG1). However, as emerged later on, there is significant gear conflict within the area, and the LG proposal had come about at a meeting with local static gear representatives present. Later in the process, the Dorset LG (now with representatives of mobile fishing gear users present) proposed the removal of the same area from the recommendations (JWG4).

3.5.3 Inshore / offshore conflict

There are also tensions between inshore fishermen operating smaller boats and offshore fishermen operating larger boats, although they do not tend to compete as much for the same fishing grounds. The most significant aspect of this conflict relates to the distribution of fishing quota, which is overwhelmingly held by larger offshore vessels, a fact that is considered a great injustice by many inshore fishermen. This conflict was mentioned by several interviewees in the summer 2012 stakeholder interviews, and has attracted national media attention (e.g. in [The Guardian's Environment Blog](#)¹⁴⁶). Whilst the quota conflict had no direct bearing on the shaping of the MCZ recommendations, it formed part of the context within which the stakeholder process operated.

3.5.4 Conflict over engagement with the MCZ process

There was also conflict between different fishing sector representatives about how best to engage (or not engage) with the MCZ planning process. Early in the process, this was reflected in the difficulties to get FisherMap data for Cornwall. In 2008 and 2009, the Finding Sanctuary liaison officer for Cornwall had worked together with the Cornish Fish Producers' Organisation (CFPO) to interview Cornish fishermen and map the distribution of their activities, to match the FisherMap data for the remainder of the region (see [des Clers et al., 2008](#)¹⁴⁷). However, it took until July 2010 for the resulting spatial dataset to be processed and supplied by the CFPO to Finding Sanctuary, causing a degree of frustration and concern within the IWG and SG, as reflected in the following quotes:

'The lack of fishing information from Cornwall is preventing the process from moving on. If we don't have the fishing data, MCZs are more likely to be situated in Cornwall as that is where it appears least fishing activity is taking place. There is an action from this meeting to once again seek the release of this Cornwall fishing data from the CFPO.' (IWG1)

'Encourage more cooperation for sharing data on fishing activity in Cornwall. Paul Trebilcock on behalf of CFPO: "Make clear that WG work so far has not incorporated Cornish fishing effort – will now be supplied by CFPO."' (SG3)

IWG2 (June 2010)

'We have not yet received the Cornish fishing data. Dave has been finding it difficult to get the CFPO to agree to hand over the collected data. There is at least VMS data for the offshore areas, but the worry right now is that the inshore Cornish fishing fleet are being disadvantaged as there is no data available to the FS project about where fishing takes place.'

Late in the process, when it came to discussing reference areas, there was unanimous objection to the concept of having these areas within the network. However, comments made during the summer 2012 stakeholder interviews revealed that there was not unanimous agreement from all fishing representatives for the fishing industry's stated position that they would not engage in the discussion about reference areas. Some considered that it would have been more appropriate to participate constructively in the discussion, always with the aim of protecting their interests and

¹⁴⁶ <http://www.guardian.co.uk/environment/blog/2012/may/29/fishing-greenpeace>

¹⁴⁷ http://findingsanctuary.marinemapping.com/06_all%20project%20reports/Fishermap%20report%20November%202008.pdf

minimising potential damage these areas might do to fishermen, especially inshore fishermen in small vessels with limited range of movement.

Another conflict between different fishing representatives became evident during the discussions at JWG6 and SG6, following the 'vulnerability assessment' process which indicated that scallop dredging might be permitted within some inshore MCZs, despite most of the stakeholders' assumption that this type of fishing would be excluded from MCZs. Whilst the NFFO position (stated at SG6) was to object to the 'blanket assumption' of a mobile gear ban within MCZs, a different fishing representative openly stated that he 'couldn't see where the marine protection is if scalloping is allowed in an MPA.'

Appendix 1 to the SG6 report includes a statement from the South West Fishing Industry MCZ Planning Group, re-iterating the 'fishing industry's' clear objection to the assumption of a ban on benthic towed gear in MCZs. This group, on the face of it, represented the full range of fishing interests in the south west. However, the above comment, which was explicitly put on the record by a fishing representative at SG6, highlights that the stated objection to the 'no trawling' assumption was not a reflection of the full diversity of opinions within the fishing industry.

3.6 Key conflict triangles, trade-offs and synergies

3.6.1 Renewables, fishing and conservation

The above discussion of conflicts includes a description of significant primary conflicts with fishermen, and a significant secondary conflict between the renewables sector and fishermen. Put together, this forms a ‘triangle’ of conflicts between fishing, renewables and conservation, which all impact on each other, and therefore merit further discussion as a set of three. The conflict triangle between fishing, renewables and conservation was highly significant during the MCZ planning process, as each of the three sectors either already occupies large sea areas, or might potentially occupy large sea areas in future.

As early as the first working group meetings (OWG1, IWG1), it was recognised that offshore renewables will potentially be competing with the fishing industry for space when development takes place in the future, and that the severity of this conflict might in be reduced by co-locating MCZs and renewables.

As highlighted in section 3.3.3, representatives of the renewables sector were very concerned about including the areas licensed for wind farm development in the developing MCZ recommendations, because of the risks posed to the sector by the uncertainty around MCZ management. On the other hand, there was significant pressure from within the stakeholder group to include these areas, in order to avoid cumulative impacts on the commercial fishing sector: It was assumed that co-locating wind farms and MCZs would minimise the area from which fishermen might find themselves displaced. The stakeholders, therefore, fully recognised this conflict triangle, leading to the development of alternative ‘co-location’ and ‘no co-location’ network configurations (see section 3.3.3).

As with most of the conflicts in this case study, this conflict triangle was underpinned by assumptions which were uncertain, thus adding a layer of complexity to the discussion. Again, this fact was recognised by the stakeholders:

‘There are other underlying assumptions on co-location being made which could have significant impacts if incorrect or if co-location providing certain management measures were implemented. In particular this relates to the fishing industry regarding the assumption that static gears would be compatible and mobile demersal gears incompatible.’ (IWG3)

Not everyone supported the ‘two alternative network options’ approach to dealing with the conflict triangle, as it added complexity, and most stakeholders were basically supportive of the ‘co-location’ option. Feedback from the SAP added support to their position (although as highlighted in section 3.3.3, the SAP had no decision-making power, so their feedback did not serve to reduce the concerns of the renewables sector):

‘Several members of the IWG don’t feel we should be exploring two network options (co-location and no co-location of MCZs with wind farms). The fishing sector feels that as renewable wind energy is a “green” industry, co-location of wind farms with MCZs would encourage more environmentally friendly construction practices that would have a less damaging impact on the seabed.’

‘The Science Advisory Panel (SAP) advice is that “such co-location was considered acceptable and potentially beneficial from a scientific point-of-view”. “It is wrong to rule out

consideration of an area for designation of a MCZ on the grounds of inconvenience to one or more particular sectors. Wind farms, for example, may be suitable for MCZs (although not for Reference Zones).” (Extracts from the SAP response to the Finding Sanctuary Project’s first progress report). ‘

With respect to the Atlantic Array wind farm site off north Devon, there was a further complication to this conflict, when fishing representatives from north Devon began objecting to the ‘co-location’ option, despite the fact that this option (which included the Atlantic Array area and therefore required less alternative MCZ space to be found nearby) had been designed specifically with them in mind. The reason for this apparently paradoxical stance was that north Devon fishermen, based on legal advice they were receiving, feared losing out on compensation that they might be entitled to from the wind farm developers. If the wind farm area was to become an MCZ, and the conservation objectives of the MCZ required closure of the site to mobile fishing gears, then mobile gear fishermen might no longer be able to claim that the loss of their fishing grounds was a direct result of the wind farm development and its safety exclusion areas. This complication was discussed in both the inshore and offshore working groups:

‘The fishing representatives were concerned that if an MCZ is co-located within a wind farm area, then it could mean that developers would not be liable to pay compensation and they were keen to point out how valuable the North Devon area is to their industry and to reinforce that these fishermen are not able to diversify.

In further discussion it was acknowledged that co-location offers an advantage in reducing competition for space and that the group must look at both short and longer term issues. In principle co-location should be seen as a good thing and should be sought both inshore and offshore. The fishing representatives also pointed out that trying to find MCZs in addition to wind farm areas would have serious implications for the industry.’ (OWG5)

‘There has been a shift in North Devon fishermen’s view on co-location as displacement compensation may not be paid to them by wind farm developers if co-location goes ahead. There is a problem with displacing these fishermen as it causes increased effort and pressure elsewhere. Compensation is a short term solution but it is felt the fishing industry itself will suffer in the long term. The South West Fishermen’s Council however have overwhelming support for co-location of wind farms and MPAs in principle, but they acknowledge the local issues as in the case of North Devon.’ (IWG4)

A north Devon fisherman presented the dilemma to the Steering Group (SG4):

‘There is currently a difference of interest between the WG’s over co-location of wind farms and MPAs. Originally, commercial fishermen advocated where possible, for an MPA to be located within the confines of a wind farm. Now that we are in an advanced state of negotiations with the Atlantic Array developers via a marine lawyer, there is a possibility of co-location precluding any displacement payment (i.e. compensation to the fishermen). The OWG could find MPA sites to replace the Atlantic Array area (which is in the IWG area) and is something which we could look at at our next meetings.

There is no objection to an MPA being in the Atlantic Array after construction is complete and the fishermen have been displaced with adequate compensation.’

The primary conflict between wind energy and MCZs at the Atlantic Array site was ultimately resolved (see the RWE n-power statement made to JWG4, quoted in section 3.3.3). The developers' agreement to co-location with an MCZ was made on condition that other potential MCZs would be dropped, so that the inclusion of the Atlantic Array site would lead to a genuine reduction in the combined wind farm / MCZ spatial footprint. It was presented in terms of 'easing the burden on the fishing industry (JWG4). However, it is not clear whether the conflict over potential compensation has been resolved (this was considered a sensitive issue at the time of the summer 2012 stakeholder interviews, and no further clarification was possible).

3.6.2 Renewables, shipping lanes and conservation

One synergy that *was* identified and implemented within the design of the network, despite the process-generated uncertainty, was locating rMCZs¹⁴⁸ within shipping lanes. Shipping has little impact on the seafloor, and there was a shared assumption that it would not need restricting within MCZs (indeed, stakeholder representatives repeatedly highlighted that under UNCLOS, any limitations on passage of vessels across MCZs would be difficult to implement).

As early as OWG1, it was suggested that the working group might want to look at IMO Traffic Separation Schemes (formally demarcated shipping lanes) as suitable areas for inclusion within the network, as these are not suitable for the development of renewable energy installations. That way, the competition for space between renewables and conservation might be reduced. Similar suggestions were discussed at OWG3, OWG7, IWG2, IWG3, and IWG6.

The following exchange recorded at IWG6 illustrates this triangle with a very specific example. The exchange also highlights how well the group was working together at this point, with participative and knowledge incentives being used, and trade-offs explored:

'iL15 is required for sublittoral coarse sediment. Paul Trebilcock requested removing iL15 as it is a heavily trawled area and suggested that iL20 and iL13 could be enlarged slightly to make up the lost habitat. In order to encompass sublittoral coarse sediment the extension would have to come east of iL20.

The RDA representative said that iL20 is in a buffer zone of the Traffic Separation Scheme (TSS), so renewables cannot be developed there. From a renewables perspective it would be better to extend in this area if possible.

The IWG agreed to remove iL15 and suggested joining iL14 and iL23 and extending iL23 southwards a bit.

Later in the meeting, the RDA representative pointed out that the revised iL14/iL23 site boundary may provide problems for renewable developments in the future, as it extends beyond the TSS (in the north-east). The renewables industry is concerned that MCZ status on top of SAC status may restrict activities for renewables more than just the SAC would.

The RDA proposed removing the north-east part of the newly amended iL23 block and adding to the south-east corner of iL20 instead.

¹⁴⁸ 'rMCZ' is used as an abbreviation for 'recommended MCZs', meaning MCZs recommended to Government by the regional projects

The fishing industry was concerned that this would result in more grounds lost to the fishing sector.

NE confirmed that this area of the SAC protects the reef but not the coarse sediment and that potentially a windfarm pile could be constructed in between the reefs if it can be shown to have no impact on the reef. He also added that in that area, it is mostly reef anyway with little sediment in between so it is unlikely that a windfarm could be planned for this area anyway.

The IWG agreed to take part of the newly drawn area out of the amended iL23 block and expand iL20 a little, to compensate for the lost sediment. This new building block is called iL27 (see map of developing network configuration on page 18).

The IWG agreed to extend iL20 eastwards, just as much as is needed to reach the sediment targets lost by removing iL15. iL20 and iL13 were joined. This site has become iL26 (see map of developing network configuration on page 18).'

4 Governance approach and effectiveness

4.1 Governance approach

4.1.1 *One process, two approaches*

The most salient characteristic of the MCZ process is that it consists of a combination of two separate planning approaches:

- Approach 1 is a systematic, broad-scale approach. It focuses on building a biologically representative protected area network, based on the best information currently available. It emphasises transparency, and has strong participative (bottom-up) elements, with cross-sectoral stakeholder platforms given a direct role in the planning process. It also has strong top-down elements, which define the parameters within which the participative process operates, and retain decision-making power. Although this has not happened within the MCZ process to date, within approach 1 there would be scope for a strategic network-scale approach to MCZ management (e.g. implementing the same set of measures across multiple sites, and defining measures upfront or as part of the initial spatial planning process).
- Approach 2 is a more top-down approach, focusing less on the broader regional scale or on the network as a whole. Instead, it targets specific features for protection within MCZs, placing emphasis on obtaining high and detailed levels of evidence to underpin conservation decisions. Planning is characterised by laborious and relatively deterministic pathways, with much weaker participative incentives. Stakeholder participation is confined to a public consultation process, with no efforts at incentivising cross-sectoral collaboration. Planning MCZ locations and boundaries is treated as a separate task from planning MCZ management, the latter being the left until the final stages of the process.

From their establishment / formalisation in 2009, the regional MCZ projects set out following approach 1. Over time, however, the wider national MCZ process increasingly shifted from approach 1 to approach 2. Where the two approaches met, they tended to collide and clash with each other, creating tensions and obstacles to progress. The clash between approaches is referred to repeatedly throughout this analysis, and it is discussed again in detail in section 7.1.

One notable consequence of the shift is a reduction in the range of incentives employed, because the range and diversity of incentives used in approach 2 is narrower than in approach 1 (see section 5.2). Within this case study, neither approach 1 or approach 2 has made use of market incentives (economic incentives). As discussed in section 5.2, their use was made impossible by the fundamental uncertainty within the process about what activities will or will not be allowed to take place in MCZs.

This on-going uncertainty is tied in with the lengthy, complex, evidence-hungry pathway that the process has embarked upon for defining MCZ conservation objectives, which are being targeted at specific features rather than whole areas (see section 6.5.7). This pathway was defined by the Conservation Objective Guidance (COG), a top-down guidance document published in February 2011.

The Marine Act requires MCZ management to focus on achieving conservation objectives, so management cannot be fully clarified before the conservation objectives are defined. Hence, a

lengthy, complex, piecemeal, and evidence-hungry approach to developing conservation objectives directly results in a long wait before any clarity on MCZ management can be achieved. The approach taken to conservation objectives is very much consistent with approach 2, but it clashes with approach 1: As highlighted throughout this document, the participative elements that were in place in the earlier stages of the MCZ process suffered greatly from the uncertainty about MCZ management.

4.1.2 Top-down and bottom up elements of the MCZ process

This is a brief outline of the top-down and bottom-up elements in the MCZ process – the combination of the two is analysed more detail in section 6.1.

This analysis draws a lot from the observations of stakeholder meetings, meaning that the participative (bottom-up) elements of the process probably come across very strongly (most of the quotes included in this report are from stakeholder meeting reports). However, there were very strong top-down elements in the process from the beginning, and these have become increasingly predominant. Jones (2012) characterised the MCZ process in south-west England as a predominantly top-down process.

Whilst Finding Sanctuary and the other three regional MCZ projects operated (up until autumn 2011), the overall process combined top-down and bottom-up elements. The initial process predominantly applied approach 1, with strong participative elements in the form of the cross-sectoral regional stakeholder groups, who had the task of jointly developing recommendations for the location and the boundaries of MCZs.

However, the stakeholder process operated within parameters defined in top-down guidance (e.g. the ENG, described in section 1.1.2 and section 6.5.4). Stakeholders were only empowered to develop recommendations, as per the Project Delivery Guidance or PDG (see section 1.1.2). Natural England and the JNCC, as Government's statutory advisers, retained the power to review (and potentially revise) the regional project recommendations, before providing their official MCZ advice to Defra (who, in turn, have the power to decide whether to implement the advice). The statutory advisers also authored the PDG, so they (together with Defra, as the responsible Government department) retained control over the design of the overall MCZ process.

The shift towards approach 2 resulted, over time, in an increasingly top-down process. This became particularly clear with the publication of the COG in February 2011, because the pathway for defining conservation objectives required by the COG was too laborious and deterministic to allow much scope for constructive stakeholder engagement. The subsequent 'vulnerability assessment' used the COG-defined approach to start developing possible management scenarios for MCZs, without the regional stakeholder group's involvement, moving from a participative process to a top-down process.

Since July 2011, the regional stakeholder groups have ceased to operate entirely, and there is currently no role for any cross-sectoral stakeholder participation in the MCZ process. The process is now being driven by the SNCBs and Defra. Some bottom-up input will be sought in the form of a formal public consultation, due to start in December 2012. This consultation will allow any interested party to submit a response to consultation questions (as yet unpublished), and react to the MCZ proposals (in whatever form they will have taken by then). There is no cross-sectoral collaborative element within the public consultation, however, nor any guarantee on whether and

how the consultation responses will influence subsequent decisions, by the Secretary of State for the Environment, on designation of MCZs. It is also not clear whether the consultation questions will cover the design of the future MCZ implementation process, and the role (if any) that stakeholders will or should be given within that.

Not only has there been this shift from a combined bottom-up / top-down approach to a predominantly top-down approach, but there has also been a shift of emphasis *within* the top-down elements. The key top-down guidance provided to the regional stakeholder process was the ENG, containing guidelines for designing a representative network of protected areas using best available evidence. The ENG were billed as the 'benchmark' against which the recommendations would be evaluated (see section 6.1.3 for further detail). The ENG were in keeping with approach 1, in that they took a systematic approach, aiming to develop a network that was representative of the full range of biodiversity present nationally, based on the best information available at that point in time.

However, the current top-down process has shifted towards a feature-based approach where a defined list of species and habitats, rather than a set of representative *areas*, is to be protected (these are the features specified in the conservation objectives for each MCZ). This feature-by-feature approach has shifted the focus away from the representative network that is required in the Marine Act (see section 2.2.1), and the 'ecologically coherent' network which was the stated policy goal at the beginning of the process (see Defra GN1, also referred to in section 2.2.1). It is not clear what (if any) role the ENG criteria currently play or will play in future. The apparent shift within the 'rules of the game' of the MCZ process is described in more detail in section 6.5.6, together with its implications for participative incentives.

4.1.3 Decentralised elements in the MCZ process

In terms of future implementation of MCZs, it is certain that IFCA will have a significant role for inshore sites (within six nautical miles). This is an element of decentralisation that is written into the Marine Act (see L6 in section 5.1.5), which means there will be some degree of local government involvement in site management. However, the detailed process of site implementation will only become clear as the process unfolds, and it is uncertain whether there will be any specific drive towards further decentralising roles to local people.

There will be less decentralisation for offshore sites (beyond six nautical miles), for which the MMO has statutory management duties, and for which fishing activity will have to be managed through the CFP.

At present there is no detailed, time-bound road map describing the future roles and relationships between MMO, IFCA, the EA, JNCC and Natural England with respect to MCZ implementation (management, monitoring and enforcement). It is not clear what role stakeholder input will have, either. In that sense, it is likely that there will be a combined top-down and decentralised approach, with possible bottom-up elements, but how this will operate in detail has not been defined at the time of writing.

4.2 Inter-sectoral integration

From the start, the focus of Finding Sanctuary was a single-sector objective (biodiversity conservation). However, one of the reasons for establishing a cross-sectoral stakeholder group was to try and integrate the achievement of the single-sector objective, as much as possible, within the context of other on-going sectoral activities, goals and objectives. In that sense, Finding Sanctuary was an integrated multi-sector process, making recommendations for the implementation of single-sector objectives.

In practice, this meant a series of negotiations, trade-offs, and compromises between sector representatives, as described in the discussion of the conflicts (section 3), participative incentives (section 5), and in the first cross-cutting theme in section 6.1. The process employed a series of participative and knowledge incentives in order to build a sense of trust amongst members of the stakeholder group, and enable mutual learning and understanding as well as collaborative work (section 5). This effort yielded some success, and the summer 2012 stakeholder interviews indicated that this was one of the most valued aspects of the project from a stakeholder perspective.

This approach to multi-sector integration took time, a lot of support, and a lot of commitment from stakeholder participants. It took continuous effort with regular meetings to build a sense of group identity and momentum, with continuity of membership and the regularity of meetings both being key factors in building the relationships and momentum behind the work.

With the cessation of the regional projects, this multi-sectoral stakeholder platform has been lost from the process, and it has changed to a single-sector process, within which it is more difficult to understand and integrate with a wider context of multi-sector goals and objectives. The momentum behind the stakeholder groups has been lost. This is compounded by the shift to a much more top-down, evidence-based approach, with a strong focus on scientific data, and the apparent lack of emphasis on understanding and building on the stakeholder narrative that accompanied Finding Sanctuary's recommendations (see section 6.5.9).

In summary, then, there has been a move *away* from multi-sectoral integration within the MCZ process. This has not been without consequences. As discussed in section 5.2, since the loss of the cross-sectoral stakeholder platforms, there has been a worsening of inter-sectoral conflicts, and retrenchment to sector-specific positions. There is no evidence, within the MCZ process at present, that these problems are being addressed in any transparent way.

Looking at a wider scale, within the UK marine policy landscape, there has historically been a lack of multi-sectoral integration, with different Government departments and bodies responsible for managing and regulating different sectors, and implementing relevant sets of legislation. Even within Defra, different teams are responsible for fisheries management and biodiversity protection (during Finding Sanctuary's pilot phase, the policy steer provided by Defra to project staff was that Finding Sanctuary should focus solely on biodiversity conservation goals, and that fisheries management was a separate policy area that would be dealt with separately).

However, over recent years there has been a greater recognition for the need for better integration of marine management across sectors (this is, in part, what drove the development of the Marine Act). Following the enactment of the Marine Act, the newly-created MMO has embarked on a process of marine planning, which aims to address the goals and needs of multiple sectors, and has included elements of stakeholder participation. This is being carried out region-by-region, and at the

time of writing this analysis, the marine planning process is just beginning within part of the Finding Sanctuary area. Several stakeholders commented that Finding Sanctuary might serve as a useful model for the MMO's marine planning process, but the timings of the two processes prevented a segueing of one into the other. As stated in section 2.5, the MMO carry out detailed stakeholder analysis as part of their marine planning process, but there are no clear plans to establish continuous, cross-sectoral stakeholder platforms.

Section 2.5 covers further details about multi-sectoral integration within this case study.

4.3 Effectiveness – is the process on track to meet the operational objective?

The operational objective in this case study is to deliver a representative network of marine protected areas for south-west England. This analysis takes the ENG ‘representativity’ and ‘adequacy’ guidelines as the benchmark for defining the goal in practice.

Finding Sanctuary’s final project report, together with the final SAP feedback referred to previously, already provides a detailed assessment of how well the project’s recommendations met ENG criteria. The project was successful in that recommendations were made that meet most of the ENG, and these recommendations were signed off by the project’s stakeholder group as a whole. However, these recommendations merely represent a milestone along the way towards achieving the actual objective, which is to have the network designated and in place.

The initial goal, defined in the Marine Act, was to have the network in place by 2012. This goal has not been met, as was recognised in the Ministerial statement made in November 2011 (section 1.1.7). A first ‘tranche’ of MCZs is currently expected to be designated in the summer of 2013.

It is too early to say for certain whether the process will meet the operational objective in the medium to long term. Progress is not promising. It is not clear which or how many sites will be included in the first tranche of designations, but it is highly unlikely that they will all be included. Therefore, the first tranche of MCZs (in combination with existing MPAs such as SACs) will probably fall short of the ENG criteria, and it is not clear whether there will be subsequent tranches that will maintain the ENG as a benchmark.

Progress looks even less promising considering additional policy goals set out in Defra GN1, beyond the implementation (designation) of a representative network. Designation of MCZs *per se* will do nothing to further environmental protection – the sites have to be well-managed, with damaging activities restricted or excluded from them. Defra GN1 aimed for an MPA network that would be ‘well-managed’, as well as ‘well understood and supported’ by stakeholders, in order to maximise compliance with the restrictions in place.

Section 6.5.7 goes into a great level of detail in explaining the complex and time-consuming approach that the current MCZ process is embarking on for making decisions on how MCZs will be managed. In addition to being lengthy and complex, any decision to restrict any human activities will need to be underpinned by high levels of detailed scientific evidence. The *Natura 2000* process has taken a similar approach, and it has taken many years for any clear, upfront activity restrictions to be put in place in marine SACs. Based on that experience, unless the MCZ process changes its approach, it will be many years before those MCZs that do end up being designated represent anything more than paper parks.

Getting stakeholders involved in the earliest planning stages was meant to help achieve the (secondary) objective of high levels of understanding and support for MCZs. However, as discussed in sections 5.2 and 6.5.11, this objective is, at present, not achieved. The on-going uncertainty about how sites will be managed is a key factor in this, as are the consequences of the end of the stakeholder process, combined with a lack of clarity and transparency in the current process (all of which have combined to create a loss of stakeholder ownership and buy-in).

There are many additional factors preventing the effectiveness of the MCZ process, which have already been touched upon briefly in this section (the shift from one approach to another and the

clash between the two, the complex and piecemeal approach to conservation objectives, the high levels of evidence required to underpin conservation objectives and management decisions, the narrowing of the range and diversity of incentives within the process, and the loss of the cross-sectoral stakeholder platform). All of these factors are discussed in much more detail in the following sections of this analysis (sections 5,6, and 7).

One additional key factor determining the effectiveness of the process (which has not been mentioned here so far) is sufficient political will to achieve a representative, well-managed, and well-understood network of marine protected areas (even in the face of controversy and push-back from some of the affected stakeholders). Although the Marine Act enjoyed cross-party political support, and underwent extensive parliamentary scrutiny before it was enacted, at present, the MCZ process does not seem to be a political priority. Moreover, the current Government is not keen to impose any restrictions on business for environmental reasons, so as not to hamper economic growth – however, some level of restriction of human activity is necessary in order to achieve meaningful protection of MPAs. There also seems to be a lack of political will to give stakeholders a meaningful role in planning and implementing MCZs, and accepting that, as a consequence, some level of power and control over the process and its outcomes has to be handed over to them. Section 7.6 discusses political will in more detail.

5 Incentives

5.1 Incentives used in this case study

5.1.1 Introduction to the incentives used

The following lists the incentives as given in the appendix of the MESMA WP6 framework document which this analysis is based on (the framework is based on research by Jones *et al.*, 2011), followed by a statement of whether or not the incentive was used, and (where applicable) a brief description of how the incentive was used. Where incentives have not been used, whenever possible there is a brief discussion of the reasons why.

Many of the listed incentives are relevant for the implementation of spatial management measures, but Finding Sanctuary only covered the planning phase, and the MCZ process is still on-going. At the point of writing (a year after the end of Finding Sanctuary), there has yet to be a public consultation on MCZs, with the first decisions on site designation not scheduled until the summer of 2013. Some incentives may be used in future, but at this stage in the process it is uncertain whether this will happen.

The end of the stakeholder process effectively meant a hiatus in (or complete cessation of) the use of several of the incentives listed here, with direct consequences for their effectiveness. In that sense, it is not as simple as stating which incentives are used in this case study, and which aren't. This analysis has loosely divided the incentives into the following five categories, indicated throughout this section by colour-coding the incentive code:

- 1) Incentive not used (e.g. **E1**)
- 2) Incentive used in part (e.g. **E5**)
- 3) Incentive used in full (e.g. **I1**)
- 4) Incentive used in full during Finding Sanctuary, but completely ceased since then (e.g. ***K3***)
- 5) Incentive not applicable to date, future use uncertain (e.g. **L3**)

The loose division of the incentives into these five categories helps establish a broad, at-a-glance overview of the use of incentives in this case study, which is provided at the end of this section (table 5.1). This overview illustrates the shift in the process that was highlighted in section 4.

Inevitably, the detail is more complicated than the simple overview might suggest. In some instances it could be debated which category a particular incentive should best be placed in. For example, incentive L11 ('Establishing legal provisions to ensure the transparency in policy processes') has been placed in the green category 3 ('used'), because of the existence of the Freedom of Information Act (2000), which enables access to a significant amount of information about public processes. However (as discussed under L11), this does not mean the MCZ process is fully transparent, so one might argue that the incentive should be considered 'used in part', i.e. the amber category 2 – legal provisions have been established to ensure transparency in policy processes, but in reality these provisions do not ensure full transparency. Each incentive is therefore discussed in its own right, in advance of table 5.1.

5.1.2 Economic Incentives

- **E1** *Promoting and protecting the rights and entitlements of local 'customary' users, e.g. through assigning fishing rights to certain marine areas and fish stocks*

This incentive was not used to promote the achievement of the priority operational objective in this case study, nor has it been considered as a potential incentive within the MCZ process.

The lack of definition of MCZ activity restrictions / management measures (the process-generated uncertainty discussed at length in section 6.5.8) would have prevented the use of this incentive during Finding Sanctuary, even if it had been considered: There was no decision on what activities (local, customary or otherwise) are considered compatible with site-specific (draft) conservation objectives, and will therefore be permissible in the sites. This uncertainty persists to date, and is unlikely to be resolved soon.

Furthermore, in conversations between the project team and Defra in the pilot stage of Finding Sanctuary, it was made clear that Government policy did not support the integration of fisheries management with MCZ planning. MCZs were seen solely as a biodiversity conservation tool, with fisheries management treated as a separate policy area with its own set of tools and measures. It is difficult to see how incentive E1 might be used without better integration between these two areas of policy.

It is possible that there will eventually be beneficiaries amongst local 'customary' users (e.g. static gear fishermen or recreational anglers) once MCZs are implemented, if restrictions on other activities mean less gear conflict or better catches for them. This possibility is reflected in comments made by stakeholders during the planning process (e.g. the support of static gear fishermen for some of the sites, driven by their assumption that mobile gear restrictions will be implemented, thus reducing gear conflict and enabling better access to fishing grounds for static gear users – see section 3.5.2).

However, if the process continues down the course it has embarked on, any such benefits would be an incidental consequence of restrictions put in place for conservation reasons, rather than an incentive actively put in place in order to generate support for the site and a behavioural change in users of the site (i.e. adherence to the restrictions in place).

Under Marine Act, the MMO has the power to issue byelaws to restrict or prohibit any activity within an MCZ, as well as to issue permits for activities to take place under specified conditions. This means that it would technically be possible to use this incentive, if the planning and implementation process for MCZs was designed to enable it to happen, at least for inshore MCZs (where, arguably, it might be most relevant).

- **E2** *Providing certainty to potential industries and their investors, e.g. through licensing and granting concessions to renewable energy developers in certain marine areas*

This incentive was not used to promote the achievement of the priority operational objective in this case study, nor has it been considered as a potential incentive within the MCZ process.

There are existing processes in place for the licensing and consenting of maritime industrial activities, ranging from aggregate dredging to renewable energy developments. These processes determine areas within which activities can take place, and under what conditions. The one widespread maritime industrial activity that remains unregulated in this way is commercial fishing. For this case study, these existing licensing processes are of contextual relevance, rather than forming an integral part of the process.

In fact, one might argue that the opposite of this incentive has happened, because there is uncertainty over whether or how MCZs will impact on existing licensing and consent processes, including the conditions that have to be met by industry (e.g. EIA specifications). The MCZ process, to date, has generated *uncertainty* for a number of industrial sectors, rather than providing certainty. This fact is reflected in repeated statements made to that effect by industrial representatives on Finding Sanctuary's stakeholder group (see section 3), and is therefore highlighted in the stakeholder narrative accompanying MCZ recommendations in the project's final report (section 6.5.9). The uncertainty generated by MCZs has not been reduced since the end of the regional projects, as reflected in comments from industry representatives during the stakeholder interviews conducted in summer 2012 (see appendix 4).

➤ **E3** *Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority operational objective and can generate sustainable income for local people*

This incentive was not used to promote the achievement of the priority operational objective in this case study, nor has it been considered as a potential incentive within the MCZ process.

As for incentive E1, the lack of decisions on MCZ management / compatible activities would have made it impossible to employ this incentive during the MCZ planning process. Unless the process changes from the course that is being embarked upon at the moment, it is unlikely that this incentive will actively be pursued once sites are implemented in future, although there appear to be no insurmountable legal or technical reasons why it could not happen.

Interestingly, independently of the MCZ process, collaborations have recently started between environmental NGOs and inshore fishermen's organisations in south-west England and nationally, both with the aim of promoting fish caught from small vessels using low-impact fishing gear (see [this press release by Greenpeace](#)¹⁴⁹, [this Guardian article](#)¹⁵⁰, and [Dorset Wildlife Trust's information on the Great Dorset Seafood project](#)¹⁵¹). This sort of collaborative effort could be built on and used as an economic incentive within the future MCZ process.

[Many of the points raised in the discussion of incentive E1 apply to E3. They are not repeated here.]

¹⁴⁹ <http://www.greenpeace.org.uk/media/reports/manifesto-fair-fisheries>

¹⁵⁰ <http://www.guardian.co.uk/environment/2012/aug/08/fair-fishing-manifesto-quotas-europe>

¹⁵¹ <http://www.dorsetwildlifetrust.org.uk/greatdorsetseafood.html>

- **E4** *Providing fair economic compensation for those users who carry costs as a result of restrictions on their activities that cannot reasonably be offset through compatible alternative livelihoods*

This incentive has not been used in this case study to date, and it is unlikely that it will be employed in future. Government advice to regional project staff on this matter while the project was operating was that the Government has never compensated people when it has created marine protected areas, and this remained its policy. This was part of the reason for the complicated conflict triangle between renewables, MCZs and fishermen, where fishermen were generally in favour of co-location of MCZs and renewables, but in the specific case of the planned Atlantic Array wind farm, they feared that they would lose entitlement to compensation if the area was to become an MCZ (see section 3.6.1).

- **E5** *Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives*

It is not possible to assess whether or not this incentive will be used, given the stage that the MCZ process is currently at. No sites have been designated at the time of writing, and management measures, monitoring, and surveillance strategies have yet to be defined.

What is becoming clear is that the nature of the process is making the future implementation of sites very laborious and cost-intensive. Much of this is down to the MCZ conservation objectives being tied to individual features in individual sites (see section 6.5.7). Activity restrictions and management measures are being made dependent on a laborious and evidence-hungry ‘feature-by-feature’, ‘site-by-site’ assessment, which requires a lot of SNCB staff resource as well as costly offshore survey work to be carried out before any conservation benefits that these sites might deliver can begin to be realised. It is notable that, since the end of the regional MCZ projects, there have been several rounds of recruiting new marine staff to Natural England and the JNCC, possibly indicating increased workloads created by the MCZ process. Several million pounds have also been spent on new offshore surveys, which (amongst other things) have aimed to feed some of the evidence requirements of the MCZ process.

Given the on-going global economic crisis, the current UK Government’s economic austerity policy, and its track record on criticising green policy for imposing ‘ridiculous’ costs on industry (see the [autumn statement 2011](http://cdn.hm-treasury.gov.uk/autumn_statement.pdf)¹⁵², and the [Chancellor’s speech presenting it to Parliament](http://www.telegraph.co.uk/finance/budget/8923191/Autumn-Statement-2011-George-Osbornes-speech.html)¹⁵³), it is questionable how much public money will continue to be available over coming years for the MCZ process, and whether it will be enough to satisfy the evidence required by the process (in its current form) to underpin the designation of an ecologically coherent network, and whether it will support sufficient public sector staff to provide on-going, case-by-case, feature-by-feature advice on MCZ management measures.

Beyond designation, there is uncertainty over what surveillance and monitoring is needed because it is currently not clear what activities will be restricted. Nevertheless, there are

¹⁵² http://cdn.hm-treasury.gov.uk/autumn_statement.pdf

¹⁵³ <http://www.telegraph.co.uk/finance/budget/8923191/Autumn-Statement-2011-George-Osbornes-speech.html>

already concerns that there is not enough funding to support future MCZ implementation: During the summer 2012 stakeholder interviews, a statement expressed repeatedly by those interviewees with an insight into their local IFCA, was that IFCAs do not have sufficient capacity to cover their conservation remit, and significantly lack the resource they will need for MCZ surveillance and enforcement (see appendix 4).

- ***E6*** *Seeking NGO and corporate funding through endowments to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot 'capture' governance through an inappropriate degree and type of influence*

This incentive was used by Finding Sanctuary. Finding Sanctuary was a [partnership](#)¹⁵⁴ between several Government bodies and NGOs (Natural England, the JNCC, Cornwall Council, Somerset County Council, Dorset County Council, Devon County Council, South West Food and Drink, the National Trust, the South West Wildlife Trusts, and the RSPB). Each one of these organisations contributed resources to the management of the project.

Finding Sanctuary's funding came from a combination of public and private money. The biggest proportion came from the UK Government (Defra, Natural England), especially during the formal part of the project. Additional public funds came through the (then) Marine and Fisheries Agency, the councils of Devon, Dorset and Cornwall, and the South West Development Agency and South West Food and Drink. Some public funding came from Europe, through participation in an Interreg project ([MAIA](#)¹⁵⁵), and through the (then) Financial Instrument for Fisheries Guidance (FIG, later EFF, the European Fisheries Fund, FGE 531) – the latter was specifically for Finding Sanctuary's FisherMap project (see section 1.1.2). In the initial project stages in particular, charity funding made a contribution (the Esmée Fairbairn Foundation, the Wildlife Trusts, and the RSPB). There was no corporate sponsorship, except from ESRI, who supplied ArcGIS licences to the project at greatly reduced cost through their Conservation Grants Program.

Since the end of the regional projects, the MCZ process has been wholly funded by public money (with the caveat that the MCZ evidence base draws on data collected by NGOs and commercial organisations, e.g. data from EIA surveys, in addition to data collected with public funds). There are no explicit plans to use incentive E6 in future.

5.1.3 Interpretative Incentives

- **I1** Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority operational objective

This incentive has been used inasmuch as rMCZ boundaries have been made public. Throughout the duration of the stakeholder project, the boundaries of areas under discussion within the developing network configuration were mapped out within stakeholder meeting reports, which were openly available to the stakeholder group and

¹⁵⁴ <http://www.finding-sanctuary.org/page/project-sponsors.html>

¹⁵⁵ <http://www.maia-network.org/homepage>

beyond (including via the project's website). The full set of these reports can still be downloaded [here](#)¹⁵⁶.

The final rMCZ boundaries are mapped out in detail in Finding Sanctuary's final report. Given the unwieldy length of this document (over 1000 pages), these maps were also made available in more accessible form, both within a 100-page summary of the final report, and within a widely distributed 27-page booklet presenting a summary of the final recommendations (electronic versions of all of these documents are available via the [same link](#) as above).

Finding Sanctuary's [website](#)¹⁵⁷ will eventually be archived, and the above link may cease to be functional, but since the end of Finding Sanctuary, the SNCBs and Defra have continued to keep rMCZ boundaries in the public sphere (for a website linking to much of their MCZ-related publications, see [here](#)¹⁵⁸).

Obviously, there have not been, to date, any maps that show zones for different activities or regulatory restrictions within MCZs, because these will only be decided after a decision is made on designating sites in 2013. Therefore, the incentive has not been used in the strictest sense of its definition – but this is due to the wider flaw in the process, which leaves decisions on management restrictions until after site designation (see section 6.5.8). Once these decisions are made, and the uncertainties about the implementation process resolved (not an insignificant task), it is to be expected that the spatial restrictions will be mapped out (by SNCBs, MMO and/or IFCAs), and that these maps will be publically available.

- **I2** Promoting recognition of the potential resource development benefits resulting from the achievement of the priority operational objective, whilst being realistic about such potential benefits and not 'over-selling' them, *e.g.* displaying development zones to potential developers and investors, potential internal and spillover/export benefits of MPAs

This incentive was used in this case study, but only to a very limited extent. During Finding Sanctuary's pilot stage, for example, the Finding Sanctuary project team produced materials (e.g. pamphlets, website) that highlighted the potential benefits of MPAs, including spillover effects and larval replenishment. These potential MPA benefits were also highlighted and promoted by conservation NGOs and SNCBs who participated in the early stages of the process.

As the project became formalised, however, this incentive was not used to a great extent. The possible grounds for designation of an MCZ under Marine Act are focussed entirely on biodiversity conservation, not on fisheries management. Arguably there may be a lot of overlap between the two, and theoretically there is scope for integrating the delivery of MCZs with delivery of fisheries management measures (implemented under other pieces of legislation). However, a clear policy decision was taken by Defra to keep conservation and fisheries management as two separate policy areas (as explained under E1). This meant that there was limited scope to design rMCZs in such a way as to maximise potential fishery resource development benefits.

¹⁵⁶ <http://findingsanctuary.marinemapping.com/>

¹⁵⁷ <http://www.finding-sanctuary.org/>

¹⁵⁸ <http://jncc.defra.gov.uk/page-2409>

As for the potential resource development benefits to sectors other than fishing, see the comments under incentive E2.

The role of Finding Sanctuary was, ultimately, to facilitate and support the stakeholder process for developing recommendations in line with the ENG, rather than to try and convince people of the potential resource benefits of MPAs.

➤ **I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions**

This incentive was used in this case study, to a somewhat greater extent than incentive I2. The Finding Sanctuary project team created materials (pamphlets, website) that highlighted the conservation benefits of MPAs to a range of stakeholders, especially during the project's pilot phase.

As stated under incentive I2, however, during the formal phase of the project, the role of Finding Sanctuary was to facilitate and support the stakeholder process for developing recommendations in line with the ENG, rather than to try and convince people of the potential benefits of MPAs. The ENG were taken as a given, a nationally-defined ecological benchmark that the project had to adhere to, irrespective of whether individual stakeholders agreed or disagreed with the ENG's content. The emphasis of the project team's communications with stakeholders shifted away from *advocating* MPAs and extolling their benefits, towards *explaining* the ENG, and the principles and rationale behind them, in order to ensure that they were understood (even if not necessarily supported) by the whole stakeholder group. That included explaining the seven network design principles in the ENG and its underpinning policy guidance (Defra GN1).

The project's impact assessment tried to quantify, as far as possible, the potential benefits of MCZs (section 6.5.11 covers some background). During the stakeholder interviews in summer 2012, two respondents (from the conservation sector) highlighted that they thought the impact assessment did not adequately reflect potential benefits, and two additional respondents stated that in their opinion, there had been a lack of any real 'champion' for the MCZ process. As they saw it, no-one within the national MCZ project was really 'selling' the process or the benefits of MCZs.

On balance, this incentive was used, but there was no significant emphasis on it within Finding Sanctuary. Since the end of the regional projects, it has not been used within the ongoing national process. However, NGOs (such as the Marine Conservation Society or [MCS](http://www.mcsuk.org/mpa/)¹⁵⁹, and the [Wildlife Trusts](http://www.wildlifetrusts.org/MCZfriends)¹⁶⁰) have launched campaigns in support of MCZs, which can be seen as using incentive I3 – but these campaigns are very much on the outside of the official process, trying to exert influence on the outcome.

¹⁵⁹ <http://www.mcsuk.org/mpa/>

¹⁶⁰ <http://www.wildlifetrusts.org/MCZfriends>

5.1.4 Knowledge Incentives

- **K1** Explicitly recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, *e.g.* establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge

The use of scientific evidence, and the challenge of dealing with uncertainty, is a highly significant theme within the analysis of this case study. The analysis shows that there has been a shift within the process. The initial approach (the one taken by Finding Sanctuary, particularly at the start of the formal project phase) acknowledged uncertainties, but accepted them and proceeded with MCZs on the basis of best available evidence. Over time, there was a shift to a much more ‘evidence-hungry’ approach that requires detailed scientific evidence for specific features within specific sites to be available, before any conservation action is implemented (see section 6.5).

At the most basic level of this incentive’s definition (‘recognising the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges’), it has clearly been applied in this case study. Scientific uncertainties have been acknowledged throughout the process, and the importance of addressing those challenges was (and still is) highlighted and discussed by stakeholders, regional and national project staff alike.

However, clearly the process did not succeed in establishing and sticking to a clear set of ground rules on how to address the challenge. It started working with one set of rules during the stakeholder discussions, and then shifted to a different set of rules as the discussions reached their end, and recommendations were passed to Defra and their advisory bodies. Section 6.5.6 describes a ‘levels of evidence guidance’ document issued by Natural England and the JNCC, which explicitly stated as much: It indicated that at each successive step in the process, higher levels of evidence would be required in order to proceed. MCZ planning (‘site identification’) could proceed based on whatever data were available (including modelled data), but site designation would require higher levels of evidence, and management decisions within designated sites would require more evidence still. The ‘levels of evidence guidance’ was only published at the end of the stakeholder process, so not only does the current process raise the ‘evidence bar’ at each successive step, but the fact that this would happen was not clearly established at the outset.

There are several drivers for this shift towards demanding increasing levels of evidence at each step, which are discussed in section 6.5.6 – perhaps the most significant is the fear of opening up the MCZ process to judicial challenges by opponents on the basis of having proceeded based on insufficient evidence. Arguably, however, the ‘evidence-bar’ in the current process is being raised to a point where it poses an obstacle to the achievement of the operational objective (establishing an ecologically coherent network of MCZs), rather than facilitating its achievement. Because conservation objectives are being targeted at individual species and habitats in individual sites (rather than whole MCZs or areas), the current approach demands high levels of evidence (meaning *scientific* evidence, *i.e.* recent survey data) to describe the presence, extent and condition of each individual feature in

each individual site. The Marine Act makes MCZ management depend entirely on the conservation objectives, so no effective conservation action can be taken before the conservation objective is defined. Recent evidence reviews that were carried out as part of the on-going national process highlighted that the ‘evidence bar’ is currently not met for the majority of recommended sites, especially in the offshore area, effectively meaning that site designation and management cannot proceed until costly and time-consuming new survey work is carried out.

In that sense, it would be misleading to describe the ground rules that are now being established to address the challenge of scientific uncertainty as an ‘incentive’. Indeed, as discussed in section 6.5.6, those who pushed most strongly for the process to raise its ‘evidence bar’ were those who are most opposed to MCZs being implemented at all.

Finally, the last part of the incentive refers to ‘adaptation in the light of emerging knowledge’. Currently, there are no clear plans for any future reviews of the configuration of the overall network, nor is there any clear roadmap for adaptive management, in the face of emerging new knowledge. That is not to say there will be no adaptive management in future – but at this point in the process, there is not even a clear road map to fully implementing the first tranche of MCZs due to be designated in 2013 (including the development and implementation of management measures within them).

On balance, this incentive is best described as ‘partially’ used within this case study, although putting it in those terms very much oversimplifies the complex reality of how scientific uncertainty has played out and is playing out within this case study, and the significance of this theme in shaping the process.

➤ **K2** Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

In this case study, there was no mechanism for independent arbitration or advice aimed specifically at resolving conflicting information or uncertainty.

The Science Advisory Panel’s final feedback on the recommendations made by the four regional projects did contain sections addressing ‘uncertainty and risk’, and the SAP did provide advice that would fall under this category when they made their final assessment of the regional project’s MCZ recommendations.

However, there is little evidence that their advice relating to this point has had any significant impact on the subsequent process. Their advice considered the evidence underpinning the ENG targets, and their conclusion was that given the uncertainty underpinning those targets, it was important to aim for more than just the absolute minimum (e.g. where target ranges are included in the ENG). In other words, they were advising to move further towards a ‘precautionary approach’ when faced with uncertainty. As discussed under K1, the opposite has happened in the process (the raising of the ‘evidence bar’ embodies the opposite of the precautionary principle).

Since the regional project recommendations were submitted, there have been several site-by-site, feature-by-feature reviews of the evidence underpinning them and their associated

draft conservation objectives (see section 6.5.6). There is partial transparency within this process, in the sense that the SNCBs consulted upon and then published a protocol describing how they would go about their own internal evidence review (see [here](#)¹⁶¹). What this does not make clear, however, is whether and how the evidence review will impact on the recommendations, e.g. on any subsequent prioritisation or selection of sites. It also does not make clear the extent to which additional, external evidence review processes were undertaken by third parties, or the purpose those would serve in addition to the SNCB's own internal evidence reviews.

It was clear from the summer 2012 stakeholder interviews (see appendix 4) that the evidence reviews carried out following the submission of the MCZ recommendations by the regional projects lacked clarity and transparency for anyone not directly involved. Most interviewees were aware that an 'evidence review' was taking place, but few were aware of the distinctions between the work carried out by the SAP, SNCBs and third party contractors, or the aims and purpose of the work. Some interviewees assumed that the tranching of MCZ implementation would be based on levels of evidence, i.e. that sites with the 'best' underpinning evidence would be 'fast-tracked' over sites with lower levels of underpinning evidence – but it was not clear whether these respondents were aware that the SNCB & ABPmer evidence reviews were carried out at a feature-specific scale, rather than on a site-by-site basis (like the SAP work), and what implications that might have for conservation objectives of future MCZs.

- ***K3*** Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, *etc*, *e.g.* conducting studies in collaboration with users on the patterns of biodiversity and resource use in the existing initiative, including trends

This incentive was used to a significant degree during the development of MCZ recommendations (Finding Sanctuary's stakeholder process), but has ceased since then.

The Finding Sanctuary stakeholder process provided a cross-sectoral platform that gave stakeholder representatives (and project staff) the opportunity to learn about each other's concerns and positions, as well as about the marine environment of south-west England, and wider principles of systematic conservation planning. The project's scope did not extend to collaborative ecological field research, but stakeholders brought in a broad range of knowledge and data through a number of ways. This included, but was not limited to, scientific data – stakeholder knowledge was also brought into the process:

- At the most basic level, all stakeholder representatives shared information about their sector and their activities during the discussions on how to shape the developing network recommendations, highlighting not just what alterations they would like to see to the developing sites, but the reasons *why* – this created a context within which it was possible to seek compromises and explore trade-offs, as is evident in the detailed record of the discussions within the project's stakeholder meeting reports.

¹⁶¹ http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf

- All SG representatives liaised more widely with their constituencies, to bring in knowledge from outside the group. There were several occasions where outside expertise was brought into the process (e.g. the meetings with port authorities to resolve the ports / estuaries conflict described in section 3.3.4, the south west fishing industry meetings mentioned under incentive P3 below, and the IWG expert workshop preceding IWG6, also described in section 3.3.4).
- Conservation and science stakeholders supplied ecological survey data, and carried out data analysis to generate GIS information to help inform ENG criteria (e.g. a combined dataset on 'areas of pelagic importance'). These datasets are described in appendix 8 of Finding Sanctuary's final project report.
- Stakeholder representatives supplied GIS data on human activities (e.g. the ORRAD datasets referred to in section 3.3.3).
- The FisherMap and StakMap projects mapped stakeholder knowledge on the distribution of human activities (see incentive K4).

During the summer 2012 stakeholder interviews (appendix 4), most interviewees stated that one of the most valuable (if not the most valuable) aspect of the Finding Sanctuary stakeholder meetings was the opportunity for collective learning, and better understanding the views, concerns and positions of other sectors. Comments recorded throughout the series of meeting reports illustrate some of the occasions and ways in which different types of knowledge were brought in and shared across sectors, some examples are included below:

'The IWG felt that feedback from the SG regarding having information such as aggregates, windfarm areas, FOCI, etc available has been taken on board by the PT and were pleased that the information has been provided on maps.' (IWG1)

'It was AGREED:

- Roger Covey and Richard White will check if the bird data in Torbay around building block iD1 is correct.
- Roger and Richard will be getting together to take an inventory of what data FS have and what new information will be useful to pass on to fill in any gaps.
- The IWG will revisit Environment Agency data on the value of estuaries as fish nurseries in the July meeting.
- Colin to do further work checking with his renewables constituency regarding their needs and wishes, including the Crown Estate' (part of the action list recorded at IWG2)

'The group used a variety of maps to help inform their decisions including broad scale habitats, frontal systems, sea bird aggregations, fishing distribution (by gear type), areas of interest for renewable energy development, etc.' (OWG4)

'There is sublittoral mud off Plymouth Sound which isn't represented on the broad scale map, therefore the group would like to note their uncertainty with the accuracy of the broad scale habitat data (UKSeaMap 2010).

The group also suggested having new building blocks to choose from around the wider Torbay area [...] The fishing industry have scalloped there for years, therefore feel that the data is wrong as they don't scallop in mud. They feel using the modelled broad scale habitat data in this area will leave the project open to challenge. FS can try to refine the data, where needed, by providing maps of scalloping activity as an indicator of where mud isn't.' (IWG3)

'The ORRAD (Offshore Renewables Resource Assessment and Development) report is now complete and is available on the RDA website. The report provides future renewable resource deployment scenarios until 2030.' (OWG6)

'The information in the report provides the bigger picture and sets the scene, but does not provide any new site-specific information for the IWG to work with. From the IWGs point of view, the important thing is that Colin Cornish has been bringing the more detailed information about where these possible locations for renewable developments could be to the table throughout the planning process, to influence the selection of building blocks into the developing network configuration.' (IWG5, referring to ORRAD report)

'The Project Team (PT) introduced new information in the form of new wall maps including:

- Aggregate licences from the Crown Estate
- ORRAD report maps
- Biodiversity layers
- Seahorse distribution from the Seahorse Trust
- Ports and harbours activity
- MoD practice and danger areas
- IWG1 map 'Socioeconomic layers and geological features' has been updated and includes licensed dumping grounds.

The Group noted that they need to find a way forward with the ports to gather some information that is meaningful to the task at hand, rather than gathering all the information from ports. The current information is quite woolly and it would be more helpful to have port authority area boundaries mapped out. The PT confirmed they have some of the information but it is not complete.

Richard White highlighted that the JNCC is working on mapping pelagic biodiversity which should be finished in early December and will then be available for the Group to work with.' (IWG6)

However, since the submission of the regional project recommendations, there is no longer a cross-sectoral platform for south-west maritime stakeholders within the MCZ process, which means that collective learning is no longer possible in the same way.

Furthermore, the shift towards an 'evidence-based' approach (as described under K1 and in section 6.5.6) means that in the current process, scientific information is explicitly valued above other forms of knowledge. For example, in the SNCB assessment of confidence in conservation objectives, although 'stakeholder knowledge' is mentioned as an 'important'

aspect of the regional project's work, the relevant SNCB protocols essentially outline a science-based confidence assessment, where confidence (in presence, extent or condition) cannot be scored as 'high' unless recent scientific survey data exists for the feature and site in question (SNCB MCZ advice protocols [E](#)¹⁶² and [F](#)¹⁶³).

- ***K4*** Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc* to support the achievement of the priority operational objective while reducing conflicts

This incentive was used during Finding Sanctuary, in the FisherMap and StakMap projects (see section I.5.4 of Finding Sanctuary's final report, and des Clers *et al.*, 2008), which set out to collect and map the distribution of fishing activities (particularly of small inshore vessels) and recreational sea use in south-west England through carrying out interviews with fishermen and recreational stakeholders.

FisherMap (focussing on commercial fishermen) started during Finding Sanctuary's pilot phase. Stakeholders were interviewed by project liaison officers about their activity and asked to draw areas they use on charts. This information was subsequently digitised, and amalgamated to create GIS data layers for each activity. At the end of 2009, the other three regional projects had become established, and Finding Sanctuary's stakeholder mapping work was adopted nationally.

FisherMap interviews continued until October 2010. A total of 262 interviews were held, representing 320 fishing vessels number of vessels (approximately 30% of the Devon and Dorset fleet under 15m LOA¹⁶⁴). Fisheries data in Cornwall was collected through the CFPO¹⁶⁵ as part of a Defra funded project that mirrored FisherMap. The approach in Cornwall did not allow for mapping of activity and gear type to the same level of detail as FisherMap, it was of a coarser spatial resolution, and only included the inshore area. Finding Sanctuary's Cornwall Liaison Officer worked with the CFPO to gather this information, on the basis that the data would be shared with Finding Sanctuary. There were some delays in the hand-over, but the data was eventually handed to Finding Sanctuary in July 2010.

In August 2008, the FisherMap approach was rolled out to recreational sectors, in a project that became known as StakMap (short for 'stakeholder mapping'). Questionnaires and explanatory brochures for recreational boating, sea angling, charter boats, wildlife watching and recreational diving sectors were developed. The approach was piloted in North Devon and expanded from early 2009.

Given the very large number of stakeholders within the recreational sector, clubs and organisations were targeted as a way of obtaining a representative sample of interviewees. Interviews were carried out on an individual, group or club basis which allowed us to cover

¹⁶² http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf

¹⁶³ http://jncc.defra.gov.uk/pdf/120106_SNCBs%20MCZ%20Advice%20protocol%20F_confidence%20in%20feature%20condition_v5%200_FINAL.pdf

¹⁶⁴ length overall – the length of the fishing vessel

¹⁶⁵ Cornish Fish Producers' Organisation

large proportions of the region. Like the FisherMap project, StakMap was adopted by the other three regional projects when they became established in late 2009.

The StakMap interviews continued until October 2010. A total of 639 interviews were conducted. Many of those interviews were of club representatives, and if club membership is taken into consideration, the interviews represent 247,382 sea users.

It has to be pointed out that this incentive has not been used consistently or flawlessly in this case study. For one thing, since the end of the regional project phase, the stakeholder activity mapping has ceased.

Even during the Finding Sanctuary project, there were some issues. The stated purpose of collecting the FisherMap and StakMap data was to be able to plan MCZs whilst minimising negative impacts on socio-economic activities, i.e. to minimise conflicts. In order to be able to do that, it was necessary to understand the spatial distribution of those activities, and many stakeholders were persuaded to contribute information on this basis. This was despite the fact that concerns were voiced (by some fishermen, in particular) at the start of the project that the data would ultimately be used 'against' them in some way, e.g. to stop particular activities from taking place – and not all relevant stakeholders were persuaded to take part.

The first iteration feedback from the SAP illustrated that the reluctance of some stakeholders to participate in FisherMap was not entirely unfounded: The SAP initially recommended that the regional projects use the FisherMap data as a 'surrogate' for ecological value, favouring the selection of areas fished by a diversity of methods as MCZs. This piece of advice was retracted following protests from regional project staff that this went against the purpose of why the data were collected in the first place, and would exacerbate conflicts. Although the advice was retracted, this illustrates the potential pitfalls of trying to employ this incentive in a real-life process: It is important that all participants understand all aspects of the process to avoid these sorts of problems from arising.

➤ **K5** Maximising scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority operational objective

This incentive was (and continues to be) used in the case study. Section 1.5 and Appendix 8 of Finding Sanctuary's final report describe the data underpinning the development of the MCZ recommendations by the stakeholder group, and the various sources and processes by which it was collated.

At the start of the formal phase of Finding Sanctuary, several national data gathering contracts were funded by Defra. The aim was to deliver consistent, quality assured, best available information to all four regional projects. The main biophysical data layers contract was contract MB102, which was delivered by a consortium of organisations managed by ABPmer, at a cost of £1,072,956. MB102 ran from October 2008 through to 2011, delivering data on geological and geomorphological features, biodiversity, and the distribution of habitats and species of conservation importance. It also delivered the sensitivity matrices

referred to in section 6.5.10. Full details of the contract, and the information it delivered at what points, can be found on Defra's website (here is a [direct link](#)¹⁶⁶).

In addition to MB102, there were other national Defra-led contracts to collate, update and improve geological data, and data on fish spawning and nursery areas. The SNCBs collated and contributed scientific data, including modelled broad-scale habitat data, and the Finding Sanctuary project team collated regional survey data (e.g. from conservation stakeholders).

Since the end of the regional projects, additional effort has been focussed on gathering scientific evidence to underpin the recommended MCZs. The SNCBs and the ABPmer-led evidence reviews (see section 6.5.6) have both searched for additional scientific data that may have either been missed during the regional project phase, or been collected since then, in order to re-do the analysis to see how well the site recommendations meet the ENG criteria. There have also been new surveys of some of the offshore rMCZs, at a cost of over £4 million ([Defra contract MB0120](#)¹⁶⁷).

- **K6** Reducing the barriers in access to information and data held by different agencies, user groups and countries, and promoting the exchange, sharing and integrated use of such information and data in the existing initiative, *eg* geo-spatial data, ecological trends, fisheries data

This incentive was not used in this case study. Much of the data used by Finding Sanctuary is subject to ownership, use and licensing restrictions, which prevented its free sharing. It was not within the remit of the project to resolve these barriers, nor would it have been within its capacity, given that the project did not own any of the ecological information it worked with (see appendix 8 of Finding Sanctuary's final report).

However, Finding Sanctuary *did* go to a great deal of effort to *map out* as much of the relevant spatial data as possible, and share the maps across all sectors and process participants, in the form of printed maps, electronic maps, and interactive PDF maps. This was one of the main tasks of the project's GIS and planning support team, aiming to give everybody involved in the process equitable access to information, inasmuch as this was possible within external constraints. Much of this material is still available via the project's [website](#)¹⁶⁸.

¹⁶⁶ <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=16368&FromSearch=Y&Publisher=1&SearchText=accessing&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

¹⁶⁷ <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18221&FromSearch=Y&Publisher=1&SearchText=marine%20conservation%20zones&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

¹⁶⁸ www.finding-sanctuary.org

5.1.5 Legal Incentives

- **L1** Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc* in order to ensure the achievement of the priority operational objective, such as achieving environmental criteria and providing access rights for particular uses

This incentive has not been used specifically for this case study to date, although under the Marine Act, the MMO and IFCA have the power to implement this incentive once sites are designated and management measures are put in place.

- **L2** International-regional-national-local legal obligations that require the fulfilment of the priority operational objective, including the potential for top-down interventions

There are several legal obligations behind the operational objective in this case study. At the international level, the main legal driver is the MSFD (see Qiu and Jones, 2013 for an EU-level overview of policy and legislation).

The primary legal incentive is the [Marine and Coastal Access Act 2009](#)¹⁶⁹ (referred to as Marine Act throughout this report). Under section 123 of the Marine Act, the appropriate authority (the Secretary of State for the Environment, for English waters) must designate Marine Conservation Zones (MCZs), with the objective of (together with other existing designated MPAs) forming a network protected areas that is representative of the range of features present in UK waters. MCZs can be designated for the purpose of protecting threatened, declining, rare, or representative marine features (including geological and geomorphological features) of the marine environment. It is this legal objective that forms the basis for the operational objective in this case study. Subsections 1-4 of Marine Act section 123 are cited here:

‘Creation of network of conservation sites

(1) In order to contribute to the achievement of the objective in subsection (2), the appropriate authority must designate MCZs under section 116.

(2) The objective is that the MCZs designated by the appropriate authority, taken together with any other MCZs designated under section 116 and any relevant conservation sites in the UK marine area, form a network which satisfies the conditions in subsection (3).

(3) The conditions are—

(a) that the network contributes to the conservation or improvement of the marine environment in the UK marine area;

(b) that the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area;

(c) that the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site.

¹⁶⁹ <http://www.legislation.gov.uk/ukpga/2009/23/contents>

(4)For the purposes of subsection (2), the following are “relevant conservation sites” —

- (a)any European marine site;
- (b)the whole or part of any SSSI;
- (c)the whole or part of any Ramsar site.’

In terms of top-down interventions, section 125 of the Marine Act sets out the general duties of public authorities (such as the MMO, the IFCAs, and the EA) in relation to management of MCZs, stating that they must exercise their functions in such a way as to further (or at minimum, not hinder) the achievement of site-specific conservation objectives for MCZs. Section 129 of the Marine Act sets out their power to make byelaws prohibiting or restricting any activities in MCZs, or regulate activities to (e.g. by issuing permits).

Sections 139-142 set out the penalties that can be imposed on anyone contravening byelaws, through prosecution and conviction in court (maximum fine level 5 on the standard scale, currently £5,000), or through fixed monetary penalties imposed directly by the MMO (maximum fine level 1 on the standard scale, currently £200).

Section 141 (4) is significant, in that it sets out a defence means that in effect, fishermen cannot be successfully prosecuted for the offence of contravening MCZ byelaws:

‘It is a defence for a person who is charged with an offence under section 140 to show that—

- (a) the act which is alleged to constitute the offence was—
 - (i) an act done for the purpose of, and in the course of, sea fishing, or
 - (ii) an act done in connection with such an act, and
- (b) the effect of the act on the protected feature in question could not reasonably have been avoided.’

The Marine Act contains a clause in Section 141, subsection 5, which opens up the possibility that the ‘sea fishing defence’ may be removed in future:

‘The Secretary of State may by order amend this section so as to remove, or restrict the application of, the defence provided by subsection (4).’

Section 141(4) caused concern amongst conservation NGOs during the drafting of the Marine Act, as illustrated by [this](http://www.wcl.org.uk/docs/2009/Link%20Marine%20Bill%20Amendment%20Commons%20General%20offence%20sea%20fishing%20defence%20Oct09.pdf)¹⁷⁰ October 2009 letter to Government from Wildlife and Countryside LINK, an umbrella group of conservation organisations.

It is possible that the ‘sea fishing defence’ in section 141 (4) was included in the legislation because of the practical difficulties of imposing fishing restrictions though the existing regulations under the EU’s Common Fisheries Policy. Whilst MCZs can be designated in

¹⁷⁰[http://www.wcl.org.uk/docs/2009/Link Marine Bill Amendment Commons General offence sea fishing defence Oct09.pdf](http://www.wcl.org.uk/docs/2009/Link%20Marine%20Bill%20Amendment%20Commons%20General%20offence%20sea%20fishing%20defence%20Oct09.pdf)

English and Welsh offshore waters, under current CFP regulations (COUNCIL REGULATION (EC) No 2371/2002, currently under review), Member States cannot unilaterally restrict fishing activities beyond their territorial waters (or beyond 6nm where foreign vessels have historic fishing rights) on anyone other than their own fishermen. The existence of the 'sea fishing defence' makes it very difficult for any effective restrictions to be imposed on UK fishermen alone. However, what section 141 (4) means is that, in effect, *any* prosecution of fishermen contravening MCZ regulations is hindered, even within 6 nautical miles (where non-UK vessels cannot fish).

- **L3** Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfilment of the priority operational objective, whilst avoiding a complete 'command-and-control' approach

As MCZs are not yet implemented, it is not clear whether this incentive will be used.

- **L4** Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users

As MCZs are not yet implemented, it is not clear whether this incentive will be used. However, there are already concerns that there is not enough funding to support future MCZ implementation: During the summer 2012 stakeholder interviews (appendix 4), a statement expressed repeatedly by those interviewees with an insight into their local IFCA, was that IFCA's do not have sufficient capacity to cover their conservation remit, and significantly lack the resource they will need for MCZ surveillance and enforcement.

- **L5** Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *e.g.* at national, EU or international level

As MCZs are not yet implemented, it is not clear whether this incentive will be used.

- **L6** Clarity and consistency in defining the legal objectives of the existing initiative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority operational objective and existing plans/regulations for the management of individual sectoral activities

The definition of this incentive covers a number of different points, some of which describe incentives or actions that have happened during this case study, and others which have not (at least to date).

Legal objectives

These are clear. As described under L2 and in section 2.2.1, The Marine Act clearly sets out the overarching goal of implementing a representative MPA network. Additional policy guidance from Defra set out the overall policy objective in more detail (e.g. Defra GN1).

General and zonal use restrictions

As discussed at length in section 6.5.8, there is absolutely no clarity on activity restrictions in MCZs, zonal or otherwise.

Roles and responsibilities of different authorities and organisations

In general terms, the roles and duties of different authorities and organisations in relation to MCZs are laid out in part 5 of the Marine Act:

- The MMO and IFCA have specific duties to manage the sites in such a way as to ensure that the site-specific conservation objectives are met (the Marine Act requires each site to have specific conservation objectives), and to monitor and enforce the sites. They have powers to make byelaws to restrict activities where necessary in order to achieve the site-specific conservation objectives.
- Other public sector bodies and authorities have a general duty to carry out their responsibilities in such a way as to further (or not hinder) the conservation objectives within MCZs.
- The SNCBS act as advisors on how to achieve conservation objectives, and have a role in monitoring of environmental features in sites, but they are not site managers, decision-makers or enforcers.
- The Secretary of State for the Environment has the power and duty to designate MCZs.

The Marine Act does not prescribe any detailed process for planning or implementation of MCZs. The planning process was defined in the PDG (see section 1.1.2), which was authored by the SNCBS - but this covered the planning stages only. There is no document that describes the current and future MCZ decision making and implementation process in equivalent detail, at least not in the public domain. The stakeholder interviews in summer 2012 revealed that it is unclear to many stakeholders how this process is going to work in detail (appendix 4).

Relationship between the initiative and existing plans / regulations for the management of individual sectoral activities

There is no significant degree of integration between the MCZ process and the various processes for management of individual sectoral activities. However, the stakeholder process for planning MCZ recommendations allowed MCZs to be planned within the context of other on-going and planned activities, and it is possible that in future, there will be better cross-sectoral integration with the development of regional marine plans by the MMO (see sections 2.5 and 4.2).

- **L7** Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international levels

As MCZs are not yet implemented, it is not clear whether this incentive will be used.

- **L8** Scope for legal flexibility –subsidiarity, adaptive management and local discretionary action – maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of the priority operational objective

During the MCZ planning stage, there were the regional stakeholder groups which were tasked with developing the sites recommendations, but these regional structures no longer exist.

It is not clear, at this stage, to what degree this incentive might be used during the implementation of MCZs. A degree of subsidiarity is written into the Marine Act, in that for

inshore areas, the IFCA have responsibility for MCZ implementation, and IFCA committees include local government and stakeholder representatives. Both the MMO and the IFCA could, in theory, delegate some of the implementation roles (e.g. developing management measures, site monitoring and enforcement) to 'lower level institutions', as long as they ensured that the site-specific conservation objectives were being met.

However, as stated under L6, there is currently no clearly laid out implementation process for MCZs. It is not clear, for example, whether in the medium to long term, the IFCA/MMO may wish to work together with regional or local groups or organisations on any of the various MCZ implementation tasks (e.g. monitoring, enforcement).

- **L9** Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority operational objective.

The Marine Act requires public consultation on MCZ plans, prior to site designation. There are also legal requirements for public consultation prior to the implementation of MCZ byelaws by the relevant public authorities. It is debatable whether the requirement for public consultation 'counts' as part of this incentive, but public consultation does allow multiple sectors to view and comment on MCZ plans and byelaws before they are implemented. Beyond this, there is no official or legal basis for coordination between different sectoral agencies or policies, specifically relating to the priority objective in this case study.

However, in a wider sense (beyond the MCZ process, specifically), the creation of the MMO under the Marine Act was partly done to achieve better cross-sectoral integration for activities in the marine environment, transferring a number of functions relating to fisheries management, nature conservation and renewable energy developments which had previously been held by different organisations to the MMO (for details, see part 1 of the Marine Act). The development of marine plans by the MMO (see section 4.2) will aim to achieve better cross-sectoral integration.

- **L10** Legal or policy basis for promoting cross-jurisdictional coordination between member states.

During the MCZ planning process, the JNCC facilitated communication with fishing stakeholders from other EU countries, in part because the CFP requires any restrictions on fishermen in offshore waters to undergo consultation with affected stakeholders.

Other than the CFP requirements, however, there is no official legal or policy basis for promoting cross-border coordination specifically for MCZs implementation.

- **L11** Establishing legal provisions to ensure the transparency in policy processes, *eg* statutory requirements for public access to information, appeals, public hearings, *etc*

As stated under L9, the Marine Act requires public consultation on MCZ plans, prior to site designation. There are also legal requirements for public consultation prior to the implementation of MCZ byelaws by the relevant public authorities.

Independently of the MCZ process and its underpinning legislation, there is the Freedom of Information Act (2000), which in principle makes it obligatory for any public organisation

(including Defra, the MMO and SNCBs) to release any information they have on any given subject upon request. However, there are exemptions. Some of these are obvious, e.g. information relating to national security, or information protected under the Data Protection Act (1998), such as personal health records. Other exemptions include requests that would be too costly to the public body in question.

There is no legal requirement that the MCZ process as a whole be transparent, nor that all relevant information be made public as a matter of course. The establishment of the regional MCZ projects marked a shift towards greater transparency, compared to the way in which SNCBs operate in other protected area processes (e.g. *Natura 2000*). The regional projects strived for maximum levels of transparency right from the start, circulating draft documents when there was demand, and publishing a record of all planning meeting and progress reports, including maps reflecting the development of the MCZ recommendations.

The end of the regional projects marked the end of this openness. The summer 2012 stakeholder interviews (appendix 4) revealed a significant lack of transparency in the process since then. Although some information was available, it was not transparent what meetings were taking place between interested parties. There may not have been any active efforts to keep things ‘behind closed doors’, but without any significant effort to publicise meetings / open them up / share minutes, it was not clear to everyone who was talking to whom about MCZs, and who (if anyone) was wielding influence on shaping the SNCB advice, or on Defra’s response to the SNCB advice and subsequent content of the planned consultation, or on shaping the process itself.

In summary, although there are some legal provisions to promote transparency in public processes, this does not mean that the MCZ process is currently transparent.

5.1.6 Participative Incentives

- ***P1*** Developing participative governance structures and processes that support collaborative planning and decision-making, e.g. user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, etc, including training to support such approaches

This incentive was used intensively during Finding Sanctuary - it was, in essence, what the regional project was established to do. Section 1 outlines the stakeholder process with its working groups and their role in planning MCZ recommendations, and the process is described in further detail in part I of Finding Sanctuary’s final report. The report of SG6 also includes a short summary, with a graphic representation of the meetings within the stakeholder process that is reproduced here in figure 5.1.

The stakeholder process in Finding Sanctuary was cross-sectoral, representative of all relevant interests (the sectors represented on Finding Sanctuary’s steering group are listed in section 1.1.5, and full membership details can be accessed [here](http://finding-sanctuary.org/page/steering-group.html)¹⁷¹). The project aimed to facilitate dialogue, understanding, and compromise across sectors. The regional stakeholder groups (in Finding Sanctuary, as well as the three other regional projects) were given a

¹⁷¹ <http://finding-sanctuary.org/page/steering-group.html>

significant role in the early planning discussions, and were able to make recommendations for MCZ location and boundaries, within parameters prescribed in the national ENG.

However, since the end of the regional stakeholder group meetings in 2011, the incentive has not been used at all in the MCZ process. There will be a public consultation on the MCZ proposals (scheduled to begin in December 2012), so there will be some participative elements in the process to come, but the public consultation will not entail any cross-sectoral discussion nor will it support collaborative planning – it is merely an opportunity for any sector, group, or individual to comment on the proposals scheduled to go forward in the first tranche of MCZ designations. It is not clear what influence the consultation responses will have on the outcome.

In the long term, it is uncertain whether this incentive will be used again during the implementation of sites. This abrupt change is undermining the benefits gained from the participative process, as discussed in more detail under P2 and in section 5.2 below. It is a reflection of a clash between two different planning approaches that the MCZ project has attempted to combine. This clash is elaborated on in more detail in section 4 and section 7, and in the discussion of cross-cutting themes (section 6).

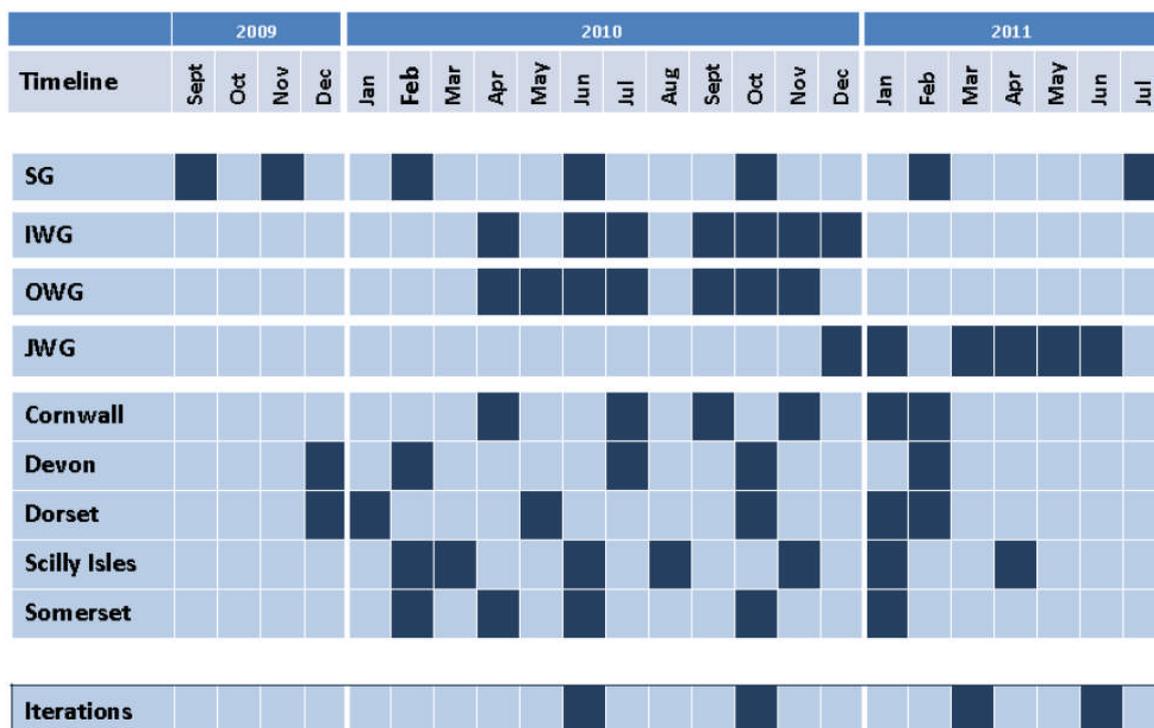


Figure 5.1 An illustration of the intensity of the participative process. Each dark coloured box represents a month where a stakeholder group meeting took place. SG = main regional Steering Group; IWG, OWG, and JWG = Inshore, Offshore, and Joint Working Groups. The bottom five rows indicate Local Group (LG) meetings (there was overlap in the membership of the LGs and the SG, but not all LG members sat on the regional SG). Section 1 provides more detail on these stakeholder groups and their role in Finding Sanctuary.



Figure 5.2 Cross-sectoral discussions during the development of MCZ recommendations during a Finding Sanctuary Offshore Working Group meeting.

- ***P2*** Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority operational objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect

As stated under P1, Finding Sanctuary was a participative project which gave responsibility to local stakeholders to develop MCZ recommendations (based on top-down guidelines). There has been no continuity to the role of stakeholders beyond the planning stage, however – the regional stakeholder projects no longer exist, and there are currently no specific plans to re-engage with cross-sectoral, fully representative stakeholder platforms. There is no clear perspective for many stakeholders as to whether or how they might be able to influence the MCZ process now or in the future (beyond responding to the planned public consultation scheduled to start in December 2012, where it is uncertain what questions they will be able to address, how much influence their responses will have on the outcome, or how opposing views in different responses will be weighed up against each other).

In terms of managing expectations, it was clear from the PDG (see section 1.1.2) that the regional projects and stakeholder groups were created specifically for planning MCZ recommendations, and that they would cease to operate in 2011. In that sense, no

unrealistic promises were made by Government or its agencies to stakeholders over what their role would be. Nevertheless, at the end of the stakeholder process there was a sense of disappointment amongst a large proportion of the SG that there were no clear prospects for the group to continue to play a significant role in the MCZ process, especially in the discussion around management measures. They had gained a sense of ownership over the recommendations, and many found the experience of working as part of a cross-sectoral group valuable and interesting (see summer 2012 stakeholder interviews, appendix 4).

Furthermore, most felt that because they had not been able to properly address or gain any clarity on MCZ management measures and activity restrictions, the task they had been given was incomplete. There was a sense, especially during the final stakeholder meetings, that the process was now being taken out of their hands in order for the 'important decisions' to be taken by others behind closed doors, devaluing their overall contribution in the planning process. This led to a great degree of frustration and disillusionment, especially amongst those who had committed a significant amount of time, knowledge and effort to the process.

In their final recommendations, the Steering Group explicitly stated that they would like to continue to operate and have a meaningful longer-term role. A joint statement, drafted at SG6 to accompany the project's final recommendations, made this clear (bold text added):

'SUGGESTIONS ON NEXT STEPS

To achieve meaningful implementation and necessary levels of buy in to MCZs:

There should be a review of the MMs [management measures] proposed from the final (sense checked) VA¹⁷² process. **This should include us as regional stakeholders**, enabling us to work through them in the appropriate level of detail. This should take place before the SNCB advice to DEFRA and therefore well before the public consultation, and the results from it fed into the public consultation. **We would want to have time to take the results of this to the local stakeholders that participated in the Finding Sanctuary process for their views and response.'**

In terms of future implementation of MCZs, it is certain that IFCA's will have a significant role for inshore sites (within six nautical miles). This is an element of decentralisation that is written into the Marine Act (see the text under L6), which means there will be some degree of local government involvement in site management. However, the detailed process of site implementation will only become clear as the process unfolds, and it is uncertain whether there will be any specific drive towards further decentralising roles to local people.

There will be less decentralisation for offshore sites (beyond six nautical miles), for which the MMO has statutory management duties, and for which fishing activity will have to be managed through the CFP.

¹⁷² 'VA' in this quote stands for 'vulnerability assessment' – see section 6.5.10.

➤ ***P3*** Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

This incentive was used during Finding Sanctuary. However, since the end of the regional stakeholder process, this incentive is no longer in use.

With the formalisation of Finding Sanctuary, and with support from the project's facilitator, an extensive stakeholder analysis was carried out, leading to the expansion of the Steering Group to make it representative. Over the course of the subsequent planning process, clear rules were established for participation in the Steering Group and Working Groups, including rules for working with substitute members and external experts. These were written down as a protocol, and kept under review by a 'process group', which included the facilitator, project team and stakeholder representatives, with process group reports shared openly, and decisions reviewed by the wider Steering Group (please refer to part I of Finding Sanctuary's final report for more detail).

The stakeholder interviews carried out in summer 2012 reveal that, since summer 2011, there has been a degree of bilateral engagement between SNCBs / Defra and individual stakeholder organisations or sectors over the on-going MCZ process, but this lacks transparency (i.e. it is not clear who has met with whom in what forums, or what the discussions covered). It also seems to favour larger 'national' stakeholder organisations, who have on-going engagement with SNCBs / Defra through forums such as the UKMBSG¹⁷³ or the MMO's national stakeholder forum (section 2.5). There is little indication of efforts to keep stakeholder engagement fully representative and equitable, e.g. by enabling local or regional stakeholder representatives who are not part of larger, national organisations to have access to the process in the same way.

It should be noted here that despite the rules and protocol in place during the formal phase of Finding Sanctuary, the issue of representation was raised frequently by some of the participants in the process, and some of the most protracted discussions within the Steering Group and Working Groups concerned this issue (e.g. the long discussion about MCS membership at SG3, described in section 3.1.6).

The commercial fishing representatives, in particular, were concerned that they did not form a large enough proportion of the stakeholder group. This was driven by a combination of factors:

- the view that their sector should have more say than others, because they stood to lose more than others
- a fear that decisions were going to be taken by majority voting within the Working Groups and Steering Group, so that decisions would directly reflect the proportions of sector representatives (i.e. a fear of being 'outvoted')
- the difficulty for a small number of representatives to adequately represent the views and interests of a diverse sector covering a large region

¹⁷³ UK Marine Biodiversity Policy Steering Group, comprised of Government departments, devolved administrations, and advisory bodies.

The following extract from the report of OWG5 illustrates some of the above points about the fishing sector stating that they needed more representation within the process, despite the fact that by this stage, they were holding specific south west fishing industry meetings (supported by Finding Sanctuary staff) in advance of the Working Group meetings, to help prepare their representatives reflect the range of views within the sector, as pointed out by the facilitator in this example:

‘The group talked about the difficulties they have in responding to building blocks without having the required knowledge - some feel a need to have additional people in the room, but at the same time there was acknowledgement of the importance of maintaining the group balance. [...]

Fishing representatives reported that there is some frustration and anger within the industry about their inability to access appropriate knowledge for decision making. The facilitator noted that the fishing industry are having their own sector meetings to help collect this information and congratulated them on this initiative.

A new protocol on how substitutes and experts should be used within Working Group meetings was introduced. [...]

Regarding experts participating in meetings it was noted that it is reasonable to make a request for a very specific piece of knowledge, but it won't solve a general lack of knowledge. Large numbers of experts coming to meetings won't necessarily help and would undermine the work taking place between meetings.

The fishing industry representatives pointed out that they needed more knowledge from the South Devon and Cornish fleet.’

The difficulties in obtaining inshore fishing information through the CFPO / FisherMap collaboration was also used as an argument for additional fishing representatives, as illustrated by this quote from the report of IWG2:

‘We have not yet received the Cornish fishing data. Dave has been finding it difficult to get the CFPO to agree to hand over the collected data. There is at least VMS data for the offshore areas, but the worry right now is that the inshore Cornish fishing fleet are being disadvantaged as there is no data available to the FS project about where fishing takes place. It was suggested that adding a Cornish inshore representative to the IWG would help bring that much needed fishing knowledge into the meeting, but there is the dilemma of bringing a new person into the group at this stage. These fishing representatives are definitely in the Cornish Local Group and at least information is being passed through this route. Tom Hooper and Dave Cuthbert will need to continue the discussion about better communications between the Cornish fishing representatives and the project.’

it should be noted that many representatives of sectors other than fishing similarly found it challenging to represent their constituency (e.g. the ports representative during the later stages of the process – see below). Being a ‘sector representative’ was a challenging job for many, a fact referred to many times during WG meetings. This example is from OWG1:

“There will need to be time allocated at the start of each meeting to react to the views/concerns of the wider stakeholders as this may affect the suggestions that have been agreed.

[...]

The OWG members would take the map of building blocks back to their constituents and explore possibilities to work with in the next OWG meeting in May”

“The OWG were given the opportunity to mark which of the identified sites had advantages from a personal perspective, However, OWG members felt it was hard to be certain that areas are not contentious within their sector without first talking to them. Therefore to attribute sites with a “yes” or “no” would be relying on guesswork at the moment. It was discussed whether it was possible to identify advantageous sites based on current knowledge, accepting that they will be investigated further.”

[...]

“The group would like to be able to take the site suggestions to their sectors in order to ensure there are no major issues which need to be brought up within the OWG. It was highlighted that it is the OWG members’ responsibility to take this information to their constituents to shape further discussions. The group feels that it will take a long time to discuss these suggestions with their sectors, before ticking sites which they feel are possibilities”. ‘

Representation also posed some challenges at the Local Group level. All Local Groups were open to all sectors, and they were intended to be fully representative, but there was less resource available to support them in the same way that the regional groups were supported, and there was less control over continuity of membership. The external facilitation and the protocol mentioned above did not extend to the Local Groups, the management of which was left to their respective co-ordinators. This sometimes resulted in different sets of stakeholder interests being present at different meetings, meaning that the nature of the local group proposals sometimes reflected the make-up of the representatives who happened to be at a particular meeting, rather than being agreed to by a fully representative cross-sectoral set of stakeholders.

One clear example is the area of Poole Bay, which was originally proposed for inclusion in the network by the Dorset Local Group, but subsequently the Dorset Local Group asked for the same site to be removed. This was because the initial proposal was made at a local group meeting where static gear fishermen had been present, but no local mobile gear fishing representatives attended. Having seen the site (which they disagreed with) appear in the developing network configuration, local mobile gear representatives attended a subsequent local group meeting in large numbers, exerting pressure to ask for the site to be removed again (this is also described under conflicts, in section 3.5.2).

As indicated above, representation was also a significant issue for the ports sector. At the expert meeting prior to IWG6, the ports sector highlighted the need to speak to individual port authorities within the estuaries under discussion, as they are independent statutory

bodies not represented within the stakeholder groups (the ports representatives were from trade associations, and felt unable to represent specific ports).

‘Ports have similar concerns to renewables – risk of extra mitigation costs, loss of development opportunities; also concerned that ports are already heavily regulated so why add another designation layer and that they are not given opportunity to participate in WGs in a manner proportionate to their stake, particularly given EA prioritisation of estuaries to be designated MCZs’

Because it was not possible for the IWG to engage directly with every port authority in the region, this work was undertaken by the ports representative on the Steering Group, who liaised with each port authority to provide feedback on the developing MCZ proposals directly back to the project team, who processed the information and brought it back to the stakeholder group where relevant. When the conflict between the Environment Agency and the ports sector became significant (over proposals to include estuaries within the recommendations, see section 3.3.4), two IWG members attended a separate short series of ‘estuaries’ meetings, supported by the project team, at which the port authorities and the Environment Agency were present. This provided for stronger representation of these sectors where it was needed to resolve an impasse in the process.

➤ ***P4*** Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc*, recognising that this can lead to an ‘upward spiral’ (Ostrom 1999) of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc* can lead to a ‘downward spiral’

This incentive was used during Finding Sanctuary, but has not been used at all since the end of the regional stakeholder process.

Government’s stated policy aim was ‘to develop an ecologically coherent and well-managed network of Marine Protected Areas (MPAs) that is well understood and supported by sea-users and other stakeholders’ (page 4 of Defra GN1). The ‘well-understood and supported’ part was the reason why the participative approach piloted by Finding Sanctuary was endorsed and rolled out to other regions in England through the national MCZ project. At the time, the national MCZ project emphasized that the regional projects were striving for transparency and participation across all sectors in order to help build understanding of, and support for, recommended MCZs.

Over the course of Finding Sanctuary, trust and social capital were built between stakeholder representatives who met regularly, as well as between stakeholder representatives, the regional project team, and facilitators. This was especially true for the Working Groups, who worked together most frequently and intensively. The social capital generated was apparent in the way the working relationships developed, with a degree of group cohesion, trust and respect between individuals, even where there were significant disagreements. In the later working group meetings (the JWG meetings), the observer’s notes frequently remark on the good-humoured atmosphere in the room, or jokes made with diffusing laughter, even when difficult discussions were being held.

What became evident was that the building of trust and social capital takes time, and continuity in stakeholder group membership as well as project staff. This allows working relationships to become established, and knowledge to be shared and accumulated over time, forming the basis of discussions exploring trade-offs and trying to find compromise. With the exception of the area around the Isles of Scilly, the initial planning meetings with the IWG and OWG yielded little in terms of stakeholders developing the network recommendations, i.e. drawing site boundaries. This is most clearly reflected in the first progress report to the SAP, which contains a virtually empty map of developing proposals (except for 'building blocks' brought to the table by the project team).

It became clear that the first few meetings were time that the stakeholder representatives needed to get to know each other, the project staff and the facilitator, and begin to assimilate the ENG and the diversity of spatial datasets they were presented with. The atmosphere of these early meetings, and the small amount of progress made in terms of 'getting on with the task' (i.e. mapping out sites), are in contrast with meetings later in the process where much more significant progress was achieved.

The summer 2012 stakeholder interviews (appendix 4) also reflect that social capital was built through the Finding Sanctuary process, with virtually all interviewees stating that they had felt a degree of ownership over the project's final recommendations, and most stating that they had found working as part of a cross-sectoral group one of the most positive aspects of the project.

However, in the final stakeholder meetings, some of the trust, ownership and goodwill that was built up throughout the project were beginning to be undermined because of the way in which the definition of draft conservation objectives was effectively being taken out of the control of the group. This was especially evident at JWG6, and SG6 (the final meetings within the project).

The summer 2012 interview responses further illustrate that the social capital generated through the regional stakeholder group has been significantly undermined through a lack of an on-going role for the SG, the lack of transparency in the on-going MCZ process, and the lack of a clear perspective for stakeholders' roles in the future. There is a real risk that the benefits generated through the participative aspects of the regional stakeholder projects are now being undermined and lost. Several interview respondents stated that they thought future stakeholder engagement would be more difficult, because after having experienced the way the MCZ process now seemed to be sidelining people and ignoring key elements of the stakeholder recommendations, stakeholder representatives would be wary of investing time and effort in future processes. In that sense, the 'upward spiral' that was beginning to be generated through the regional stakeholder groups may have now turned into a 'downward spiral'.

- **P5** Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users

Finding Sanctuary's planning process was highly transparent, with maps of the developing network configuration, stakeholder meeting reports, progress reports, and SAP feedback available throughout the process to any interested parties through the stakeholder representatives and the project website. The GIS data for the developing network configuration was also made available by the project team to those who requested it. The reports captured the stakeholder discussions, providing a record of how their input shaped the recommended site locations and boundaries.

Following the end of the regional projects, the SNCBs developed additional advice on the recommended MCZs, which was provided to Defra in July 2012. The SNCB advice [is available online](#)¹⁷⁴, and it followed a series of [protocols](#)¹⁷⁵ which were consulted upon and published in advance.

The PDG (see section 1.1.2) sets out what happens up until decisions are made on site designation:

'Although not bound by the recommendations of the regional MCZ projects, Ministers will attach considerable weight to them and take account of the accompanying impact assessments especially where recommendations are based on consensus between participating stakeholders. Lack of consensus should not prevent regional MCZ projects from submitting recommendations to the SNCBs, nor prevent Ministers designating sites. Once proposed MCZ sites have been considered by Ministers, wider Government approval will be sought before commencement of the formal public consultation. There will be a 12 week formal public consultation period following the Government Code of Practice on Consultation.'

However, at the time of writing, it is not clear what will be covered in the public consultation, whether all of the recommended MCZs will be included, and what specific questions the consultation will invite commentary on. It has been stated publically (e.g. [on Defra's website here](#)¹⁷⁶, and in the November 2011 Ministerial Statement quoted in section 1.1.7) that there will be a 'first tranche' of sites designated in 2013. Whilst it seems likely that the basis for prioritising sites will be the underpinning levels of evidence (see section 6.5.6), there is no transparency about current discussions within Defra and/or SNCBs on which or how many sites will go forward, based on what criteria. There is also lack of clarity on what will happen if (as is likely) the first tranche will not satisfy ENG criteria - whether there will be future tranches, and when / how those might take place.

Finally, there is no indication of the stakeholder narrative accompanying the final recommendations from Finding Sanctuary having any influence either on the prioritisation of sites for the first tranche, or for the development of management measures in the future. In

¹⁷⁴ <http://jncc.defra.gov.uk/page-6229>

¹⁷⁵ <http://jncc.defra.gov.uk/page-5999-theme=default>

¹⁷⁶ <http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/>

summary, despite the fact that there is plenty of material publically available regarding the current MCZ process, on matters of substance that are of genuine interest to stakeholders, there is little transparency.

In terms of potential benefits and costs, an [impact assessment](#)¹⁷⁷ has been completed on the final MCZ recommendations. This attempted to estimate the range of possible monetary costs of implementing the network (£237.5m to £817.5m), as well as provide a qualitative description of benefits. The fundamental problem faced by the impact assessment was the same problem that undermined much of the stakeholder work: the lack of certainty on how sites will be managed (see section 6.5.11). The summary of the impact assessment effectively states as much:

‘Management will be decided after designation, so plausible scenarios are used to describe the additional management of activities that may be needed. Uncertainty in the management that may be required is addressed through the use of more than one scenario, which reflects the potential range of impacts. Scenarios do not pre-judge the management that will be required in practice and may be underestimates or overestimates of the true impact of MCZs.’

The management ‘scenarios’ considered by the impact assessment were informed by the ‘vulnerability assessment’ process (see section 6.5.10), which continued beyond the end of the stakeholder process. As a result, scenarios were included in the impact assessment which were not presented during the stakeholder group meetings, nor did they necessarily match the assumptions that stakeholders had made when planning their recommendations (as recorded in the stakeholder narrative, see section 6.5.9). So, whilst the impact assessment is a public document, it is based on a series of management scenarios that were only finalised after stakeholders were asked to make their decisions on site locations and boundaries, and which do not ‘pre-judge’ what will actually happen once sites are designated.

From the stakeholders’ perspective, this does not add up to a process that fully meets the definition of incentive P5. On balance, therefore, this incentive can be regarded as partially implemented in this case study.

- **P6** Providing for participative enforcement amongst users, *e.g.* peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of restrictions

As MCZs are not yet implemented, it is not clear whether this incentive will be used.

- **P7** Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfilment of the priority operational objective

This incentive has not been used in this case study, for the same reasons as discussed under E1.

¹⁷⁷ <http://publications.naturalengland.org.uk/publication/2071071?category=1730361>

- **P8** Promoting recognition & realisation of the potential for a the participative governance of the existing initiative to influence the higher-wider statutory framework, processes and obligations, *i.e.* that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution

There is no evidence that this has happened in this case study. It could be argued that the adoption of the participative planning approach and the rolling out of the regional stakeholder projects based on Finding Sanctuary's model, following the pilot phase, is an example of this incentive. However, with the end of the regional projects, there has been no continuity to the regional, participative structures, and the process has reverted to a more 'traditional' process led by public bodies and Government. In that sense, it may have been a temporary development rather than 'co-evolution', which implies something more on-going.

- ***P9*** Bringing in 'neutral' facilitators to support governance processes and negotiations or training state employees to do so

Finding Sanctuary employed neutral facilitators ([RK Partnership](http://www.rkpartnership.co.uk/)¹⁷⁸) to provide facilitation during stakeholder meetings, and process advice to the project team. Their role within the formal phase of Finding Sanctuary was highly significant, advising on process matters, supporting the project team in defining tasks for each stakeholder meeting and the materials necessary to support those tasks, as well as facilitating the meetings themselves.

However, since the end of the regional projects, there is no longer any requirement for independent stakeholder facilitation.

- **P10** Employing 'neutral' and widely respected panels to arbitrate on issues, conflicts, options, *etc* and recommend decisions

This incentive has not been used in this case study. The Science Advisory Panel existed as an independent advisory body during the operation of the regional projects, but their remit was to provide scientific advice focussed on whether or not the recommendations met ecological and scientific benchmarks. They cannot be regarded as neutral, nor was their role to arbitrate on issues or recommend decisions.

¹⁷⁸ <http://www.rkpartnership.co.uk/>

5.2 How to improve governance through better use of incentives

5.2.1 Incentive summary overview

Table 5.1 provides a summary overview of the incentives used in this case study. There are several key points that emerge from this summary overview:

1) *The number of incentives in full use is small*

Only 5 of the 36 incentives listed in the analytical framework are used fully and continuously in this case study (i.e. including the on-going MCZ process after the end of Finding Sanctuary).

The list of 36 incentives is derived from the observation of real-life MPA case-studies carried out by Jones *et al.* (2011). Each incentive has been used in reality in an MPA process, somewhere in the world. It is not a theoretical construct trying to come up with a fully exhaustive list of every conceivable incentive that could theoretically be used. Since Jones *et al.* (2011) analysed twenty case studies from across five continents, so it is likely to be a reasonably exhaustive list of the incentives currently in use. Nevertheless, with additional research and with time, more incentives could be added to the list (a suggestion for an additional one is made at the end of this section). It would also be possible to split up and categorise the incentives in different ways.

For the above reasons, one should be cautious about over-interpreting the significance of the proportion of the total number of incentives in use in a specific case study. Nevertheless, what can be stated clearly is that, in this case study, there are many incentives that could potentially have been used but weren't – either not used at all, or only used in part /for a limited period of time. It is notable that, out of the 10 incentives that were not used at all during this case study, the use of six (E1-E4, L1 and P7) was made a practical impossibility by the lack of clarity in activity restrictions that will have to apply in MCZs (see section 6.5.8).

2) *The pattern of use of incentives differs markedly between categories*

Economic incentives are hardly used at all in this case study – the lack of upfront decisions on activity restrictions in MCZs makes their use a practical impossibility. Many of the legal incentives will be applicable only in the implementation stage of MCZs, so it is uncertain whether or not they will be used. One fact that is clear from table 5.1 is that participative incentives were heavily used during the planning phase, but have since been dropped (indicated by green letters with red asterisks). The two knowledge incentives in the same category are both closely related to participative incentives.

3) *The number of incentives used has decreased since the end of the regional projects*

Perhaps the most striking fact apparent from table 5.1 is that 8 incentives were fully used during the regional stakeholder projects, but have been dropped completely since then, bringing the total number used during the regional project phase to 14 instead of the current six. The incentives in question are five participative incentives, two knowledge incentives directly related to a participative process, and one economic incentive. Not only are far fewer incentives in use now than during the regional project phase, but the dropped incentives are overwhelmingly incentives related to stakeholder participation, which were used intensively for a period of time, and then dropped. In other words, there has been a marked change in the nature of the whole process, towards a much more centralised, top-down process.

Table 5.1 Overview of incentives used in this case study, during Finding Sanctuary (FS), and since the end of Finding Sanctuary. The colour-coded categories are explained in section 5.1.1. Keywords for each incentive are shown – the subtitles in the previous section contain their full descriptions.

	Used throughout	*Used in FS, but not since*	used in part	not used	n/a
<i>Economic Incentives</i>					
customary use promotion				E1	
certainty to industry				E2	
alternative livelihood promotion				E3	
compensation				E4	
sufficient funding			E5		
*NGO / corporate funding *		*E6*			
<i>Interpretative incentives</i>					
maps	I1				
resource benefits			I2		
ecological benefits	I3				
<i>Knowledge incentives</i>					
address uncertainty			K1		
independent arbitration				K2	
collective learning / diverse knowledge		*K3*			
stakeholder mapping		*K4*			
maximise scientific knowledge	K5				
information sharing				K6	
<i>Legal incentives</i>					
conditional use				L1	
legal obligation for priority objective	L2				
sensitive legal interventions					L3
sufficient resource for enforcement					L4
effective enforcement					L5
clarity in process			L6		
appeal / adjudication					L7
subsidiarity					L8
multisector integration			L9		
cross border			L10		
transparency	L11				
<i>Participative incentives</i>					
participative working		*P1*			
decentralisation		*P2*			
clear rules on participation		*P3*			
social capital		*P4*			
transparent planning & decisions			P5		
participative enforcement					P6
local traditional use				P7	
Co-evolution				P8	
* facilitation*		*P9*			
neutral panel				P10	

5.2.2 Improving governance through better use of incentives

Use a greater number and a more diverse range of incentives

Not all of the listed incentives are relevant for both planning and implementation - many of the legal incentives describe potential aspects of site implementation. Given that the case study is about a process that has not yet entered its implementation stages, it is inevitable that several of the incentives have not been used yet. These are the 'black' incentives, categorised as 'n/a' in table 5.1.

Nevertheless, it is clear from the above that there was the potential for many incentives to have been used which have not been used to date, or only used in part. Putting in place a larger number and wider range of incentives, if done in a clear and well-integrated manner, would lead to a more robust process and likely better outcome (Jones *et al.*, 2011). However, the MCZ process, rather than increasing and diversifying the range of incentives used over time, has actually drastically reduced the number of incentives in place since the beginning of the process. While Finding Sanctuary operated, 13 incentives were used, now the number is down to five (and arguably, one of those five incentives – L11 – is not particularly effective).

Create clarity by deciding on activity restrictions and management measures at an early stage

There are 10 incentives that could have been used from the beginning of the MCZ planning process, but weren't. Out of these 10 incentives, the use of six (E1-E4, L1 and P7) was made a practical impossibility by the lack of clarity on activity restrictions that will have to apply in MCZs. If site management had been clarified before the start of the stakeholder process, or had been determined as part of the stakeholder process, then a greater number of incentives could have been used during planning. Improved governance through the implementation of a greater range and diversity of incentives would require the elimination of this process-generated uncertainty.

Regional projects were only ever tasked only with recommending site boundaries and conservation objectives. As indicated under P2 (section 5.1.6), regional project participants overwhelmingly felt that the task was not 'complete' and meaningful without considering management of the sites. However, the national MCZ process treats the determination of activity restrictions and management measures as a separate task, to be done following the designation of spatial locations as MCZs, with a likely gap of months or years between the two.

As was pointed out repeatedly and emphatically by a whole spectrum of process participants (not least by Finding Sanctuary project staff to the national MCZ project board at the time), treating the two as separate tasks, and leaving the determination of activity restrictions and management measures until the end, was highly problematic for the regional project. As discussed in section 5.1.6, the uncertainty had negative impacts on the participative incentives that were used. A directly related issue was discussed in sections 3.1 and 3.2: The uncertainty drove a great deal of complexity within the conflicts that arose during the stakeholder process, thereby slowing progress down significantly, and reducing clarity in the project outputs.

Clarity about site management would also allow to better plan ahead for future use of incentives during site implementation. For example, it is currently impossible to plan ahead for L4 (sufficient resources for enforcement) without having any idea on *what* will need to be enforced.

Improve continuity in participative incentives

A lesson to be learnt from Finding Sanctuary is that the effective use of participatory incentives requires time, dedicated support, continuity in stakeholder group membership, and regularity of meetings (see the discussion under P4). It took several meetings of the SG and WGs for stakeholder representatives to understand the process and their role in it, the ENG, and the large amount of information they had to work with (largely in the form of maps e.g. see figure 5.2 in section 5.1.6). For this learning to happen, it was important to have continuity within the group, i.e. the same individuals meeting regularly (rather than the same organisations or sectors represented by different people). Time and continuity in membership were also needed in order for group members to get to know each other and the project team, to establish working relationships and a basic level of trust.

This is illustrated by the fact that at the start of the formal phase of Finding Sanctuary, the record of meetings shows a degree of reticence amongst the group to suggest areas for MCZs, whereas there was more willingness amongst some members of the group to highlight areas they would like to see not considered as MCZs (at SG2, 58 'no MCZ here please' sites were drawn on a big map at the front of the meeting room, versus 33 'yes to an MCZ here please' sites). At the end of the 'first iteration', the only site suggestions that had originated from the stakeholder group where the Isles of Scilly sites (virtually unchanged in the final recommendations), which had been suggested by the Isles of Scilly Local Group. In addition, the Inshore Working Group had suggested some tentative boundary alterations of 'MCZ building blocks' originating from the project team, for three locations: Torbay, Start Point and Padstow. As a consequence, the 'developing network configuration' maps in the first progress report to the SAP were virtually blank (although the project team had created 'building blocks' for discussion, these had not been included in the developing network by stakeholders at this point).

This situation contrasts with the final recommendations delivered by the same stakeholder group a year later. After working together intensively over this period, their final recommendations contained 58 recommended sites. With the exception of the 13 recommended reference areas (which fishing representatives explicitly did not support), there was a significant sense of joint ownership felt by stakeholder representatives over the recommendations – they did not all support all of the sites (or even MPAs in principle), but there was a sense amongst most of them that they had had a genuine opportunity to shape the recommendations, and do a good job of working together, finding compromises, and meeting the ENG whilst minimising negative impacts where possible. This is illustrated by the statements made during the summer 2012 stakeholder interviews (appendix 4), as well as by the records of the last JWG meeting (JWG6) and the last Steering Group meeting (SG6). The presentations made by the JWG to the SG at the final SG meeting, in particular, highlight the fact that participative incentives had worked well within the JWG.

At the final Steering Group meeting, there was a sense of frustration at the fact that decisions within the process were increasingly being taken out of the remit of the stakeholder's influence, and that some of the early outcomes of the 'vulnerability assessments' (see section 6.5.10) did not match the assumptions that the group had been working under. The group made a joint statement highlighting their concerns about this, as well as expressing a clear wish to continue to have a role in the process. The fact that this statement was adopted by the group as a whole can be seen both as a demonstration of the success of the participative incentives up until that point (they valued their role and wanted it to continue), as well as a criticism of the fact that the participative incentives

were being dropped. This is the statement they made (VA refers to the 'vulnerability assessments' described in section 6.5.10):

'FINDING SANCTUARY STEERING GROUP COMMENTARY ON ITS WORK

We have worked hard as a group to achieve the targets set by ENG guidance. As a project we have worked with a set of assumptions that enabled us to construct a network of MCZs.

As an example, although a blanket ban on bottom trawling was used by the group as a working assumption we are not comfortable turning this into a recommendation because of the reasons below and also because different gear types have different impacts on different sea bed types and habitats. Therefore there could be different management measures for different gear types providing evidence on impacts can be risk assessed.

The VA process appears to be an attempt to provide the certainty that we used our assumptions for. We are not comfortable with the VA outputs (in particular for the inshore sites) because:

- The information and evidence arrived too late so we have had no time to consider what it means and to review our decisions in the light of it
- The evidence underpinning it is too scant
- for at least some sites (e.g. Torbay) applying the VA outputs appears to go against input from and agreement by, local stakeholders
- in some cases local knowledge has led us to believe that
- management measures don't seem to support the COs
- some COs are wrong e.g. set as maintain when should be recover and vice versa

SUGGESTIONS ON NEXT STEPS

To achieve meaningful implementation and necessary levels of buy in to MCZs:

- There should be a review of the MMs proposed from the final (sense checked) VA process. This should include us as regional stakeholders, enabling us to work through them in the appropriate level of detail. This should take place before the SNCB advice to DEFRA and therefore well before the public consultation, and the results from it fed into the public consultation. We would want to have time to take the results of this to the local stakeholders that participated in the Finding Sanctuary process for their views and response.
- The public consultation process would encompass COs and MMs. The rationale for each MM should also be provided.'

The summer 2012 interviews (appendix 4) revealed that the sense of ownership over MCZs, and the social capital within the stakeholder group, have both been lost since the end of the regional stakeholder process. They have been undermined by the lack of continuity in the process from the perspective of the stakeholder groups.

Following the interview period in summer 2012, a stakeholder workshop had been planned in order to discuss the preliminary findings of this analysis, and give stakeholders the opportunity to provide further feedback on their role in the process. All 42 former Finding Sanctuary Steering Group members were invited, but even with detailed follow-up of the invitations, there was so little

interest that the workshop had to be cancelled. This can be seen as further evidence of stakeholder fatigue, and loss of interest in and ownership of the MCZ process. It also illustrates the importance of giving stakeholders a meaningful and genuinely influential role in order to incentivise their participation and goodwill – a comment repeated by several interviewees in summer 2012 was that they were no longer willing to attend ‘talking shops’, where significant issues would be discussed, but there was no tangible outcome following their investment of time, effort, and money in attending the discussion.

As stated under P2, it was clear from the project delivery guidance, and from the statements made by Defra and the SNCBs throughout the regional projects, that the regional projects were created specifically for planning MCZ recommendations, and that they would cease to operate in 2011. In that sense, no unrealistic promises were made by Government or its agencies to stakeholders over what their role would be. Nevertheless, once the group had developed a sense of its role, and ownership over the process, they valued their input, and stated repeatedly that they would have liked to continue to have a role in the process. Given the lack of definition of management measures, many considered the planning task to be unfinished when their role ceased.

One of the most frequent themes that was brought up by interviewees was the sense of a complete change in the nature of the process, which many described as a ‘pause’, a ‘hiatus’, or ‘radio silence’. Not only do the regional stakeholder groups no longer meet, but the regional project teams no longer exist to provide regular, reliable information about the on-going MCZ process to the full range of stakeholders. Although there is a national ‘MCZ newsletter’, which is sent by the JNCC to stakeholders, this has been infrequent, and has been perceived as being too generic and high-level by many (‘the sort of thing aimed at the general public’). There has been some direct engagement between SNCBs or Defra and specific sector representatives, but this has favoured larger organisations and national stakeholders, and has largely been *ad-hoc* (see P3, and appendix 4).

Several interviewees stated that they felt they had had very little or no proper information about the MCZ process since the end of Finding Sanctuary’s stakeholder meetings (‘radio silence’), and it was not always clear to them why there was such a long time gap between the submission of their final recommendations and the start of the public consultation (now scheduled for the end of 2012, a full 16 months after Finding Sanctuary’s final Steering Group meeting). It is interesting to reflect that this is the case despite the fact that there are large volumes of information about the current process available – but this information does not address the key issues, questions and concerns that stakeholders have.

In addition to continuity in the use of participative incentives, there should also be continuity in the use of associated knowledge incentives. One of the characteristics of the MCZ process is a shift in the use of knowledge incentives, with the stakeholders being advised to base their recommendations on ‘best available evidence’, but the national process now taking an ‘evidence-based’ approach. This shift, with its associated risks and drawbacks, is discussed at length in section 6.5.6.

Using knowledge incentives in a participative process requires dedicated support

One lesson emerging from this case study is the importance of a dedicated support structure for knowledge incentives to be used effectively within a participative process (this applies especially to incentives K3 and K4, which both depend on a process that contains some elements of

participation). This means dedicated technical staff who understand the participative elements of a process, who work directly with the participants (stakeholders), understand their needs, and are able to respond to their needs in a swift, uncomplicated and non-bureaucratic manner.

In order for knowledge to be shared effectively (K3), it needs to be communicated well. In a spatial planning context, that generally (though not exclusively) refers to spatial knowledge, which is best communicated on maps (including interactive GIS tools). Creating those maps requires technical support (GIS staff). Good communication requires understanding the needs of the target audience, which in turn is best done by establishing a working relationship between them and technical staff. Having a dedicated support team, including technical staff, and having direct and regular communication between them and the stakeholder participants allows incentive K3 (collective learning) to extend to project staff as well as stakeholders.

Comments made by stakeholders in their meeting feedback, and observations by the independent observer, often highlighted both the value of the support received from technical staff, as well as the fact that the staff went through a steep learning curve during the process. The initial ideas which the project team had for making knowledge accessible to the stakeholder group turned out to be impractical and unwieldy. However, they were able to respond to critical feedback, and over time, they developed a series of interactive planning tools and maps that were tailor-made to specific tasks within the process. The presentation of information was often modified following requests made by stakeholders. This effort by the project team was valued by the stakeholders, a fact that is reflected in the final process evaluation and feedback carried out at SG6, where the support from the project team received high satisfaction scores from the group.

A case could be made for including an additional knowledge incentive on the list currently within the framework: provision of dedicated, continuous technical and GIS support within a participative process, with staff directly involved in meetings and planning work.

6 Cross-cutting themes

6.1 Top-down versus bottom-up elements within the MCZ process

6.1.1 Top-down / bottom-up interactions and the clash of planning approaches

As outlined in section 4, one of the most salient characteristics of the MCZ process emerging from this analysis is that it attempts to bolt together two fundamentally different approaches, which in practice do not meld together at all. The first approach is based on systematic conservation planning principles, and includes significant elements of bottom-up stakeholder participation (combined with strong top-down elements). The second approach is much more deterministic, ‘evidence-driven’, feature-focused, and is almost entirely top-down.

During the time the regional projects were in place, the regional projects were taking the first approach. Initially, this was supported by the national project partners, i.e. the SNCBs, and (to start with) Defra. The national project partners set up the regional projects in the first place, and produced vital guidance such as the ENG, as well as providing key datasets. Over time, however, there was an increasing push from the national project partners towards the second approach. Since the end of the regional projects, the process has shifted almost entirely to the second approach, the participative elements of the first approach having been dropped completely, and the implementation of the systematic ‘network’ elements increasingly uncertain.

In discussing the interactions between top-down and bottom-up elements within the MCZ process, therefore, this more fundamental clash of approaches inevitably emerges as a related theme. The clash was introduced in section 4.1, and is summed up in section 7.1. Section 5.2 discussed the dropping of participative incentives since the end of the regional projects (i.e. a move away from bottom-up elements), which is a significant aspect of the shift between the two approaches.

Because section 5.2 has already covered the loss of bottom-up elements (participative incentives) at the end of the regional projects, and the issues arising from that loss, this section focuses more on the time period during which Finding Sanctuary operated and the bottom-up elements were still in place. The combination of top-down and bottom-up elements within the MCZ process at the time was challenging. Where they met, they frequently created tensions, rather than interfacing in a seamless, integrated manner. Sections 6.1.2 – 6.1.6 explore some of the places where this tension was most evident:

- Section 6.1.2 describes tensions between regional and national levels of the MCZ project. The sub-headings in this section may seem somewhat disparate – but the unifying theme is that each of these process aspects sparked tensions between the national and regional project levels at the time:
 - The regional projects, by their very nature, were challenging established ways of working within the national partner organisations.
 - Finding Sanctuary strived to maximise openness and transparency in all aspects of the process.
 - There were delays in key national guidance and datasets, in the face of tight regional project timelines.
 - Defining the format and content of the final recommendations caused difficulties.

- Finding Sanctuary strived to resolve the uncertainty about activity restrictions in MCZs, but ultimately lacked the power and remit to achieve this without clear national guidance on the matter.
- Section 6.1.3 discusses the development of the ENG, and delays in its publication.
- Section 6.1.5 focuses on the role of the SAP.
- Section 6.1.6 briefly discusses the *Natura 2000* planning process, which was still on-going at the time that Finding Sanctuary operated. Although not part of the MCZ process, and therefore not the subject of this governance analysis, *Natura 2000* sites are intended to form part of the wider ecologically coherent network of marine protected areas. Compared to the MCZ process, the *Natura 2000* process took a much more deterministic, top-down route from the beginning, so this discussion is relevant to the wider analysis of top-down and bottom-up elements in the case study.
- Section 6.1.7 deals with the role of Government in the process, and relationships between Government and its agencies with stakeholders.

Following the discussion of problems and tensions in relation to these aspects, section 6.1.7 briefly reflects on some of the successes of the process in combining top-down and bottom-up elements.

6.1.2 Tensions between regional and national levels within the MCZ project

The challenge of a new approach to marine conservation planning

Finding Sanctuary was the first regional project to become established, and it was initially set up as a pilot project to test out a new approach to marine conservation planning within the UK context. Significantly sized UK MPAs had, up until that point, mainly been established through the *Natura 2000* process, which is characterised by a very science-driven, top-down, feature-by-feature approach, essentially designed to protect a limited list of species and habitats named within the underpinning EU legislation (see section 2.2.1).

As outlined at the beginning of section 1, the initial idea for the Finding Sanctuary pilot was to trial an approach that was different in two significant ways:

- by planning at a regional scale, with the aim of establishing a representative, ecologically coherent network (rather than simply a collection of sites aimed at protecting specific features)
- by giving a significant role to a cross-sectoral platform of stakeholders from the beginning of the planning process, aiming to maximise levels of support for the sites

Many of the elements of this new approach (referred to as ‘approach 1’ in sections 4.1 and 7.1) were in line with new Government policy that was emerging at the time. Defra GN1 (and its practical interpretation in the form of the ENG), embodied a systematic, network-scale approach to planning, to be implemented under the new Marine Act. This represented a significant shift compared with the *Natura 2000* process. Integrating stakeholders into the planning from the start, through formalising Finding Sanctuary and establishing three additional regional projects, was an even more significant shift.

Throughout the operation of Finding Sanctuary, the regional project was trialling new ways of working (within the UK context, at least). In doing so, Finding Sanctuary was, from its very beginnings, essentially challenging established ways of working within Government and its agencies

(e.g. ways of working established in the *Natura 2000* process). Despite the policy shift described above, at times, this led to tensions between the regional project and national MCZ project staff.

The role of the regional project staff required them to interact with stakeholders on a day-to-day basis, which meant that they developed an understanding of the tools and incentives that would enable stakeholders to engage constructively, as well as an understanding of which process elements were creating obstacles to effective and meaningful participation. As a result, they developed clear ideas about how the process needed to be designed and modified as it progressed, and what sort of support and guidance it would require from national MCZ partners to make it successful in terms of delivering outcomes whilst enabling genuine participation.

National MCZ project staff were several steps removed from these direct interactions with stakeholders. In turn, however, they had a much better understanding of the evolving national policy context of the process than regional project staff. SNCBs (and Defra) therefore often had a different perspective on the way the process needed to be designed and modified, and of the most appropriate ways for them to support it. Furthermore, established internal sign-off procedures within the SNCBs often made it difficult for them to respond to regional project requests swiftly.

The SNCBs essentially faced the challenge of having to play multiple roles within the process (stakeholders, statutory advisers, and project managers), as highlighted in section I.2.4 of Finding Sanctuary's final report. SNCBs were also concerned with meeting their respective statutory obligations to Government: Given it was the SNCBs' statutory duty to make MCZ recommendations to Defra, the delegation of the MCZ design task to the regional projects and their stakeholder groups represented a considerable risk to them. If the regional projects had not delivered any outcomes, the SNCBs would have carried the responsibility, and would have had to be accountable to Defra. This put pressure on SNCB staff to retain a degree of control of the regional projects.

Defra were initially part of the national MCZ project board, thereby assuming some of the direct responsibility for managing the process in a way that would ensure success of the regional projects. However, in March 2010, they stepped back from the national board, assuming the role of what they termed a 'critical friend'. They still attended national project board meetings, but were no longer part of it, leaving the responsibility for managing the process to Natural England and the JNCC.

Regional project staff found themselves at the 'sharp end' of the planning process. They were the first to encounter obstacles, and the first to suggest pragmatic solutions in the face of limited time available, based on a thorough understanding of the stakeholder dynamics of the process, and the data and technical tools available. The SNCBs, on the other hand, found themselves caught between their obligations as Defra's statutory advisers, and upward pressure from the regional projects, who were challenging ways of working, and demanding support (guidance, datasets) with very short turnaround times.

It is perhaps important to reflect at this point that this analysis is being carried out by a former member of the Finding Sanctuary project team. As a result, the analysis reflects a thorough understanding of the regional project perspective, which is probably not matched by equally detailed insights into the perspectives of the national project partners. The cover note of this report contains a statement of the main author's positionality, and appendix 1 contains a detailed description of the information sources and methods used to ensure a degree of objectivity within this analysis.

Transparency

One of the ways in which regional projects challenged established ways of working was through striving for maximum transparency in all aspects of the MCZ planning process. This clashed with the institutional structure and existing working culture within SNCBs and Defra, who have a tendency to require lengthy internal ‘sign-off’ procedures with documents, datasets and guidance having to be approved at multiple organisational levels before they are published. There is a differentiation between ‘inward facing’ and ‘public facing’ information, with anything that is still work in progress generally kept ‘inward facing’.

In contrast, Finding Sanctuary was faced with the need to make progress within tight deadlines, the need to develop trust with stakeholder representatives, and the need to allow the stakeholders sufficient time to understand their role, their task, and the information they would have to work with. The most straightforward way to do this was to be as transparent as possible, and endeavouring to make information (including spatial data) and guidance as accessible as possible.

Given a small project team that operated independently of any large organisational structure, project staff had the freedom to develop interim guidance and share information as they saw fit (with the exception of Defra or SNCB ‘inward facing’ documents that had been shared ‘in confidence’). Interim documents were shared with stakeholders, marked as ‘interim’ and / or ‘work in progress’, and with appropriate disclaimers to ensure that non-official documents were not misrepresented as having been endorsed by the national project partners.

This willingness to share information, and to react to stakeholder questions and requests to information relatively quickly, was vital in establishing a relationship of trust with the stakeholder group (e.g. requests to represent particular datasets on maps, or change the presentation of spatial data to make it more easily interpretable).

The project team also found it beneficial to share information at an early stage in order to have it scrutinised and criticised by the stakeholder group, as this sometimes highlighted mistakes and omissions that the team were able to rectify. For example, early versions of fishing byelaw maps within the ‘regional profile’ (a package of maps and notes prepared for the stakeholder group, described in section 1.5.1 of the project’s final report) were criticised as containing errors by representatives from the (then) Sea Fisheries Committees – the same representatives were subsequently able to help the project team map out correct boundaries for existing fisheries byelaws.

The stakeholder groups adopted a similarly transparent approach to the work they were doing, by agreeing to publish maps of their developing network recommendations throughout the process. For some of the stakeholders, this transparency was uncomfortable at times – for example, section 3.3.3 discussed how representatives of the renewables sector initially thought that publishing early ‘building block’ maps containing wind farm areas was ‘irresponsible’ and potentially damaging to their sector. Ultimately, though, keeping these maps in the public domain proved beneficial in catalysing input into the project (as well as, in the case of the Atlantic Array wind farm, resolution of an important conflict).

Since the end of Finding Sanctuary, there has been little genuine transparency in the national MCZ process. Although a lot of information has been made publically available (e.g. the SNCBs’ MCZ

advice protocols, the MCZ impact assessments, and the SNCB MCZ advice to Defra published in July 2012), none of this material sheds significant light on key questions:

- which / how many sites will be put forward for the first tranche,
- what criteria the tranching will be based on,
- how sites will be managed,
- what discussions and meetings have been taking place, and who has been involved, in making decisions or influencing Government's thinking on the above

In other words, the national process currently is not doing the equivalent of Finding Sanctuary publishing developing network recommendation maps as they were being worked on, nor is it doing the equivalent of publishing Working Group and Steering Group meeting reports (i.e. providing an open record of the meetings that were developing and influencing the shape and content of the MCZ recommendations, and the content of the discussion at those meetings).

The summer 2012 stakeholder interviews (appendix 4) further illustrate that the current process completely lacks transparency on any matters of real substance, as far as stakeholders are concerned. Several people commented that they did not understand what is /was actually happening within the 14-month gap between the regional projects delivering their final recommendations in September 2011, and the scheduled start of the public consultation in December 2012, nor did they understand why such a long gap was necessary.

The degree to which the public consultation documents will shed light on the above points remains to be seen.

Delays in national guidance versus tight regional project deadlines

Because Finding Sanctuary was the first regional project to be established, it was often the first project to come up against new challenges in the stakeholder process, and the first to request particular pieces of information, clarification or guidance from the national project partners. As stated above, the institutional structure and internal sign-off processes within the SNCBs made it difficult for them to respond quickly to these requests – these organisations are currently not set up to work in a fast, reactive fashion, when it comes to marine protected area planning.

As a result, a lot of key guidance documents and datasets that were provided by national project partners to the regional projects were significantly delayed (see section 1.7 of Finding Sanctuary's final report for a detailed discussion), a fact that caused frustration within the regional projects (including within stakeholder groups). Conversely, national project staff were put under continuous pressure from regional projects to deliver guidance and datasets within limited time.

Tensions over these delays were exacerbated significantly by the short timeframe that the regional projects operated within. Delays in key documents such as the ENG (and later on, the COG and national sensitivity matrices - see sections 6.5.7 and 6.5.10) significantly compressed what was already a very short planning timeframe to begin with: Regional project staff and stakeholders felt squeezed, and towards the final planning stages, increasingly rushed.

Concerns about the short timeframe of Finding Sanctuary were raised by stakeholders from the earliest parts of the process (SG induction meeting), and continued to be highlighted throughout the process. They were still being mentioned in the summer 2012 stakeholder interviews as one of the key shortcomings of the process (see appendix 4).

One important consequence of the compression of Finding Sanctuary's timeframe was the 'squeezing together' of what had been intended to be a sequence of progressive planning iterations. Initially, the project intended to have a round of stakeholder group meetings in each iteration, with the project team submitting a progress report to the SAP at the end of each iteration. The SAP would then provide feedback, which would go back to the stakeholder groups to be considered in the following planning iteration.

Within each iteration, there were two rounds of intensive Working Group meetings, at which detailed planning discussions took place. These were followed by a wider Steering Group meeting at which the WGs' progress was reviewed, before the project team wrote up the progress report, circulated it back to the SG for comment, and then wrote up the comments before submitting the progress report to the SAP. Each individual stakeholder meeting required planning, preparation and writing up, and the SG meeting at the end of each iteration needed to be completed with enough time to allow the progress report to be written and then commented on by stakeholders (not a small task, given the third progress report exceeded 400 pages in length). In turn, the SAP required a full month to turn around their feedback (they had four regional projects to consider).

The only way to 'fit' all the necessary meetings into each iteration (allowing sufficient planning, preparation and reporting time for each one) was to start the working group meetings for each iteration before the SAP feedback from the previous iteration had been received – in some cases, before the previous iteration's progress report had even been submitted. The process was compressed to the point that the iterations were forced to overlap in time, the SAP were commenting on progress reports that effectively lagged behind the sequence of stakeholder meetings, and SAP feedback from the previous iteration could only be considered by stakeholders as they were reaching the end of the following iteration.

Whilst the national project partners recognised the very short timescales and the very intensive workloads of the regional projects, there was very little done in practice to alleviate the problem. There was a three-month extension to the final deadline, but this came along with a significant additional task for the regional projects to complete (see section 6.5.10). Therefore, the delays to key national guidance and datasets were met with limited patience by regional project staff and stakeholders alike.

Arguably the one of the most significant delays happened at the very beginning of the formal phase of Finding Sanctuary - the delay in the publication of the national ENG (see section 6.1.3). Once the ENG were published, an immediate key question from the regional stakeholders (at SG1) to the project team was how much the existing MPAs in the south-west region already contributed towards meeting the ENG criteria (since the ENG were for the MPA network as a whole, not specifically for the MCZ component).

On the face of it, this was an obvious and straightforward question. The project team were able to calculate, based on best available GIS data, the area of broad-scale habitat and the number of FOCI records that fell within the boundaries of the existing MPAs in the region. However, the existing sites are not managed as integral areas – instead, they are designated to protect specified individual features within them. 'Unlisted' features within site boundaries are, technically, not protected – but may 'incidentally' receive protection from measures implemented targeted at the protected features.

Since the management of existing MPAs depends on advice from the SNCBs, the ‘final answer’ to this basic question from stakeholders could not be answered without SNCB input. When the SNCBs were asked to provide an answer, the final response (referred to as the ‘gap analysis’) took several months, as it opened up internal debates within the SNCBs over how to approach the question – some unexpected complexity was down to different habitat definitions used by different designations. This created significant difficulty for the regional project team, who had to provide feedback on the progress towards meeting ENG targets to the stakeholder groups as well as the SAP, from the very beginning (see pp. 23ff of the second progress report, section on ‘gap analysis’). This feedback had to take account of the contribution made by the existing sites. The final version of the gap analysis was not received until the run-up to JWG1, i.e. the third planning iteration (see section I.7 of Finding Sanctuary’s final report).

As mentioned in section I.7 of Finding Sanctuary’s final report, the delay in the completion of the gap analysis was exacerbated by technical problems. The national MCZ project had invested considerable resource into the development of an ‘MPA reporting tool’, a package of GIS tools designed to automate much of the ENG calculations which the project team (and SNCB staff) had to carry out repeatedly in order to assess the developing network. One component was a ‘gap analysis tool’ designed to complete the gap analysis. There were repeated delays and technical hitches with the development of this set of GIS tools, which was, in the end, not used to any significant degree by Finding Sanctuary staff.

Defining format, scope and content of the final recommendations

Section I.4 of Finding Sanctuary’s final report describes the process through which the format of the project’s final deliverables was defined. In September 2010 (one year before the project’s submission deadline), the Finding Sanctuary Project Team and facilitator introduced a framework for what the materials in the project’s final submission would look like. In addition to key ENG-related statistics for individual sites and the network as a whole, this framework gave significant space for a ‘stakeholder narrative’ to accompany site recommendations. The stakeholder narrative formed an integral component of the stakeholders’ recommendations, as it was the only space where they were able to address uncertainties within the process, and state the assumptions they were basing their recommendations on.

The project team faced a challenge when, very late in the process, the SNCBs provided the regional projects with a standardised template for ‘Selection Assessment Documents’ (SADs), to be written up for each site in the recommendations. The SADs were to replace the framework developed by Finding Sanctuary, to ensure the final recommendations were presented in a format that was consistent for all four regional projects, and contained all the information required by the SNCBs for their subsequent work in developing their national MCZ advice to Defra. A draft SAD template was circulated for discussion in April 2011, with the final version not being made available to Finding Sanctuary until June 21st, 2011 (nine weeks before the project’s submission deadline).

The national SAD template required a much higher level of detail on some aspects of the sites than the project team had envisaged or planned for. In particular, it requested high levels of detail on the ecological information underpinning each sites, and asked for a scientific literature review for each site. This request reflected the shift within the process from using ‘best available evidence’ to an ‘evidence-based’ approach (see section 6.5.6).

At the same time, the SAD structure did not make space for any stakeholder narrative, despite this being such a key element of the stakeholders' work (see section 6.5.9). The importance of the narrative had been emphasised repeatedly by regional project staff to national project partners. For this reason, Finding Sanctuary did not adopt the SAD structure as a wholesale replacement of their existing report structure, which had evolved over the course of the progress reports. Instead, they attempted to adapt their existing structure to integrate the additional sections required in the national template, whilst maintaining the stakeholder narrative sections.

The outcome was not entirely satisfactory for anyone in the process. Incorporating the SAD into the existing report structure so late in the process put a lot of pressure on the project team, which was already faced with a very large workload. This impacted negatively on the quality of the final report, not least on the clarity and presentation of the stakeholder narrative, which had not been finalised by stakeholders until the final Steering Group meeting in June 2011, and therefore had to be written up within the short time available between the final meeting and the submission deadline.

Some of the SAD requirements, especially the feature-by-feature presentation of the draft conservation objectives as defined by the COG (see section 6.5.7) resulted in long and unwieldy sections being added to the final document. The final report exceeded 1000 pages in length, making it virtually inaccessible to stakeholders or a wider audience (although this was mitigated by the production of a 100-page summary report, and a very accessible summary brochure).

The most likely drivers for the shift towards an 'evidence-based approach', which in turn drove some of the SAD structure, were external to the MCZ process and not within the control of the SNCBs (see section 6.5.6). It is likely that the pressure they placed on regional projects so late in the process, in terms of drafting the feature-by-feature conservation objectives and writing up the 'evidence base' for each recommended site in great detail, was an attempt to safeguard the future integrity of the recommendations, by maximising the likelihood that the sites would 'pass' the required evidence benchmark.

Most fundamentally, then, the tensions over the format of the final recommendations were caused by a lack of appreciation of the significance of the shift towards an 'evidence-based' approach within the regional project team on the one hand, and a lack of appreciation of the value and importance of the stakeholder narrative by the national project partners on the other hand. This represents more than a simple tension between top-down and bottom-up elements of the process. In essence, it represents a point within the MCZ process where a clash between approach 1 and approach 2 becomes manifest (see sections 4.1 and 7.1).

Resolving uncertainty and defining activity restrictions in MCZs

The uncertainty about activity restrictions in MCZs proved to be a significant obstacle within the stakeholder process – stakeholders were asked to develop recommendations for site locations and boundaries without any certainty on how those sites would impact on their interests (described as 'flying blind' by one of the interviewees in the summer 2012 stakeholder interviews). This is a recurrent theme that has been referred to throughout this analysis. It is dissected in detail in the second part of section 6.5.

Defra were never supportive of a process that made decisions on site management upfront, i.e. it was never in line with wider Government policy to resolve the uncertainty at the time that the regional projects were still operating. Finding Sanctuary attempted to address this uncertainty in a

number of different ways (see section 6.5.9), but the project fundamentally lacked the power or remit to resolve the issue. All it could do was suggest practical solutions, which it suggested to national project partners (see sections 6.5.9 and 6.5.10).

The SNCBs were somewhat 'caught in the middle' – conscious of their duty to provide advice to Defra in line with Defra policy, but at the same time, facing constant reminders from Finding Sanctuary about how much of a problem the uncertainty about activity restrictions represented for the stakeholder process, and constant pressure to adopt the project's proposed solutions.

The detail is covered in section 6.5.9, but in summary, regional project staff suggested the following ways of addressing this key uncertainty within the process:

- by defining a set of MCZ 'types' (or zones) with pre-defined restrictions
- by giving stakeholders the remit to recommend activity restrictions
- by providing unambiguous top-down guidance in the form of feature / activity 'compatibility matrices', indicating clearly which activities would be impacted, depending on which specific features were being protected in a given site

The original idea of the project was to develop a pre-defined set of MCZ 'types' with different levels of restriction (e.g. something akin to 'type A – no-take', 'type B – no commercial extraction of any kind but allow recreational activities', 'type C – allow some low-impact commercial extraction as well as recreational activities'), and to develop a set of ecological network design guidelines that would include rules about building each of these MCZ 'types' into the network. This could have been done by allocating ENG-style targets to each MCZ 'type' (e.g. 'x% of habitat y in type A, x% in type B').

This idea was developed during Finding Sanctuary's pilot stage, based on approaches that had been taken elsewhere, e.g. during the California MLPA. At the time, Finding Sanctuary lacked any official remit, and it was free to explore ideas without being bound to a specific set of national policies or legislation (the Marine Act had not yet become legislation).

In 2008, the project convened a series of scientific expert workshops to inform the development of a set of MCZ 'types' and ENG-style criteria, based on the above ideas as a starting point. In part, this thinking was influenced by the prospect of being able to use Marxan with Zones as an optimisation tool to support the process, and in part, it was influenced by the experiences gathered in the California MLPA, and the experience of the 2004 Great Barrier Reef Marine Park re-zoning (see section 1).

With the subsequent formalisation of the project, however, it became clear that defining ecological criteria was going to fall beyond the remit of Finding Sanctuary. The national ENG were instead developed by JNCC and Natural England, in line with Defra policy guidance. Although Defra GN1 (then in draft form) covered key principles of systematic, network-scale conservation planning, it did not go support the establishment of protection levels upfront. The only sites for which such clarity was provided (in draft form, at least), was for reference areas (see section 3.3.10). Although Finding Sanctuary project staff heavily advocated an upfront 'zoning' approach at the time, this was never supported by national policy.

When it became clear that Defra would not support an approach based on up-front definition of activity restrictions, Finding Sanctuary instead argued that the remit of the stakeholder group should include the recommendation of management measures (meaning 'activity restrictions' – there was

some confusion of terminology, as explained in section 6.5.10), with the SAP providing feedback on how appropriate they were. This is illustrated in the answers provided to stakeholder questions in the addendum to the report from SG1:

‘As the project team, we have always maintained that recommending protection levels needs to be an integral part of recommending sites, and should therefore be the role of the Steering Group. Otherwise, we cannot have a meaningful discussion about the location of sites and the economic and social impacts resulting from different network options. This is a position that we continue to maintain strongly, in ongoing discussions with our national partners and Defra. We will, of course, keep the Steering Group updated with relevant progress and developments.’

At SG2, there was an explicit recognition that certain matters were beyond the control of Finding Sanctuary, but that the project team should continue to try and exert influence on the national process:

‘It was AGREED that:

Tom Hooper will take it to the National MCZ Project Board that the Steering Group need to recommend the levels of protection for the MCZs that they propose.”

“Process Group members are to make themselves more visible at the SG meetings SG members should try their best not go over things that are unchangeable or that are out of the control of the FS process e.g. the National process. However, the group agreed to direct the Project Team to send key messages to influence certain national issues where necessary.’

However, as the project progressed, and at the latest when the COG was published in February 2011, it became clear that it would be beyond the remit and capacity of the stakeholder group to recommend appropriate activity restrictions in MCZs. Site management was to be ‘fine-tuned’ depending on the status and sensitivities of individual, named species and habitats in each site, with the definition of conservation objectives and activity restrictions following a very narrow, deterministic pathway (defined in the COG). This pathway would have to be applied to each individual protected species and habitat in each individual site, requiring large amounts of scientific evidence to underpin each step. It was not a task that could realistically be completed by the stakeholder group, nor would they have been empowered to exert any meaningful role in the process.

After receiving an early (unpublished) draft of the COG in late 2010, Finding Sanctuary project staff raised serious concerns and objections to this approach. However, as it became increasingly clear that the national process was going to go down this complex feature-specific route, the regional project staff developed an alternative suggestion for providing stakeholders with clarity on future MCZ activity restrictions. They argued strongly for clear, official (i.e. nationally endorsed) guidance to be provided to the stakeholder group on the implications of including given species and habitats within the conservation objectives for a site, in the form of a compatibility matrix. The project staff went as far as developing an ‘interim’ compatibility matrix, to test the practicality of this approach within the stakeholder group setting (see section 6.5.9). The national matrices that were eventually provided in response to this request, however, did not provide the necessary clarity (see section 6.5.10).

Essentially, the process was designed in such a way as to disempower everyone directly involved in the regional projects (including the SAP) from providing any certainty on activity restrictions – the uncertainty was effectively designed into the process. The regional project pushed hard for a solution (through the above suggestions), but no-one who might have had the power to resolve the issue took responsibility to remedy it in any effective way. Essentially there was a ‘tug-of-war’ situation, with the regional project pushing for a simplified, strategic approach that would provide clarity, and the SNCBs having to ‘push back’, in line with Government policy.

Again, fundamentally this tension was a manifestation of the clash of approaches that runs through the MCZs process. Finding Sanctuary was advocating and trying to catalyse a new approach at the national level, at the same time as implementing the new approach at the regional level. Government and its agencies, however, ultimately reverted to established ways of working (see section 7).

6.1.3 The Ecological Network Guidance

The development of the ENG

The [Ecological Network Guidance](#)¹⁷⁹ (already introduced in section 1.1.2, and referred to as the ENG throughout this document), written by Natural England and the JNCC, was a document of key importance for the regional projects and their stakeholder groups, as it provided a translation of the term ‘ecologically coherent MPA network’ into a set of practical design guidelines that were based on the best data available. It set out spatial design criteria, including quantitative targets for amounts and replicates of broad-scale habitats and FOCI¹⁸⁰ to be represented within the network, and guidance on the spacing between sites. Without this document, it would not have been possible for the Steering Group to embark on their task, as they would not have known the ‘rules of the game’ which they needed to adhere to in their deliberations and negotiations.

The ENG have been described as a strong top-down element in the process (Jones, 2012). They were developed by Government agencies (subject to scientific peer review), and imposed on the stakeholder group without any consultation. From the stakeholders’ perspectives, therefore, there had been no participative process that decided the rules of the game that they were asked to participate in. They were presented with the rules from the top down, and were told that the ENG were the benchmark against which the quality of their proposals would be assessed (and this is what happened in the SAP feedback and in the July 2012 SNCB MCZ advice to Defra: an assessment of the network against the ENG criteria).

Whilst the description of the ENG as a top-down set of rules is entirely appropriate in the above sense, it is worth reflecting in more detail on the process through which the ENG were created. The reality is that the ENG did not come from the *very* top down – they were authored by the SNCBs, not Defra. In that sense, the ENG’s status can be seen as advice from the SNCBs (to Defra as much as to the regional projects). The ENG represents practical advice on how Defra’s policy goals (as well as legal obligations under the Marine Act, and international commitments to OSPAR) can best be met

¹⁷⁹ http://jncc.defra.gov.uk/PDF/100705_ENG_v10.pdf

¹⁸⁰ FOCI stands for ‘Feature of Conservation Importance’, and refers to a list of rare, threatened or otherwise important species and biotopes with their own specific targets in the ENG.

at a given point in time, based on the knowledge and data available at that point. The ENG do not, however, constitute formal Defra guidance to the SNCBs and / or regional projects.

The process of writing, reviewing and publishing the ENG was drawn out over a very long period, between the end of 2008 and June 2010. This was a time period during which there was a lot of discussion on MCZ-related policy, process, and legislation, at different levels within Government:

- Defra's MCZ policy guidance notes¹⁸¹ were being written and consulted on over that time period,
- the Marine Act was enacted in December 2009,
- at the regional level, Finding Sanctuary launched its pilot phase in 2007 (initially, with no formal role relating to MCZs at the time),
- the formalisation of Finding Sanctuary, the definition of its role with respect to MCZs, and the establishment of the national MCZ project with three additional regional projects all took place over the course of 2008 and 2009.

As mentioned above, during the project's pilot phase, Finding Sanctuary project staff had begun to develop guidelines equivalent to the ENG. However, as the project become formalised, it was no longer within the remit of Finding Sanctuary to define these rules. There needed to be a consistent set of ecological criteria applied across all four regional projects, and these criteria needed to be endorsed by Government, so that they had official status and could not subsequently be ignored as a benchmark, thus undermining the efforts of the stakeholders involved in the project.

As a result, there was a strong push from the regional projects to the national project staff to develop an official set of ecological guidelines, and that these guidelines should be pragmatic, quantitative, clear, and anchored in existing datasets, so that they could be understood and applied by stakeholders. The regional projects very much emphasised the importance of these practical aspects, i.e. the need for the guidelines to be a usable tool within the stakeholder process.

At the time, Defra were developing their MCZ policy guidance notes. The most relevant one for the ENG is [guidance note 1](#)¹⁸² (introduced in section 1.1.1, and referred to as Defra GN1 throughout this report). The final version of Defra GN1 was published in 2010, but the document existed in draft form prior to that date. Defra GN1 states the aim of developing an 'ecologically coherent' network of MPAs, based on seven principles (which are based on common principles of systematic conservation planning):

'The Government is committed to ensuring that the network is ecologically coherent and will be based on the following seven principles. These principles are based closely on those developed for OSPAR¹⁸³:

¹⁸¹ <http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/> (links to the guidance notes are near the bottom of the page, including Defra GN1 which was introduced in section 1.1.2, and which has been referred to repeatedly in this document)

¹⁸² <http://archive.defra.gov.uk/environment/biodiversity/marine/documents/guidance-note1.pdf>

¹⁸³ OSPAR (2006). Guidance on developing an ecologically coherent network of OSPAR marine protected areas. Ref: 2006-3. OSPAR (2007). Background document to support the assessment of whether the OSPAR network of marine protected areas is ecologically coherent. Ref: BDC 07/03/14-E

Representativity – the MPA network should represent the range of marine habitats and species through protecting all major habitat types and associated biological communities present in our marine area.

Replication – all major habitats should be replicated and distributed throughout the network. The amount of replication will depend on the extent and distribution of features within our seas.

Viability - the MPA network should incorporate self-sustaining, geographically dispersed component sites of sufficient size to ensure species' and habitats' persistence through natural cycles of variation.

Adequacy – the MPA network should be of adequate size to deliver its ecological objectives and ensure the ecological viability and integrity of populations, species and communities (the proportion of each feature included within the MPA network should be sufficient to enable its long-term protection and/or recovery);

Connectivity – the MPA network should seek to maximise and enhance the linkages among individual MPAs using the best current science. For certain species this will mean that sites should be distributed in a manner to ensure protection at different stages in their life cycles.

Protection – the MPA network is likely to include a range of protection levels. Ranging from highly protected sites or parts of sites where no extractive, depositional or other damaging activities are allowed, to areas with only minimal restrictions on activities that are needed to protect the features;

Best available evidence – Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.

[...]

The design principles are defined in the Ecological Network Guidance referred to on page 3.'

The ENG, authored by JNCC and Natural England, provided the regional projects with a practical translation of these seven principles into spatial design rules that could be understood and applied by stakeholders.

There was discussion at the time over whether Defra would formally 'sign off' (i.e. be an author) the ENG. In the end, they did not sign them off, preferring to treat them as advice from the SNCBs. However, the last line of the quote above demonstrates that Defra were not only aware of the ENG at the time that they were writing GN1, but they also accepted the ENG as the definition of the seven principles.

In the [SNCB MCZ advice to Defra](#)¹⁸⁴, published in July 2012, the SNCBs described that the then Minister for Marine and Natural Environment agreed to the ENG approach, but requested that it be 'issued under JNCC/Natural England authority' (page 422 of the SNCB advice document):

¹⁸⁴ http://jncc.defra.gov.uk/PDF/120718_MCZAP_JNCC_NE_MCZ%20advice_final.pdf

‘On 25 June 2009 JNCC and Natural England met the then Minister for Marine and Natural Environment to brief him on the proposed approach to producing guidelines for identifying MCZs. At the meeting JNCC and Natural England specialists outlined:

- The proposed methods for meeting each network design principle
- The benefits of our preferred approach
- Whether the methods used the best available evidence, and
- The timescales for delivery and whether these were practical within the project time period.

The Minister agreed with our approach, requesting the guidance to be issued under JNCC/Natural England authority. Defra proposed that the three Chief Scientists (Defra, JNCC and Natural England) should be involved in the peer review of the guidance to provide scientific reassurance.’

In addition to the regional projects’ need for the guidance to be clear and pragmatic, the SNCBs placed great emphasis on ensuring the scientific integrity and validity of the guidelines, as well as tying them in with wider national and international conservation obligations that the UK has signed up to. In essence, the SNCBs based their advice on a review of conservation science literature, as well as OSPAR, IUCN and CBD guidelines (a detailed reference list is included in the ENG).

Following the ministerial meeting referred to in the above quote, additional scientific research was commissioned to further inform the ENG guidelines, several rounds of scientific peer review took place (involving the SAP as well as the Chief Scientists), and there was a lengthy sign-off process before the finalised ENG were formally published in June 2010. The development of the ENG, in summary, can be seen as a process where bottom-up and top-down elements of the process meshed together, with the final document being top-down guidance as far as the stakeholders and regional project staff were concerned, but from the perspective of Defra and the Minister, the document represented advice from their advisory bodies.

The level of scrutiny this document was subject to highlight that the significance of this document within the process was well understood at the time. The Minister’s request for it to be ‘owned’ by the SNCBs (rather than his Department) is significant, as it opens the door for Defra to distance themselves from those guidelines in retrospect. It will be difficult for Defra to completely disown the ENG, given the detailed consultations with Defra at the time that the ENG were written, the Minister’s approval for the approach, and the fact that stakeholder recommendations were assessed against the ENG benchmark throughout the duration of the regional projects.

However, there was never any explicit Government commitment to implementing a network that meets the ENG. This raises a significant degree of uncertainty in terms of what will happen if (as seems likely) ‘tranche 1’ of the sites falls significantly short of meeting the ENG. If there is no subsequent tranche, or if subsequent tranches do not work towards meeting the ENG criteria, then that invalidates the benchmark that was used to assess the stakeholders’ work, ‘pulling the rug’ from underneath the entire stakeholder process in retrospect.

One interviewee during the summer 2012 stakeholder interviews voiced considerable frustration at the stakeholder group having been made to adhere to a set of top-down rules which are now seemingly falling by the wayside, stating that if the group had been told right from the start to aim for a much smaller number of sites, they could have done a much better job at selecting the most

appropriate ones (and would have avoided a lot of difficult negotiations along the way). A different interviewee (from an environmental NGO) voiced consternation at the fact that his organisation's campaign to push through all 127 rMCZs is seen by others (including Government and its agencies) as taking an 'extreme environmentalist' position, when from the NGO's perspective, it is simply trying to ensure that the ENG - rules that, as far as they were concerned, were provided from the top-down in a Government process - will be met.

The regional project perspective: dealing with delayed publication of the ENG

As a consequence of the document being scrutinised at various levels within Government and its agencies, and the degree of scientific peer review it underwent, the whole process of writing, reviewing and publishing the ENG took a lot longer than was originally expected by SNCBs and Finding Sanctuary alike. From the perspective of the regional project, what this amounted to was that there was a significant delay in the publication of the ENG. The project had initially expected the ENG to be available in early 2009, and planned accordingly. However, a draft was not made available to regional stakeholders until March 2010, and the final document was published in June 2010 (following an official Ministerial Statement on the process, and with some - very minor - changes to habitat targets from the draft).

At the time, the deadline for submission of the final recommendations was June 2011, so this only left a year within which to complete MCZ planning. This delay led to bottom-up / top-down tensions between stakeholders, regional project staff, SNCBs and Defra. In particular, it caused frustration within the Steering Group, as the reasons for the delay in publication were not entirely transparent to its members. To them, it seemed that Government was asking them to commit time and resource to participate in a task, at the same time as failing to define that task properly. This frustration was clear from the beginning of the formal Steering Group meetings, as illustrated by these quotes:

'There was a discussion around whether or not the Steering Group could carry out any useful work in the absence of the Ecological Design Guidelines. Some SG members felt that there was little to be usefully done. However, the consultants, supported by the Project Team, encouraged the Steering Group to adopt a view that there will be uncertainties in a process such as this, and the most constructive way forward is to start work (as there is not enough time to continue to wait) on what can be done, knowing that the uncertainties remain, but still moving forward on what is a very big task.' (SG induction meeting, September 28th, 2009)

'The Steering Group agreed to send a letter, via its Chairman Sir Harry Studholme, to either the Minister or to the National Board, expressing their dismay at the delays and asking for a prompt release of the design guidelines.' (SG induction meeting, September 28th, 2009)

The same issue was discussed at SG1, with the Chairman of the steering group advising pragmatism in the face of uncertainty:

'The delayed release of the ecological design principles was discussed. The conclusion was that whilst the Steering Group could express its dismay about this delay to Defra, it also had to show its own credibility by getting on with its task, to the best of its ability. Sir Harry advised against saying 'this timetable is impossible' as no one could say that at this stage.

AGREED that a letter would be sent to the national project board expressing concerns about the timetable.'

A draft of the national ENG was made available to stakeholders in March 2010, although SG2 reflects that in February 2010, it was still not clear whether the ENG would be made publically available as a draft, before being formally published in June 2010.

In order to allow some degree of progress to be made in the face of on-going delays to the ENG, the Finding Sanctuary planner drafted an unofficial, interim set of ecological guidelines, based on common systematic protected area network principles (like the seven principles in Defra GN1). The interim guidelines enabled some initial constructive and focussed discussions to take place in late 2009. This meant that when the official guidance became available, stakeholders had already had an opportunity to understand basic network design principles, and were better placed to begin their planning work.

6.1.4 Role of the Science Advisory Panel

[The Science Advisory Panel's terms of reference](#)¹⁸⁵ defined the role of the SAP within the MCZ process:

‘To provide the independent scientific knowledge, advice and judgement necessary to assist the regional MCZ projects in identifying Marine Conservation Zones (MCZs) and the Secretary of State (SoS) in designating Marine Conservation Zones as a contribution to an ecologically coherent network of MPAs.

To deliver this independent scientific advice the Panel is charged with developing and publishing its own operating principles and working methods whilst ensuring these are consistent with the public service values and standards in public life laid out below.

Specifically the SAP will:

- provide expert scientific advice and address scientific questions raised by the regional MCZ projects and their steering groups;
- assist the regional projects in working to consistent standards and to ensure network proposals are consistent with network design guidance;
- review any alternative MCZ proposals submitted by the regional projects against the criteria within the network design guidance and re-send to panel members;
- Provide quarterly reports on its work to the MCZ Project Board; and,
- advise NE and JNCC, and the SoS, as to whether MCZ proposals meet the criteria in the network design guidance and in combination with other MPAs contribute to the delivery of an ecologically coherent network.’

The SAP’s remit was specifically to provide ecological and natural science advice. Their role was to assess the developing recommendations against the ENG, from a purely ecological perspective, and provide feedback to the regional projects following each planning iteration. Socio-economic issues were beyond their remit, and there were no economists or social scientists on the panel.

The stakeholder group, on the other hand, very much considered socio-economic issues alongside the ENG, and felt that the SAP feedback failed to reflect the complexity of the considerations they were making. On occasions, some stakeholders felt that the SAP was overstepping its remit (in

¹⁸⁵ <http://archive.defra.gov.uk/environment/marine/documents/protected/mpasap-tor.pdf>

particular, when the SAP suggested specific locations for consideration as MCZs), and they occasionally objected to specific pieces of SAP advice on that basis.

In turn, the SAP thought that socio-economic considerations were having too much of an impact on the shaping of the network, and frequently advised that more emphasis needed to be placed on environmental factors (this was explicitly stated in the second and third iteration SAP feedback documents, as well as the final SAP feedback).

Those parts of the ENG that did not include quantitative targets were the most problematic in this respect, e.g. the 'additional ecological importance' criterion which stated that sites of 'additional importance' (e.g. high biodiversity, high productivity) should be favoured for selection, other things being equal. The SAP's view was that this 'rule' should be applied in a more deterministic way than was being done by stakeholders, who (in the absence of 'hard' targets) considered socio-economic factors alongside environmental factors. This highlights the importance of the ENG containing clear, unambiguous, quantitative guidelines, in order for it to be a practical tool within the context of a stakeholder process.

The following quotes from stakeholder meeting reports illustrate the above:

'The fishing industry representatives noted that the SAP is reflecting prejudices against the fishing industry; for example by saying that planning in the context of the fishing industry means that we are likely to end up with second rate sites. However the facilitator reminded the group that they have been given the remit of being able to choose sites that best suit the regional context and the SAP overview should be seen as useful guidance.' (OWG5)

'The SAP advised Finding Sanctuary that "Socio-economic data on uses and pressures will be useful in deciding among candidate sites for MCZs of similar ecological value. However, such data should not be used to narrow the initial choice of possible places to protect". The IWG feel the SAP have not taken into account that stakeholders are a major part of this process and that although this work could be based on science alone, it would not be supported without stakeholder participation and through taking into account socio-economic impacts.'

(IWG4)

One of the most significant points of tension between the SAP and the stakeholder group occurred when, in the first iteration feedback, the SAP recommended that the FisherMap data could serve as a 'surrogate' for ecological value, and areas fished by a diversity of methods should be considered as good locations for MCZs (see K4, section 5.1.4). This advice was retracted following protests from regional project staff that this went against the purpose of why the data were collected in the first place. Nevertheless, some stakeholder representatives felt that this piece of advice had undermined trust in the SAP and in the wider process. The reports from OWG5 and IWG4 refer to this:

'There was some anger that the SAP had suggested fishing activity should be used as a means to identify areas of high biodiversity; although assurance has now been given that this particular piece of advice has been retracted.' (OWG5)

'The fishing industry and project team independently noted the advice in the SAP report (Table 1 - Data layers available and examples of use, page 10) suggesting that fishing data is used as an indicator of ecological importance. This advice has since been retracted by the SAP as it violates the basis on which the project has been collecting fishing industry data.'

(IWG4)

6.1.5 Natura 2000 and MCZs

At the same time that Finding Sanctuary's stakeholder process was taking place, there was concurrent work within the *Natura 2000* process, identifying new SACs. This process was entirely separate from the MCZ process, but had direct impacts upon it, especially within the south-west region, where new SACs were proposed that covered very large inshore areas.

The process of identifying, proposing and designating SACs is top-down, science driven process, in which Natural England have responsibility within territorial waters, and JNCC in offshore waters. Sites are selected and planned by the SNCBs, entirely on the basis of scientific information (on the extent and distribution of features listed in the Habitats Directive). Information about proposed site boundaries is generally not shared (beyond Government and its agencies) until a formal public consultation, prior to submission of the proposed sites to Europe (a more detailed description of the *Natura 2000* process is beyond the scope of this analysis).

Thus, stakeholders were faced with two concurrent MPA planning processes happening within the south-west region, which were very different from each other. One process was asking them to commit large amounts of time and effort to participate in the planning process, whilst the other was non-transparent and beyond their influence (except for being able to respond to the public consultation). The latter, however, impacted directly on the former, since SACs form part of the wider MPA network, and therefore 'counted' towards ENG targets.

The situation contributed to tensions between stakeholders and Government / SNCBs, and made it difficult for stakeholders to trust that the MCZ process was genuine in its attempt to engage with them early on. Within the wider stakeholder community, there was often confusion between the two processes. This reality was also challenging for the Finding Sanctuary project team, who worked hard to ensure full transparency on the MCZ side, but were not able to provide the same transparency for stakeholders on the SAC process, which would potentially have significant impacts on them.

6.1.6 Tensions between stakeholders and Government organisations

Throughout the MCZ process, there have been tensions in the relationship between stakeholders and Government and its agencies (including the SNCBs). The lack of transparency and lack of participative incentives in the *Natura 2000* process was one reason (see above).

The summer 2012 stakeholder interviews highlighted wider underlying tensions between stakeholders and the SNCBs, and between stakeholders and Defra. The interview summary in appendix 4 documents that many respondents commented on difficulties in engaging and forming working relationships with SNCBs and Defra, with high staff turnover and a lack of continuity in staff roles cited as one of the commonest criticism of the way in which these organisations operate. This criticism was made by stakeholders from across multiple sectors.

One example of a very specific, open conflict between south-west fishermen and Natural England was prompted by a statement during a presentation by Helen Phillips, the then Chief Executive of Natural England, during a conference in early 2009. During her speech she referred to scallop dredging within Lyme Bay as 'rape and pillage' of the seabed, at the same time as highlighting the

pro-active role that Natural England were taking in moving forward marine environmental protection. This prompted open calls from fishermen for Helen Phillips to [resign](#)¹⁸⁶.

At the time Finding Sanctuary was working hard to build trust with fishing representatives, so the incident had repercussions for the project. Finding Sanctuary were already facing a difficult situation with respect to Lyme Bay, where some parts of the fishing industry felt that Government's decision (supported by Natural England and environmental NGOs) to close a large area to scallop dredging had been unjustified, and had undermined previous voluntary agreements to leave smaller areas undredged (see Fleming and Jones, 2012, and section 3.3.2).

Within the context of this conflicted situation, Finding Sanctuary staff issued an open statement to distance the project from the language used by Helen Phillips, a criticism which in turn caused significant tensions between Natural England (Finding Sanctuary's main funder) and the project.

6.1.7 Successful integration between top-down and bottom-up elements

The above sections have very much emphasized the problems and tensions that arose from the combination of top-down and bottom-up elements within Finding Sanctuary. They provide a frank, 'warts-and-all' insight into many aspects of the process and its history.

However, any public process of this magnitude, dealing with matters of considerable controversy over very large spatial scales, will inevitably face tensions and difficulties. This will especially be the case where new approaches are being tested, and established ways of working are challenged. Bearing that in mind, it is important to reflect that the regional project process was actually successful in combining top-down and bottom-up elements in several very significant ways:

- All four regional projects delivered MCZ recommendations, on time, that met the ENG guidelines (with the exception of reference areas – see section 3.3.10). Given the difficulties, conflicts and uncertainties faced by the stakeholders, this is a remarkable achievement, and a credit to the commitment and hard work of the stakeholder representatives involved.
- At the end of Finding Sanctuary, stakeholders from across the range of sectors felt that they had had a genuine opportunity in shaping the recommendations (within the possible options defined by the ENG parameters). The Steering Group went as far as issuing a joint statement expressing a wish for a continued role in the process, reflecting the fact that they valued their role within the participative elements of the process.
- The ENG, despite the issues described in section 6.1.3, can be seen as a success, and an important early achievement of the process. It passed several rounds of scientific scrutiny, but still contained pragmatic, quantitative design guidelines, most of which were simple enough that they could be presented to stakeholders in a reasonably straightforward manner. The stakeholders were able to understand the benchmark their work was being assessed against at the time, and the project team were able to provide them with clear, visual feedback on the progress that the group was making towards meeting that benchmark.
- Finding Sanctuary's project team, as a dedicated support structure for the regional stakeholder process, were able to establish trust and working relationships with stakeholders across a wide range of sectors. They provided a point of access for information

¹⁸⁶ <http://www.thisissouthdevon.co.uk/resignation-rape-Lyme-Bay-claim/story-12373525-detail/story.html>

about all aspects of the on-going process, and were able to respond to stakeholder needs in pragmatic and unbureaucratic ways. As reflected in feedback from the Steering Group, and in the summer 2012 stakeholder interviews (appendix 4), this support was valued by stakeholders.

- Based on their day-to-day experience at the 'sharp end', the project team were also able to provide practical feedback and advice on the developing process to the national project partners, who were further removed from the stakeholder process.
- The iterative nature of the planning process, despite ending up being very compressed, functioned as a way for the SAP to obtain an insight into progress and provide feedback. In addition, it also allowed Defra, SNCB staff, and the wider stakeholder community to do the same.
- The transparency of the process catalysed interest and feedback from the bottom up, where people realised they might be affected by MCZs when the developing network maps were circulated (e.g. in the case of the wind farm developers and the ports sector, amongst many). This allowed the Steering Group to work towards resolving issues wherever possible, before the recommendations were finalised.
- The bottom-up pressure from regional projects for support in data gathering catalysed a national effort in bringing together existing biological and socio-economic marine spatial datasets, which can now serve as a resource for wider marine planning, as well as having provided a sound basis for the regional MCZ projects to work from.

The regional project model should, therefore, not be dismissed as a workable model for integrating participative and top-down elements in future marine spatial planning processes. Section 7.7 makes a series of recommendations on how the current MCZ process could be improved, and on how a regional-project-style stakeholder process could be better implemented in future.

6.2 Inter-sectoral integration and related power issues

6.2.1 Inter-sectoral integration and power issues evident within Finding Sanctuary

The MCZ process is a single-sector process, so there is no formal inter-sectoral integration in terms of its objective: The objective (see section 2.1) is about nature conservation, and there are no multi-sector objectives being considered alongside it. Even fisheries management was treated as a separate policy area when the regional MCZ projects were established – the ENG were focused exclusively on biodiversity conservation criteria, and did not include any specific design criteria aimed at achieving fisheries resource benefits from the design of the network.

Nevertheless, Finding Sanctuary's stakeholder process considered the ecological goals in the ENG within the wider context of socio-economic impacts. The idea was to find a way of meeting the ENG whilst minimising negative impacts on other sectors. This led to discussion about trade-offs, where sites favoured by one sector impacted more on another, and vice versa (see the discussion of primary and secondary conflicts, and the way some of them were interconnected, in section 3). In that context, power relationships were at the forefront of people's minds, as illustrated in the following comment recorded at OWG4:

'There are concerns about which stakeholder group gets priority when choosing building blocks. This is especially relevant where recommending a building block for designation may have positive implications for one group of stakeholders and negative for another.'

Within the forum of the regional project, the interactions between sectors were transparent and recorded, enabling the detailed conflict analysis in section 3 to be illustrated with statements that are a matter of public record. This conflict analysis provides a lot of insight into the power relationships between different sectors and interests.

Throughout the stakeholder process, the SAP and the science and conservation sectors were concerned about socio-economic considerations driving the shaping of the network too strongly, with insufficient emphasis put on some of the non-quantitative parts of the ENG. On the other hand, several other stakeholders (especially from the commercial fishing sector) saw the process as being very much driven by 'green environmentalist' interests, perceiving the conservation sector (NGOs in particular) as being very powerful.

These two perspectives start out from different viewpoints:

- Commercial sectors (offshore fisheries, in particular) viewed the ENG as top-down, non-negotiable, strongly environmentalist rules that were imposed on the process from the outset. Given that the ENG were presented as the benchmark that they would be assessed against, they felt that the 'environmentalist' position was already driving the process, and that therefore the stakeholder negotiations ought to focus on minimising socio-economic impacts rather than maximising environmental gains.
- The environmental and science sectors, on the other hand, did not see the lack of public participation in the development of the ENG as an issue – the ENG were simply seen as a set of rules that operationalized existing legal and policy objectives. In that sense, the ENG were the 'starting point' within the negotiations, and any concession towards socio-economic interests were seen as a compromise.

Therefore, both sides had reasons for perceiving the ‘other’ side as the more powerful one during the stakeholder negotiations around primary conflicts.

The creation of the ENG in itself can be regarded as evidence that environmental interests were powerful within the process to begin with. However, the record of the subsequent discussions underpinning the shaping of the developing network configuration highlights that fishing interests were very powerful in shaping the network, within the ENG parameters. There are many instances in which an attempt to avoid impacts on fisheries significantly altered site selections and boundaries (see section 3.3.2).

It is clear from the record of the stakeholder meetings that the offshore renewables sector also had significant influence in shaping the recommendations, with many instances recorded where sites were altered or moved to accommodate their concerns. The vehemence of some of the comments made by representatives of the renewables industry about the co-location issue (see section 3.3.3) reflects the increasing power of the offshore energy sector within the southwest. This is also reflected by the Atlantic Array developer’s position with respect to compensation for fishermen, should the site become an MCZ (again, see section 3.3.2).

Within inshore areas, the ports sector was also influential. Other sectors tended to either have an influence at more specific locations, or decided / assumed that they had little to fear from MCZs, and were therefore more likely to either accept the way the network was being shaped by others, or to actively propose areas they considered important to protect.

Within the confines of the Finding Sanctuary stakeholder process, every effort was made to ensure that the negotiations were not just transparent, but that there was fair representation, with equitable access and influence for all interested sectors. The efforts made by the project (e.g. stakeholder analysis, terms of reference for stakeholders, representation, facilitation) are described in section 5.1.6 under ‘participative incentives’.

Nevertheless, many members of the fishing sector felt that deserved more power and representation than they were given within the Finding Sanctuary process, with some of them believing that fishermen should be given more power to make decisions than other sectors (this is discussed under section 5.1.6 on participative incentives). Section 3.3.2 highlights the diversity of opinion and the conflicts within the fishing sector, however, so this was not necessarily unanimously viewed in this way. Nevertheless, there was significant unease amongst fishermen over the progress that was being made towards designating significant parts of England’s seas as protected area, unanimous opposition to reference areas, and (amongst parts of the industry) a sense that fishermen stood to lose out more than others (a view not shared by other sectors). All of this led to the establishment of the MPA Fishing Coalition in 2009 (MPAC – see below).

6.2.2 Inter-sectoral power issues within the national MCZ process

Taking a broader view and considering the MCZ process as a whole, no decisions have yet been made on how many sites will be implemented, which sites they will be, and how they will be managed. Furthermore, as highlighted previously (under P5 in section 5.1.6), there is a lack of transparency in the current process.

The basic process is publically mapped out: SNCBs produced advice protocols, then wrote their advice which was published in July 2012. There will be a public consultation starting in December

2012, and the first tranche of sites will be designated in summer 2013. However, beyond that, there is no clear and comprehensive information available about what groups and forums have been discussing and influencing the process since September 2011, nor about how they have or have not influenced thinking within Government and its agencies about how to tranche sites. There is no public information available about how many or which sites are currently planned for inclusion within the first tranche. There is even less certainty about how sites will be managed (see section 6.5.8). It is not even clear to what extent the public consultation in December 2012 will shed light on these matters.

Because of the lack of transparency within the process, and because no decisions have been taken yet, it is not possible to analyse which (if any) sector or interest groups are currently wielding genuine influence within the process, nor to say anything definitive about whether any specific sectors may be wielding more influence than others.

What *can* be stated for certain is that there is still everything left to fight for by interested parties. As there is no longer any cross-sectoral stakeholder platform to engage with in order to try and influence MCZs, the only obvious ways to influence the process is through sector-specific campaigns, and through lobbying (openly or behind closed doors). The summer 2012 stakeholder interviews highlighted that, along with a move towards campaigns and lobbying, there has been a retreat to hardened positions and increased conflict. In particular, there is open conflict between the (mobile gear) fishing and environmental lobbies, both of which see the opposite side as taking an ‘extreme’ stance (see appendix 4).

Environmental NGOs started their MCZ campaigns after the end of the stakeholder process, when it became clear to them that there was going to be a ‘tranching’ of sites, with the benchmark against which sites were being evaluated shifting away from the ENG towards ‘levels of evidence’ (see section 6.5.6). The summer 2012 stakeholder interviews (appendix 4) revealed that the content of the November 2011 Ministerial statement (section 2.2.1) came as a genuine shock to NGOs. They had previously understood the ENG to be a benchmark that Government would adhere to in implementing MCZs (as part of a wider MPA network), and felt a sense of dismay at the prospect of the recommended MCZs being seen as a collection of sites to pick and choose a small subset from.

As a result, the NGOs have started openly campaigning to push all 127 recommended MCZs through to implementation (see [here](#)¹⁸⁷ and [here](#)¹⁸⁸). The fact that their stance is seen as ‘extreme’ by other stakeholders (and by Government agencies) was met with some consternation, given that they had perceived the ENG as Government’s own top-down guidance. It is not clear how much impact the NGOs campaigns (and any associated lobbying) will have on the content of the first tranche, or beyond.

The offshore fishing lobby mobilised much sooner than the conservation lobby. As highlighted above, many fishing industry representatives wanted stronger representation during the stakeholder process (based on the premise that fishermen should have more power than other stakeholders). They felt that while Finding Sanctuary was in progress, the process was going down too strong an environmental route. They objected to several aspects of the process (e.g. reference areas, or the assumption that bottom trawling would be excluded from MCZs), and felt like they were not making

¹⁸⁷ <http://www.wildlifetrusts.org/MCZfriends>

¹⁸⁸ <http://www.mcsuk.org/mpa/england/background>

enough headway within the stakeholder discussions to stop the progression towards meeting the ENG and the potential closing off of significant areas of sea to the most high-impact fishing methods.

The formalisation of Finding Sanctuary, and the establishment of the three other regional projects, (along with progress towards MCZs in separate processes in Wales and Scotland), galvanised the fishing industry into establishing an alliance called 'the MPA Fishing Coalition' (MPAC) in early 2009. From the very beginning, MPAC took whatever opportunities it could to engage with Government and its agencies *outside* the forum of the regional stakeholder groups, in order to influence the process in ways that would lead it to slow down and have less of an impact on fishermen (an opportunity that was afforded them through the fact that Government and its agencies engaged with them on a direct basis throughout, the SNCBs openly '[welcoming](#)'¹⁸⁹ the formation of MPAC).

As discussed in section 3.5.1, there is no such thing as a single 'fishing industry' in the UK, and there are significant conflicts between different parts of the industry. Although MPAC presents itself as 'the voice of the fishing industry', ostensibly representing the full spectrum of interests, some of the summer 2012 stakeholder interviews highlight that it's appropriate to have a degree of scepticism about this assertion. Whilst there genuinely seems to be full agreement amongst all parts of the industry on some issues (e.g. a unified opposition to reference areas), not everyone within the full breadth of the industry necessarily shares the same degree of opposition to the wider MCZ process as is reflected in the stance of MPAC.

For the reasons discussed above (current lack of transparency, decisions yet to be taken), it is not possible to state for certain how influential MPAC genuinely are in influencing the process. [MPAC's own assessment \(dated January 2012\)](#)¹⁹⁰, is that they have wielded significant influence to date, with a long list of achievements and plans to continue their work into the future:

'MPA Fishing Coalition Takes Stock

Completing the second year of its existence, MPAC, the alliance of fishing organisations which was formed to defend access to fishing grounds during the establishment of a network of marine protected areas in UK waters, has recently taken stock of progress made so far.

The main markers in the organisation's short history are:

- Its formation in the Palace of Westminster on 11th February 2009, with support from sympathetic MPs
- The appointment of respected fisheries scientist, Dr Stephen Lockwood, as MPAC Chairman
- Launch of the MPAC Fighting Fund and membership campaign, which quickly secured wide support from across all areas and fishing groupings in the UK
- Regular engagement with senior DEFRA and devolved administration officials
- Meetings with fisheries/environment ministers from DEFRA and the devolved administrations to outline the aims and purposes of MPAC

¹⁸⁹ <http://jncc.defra.gov.uk/page-5222>

¹⁹⁰ http://www.nffo.org.uk/news/mpa_takes_stock2012.html

- The extension of MPAC membership beyond the UK to include Dutch, French, Irish and Belgian fishing organisations, equally concerned about displacement from their customary fishing grounds
- Regular engagement with the Government's statutory advisors on nature conservancy to challenge the weak parts of the approach to establishing marine conservation zones and EU special areas of conservation (SAC) and special protection areas (SPA)
- Emphasis on 4 main flaws in the MPA approach to date:
 - A rushed timeframe
 - Unrepresentative stakeholder involvement
 - A weak evidence base for designation decisions
 - Failure to address the issue of displacement of fishing activities

Achievements

- Building a **broad coalition** of fishing interests
- A **high profile launch** with extensive media coverage
- A **commitment to an evidence-based approach**
- Support for the introduction of MPAs to provide protection for rare and vulnerable ecology but **rejection of flawed, rushed and woolly thinking** in government policy
- A successful **challenge to Natural England's initial assertions** that it had a role as fisheries *managers* as opposed to *advisors* to government
- Bringing a degree of **realism** to what MPAs can achieve in terms of building commercial fish stocks (as opposed to protecting biodiversity)
- Securing public recognition that the potential contribution to the protection of biodiversity made by marine protected areas needs to be **balanced** by the contribution made by the fishing industry to the **food security** of the nation
- Insisting on a more **sophisticated measure of the extent of fishing pressure** on seabed features
- **Challenging the use of extreme language and unsupported assertions** by senior officials in the statutory nature conservation bodies - "the infamous rape and pillage remarks"
- Effectively drawing attention to the **international dimension of fishing activity outside the 6 mile limit** and emphasising the need to adapt consultation and evidence gathering procedures to take account of that fact
- Bringing to bear a **rigorous approach to evidence** used to designate MCZs, SACs and SPAs
- Drawing attention to the **cumulative impact of multiple offshore developments** (amongst which is the establishment of marine protected areas) all of which increasingly constrain where fishing activity can safely and legally take place
- Drawing attention to the **absence of a formal marine spatial planning framework** for rushed decisions on the designation of marine protected areas
- Successfully **securing a review of Natural England's scientific and evidence procedures** by the government's Chief Scientific Officer which resulted in important tightening up of arrangements

- Close **involvement of MPAC members in the four MCZ regional stakeholder groups** charged with making recommendations on designated sites for MCZs
- Challenging the **application of narrowly interpreted theoretical science** to the selection of MCZs
- Successfully bringing **Government attention to the potential and often unforeseen consequences of displacement** of fishing activity
- The **articulation of an alternative approach to managing** MPAs, based on close involvement and dialogue with of the principle stakeholders at site level
- **Building understanding** of the need for a local/regional focus along with a consensus approach that minimises the scope for displacement
- Securing a **ministerial decision to extend the time allowed** for gathering evidence on which site designations will be based
- Securing **ministerial commitment to provide additional funds** to strengthen the evidence base for the designation of marine conservation zones
- Securing **ministerial support for a phased (as opposed to a “big-bang”) approach** to the designation of MCZ sites, thus allowing for a more robust evidence based approach
- Securing a **written assurance** from the UK fisheries minister that no MPA beyond six miles will be formally designated until such times that EU approval ensures that any restrictions will apply to all member states’ vessels, not just those registered in the UK.

Going Forward

Despite this impressive list of achievements, there is no scope for complacency. The MPA Fishing Coalition recognises the huge task that it faces to ensure that *every* marine protected area established in UK waters is justified on the basis of sound evidence and that the impacts on fishing activities are minimised to the least extent possible.

As the focus shifts from site designation to the management measures that will apply within marine protected areas (up to and including complete exclusion of fishing activity) it will be more important than ever for the fishing industry as a whole to work together through the Coalition.

The Coalition stands ready to reinforce the efforts all those fishing groups and individuals who have registered their support for the work of MPAC and who are concerned about their future access to their customary fishing grounds.’

Many of the issues raised within MPAC’s bullet-pointed list of achievements relate to elements of tensions between the two fundamental approaches that have been clashing throughout the MCZ process. Essentially, MPACs stance is to push the process towards the second of the two approaches (see section 7.1), i.e. an approach which:

- is very much feature-focused and ‘evidence-based’, requiring high levels of evidence at great level of detail, before any actions are taken to either designate sites, or to restrict any activities within them; and which
- implements MCZs site-by-site, rather than as a network (‘big bang’).

In conclusion, therefore, the shift that has been happening within the wider MCZ process (see sections 4.1 and 7.1) seems to be going in the direction that MPAC has been trying to move it. Whether or not the shift is ultimately driven entirely by pressure from the fishing lobby, or whether there are other significant drivers involved, is not clear. This point is picked up again in the main conclusions of the analysis, in section 7.

6.2.3 Environmental NGO pressure outside the MCZ process

The actions of MPAC, who were overtly lobbying on MCZ issues outside the regional projects from 2009 onwards, were in contrast to the environmental NGOs, who chose not to actively campaign on MCZs while the regional projects were running, but instead tried to influence the MCZ process within the forum of the regional stakeholder groups. The Marine Conservation Society ran a campaign called '[Your Seas Your Voice](http://www.yourseasyourvoice.com/)¹⁹¹', where members of the public could suggest and 'vote' for particular locations to become MCZs. However, the results of this campaign were provided to the Finding Sanctuary Steering Group as a layer of information to consider in planning the sites. Arguably, this can be seen as the NGO attempting to bring its constituency's views to the planning table - it was not an attempt to circumvent or subvert the process from the outside.

Nevertheless, environmental NGOs have been actively exerting pressure relating to MPAs in the wider sense throughout the process, e.g. relating to European Marine Sites (*Natura 2000* sites), and the reform of the CFP. As described in section 6.4.4, they have had some success, demonstrating that environmental NGOs can and do wield some influence on UK Government policy even in the current political climate (see section 7.6). Furthermore, as mentioned above, they also actively started campaigning on MCZs since the end of the regional projects. Whether this will have any impact on the MCZ process, however, remains to be seen.

¹⁹¹ <http://www.yourseasyourvoice.com/>

6.3 Cross-border issues between countries

6.3.1 MCZs and the EU Common Fisheries Policy

Finding Sanctuary's planning region was entirely within the UK Continental Shelf Limits. There was no attempt to integrate the planning of the south-west England MPA network with MPA initiatives in adjacent countries.

Nevertheless, the existence of the EU Common Fisheries Policy (CFP – see section 2.2.4) adds an international dimension to the MCZ project. The shelf sea off south-west England is a productive area for fishing, and it is utilised not just by UK fishermen, but also by other EU vessels (including Belgian, French and Spanish). Under current CFP regulations ([Council Regulation \(EC\) No 2371/2002](#)¹⁹², under review), the activities of non-UK registered fishing vessels cannot be managed by UK authorities beyond the territorial seas.

Where non-UK vessels have historic fishing rights ('grandfather rights'), they can fish even within territorial waters, up to the six nautical mile limit. Non-UK vessels with grandfather rights have access to many parts of the south-west region, meaning that de-facto, UK sovereign authority over fisheries management only extends to six nautical miles from the baseline. Non-UK vessels fishing in the south-west region beyond six miles can only be managed through CFP measures.

From early in the process, there was concern amongst fishermen that within MCZs beyond six nautical miles, fisheries management measures may be imposed unilaterally on UK fishermen, i.e. restrictions imposed by UK authorities which non-UK vessels would not need to adhere to. This was raised many times by fishing representatives, and by the time the third progress report was produced, the project had received the following statement from Defra and the SNCBs (recorded in each of the offshore site reports in progress report 3):

'When considering the impacts of fishing restrictions on non UK vessels, it is the Government's intention that fishing restrictions will not be imposed unilaterally on UK vessels before they can be applied to equivalent EU vessels operating within the relevant areas. In the case of those EU fishing vessels with historic fishing rights in UK waters between 6 and 12 nm, Defra will negotiate with the relevant Member States and the European Commission before introducing byelaws, or orders that are applicable to all EU vessels, or seeking Common Fisheries Policy (CFP) regulation measures. Once introduced, these would apply to all EU vessels (including UK vessels) equally and at the same time.'

At the present time, there is no clear process or timetable mapped out for negotiations over possible fishing restrictions in offshore MCZs with other Member States, however. Given the lack of any decisions on what activity restrictions will be needed within MCZs (see section 6.5.8), it seems likely that any offshore fishing restrictions (if they happen) will not be in place for several years, unless there are drastic changes to the way the MCZ process is being approached (as well as the results of the current CFP reform enabling such restrictions to be put in place relatively easily – see section 2.2.4).

¹⁹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:358:0059:0080:EN:PDF>

6.4 Environmental and social justice issues

6.4.1 Environmental and social justice within the MCZ process

Until decisions are made on site designation and management, it is not possible to analyse whether any social or environmental justice issues are raised by the outcome of the process and its impacts on people. All that can be done is to create a set of hypothetical outcome scenarios, and try and analyse what the impacts of these scenarios would be. This is the approach taken by the MCZ impact assessment, which is covered in section 6.5.11.

This section instead focusses on issues of equity and fairness within the process design of Finding Sanctuary and the current national MCZ process.

Several of the justice and fairness issues within the MCZ process relate to commercial fisheries, both in terms of the legislation and policy, and in terms of concerns raised by stakeholders during Finding Sanctuary. As explained in section 3, the commercial fishing sector has some of the most significant primary conflicts within the process (i.e. some of the strongest objections to the fact the MCZ process is even happening come from within the commercial fishing sector). Many commercial fishermen increasingly feel 'squeezed' by a 'race for space' by the growing offshore renewables sector, and conservation (MPAs). Specific justice and fairness concerns relating to fisheries are covered in sections 6.4.2, 6.4.3 and 6.4.4.

A separate set of wider concerns is raised by the current MCZ process. It seems that different stakeholders and sectors have different degrees of access to both information and people within the current process, but the reality of what is going on is difficult to establish because of a lack of clarity and transparency in the process. This is expanded upon in section 6.4.5.

6.4.2 Concerns about disproportionate impacts on inshore fisheries

At the Steering Group induction meeting in November 2009, concerns about disproportionate impacts on fishermen in specific localities were already being raised:

'A concern or anxiety I have is...

[...]

- That there will be nowhere for fishermen to earn their living
- A possible disproportionate impact on some local areas in terms of livelihoods'

(SG induction meeting report)

Several comments in the narrative at the end of the project (in the final report) highlight that these concerns related especially to inshore fishermen being affected disproportionately and potentially suffering more serious consequences than offshore fishermen. Offshore boats are larger, and have longer ranges of movement and therefore more flexibility as to where they can operate. If offshore areas were to have fishing restrictions put in place, therefore, there is a good chance that offshore fishermen could move elsewhere (leading to a separate concern frequently raised by offshore fishing representatives, which was about fisheries displacement). Small inshore vessels, on the other hand, are often tied to a specific locality. If local fishing grounds become off limits, this could put them out of business.

Operators of small inshore vessels tied to a specific locality often have considerable social and cultural significance, forming part of the character and identity of coastal locations, and providing a source of economic income in remote locations with relatively weak economies. Particular concerns were raised about the potential for MCZs to impact on Cornish traditional cove fishermen, who the Steering Group unanimously felt ought to be supported rather than impacted negatively (see JWG5).

The concern also applied more widely. The following comment (from IWG1) differentiates between static and mobile gear fishermen, making a similar point:

‘Mobile gear fishermen are more able to adapt to closures, static gear fishermen have much less range and leeway. Therefore it would be better, where possible, to avoid situating reference sites in areas where static boats fish heavily.’

The complexities that the CFP brings to the implementation of fisheries restrictions in offshore MCZs further compounded this concern, and this remains a genuine issue. Not only is there a possibility that this will make offshore sites less likely to be included in the first tranche in summer 2013, it also means that those that *are* included will not realistically have any fishing restrictions in place for years to come. Within inshore sites, restrictions could feasibly be put in place much faster (although, given the lack of a detailed roadmap for the MCZ implementation process as a whole, it currently looks unlikely that significant restrictions will be put in place in *any* MCZs anywhere soon).

Another factor that might lead to a preferential selection of inshore sites over offshore sites is the current focus on ‘evidence’ as a basis for selecting sites for implementation (see section 6.5.6). There is much less survey data coverage for offshore areas than for inshore areas, meaning that the levels of evidence tend to be higher for inshore areas. Of course, given the current lack of transparency over which sites will be selected for the first tranche (and no clarity on if, when and how future tranches might be implemented), it is not clear how much of an issue this will be.

6.4.3 The ‘fisheries defence’ in the Marine Act

Within the Marine Act itself, commercial fishing is treated differently from other economic sectors. Section 141 (4) sets out a defence which means that in effect, fishermen cannot be successfully prosecuted for the offence of contravening MCZ byelaws:

‘It is a defence for a person who is charged with an offence under section 140 to show that—

(a) the act which is alleged to constitute the offence was—

(i) an act done for the purpose of, and in the course of, sea fishing,
or

(ii) an act done in connection with such an act,

and

(b) the effect of the act on the protected feature in question could not reasonably have been avoided.

A clause in Section 141 (5) opens up the possibility that the ‘sea fishing defence’ may be removed in future:

‘The Secretary of State may by order amend this section so as to remove, or restrict the application of, the defence provided by subsection (4).’

Section 141(4) caused significant concern amongst conservation NGOs during the drafting of the Marine Act, as illustrated by [this](#)¹⁹⁴ October 2009 letter to Government from Wildlife and Countryside LINK, an umbrella group of conservation organisations.

It is possible that the ‘sea fishing defence’ in section 141 (4) was included in the legislation because of the practical difficulties of imposing fishing restrictions through the existing regulations under the EU’s Common Fisheries Policy. Whilst MCZs can be designated in English and Welsh offshore waters, under current CFP regulations, Member States cannot unilaterally restrict fishing activities beyond their territorial waters (or beyond 6nm where foreign vessels have historic fishing rights) on anyone other than their own fishermen.

The existence of the ‘sea fishing defence’ makes it very difficult for any effective restrictions to be imposed on UK fishermen alone (which UK fishermen had voiced concern over at the start of the process). However, what section 141 (4) means is that, in effect, *any* prosecution of fishermen under the Marine Act for contravening MCZ regulations is hindered, even within 6 nautical miles (where non-UK vessels cannot fish).

Irrespective of the underlying reasons for the inclusion of the ‘sea fishing defence’ clause in the Marine Act, the outcome cannot be seen as fair and equitable if one commercial sector can contravene an MCZ byelaw on the basis that it is going about its business, when other sectors are not able to use the same defence. From an environmental perspective, it is also problematic, given that commercial fishing is the most widespread offshore activity causing significant direct impacts on the seabed.

6.4.4 Fishing – an unregulated activity

Unlike other offshore industrial activity, commercial fishing remains an unregulated industry. That is to say that, although fisheries management measures exist (see section 2.4.4), unlike for other offshore industries (e.g. aggregate extraction, offshore renewables), there is a presumption of ‘open access’ for fishing. Fishermen are not tied to specific areas through licenses, leases or suchlike, nor do they have to go through a process of applying for a license to carry out their activity in a specific location, nor are they subject to the EIA / SEA requirements that other industries are subject to.

This was recognised within the stakeholder group, and considered unfair by some:

‘The representative for regional development and economy stated that in this process there are licensed and unlicensed activities. Licensed activities need to provide evidence that they are not harming the environment before activities can go ahead and so it seems wrong to allow another industry (fishing) to be able to continue their activities until evidence is provided.

A representative for commercial fishing responded that their activities are existing activities not new activities and so it is different.’ (SG6)

Within *Natura 2000* sites, plans or projects for commercial activities (other than fishing) are subject to appropriate assessments under the Habitats Regulations to demonstrate that they will not damage features before they can take place - where necessary, through mitigation (see section 2.2.1 for links). Commercial fishing has, until now, been considered an ‘existing activity’, and is not subject

¹⁹⁴[http://www.wcl.org.uk/docs/2009/Link Marine Bill Amendment Commons General offence sea fishing defence Oct09.pdf](http://www.wcl.org.uk/docs/2009/Link%20Marine%20Bill%20Amendment%20Commons%20General%20offence%20sea%20fishing%20defence%20Oct09.pdf)

to the same regulation – instead, the onus is on regulators to demonstrate that on-going fishing activity is having an adverse impact on protected features within a site, before any restrictions can be put in place for conservation reasons.

The Marine Conservation Society and ClientEarth are campaigning for better integration of marine biodiversity conservation and fisheries management at the EU level, making [detailed suggestions](#)¹⁹⁵ for how the current CFP reform could achieve this. In their suggestions for the reform, they make specific reference to dredging and beam trawling in *Natura 2000* sites:

‘Just because fisheries conservation measures fall within the CFP and not within environmental conservation rules, this does not mean that fishing practice must not comply with EU environmental rules on conservation (e.g. in *Natura 2000* sites). Dredging or beam trawling in a *Natura 2000* site may not have any effect on fish stocks and therefore not damage fish stock conservation (so no connection at all with CFP conservation measures), but it may cause serious damage to biodiversity and the ecosystem (and therefore affect biodiversity conservation under the Habitats Directive for example). Therefore, the often heard argument that the CFP has its own rules relating to damage to biodiversity to the exclusion of general EU environmental rules is mis-leading.’

It is not clear, at present, how effective their legal campaign is going to be on this matter, but they seem to have had some success in shifting the UK Government’s position on whether or not fishing will need to be subject to appropriate assessments in *Natura 2000* sites.

In August 2012, the [Blue Marine Foundation reported on an exchange of letters between ClientEarth / MCS and Defra](#)¹⁹⁶, where pressure was exerted on Defra to treat fishing activities within *Natura 2000* sites as ‘plans or projects’ like other activities, seemingly with partial success:

‘Until now, government officials have interpreted fishing as an existing activity which did not require an environmental assessment. Under pressure from the environmental groups ClientEarth and the Marine Conservation Society, who mounted a legal campaign, they have been forced to change that interpretation.

Nigel Gooding, deputy director of Marine Biodiversity at Defra, says in his letter the government will be adopting a “risk-prioritised, phased approach” to applying the new ruling.

“This will start with the most sensitive and vulnerable sites and features, and those fishing activities most likely to impact on them. Initial assessment work indicates that reef features and bottom towed gear should be a priority for action. Further assessment will determine the risk and therefore order of action for other sites and activities.”

He adds: “It is not our intention to introduce a blanket ban on all commercial activity in European marine sites through general fishing licences.”

¹⁹⁵ <http://www.mcsuk.org/downloads/fisheries/CFP%20Reform%20Proposal.pdf>

¹⁹⁶ <http://www.blumarinefoundation.com/home/news-index/news-detail.aspx?newsStory=Scallop-dredgers-and-trawlers-face-expulsion-from-a-quarter-of-inshore-waters>

6.3.2 Engaging with international fishermen

There were efforts to engage with international fishermen during the MCZ project. A decision was taken relatively early in the formalisation of Finding Sanctuary that international stakeholder engagement would be led by the JNCC, rather than by the regional projects (see OWG1).

Nevertheless, international fishermen did have the opportunity to review the developing network configuration and provide feedback to the regional stakeholder groups at each planning iteration, through becoming 'named consultative stakeholders' (NCS - see section 1.1.5).

This feedback provided by international fishing NCS, however, was limited, and had no real impact on the shaping of the network. There were several comments highlighting a lack of support from French and Belgian fishing organisations for some of the offshore sites, but there were no suggestions for alternative ways of meeting the ENG (e.g. see JWG1). Without having the opportunity to be directly involved in the process (and bearing in mind language barriers), it was virtually impossible for non-UK stakeholders to have a constructive input through this route, within the timeframe of the regional projects.

The JNCC, who had retained the primary responsibility for international stakeholder engagement, started formally engaging with non-UK fishermen relatively late in the planning process. The July 2012 formal SNCB MCZ advice to Defra highlights the problems encountered (p. 108 of the [advice document](#)¹⁹³):

'Delays in country-specific engagement; tight time frames, difficulties in engaging in the regional stakeholder groups, coupled with vast quantities of material from the different regional projects and language problems, made it difficult for non-UK fisheries stakeholders to engage fairly in the project. This problem was exacerbated by their [sic] being several MPA projects running concurrently, each with their own specific delivery guidance. For logistical reasons, JNCC engaged stakeholders on a UK-wide, multi-project, rather than project-specific basis. Although this was generally appreciated by stakeholders, it also served to increase the complexity of the message. Full engagement of on-UK stakeholders in multiple project areas was often difficult due to an onerous demand on financial /staff resource.'

In essence, what this is saying is that equitable engagement of non-UK fishermen in the development of regional MCZ recommendations was beyond the capacity of the process. It is difficult to see how a participative process of this kind could ever achieve equitable involvement at the international level without becoming unrealistically costly in terms of both time and money. This illustrates just one aspect of the challenges posed by the fact that EU Member States are responsible for implementing nature conservation measures (including MPAs) within their Continental Shelf areas, but do not have the power to restrict fishing activity in waters beyond six or twelve nautical miles (de Santo and Jones, 2007).

¹⁹³ http://jncc.defra.gov.uk/PDF/120718_MCZAP_JNCC_NE_MCZ%20advice_final.pdf

The Defra statements cited in this article represent a significant shift in Government position, towards treating fishing activities more like other commercial activities (within marine *Natura 2000* sites, at least). However, it seems clear from their statements that Defra are intent on a ‘feature-based’ approach, rather than managing sites as whole areas, echoing the approach currently taken in the MCZ process.

It is not yet clear exactly what impact this will have on *Natura 2000* site management in practice. It is even less clear whether there will be any knock-on effects for MCZ implementation from changes to *Natura 2000* site management.

6.4.5 The current MCZ process: fair and equitable?

From the beginning of Finding Sanctuary’s stakeholder process, stakeholders were concerned about fairness within the process, in the sense of representation and access to discussions around developing MCZ recommendations. This is reflected in the record of the Steering Group induction meeting in November 2009:

‘Issues that participants suggested would need to be considered by the Steering Group, in relation to its own operation were:

[...]

Ensuring that everyone has an opportunity to contribute at meetings, not just the ‘loudest voices’

As described in sections 1.1.5 and 5.1.6, Finding Sanctuary went to great lengths to try and achieve fair access for all interested parties, and transparency within the decisions-making process. There were criticisms along the way, but most of these were addressed successfully (e.g. concerns about adequately reflecting Local Group input in the recommendations that were developed at the regional level, and requests for added expertise to be brought in to specific groups or meetings).

The one group that remained outspokenly critical about representation throughout the process is MPAC, who consider that the fishing sector deserved more representation and a stronger role than other sectors within the process. Even the offshore fishing representatives, however, recognised that Finding Sanctuary’s stakeholder process had been transparent, and that input from the fishing industry had had a significant impact on shaping the project’s final recommendations.

The lengths that Finding Sanctuary (and the other three regional projects) went to in opening up the MCZ process and allowing access to a representative range of stakeholders is in stark contrast to the current MCZ process. As highlighted in the summer 2012 stakeholder interviews, the current process lacks transparency and a coherent communications and stakeholder engagement process (see appendix 4). As a result, there is a big difference in the degree of access that people currently have to the process.

On the one hand, there are ‘professional’ stakeholders – e.g. representatives of national industry bodies – whose job includes engagement in this sort of process, and who meet regularly with Defra, SNCBs, MMO and other relevant bodies in any case (e.g. through the MMO’s national stakeholder forum, through the UK Marine Biodiversity Policy Steering Group, the Sea User Development Group, or MPAC meetings). These stakeholders have comparatively good access to information about the MCZ process – if in doubt, they know who to ask -, and continue to have their voices heard within it.

On the other hand, there are those people who gave up their own time to engage in the MCZ process, i.e. who cannot do this as part of their paid work. They are less likely to be represented in existing forums, and find it difficult to engage in a process without dedicated support, and within which they have no clear and meaningful role to play. These are the people who feel there has been 'radio silence' on MCZs since the end of the regional project, with many of them having become disillusioned, disinterested and disengaged.

In summary, there are two ways in which the current process can be seen as lacking fairness:

- Firstly, there is unequal access to information about the process (beyond the newsletter and official publications, such as the SNCB's MCZ advice). This is illustrated by the very different levels of understanding that interviewees had of the different evidence reviews that had taken place since the summer of 2011, and what has been driving those differences.
- Secondly, some people have regular access to officials within the process (from SNCB officers to Defra officials and the Minister) through their regular job, and attend meetings at which MCZs are discussed with officials present. Others do not.

Both these problems are compounded by an almost complete lack of genuine transparency within the on-going process. The national MCZ process has no equivalent of Finding Sanctuary's cross-sectoral stakeholder platform, within which representatives of all sectors can regularly 'catch up' with each other and with the process. It also has no equivalent of Finding Sanctuary's comprehensive and open record of stakeholder meetings. As stated in section 5.1.6, despite a lot of 'official' information being available (not least the SNCB MCZ advice to Defra), nothing is known about progress on those questions that really matter to people: how many sites will be implemented, which ones, and how they will be managed. It is not even clear to what extent any decisions have been made on these matters.

This lack of transparency allows rumours to circulate, not just about which / how many MCZs might be included in the first tranche of designations, but also about who is talking to whom 'behind the scenes', and who is having influence on shaping the process and its outcomes (many interviewees in the summer 2012 stakeholder interviews talked about having heard 'rumours circulating' - see appendix 4). This situation disincentivises collaboration, and creates distrust between sectors.

The lack of transparency also means that it is difficult to assess whether the outcomes of the current process will ultimately be fair or not. Going back to the concern raised by stakeholders at the start of Finding Sanctuary, there is no way of telling for certain whether more than just the 'loudest voices' are being heard.

It is likely that the public consultation will shed some light on some of the key questions, but it is not clear what exactly the public consultation will cover, what questions it will ask, or what will happen subsequently, e.g. whether all the responses to the public consultation will be made public, how opposing responses will be weighed up against each other, or whether it will be made clear what influence they will have had on the final decisions.

6.5 Different Knowledges and Uncertainty

6.5.1 Different knowledges and uncertainty within the MCZ process – an overview

This final cross-cutting theme is the most significant and extensive one of the case study. Many of the points discussed in this final section have already been mentioned in previous parts of the report, because this cross-cutting theme touches on virtually all aspects of the MCZ process.

Much of the discussion of this cross-cutting theme is framed in terms of the clash of the two planning approaches that runs through the case study, and the shift from approach 1 to approach 2 (see section 4.1 and 7.1). This is because the two approaches deal with uncertainty in very different ways. While approach 1 accepts uncertainties and makes progress on the basis of whatever information is available, approach 2 sets increasing ‘evidence hurdles’ where gaps in evidence have to be filled in before any decisions on conservation action are taken.

‘Evidence’, in this context, can be seen as the flipside of scientific uncertainty, which is why several sub-headings within this section discuss the evidence requirements of the process in great detail.

The final sub-headings move the discussion away from scientific uncertainty and evidence, in order to focus on process-generated uncertainty about what activities will be restricted within MCZs, and what management measures will be put in place, once the sites are designated. From the perspective of stakeholders who were asked to participate in the early planning stages, this uncertainty was highly problematic, and the effects of it continue to reverberate through the whole MCZ process.

Unlike scientific uncertainty and knowledge gaps (e.g. a lack of ecological survey data for many offshore areas), this second type of uncertainty was entirely avoidable. It was *designed* into the process, by leaving decisions on restrictions and management measures until *after* site designation, and by devolving the responsibility for these decisions to organisations such as the IFCA, who are not in any position to predict what restrictions will be necessary before understanding where MCZs will be, what conservation objectives they will have, and what advice will be provided by the SNCBs on how to meet those conservation objectives.

The following provides an overview of the remainder of section 6.5:

- Section 6.5.2 provides a brief discussion of the differences between the two approaches in terms of valuing and combining different knowledges.
- Section 6.5.3 and all subsequent sub-headings deal with uncertainty. Section 6.5.3 provides an introduction, and describes two fundamentally different types of uncertainty affecting this case study in profound ways – scientific uncertainty and knowledge gaps on the one hand, and process-generated uncertainty about future activity restrictions in MCZs on the other hand.
- Section 6.5.4 discusses how the ENG addressed scientific uncertainty and offshore data gaps through the use of surrogate broad-scale habitats.
- Section 6.5.5 describes how the regional projects, following approach 1, made efforts to bring together a comprehensive set of best available evidence to base their planning on.
- Section 6.5.6 describes how, over time, the overall MCZ project has shifted from approach 1 to approach 2, which has meant a shift away from being satisfied with ‘best available

evidence', towards an 'evidence-based' process where evidence gaps have to be filled in before progress can be made.

- Section 6.5.7 sets out the way in which the feature-specific approach that is being taken in defining conservation objectives for MCZs is directly fuelling a need for unrealistic levels of evidence, particularly within offshore areas.
- Section 6.5.8 moves on to define and discuss process-generated uncertainty, examining what it is, and how it was caused through the design of the process.
- Section 6.5.9 describes the attempts made by Finding Sanctuary to try and resolve process-generated uncertainty – some of this was already covered in section 6.1.2.
- Section 6.5.10 describes the guidance that the national process provided in response to the regional projects requesting clarity on future MCZ management, and the ways in which this issue was addressed through the formal process.
- Section 6.5.11 sets out, in detail, all the key aspects of the process that were significantly affected by the uncertainty, and the negative impacts it caused. Because these impacts reverberate throughout the process, many of these impacts have already been highlighted in previous parts of this document.

6.5.2 Different Knowledges

The different types of knowledge that have been incorporated into the MCZ process are covered in the description of knowledge incentives K3, K4 and K5 in section 5.1.4. Section I.5 and Appendix 8 of Finding Sanctuary's final report further describe how efforts were made to gather together best available evidence (including scientific and GIS data) to underpin the development of MCZ recommendations.

During the regional project phase, the MCZ process combined several kinds of knowledge, including scientific data (much of it spatial / GIS data), as well as knowledge and experience brought into the discussion by stakeholders. As detailed under incentive K3 the platform of the Steering Group provided stakeholder representatives and project staff the opportunity to learn from each other, and bring in a broad range of knowledge and data. This was not limited to scientific data:

- At the most basic level, all stakeholder representatives shared information about their sector and their activities.
- All SG representatives liaised more widely with their constituencies, to bring in knowledge from outside the group, and on several occasions, outside expertise were brought into the process.
- Conservation and science stakeholders supplied ecological survey data, and carried out data analysis to generate GIS information to help inform ENG criteria.
- Stakeholder representatives supplied GIS data on human activities (e.g. the ORRAD datasets referred to in section 3.3.3).
- The FisherMap and StakMap projects mapped stakeholder knowledge on the distribution of human activities (see incentive K4, section 5.1.4).

During the summer 2012 stakeholder interviews (appendix 4), most interviewees stated that one of the most valuable (if not the most valuable) aspect of the Finding Sanctuary stakeholder meetings had been the opportunity for collective learning, and better understanding the views, concerns and positions of other sectors.

However, since the submission of the regional project recommendations, there is no longer any equivalent regional cross-sectoral platform for south-west maritime stakeholders, within the MCZ process out outside it, which means that collective learning is no longer possible in the same way.

Furthermore, there has been a significant shift away from attempting to integrate a range of knowledges into the decision-making, towards a more deterministic, 'science-driven' process focussing on ecological survey data above everything else.

The evaluation of the stakeholder recommendations by the SAP following each planning iteration was already purely based on ecological data (and GIS data in particular). This was inevitable, given that the ENG described the *ecological* benchmark that the recommendations were expected to meet, and that the remit of the SAP did not go beyond assessing the ecological quality of the developing recommendation (see section 6.1.2).

Since the end of the regional projects, the focus has shifted almost entirely towards scientific evidence about the ecological features and condition of each site. This shift is discussed in detail in section 6.5.6, which describes a detailed and reductive series of evidence reviews that have been undertaken since the end of the regional projects. These evidence reviews have explicitly valued scientific survey information above other forms of information, followed by modelled scientific data, with stakeholder knowledge ('anecdotal evidence') seen as the least valuable. On this basis, the evidence reviews have evaluated how 'good' the evidence underpinning each individual recommended site and conservation objective is.

The stakeholder knowledge that influenced the development of Finding Sanctuary's recommendations is recorded in the form of the content of the discussions at stakeholder meetings (in the series of stakeholder meeting reports), and in the stakeholder narrative in the project's final report (see section 6.5.9). Within all the effort and resource being expended on evidence reviews, no attention has been given to the stakeholder narrative nor to the record of their discussions, with all the trade-offs and negotiations they considered in developing their recommendations. The reductive, 'science-based', feature-focused methods used by the evidence reviews had no way of incorporating this history behind the development of the sites.

Within the current process, however, socio-economic information does continue to play a role, in the sense that this underpins the impact assessment (see section 6.5.11). The impact assessment draws on scientific (socio-economic) information as well as stakeholder knowledge, but it is focused on trying to describe and, where possible, quantify future impacts of the sites – it is not concerned with the history of the stakeholder discussions and trade-offs that were made in developing the network recommendations in the first place.

The Finding Sanctuary economist remained in post until July 2012, and shared drafts of the impact assessment with former Steering Group members (as well as other sector representatives or specialists), who were given opportunities to review the statements and figures within it and provide feedback. Almost all interviewees in the summer 2012 stakeholder interviews mentioned that they had received the draft impact assessment for review, and had the opportunity to provide input (which several had taken).

One notable aspect of the current MCZ process is that the socio-economic evidence underpinning the impact assessment has not undergone anything like the same degree of scrutiny that the environmental evidence underpinning the site recommendations has undergone through the series of evidence reviews described below.

With all the attention that is being focussed on ecological data, and the money being spent on new surveys, one might conclude that ecological knowledge and scientific information on the environment is valued above other types of knowledge within this process, and that it therefore carries a lot of weight. A different way of interpreting the situation is that it is in fact valued and trusted a lot less by the decision-makers within Government, which is why it is being subject to intense scrutiny, and why it has to reach high standards, before the evidence is considered 'good enough' to justify designating sites, drafting conservation objectives, and implementing management measures.

6.5.3 Uncertainty

Scientific uncertainty and process-generated uncertainty

Uncertainty within the MCZ process can be broadly classified into two categories. The first can loosely be termed 'scientific uncertainty'. It encompasses all the different ways in which knowledge and understanding about the south-west marine region is limited, including:

- data gaps, e.g. 'blank areas' on species and habitat distribution maps
- uncertainty about sensitivities of marine features to specific pressures
- uncertainty about the pressures caused by human activity (including cumulative pressures)
- uncertainty about the distribution of human activities
- uncertainty about the natural variability in the marine environment
- uncertainty about future changes in the environment, e.g. due to natural variability or climate change

Scientific uncertainty is extraneous to the process itself, i.e. it forms part of the context that the process operates within.

The second type of uncertainty is the uncertainty that is generated by the process itself. The MCZ process is designed in a way that leaves decisions about MCZ management until the very end of the planning stages (arguably, even until half-way through the implementation stages, given that these decisions are taken *after* sites are designated). This means that, while sites are being planned and their boundaries are being drawn on maps, no-one knows for certain how MCZs will be managed once they are designated - what activities will be restricted within them, what those restrictions will consist of, and whether they will be imposed through statutory measures (e.g. byelaws) or voluntary measures.

Process-generated uncertainty has, in many ways, been just as problematic for the process as the scientific uncertainty, and one of the key recommendations from this analysis is that future processes should be designed to generate minimum unnecessary uncertainty, even if it means taking difficult decisions earlier in the process.

Overview of the sections dealing with uncertainty in this analysis

The discussion of how uncertainty is playing out within this case study is the most substantial of all the cross-cutting themes in this analysis, and it has been split over several sub-sections. An overview is presented here, providing a bit more narrative detail than the brief bullet points in section 6.5.1.

Sections 6.5.4 to 6.5.6 deal with scientific uncertainty and its ramifications within the case study. Much of this is framed as a discussion about the use of 'evidence' within the process, because this is the way in which the process itself is framing it. 'Evidence', though, can be seen as the flipside of scientific uncertainty – where there are gaps in the evidence, there is uncertainty.

Section 6.5.4 starts by describing the legal requirement for a representative MPA network in the Marine Act, and analyses how the MCZ process tried to achieve this by translating the legal objective into a series of more practical policy and technical guidance. Section 6.5.5 then describes how Finding Sanctuary proceeded on the basis of best available evidence, an approach embedded within Defra's policy guidance and the ENG. Since the end of the regional projects, there has been a marked shift within the MCZ process, away from using 'best available' evidence, to an 'evidence-based' approach. This shift is discussed in section 6.5.6, a long section that describes not just the shift itself, but also attempts to unravel the drivers behind the shift, and the way in which it has been understood and received by stakeholders.

Section 6.5.7 analyses the way in which the MCZ process is approaching another legal requirement of the Marine Act, which is the writing of site-specific conservation objectives. The analysis of conservation objectives is central to the discussion of uncertainty within this case study, for two reasons:

- Firstly, the complex way in which the conservation objectives are being written creates the need for a lot of detailed scientific evidence to underpin them, much of which simply does not exist at the level of detail necessary, thereby turning 'insufficient evidence' into a key obstacle in the way of achieving the legal objective of a representative MPA network.
- Secondly, because the approach to conservation objectives is a significant factor leading to the construction of a process that does not enable decisions on activity restrictions within MCZs to be taken until after sites have been designated. Leaving these decisions to such a late stage generated uncertainty (of the second variety) which caused a lot of frustration amongst stakeholders, and which undermined much of the value of the regional projects' stakeholder involvement right from the beginning.

Section 6.5.7 thus serves as a bridge to the subsequent sections, which discuss process-generated uncertainty and its ramifications in detail. Section 6.5.8 describes process-generated uncertainty. The different ways in which Finding Sanctuary attempted to address this process-generated uncertainty within its stakeholder process, increasingly clashing with the 'evidence-based' approach that the national process was moving towards over time, is discussed in sections 6.5.9 and 6.5.10. Section 6.5.11 discusses the many ways in which the impacts of process-generated uncertainty have been reverberating through the entire MCZ process.

6.5.4 Designing a representative network in the face of uncertainty: the ENG

The legal requirement for a representative network

As stated in section 2.2.1, the Marine Act explicitly requires the implementation of a network of marine protected areas that represents the full range of marine biodiversity. The following text reproduces subsections 1-4 of Marine Act section 123, with added emphasis on key statements:

‘Creation of network of conservation sites

(1) In order to contribute to the achievement of the objective in subsection (2), **the appropriate authority must designate MCZs** under section 116.

(2) **The objective is** that the MCZs designated by the appropriate authority, taken together with any other MCZs designated under section 116 and any relevant conservation sites in the UK marine area, form **a network which satisfies the conditions in subsection (3)**.

(3) The conditions are—

(a) that the network contributes to the conservation or improvement of the marine environment in the UK marine area;

(b) that the features which are protected by the sites comprised in the network represent the range of features present in the UK marine area;

(c) that the designation of sites comprised in the network reflects the fact that the conservation of a feature may require the designation of more than one site.

(4) For the purposes of subsection (2), the following are “relevant conservation sites”—

(a) any European marine site;

(b) the whole or part of any SSSI;

(c) the whole or part of any Ramsar site.’

The appropriate authority (in England, that is the Secretary of State for the Environment) *must* designate MCZs, with the objective of an overall MPA network that represents *the range of features present* in the UK marine area.

Translating the legal objective into practical guidance: the use of surrogates in the ENG

The legislation provides no further guidance on how to go about designing a representative MPA network. However, the concept is elaborated on in policy guidance. Defra GN1 contains seven design principles for an ‘ecologically coherent’ network, one of those principles being ‘representativity’. These seven principles (reproduced in full in section 6.1.3) were translated into practical guidelines in the form of the ENG.

The ENG lists species, biotopes and broad-scale habitats to be captured and represented in the network, with quantitative goals. The ENG represent the translation of legal objectives and policy goals into a set of simple design rules that could be easily understood and applied using available

information. One key challenge the ENG had to overcome was to find a practical way to design a representative network in the face of large offshore survey data gaps.

In England, we have not surveyed every square metre of seabed on our continental shelf with dive surveys, camera surveys, and grab samples, in order to create detailed, fine-scale and comprehensive maps of the distribution of all marine species and fine-scale biotopes across the whole continental shelf area. What we do have, however, is a combination of comprehensive broad-scale bathymetry and oceanographic data covering the whole region, and a series of finer-scale survey datasets covering smaller patches on the continental shelf, ranging from remotely sensed seabed data (e.g. multibeam data) to camera tows, grab samples, and dived points or small transects at specific localities.

There is a practical challenge, then, in meeting the legal obligation of section 123 of the Marine Act to implement a network of protected areas representing the full range of marine features. The approach taken by the ENG to solve this challenge is to use broad-scale habitat surrogates. Using the comprehensive broad-scale oceanographic datasets that are available for the whole of the continental shelf area, it is possible to develop a broad-scale habitat model (at EUNIS level 3), and map out modelled EUNIS level 3 habitats for the whole of the continental shelf.

Considerable effort went into creating the best possible EUNIS level 3 habitat map for the MCZ project, with the map being updated several times over the course of the regional projects, as new survey data became available (the map showed a combination of modelled data and actual survey data for areas where it was available).

Because different physical habitats contain different flora and fauna, it is possible to use broad-scale physical habitat information (like EUNIS level 3) as a surrogate for species and biotope distribution data. In order to develop a representative network, one can select a proportion of each broad-scale habitat to be represented in the network, and this is the approach taken in the ENG. The broad-scale habitat (BSH) targets can be seen as the backbone of the ENG, because given the gaps in survey data, they are the only practical way to ensure that the overall network is truly representative, as required by Marine Act section 123 (3).

That is not to say that the BSH targets in the ENG are fixed or irreplaceable rules that must be met to ensure representativity:

- One could use a different habitat classification system with different categorisations for broad-scale habitats, and have targets for those instead of for the EUNIS level 3 categories. The reason the MCZ process used EUNIS level 3 is because EUNIS is a standard EU-wide hierarchical classification system that is commonly used in environmental survey work, allowing easy integration of datasets. Furthermore, a EUNIS habitat model had already been developed for the UK Continental Shelf Area, which could be used in data-poor areas (the JNCC's UKSeaMap – see section 6.5.5).
- If bathymetry was the only comprehensive UKCS-scale data layer available, for example, it would not be possible to map out EUNIS level 3 habitats at all, not even using a habitat model. Nevertheless, one could still have a reasonable stab at selecting a representative network by representing all depth bands, distances from the shore, and seabed slope angles and orientations, just from bathymetry information alone.

- Conversely, if there was completely comprehensive data coverage for biotope survey data, then one could achieve a representative network without *any* broad-scale habitat targets, but by having rules to represent a bit of each biotope, instead.

A key point about the BSH targets, then, is that they are adapted to the information available at the time of the planning process. If one was to repeat the exercise in 20 years' time, one would probably want to list a different set of habitats and target ranges, adapted to the better information that is likely to be available in future. With decreasing scientific uncertainty, improving spatial data coverage, resolution, and number of data layers, broad-scale habitat 'surrogates' might become less important in future. It might even, at some point, be possible to drop the use of modelled data entirely, in favour of comprehensive survey datasets.

However, given the current reality of marine biological and environmental data distribution, we can say for certain that we would *not* deliver a truly representative network by only selecting those sites with recent survey data, or only selecting sites where fine-scale biotopes and species distributions have been mapped. The only practical way we have of achieving the representative network required by the Marine Act is to rely on broad-scale habitat surrogates, and to rely on modelled data that covers the whole of the UKCS area. The BSH targets embody the pragmatic adaptation of the MCZ process to the reality of offshore survey data gaps and scientific uncertainty.

The quantitative ENG percentage targets for the amount of each 'surrogate' EUNIS level 3 habitat area to be incorporated into the network are not arbitrary, but based on a significant amount of underpinning ecological research. Specifically, the broad-scale habitat target ranges within the ENG are based on species-area curves, and reflect the range of percentage habitat area within which 70-80% of the species associated with the habitat are likely to be captured (based on research by Rondinini, 2010). These targets are the ENG's way of meeting the GN1 ecological network design principles of adequacy and representativity in the face of data gaps.

As an aside, working with BSH targets and modelled BSH maps also meant that there was a considerable degree of flexibility in how the ENG could be met – there were many possible spatial network configurations that would have met each of the targets. This flexibility was crucial for two central elements of the MCZ process:

- 1) It allowed trade-offs between multiple sectoral goals and interests to be made, in line with Marine Act section 117 (7), and opening the door to integration of MCZ planning with multi-sectoral spatial planning
- 2) It allowed room for genuine stakeholder participation in applying the ENG: Because there were multiple possible ways of meeting ENG targets, there was an incentive for people to participate in the discussion, because they could genuinely influence the outcome to favour their own sector's interests.

The ENG set the 'rules of the game', and if those rules had been completely deterministic, with a narrow solution space or only a single solution (i.e. only one possible network configuration that would meet all the targets), then there would have been no room to explore multisector trade-offs, and no incentive for stakeholders to collaborate in the planning process. Thus, a completely deterministic rule set would, from the point the rules are defined, predicate a top-down, technocratic, non-participative planning process, with no room for participative incentives – in effect, this is the situation with the *Natura 2000* process (see section 6.1.5).

6.5.5 Working with best available evidence

From the outset of the regional projects, efforts were made to ensure that all relevant existing information was made available for use by the regional projects. At the start of the formal phase of Finding Sanctuary, there were national-level data gathering projects (funded by Defra, and described in section 4 under K5) which brought together many key datasets, and delivered them to regional projects. These included Defra research contracts MB0102, MB0106, and MB5301, which came to a combined cost of over £1.3 million¹⁹⁷.

Additional national-scale environmental datasets were made available by the SNCBs. The most significant was a [EUNIS](#)¹⁹⁸ Level 3 seabed broad-scale habitat data layer that combined modelled data from UKSeaMap ([McBreen et al., 2011](#)¹⁹⁹) with survey data from a number of sources, including [MESH](#)²⁰⁰. The JNCC also supplied seabird survey data from their European Seabirds at Sea (ESAS) database.

Regional information was also used, and stakeholders were encouraged to contribute their knowledge and data (including through stakeholder knowledge mapping – see the discussion of knowledge incentives in section 5). One significant regional dataset was supplied by the Environment Agency, who provided detailed intertidal habitat data for the south-west coastline, much of it based on survey data. The Science Advisory Panel also contributed knowledge and provided guidance on available data sources to regional projects.

Whilst the data gathering efforts described above ensured that the best available information was brought together for the MCZ process, it could not plug all of the existing data and knowledge gaps, especially for offshore areas. It was clear that there was remaining scientific uncertainty, which the process would have to address. This was acknowledged from the outset.

Defra GN1 explicitly acknowledged uncertainty and information gaps, stating that this should not prevent progress on MCZs – the process should proceed based on whatever the best available information is. Section 6.1.3 (which describes the origins, development and the significance of the ENG) cites the seven network design principles which are included in Defra GN1, one of which is:

‘Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.’ (Defra GN1)

Although this does not go as far as fully endorsing the precautionary principle, this is a clear statement that lack of certainty should not prevent progress on MCZs.

Stakeholders raised questions about the quality of evidence and existing data gaps (especially for offshore areas) throughout the process, but the guidance from Defra and the SNCBs consistently stated that they should proceed based on best available data, i.e. gaps in knowledge and scientific uncertainties should not be an obstacle to the design and implementation of MCZs.

¹⁹⁷ Details on these contracts can be found by entering the contract codes in the search box here:

<http://randd.defra.gov.uk/Default.aspx?Location=None&Module=FilterSearchNewLook&Completed=0>

¹⁹⁸ <http://www.searchmesh.net/default.aspx?page=1807>

¹⁹⁹ http://jncc.defra.gov.uk/PDF/jncc446_web.pdf

²⁰⁰ <http://www.searchmesh.net/>

The Finding Sanctuary project team also worked on that basis, and advised the stakeholders to do so, as illustrated by the following quotes:

‘ “How do we deal with areas where very detailed data is available, versus poor data areas? How can we avoid focusing too much on one over the other?”

“[...]the guidance from Government is clear that we need to make use of best available data, even if there are still uncertainties and gaps associated with that.”’

(Question posed by an SG member at SG1, answered by the project team in an addendum to the report)

‘[Q:] How accurate is the inshore broad-scale data? [A:]It is modelled data so we have to accept its limitations and work with it as it is the best available data we have.’

(exchange recorded from a Q&A session at IWG2)

‘There is an uncertainty that because we have FOCl records in some locations it doesn’t mean the feature isn’t found elsewhere, but that we have to work within the limitations of the data we have.’ (IWG3)

At times, there was frustration about information gaps, but this was coupled with the acceptance that the group had to work with what is available, as illustrated by the record of OWG1:

‘It is recognised that we will never have a complete set of data to work with and therefore we will have to make assumptions based on the data that exists and be clear about what those assumptions are. There may be a need to make contingency plans in the event that assumptions turn out to be wrong. We will have to acknowledge the uncertainties, but work with what we have in order to make progress.

It was AGREED that:

‘These were useful concepts to be aware of and the OWG will continue to work with the information available to them.’

The discussion of data limitations was not restricted solely to ecological datasets. Limitations and gaps in information about human activity data were also acknowledged and the impacts discussed with stakeholders. One example was the gap in inshore fishing information during the initial stages of the planning process:

‘Louise Lieberknecht presented work based on the use of Marxan since the last Steering Group meeting in November 2009 and highlighted that currently we are missing data from the Cornish Fish Producers Organisation (CFPO) regarding inshore fishing around Cornwall. She explained that there is a time lag between us collecting data from the Fishermap project and it being processed and then incorporated into a Marxan run and this combined with the lack of CFPO data, may have lead to Marxan possibly skewing the results; for example, there appearing to be relatively little fishing activity within the 6nm limit around Cornwall and South Devon.’ (SG2)

6.5.6 The shift to an 'evidence based' process

The shift in evidence requirements – an introduction

Since the end of the regional projects there has been a marked shift towards what Government describes as an 'evidence-based approach', with a lot more importance placed on minimising uncertainty and maximising evidence underpinning the rMCZs before the sites are implemented. The indications are that the sites selected for the first tranche will be those with the highest levels of evidence, as assessed by the evidence review processes described below.

In May 2011 (just four months before the hand-in date for the regional projects' recommendations), Natural England and the JNCC published a document entitled '[Levels of evidence required for the identification, designation and management of Marine Conservation Zones](#)²⁰¹' (referred to as the 'levels of evidence guidance'). This views the MCZ process as being split into three phases:

1. **Identification and recommendation** of sites, following the ENG, and drafting of feature-specific conservation objectives
2. **Public consultation and designation** of sites with final conservation objectives
3. **Implementation** including the establishment of management measures and ecological baseline, and monitoring to inform the 6-yearly assessment of site features and network conditions.

The guidance goes on to state that

'The nature of the evidence required to support the decisions at each stage are expected to be different. In particular, the scale (e.g. mapping resolution), accuracy (e.g. data sources) and type of data (e.g. ecological variables, socio-economic data) will vary due to the different requirements for interpretation and analysis of data and information at each stage in the MCZ process.'

The document then describes how, at each successive step in the process, the 'evidence bar' is raised higher:

'The type of evidence and the level of detail (number of measurable variables) required increases as the process moves from the initial identification (economic effect is low), through designation to implementation (economic effect potentially high).'

In essence, what this describes is a shift in the MCZ process, away from working with 'best available evidence' (as set out in Defra's guidance note 1, quoted above) towards what is being referred to as an 'evidence-based' approach. The 'evidence-based' approach requires a defined level of scientific evidence to be obtained before any decisions are made on designation and implementation of MCZs. The highest levels of evidence are required before any decisions are taken to put in place any activity restrictions within MCZs, and these decisions are left until the very end of the process (i.e. until after the lower 'evidence hurdles' in the first and second stages of the process have been overcome). This means that scientific uncertainty becomes less tolerated within the process as it proceeds, with high levels of evidence required to justify any conservation action to be taken.

Not only is the height of the evidence 'hurdles' increased at each step in the process, but the 'feature-by-feature' approach to conservation objectives means that the hurdles apply on a feature-

²⁰¹ http://www.naturalengland.org.uk/Images/MCZ-evidence_tcm6-26491.pdf

by-feature, site-by-site basis, substantially raising the level of detail within the evidence required to underpin decision-making (see section 6.5.7).

The above SNCB guidance document presented the evidence shift as a smooth and logical transition, a stepwise process where more information is required at each step. However, this document was only published in May 2011, which means that the step-wise raising of the evidence bar was not clearly set out at the start of the process. In fact, as evidenced by the quotes in the previous section, regional project stakeholders were repeatedly informed that the process would proceed based on 'best available evidence', even when they raised concerns about data gaps.

What the publication of the 'levels of evidence guidance' represents is, essentially, one aspect of the wider shift within the process, from approach 1 to approach 2 (see sections 4.1 and 7.1). Approach 1 combines systematic network-scale MPA planning (as defined in the ENG) with participative incentives (stakeholder process), and is satisfied with best available information. Approach 2 is a top-down, site-by-site, feature-by-feature approach, and demands high levels of evidence before any conservation action is taken. Whereas the regional projects were following approach 1, the national MCZ process increasingly has been taking approach 2.

Raising the 'evidence bar' within the process effectively pulls the rug from under *both* key elements of approach 1:

- It undermines the integrity of systematic network, by devaluing the importance of the ENG as a benchmark for evaluating the network configuration as a whole. Instead, individual sites and their conservation objectives are evaluated as stand-alone entities.
- It undermines the participative aspects of approach 1. Stakeholder buy-in is reduced by shifting the goalposts and thereby undermining and devaluing their work.

Since the end of the regional projects, there has been a series of detailed evidence reviews within the national MCZ process, which have evaluated the levels of scientific evidence underpinning each individual draft conservation objective within each individual rMCZ.

The remainder of this section is subdivided into a series of sub-headings:

- *The evidence reviews.* This sub-section describes the evidence reviews that have happened within the national MCZ process since the end of the regional projects. It covers work carried out by the SAP, the SNCBs, independent contractors (ABPmer), as well as briefly mentioning new survey work within rMCZ boundaries.
- *Drivers of the evidence reviews.* This sub-section describes an evidence review that was undertaken within the *Natura 2000* MPA process, which published its final report and recommendations at the time the regional projects ended. It is likely that this was a key driver behind the MCZ evidence reviews.
- *Problems resulting from raising the evidence requirements within the MCZ process.* This expands on the problems that arise from raising the evidence bar over time.
- *Clarity, transparency and influence of the evidence reviews.* This discusses the fact that the evidence reviews lacked clarity and transparency, in the sense that from the outside, it was not always clear who was carrying out what work, and what the influence would be on the MCZ network.
- *Stakeholder opinions about the evidence reviews.* This summarises opinions about the evidence reviews voiced during the summer 2012 stakeholder interviews.

The evidence reviews

According to the originally planned timetable, the SNCBs had expected to submit their advice on MCZs to Defra in November 2011, just three months after the regional project hand-in date at the end of August 2011²⁰². The main reason why this was delayed until July 2012 was an extensive set of evidence reviews that were completed on the regional projects' recommendations, before the SNCBs finalised their advice to Defra. When the project timeline was originally planned out, these extensive evidence reviews had not been planned for.

In May 2011, just four months before the hand-in date for the regional projects' recommendations, Natural England and the JNCC published their 'levels of evidence guidance'. This indicated that the evidence underpinning the MCZ recommendations would be a factor of consideration in developing their advice to Defra, but the document did not indicate the level of detail of the evidence review process that was subsequently embarked upon, nor did it indicate how much time it was likely to take. The document stated that the SNCB advice would:

'evaluate the approach taken [by regional projects] in using the best available evidence, in particular how well the [regional projects'] MCZ proposals adhere to the Ecological Network Guidance (ENG), the proposed conservation objectives and information used to derive likely management options set out within the impact assessments. As part of the submission, Natural England and JNCC will highlight and evaluate any potential gaps or shortcomings of the network and provide advice accordingly. This will also include advice on shortcomings, due to the limitations of data and information. Any significant additional scientific evidence that becomes available during this time period, for example new data collected by stakeholders or from the site verification programme, will also be submitted to the Secretary of State alongside the regional MCZ project recommendations, with a summary of its likely impact on the proposals.

The JNCC and Natural England will highlight the assumptions underlying the levels of evidence for the recommendations such that the public consultation may prompt stakeholders to bring additional information forward to fill some of the information gaps ahead of Ministerial decisions on designation.'

In the end, several evidence reviews were carried out on the regional projects' recommendations, over the period from September 2011 to July 2012. These focussed exclusively on ecological information underpinning the site recommendations, and specifically, the feature-specific conservation objectives for each site.

The summer 2012 stakeholder interviews (appendix 4) highlighted a lack of transparency about what had happened within these evidence reviews, and how they will impact the outcomes of the MCZ process (e.g. the selection of sites for the first tranche of MCZs in summer 2013). From the outside, it was not clear to most people whether or not more than one evidence review had taken place, and who had carried out the work. This is despite efforts of the SNCBs to create transparency by consulting on and then publishing '[MCZ project advice protocols](http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/mczprojectadviceprotocols.aspx)²⁰³' (which describe the criteria that were used in their internal MCZ evidence review).

²⁰² Finding Sanctuary missed the deadline by a week, submitting their recommendations on September 7th, and a revised version of their final report with minor corrections on September 14th, 2011.

²⁰³ <http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/mczprojectadviceprotocols.aspx>

The overview presented here was pieced together from the summer 2012 stakeholder interviews (appendix 4), the July 2012 SNCB MCZ advice to Defra, and MCZ newsletters. Based on these sources of information, the following evidence review efforts were undertaken between September 2011 and July 2012:

1. A site-by-site review of evidence underpinning the regional project recommendations, carried out by the SAP
2. A review of the evidence underpinning each draft conservation objective, carried out by the SNCBs
3. A review of the evidence underpinning each draft conservation objective, carried out by a consultancy (ABPmer), as part of a Defra-let contract
4. An attempt to gather any additional existing evidence to underpin rMCZs and draft conservation objectives, which may have been missed by the regional projects, or which may have been newly gathered after the regional projects ended, carried out by ABPmer, as part of a Defra-let contract
5. New offshore survey work within rMCZ boundaries, to gather new evidence, carried out by the JNCC in collaboration with CEFAS (strictly speaking, this was not part of the MCZ evidence review process – but many stakeholder interviewees mentioned this survey work as having been part of it)

Each one of the above is expanded on below.

1. The SAP evidence review

After the regional projects handed in their final recommendations, the SAP provided a [final round of feedback](#)²⁰⁴, published on November 15th, 2011. This came in two parts, with [part B](#)²⁰⁵ consisting of a review of the evidence underpinning each one of the rMCZs. The executive summary of part B describes this as follows:

‘An assessment of evidence was undertaken by the members of the SAP to evaluate the robustness of the sources of data used as evidence in the individual Marine Conservation Zone and Reference Area site descriptions provided in the Final Recommendations of the four Regional Projects, Irish Sea Conservation Zones, Finding Sanctuary, Balanced Seas and Net Gain. Evaluation was based on a series of benchmarks which covered three main criteria: i) assessment of the types of literature and other sources used, ii) reliability and completeness of the citations, and iii) personal knowledge of the SAP members. Whilst there are differences between the Regional Projects in the extent to which key references have or have not been found, it is concluded that the evidence base for all of the rMCZs and rRAs for all Regional Projects will require a further in-depth review of data and information to provide an adequate characterisation of the locations. Improving that evidence base will also help to inform the identification of conservation objectives and management measures. The SAP has identified what at least some of those sources of further information should be.’

Two points are particularly notable about the SAP’s evidence review. Firstly, it was carried out on a site-by-site basis, with each rMCZ being given an ‘evidence score’. Secondly, the assessment was, to

²⁰⁴ <http://www.defra.gov.uk/publications/2011/11/15/pb13680-sap-mcz-assessment/>

²⁰⁵ <http://www.defra.gov.uk/publications/files/sap-mcz-final-report-partb.pdf>

a significant extent, based on the number and quality of scientific references cited for each rMCZ within the regional projects' final reports. The final SAP feedback described their criteria as:

- 'i) assessment of the types of literature and other sources used,
- ii) reliability and completeness of the citations, and
- iii) personal knowledge of the SAP members'

Thus, the SAP evidence review did not focus specifically on assessing the quality of the *spatial data* and additional knowledge that was actually used during the stakeholder process to form the site recommendations, and to assess their contributions towards meeting the ENG targets.

Being aware that this approach to reviewing evidence was likely, the Finding Sanctuary project team recruited additional support at the end of the project (at the time the final report was being written up) to carry out a literature review for each of the rMCZs in the network. The scientific papers that this literature review found were used to add richness to the site descriptions in the final report, mainly by adding information about the general characteristics of the sites and the wider areas they were located within. However, these sources of information had previously had no bearing on the decision-making during the stakeholder discussions – they could not have done, because:

- Targeting literature reviews at particular sites was only possible once the sites had been drawn, so stakeholders and project team alike needed spatial information on the distribution of ENG features mapped out at the start of the process.
- The information base presented to stakeholders needed to be as clear and straightforward as possible, and presented on maps showing features and environmental characteristics that they could directly relate to the ENG criteria. It would be unrealistic to expect a cross-sectoral group of stakeholder representatives to be able to assimilate (or even to be interested in) a comprehensive scientific literature review for each location within the entire south-west maritime region (95,000 km²).

In that sense, the criteria used by the SAP in their evidence review were not designed to assess the evidence that actually influenced the decision-making of the stakeholders during their discussions. The SAP evidence review provided more of a scientific quality review of the final write-ups produced by the regional project teams.

Although Finding Sanctuary came out of this review with, on average, the highest scores of all four projects, the SAP was highly critical of the way in which all four regional project teams presented their information, highlighting a weakness in the range and use of literature sources presented in the site descriptions. They expected an academic approach to using literature sources, and extensive, in-depth research with particular emphasis on peer-reviewed scientific literature. Given the time and resource constraints that the project teams were under, and the fact that most of them did not have access to primary research literature, these expectations were perhaps unrealistic.

Irrespective of their criticisms, however, at no point did the SAP indicate that the shortcomings in the evidence presented should be taken as a reason not to proceed with site implementation, or as grounds for fast-tracking some sites over others. Rather, the criticism came across as a prompt for a more in-depth review of the literature to be carried out and to revise / edit the individual rMCZ site reports (they even picked up on presentational issues such as inconsistent capitalisation).

In fact, where the SAP specifically discuss uncertainty and risk (e.g. sections 7.3. and 8.7 of [part A of their final advice](#)²⁰⁶), they are focussed very much on the risk that uncertainty in the evidence base might lead to the ENG not being met in practice, and protection levels being insufficient. They advised that where there is uncertainty in the available data, the precautionary approach should be followed, e.g. through meeting the higher end of the adequacy target ranges in the ENG (based on modelled data), and ensuring that protected areas are large enough.

The shift towards an ‘evidence-based approach’ has driven the MCZ process down exactly the opposite route, where conservation action has to be justified by very strong levels of evidence at a great level of detail (probably drivers of this shift are discussed below).

2. The SNCB evidence review

Following the submission of the regional projects’ final recommendations, and the final SAP feedback, the SNCBs carried out a further evidence review. The SNCBs reviewed the evidence underpinning each one of the draft conservation objectives for the rMCZs submitted by the regional projects. The results of this review formed part of their [advice package](#)²⁰⁷ to Defra on MCZs, which was submitted and published in July 2012.

Each rMCZ put forward by the regional projects came with a list of feature-specific draft conservation objectives, which were drafted in the format required by the COG (section 6.5.7). The draft conservation objectives specified the features that the site would protect if designated, and whether or not each feature was to be

- ‘maintained’ in ‘favourable condition’ (for a standard MCZ where the feature is already in favourable condition)
- ‘recovered’ to ‘favourable condition’ (for a standard MCZ where the feature is currently in a deteriorated condition)
- ‘recovered’ to ‘reference condition’ (for features in reference areas)

In total, 1205 draft conservation objectives were put forward for the 127 rMCZs that were developed by the regional projects. Finding Sanctuary put forward over 500. The COG did not allow conservation objectives to be developed for sites as a whole, nor for the network as a whole.

In their evidence review, the SNCBs evaluated the existing evidence for presence and extent of each individual feature in each site, and the evidence underpinning the assessment of current feature condition. They followed the methods set out in the MCZ project advice protocols referred to above. These protocols explicitly valued recent scientific (ecological) survey data above all other types of evidence (modelled data, local knowledge or ‘anecdotal’ data, data on the distribution of human activities). They set relatively stringent scientific criteria, based on which each draft conservation objective was given a ‘confidence score’ for feature presence, feature extent, and feature condition.

Given this highly specific and reductive approach, it was not surprising that fewer than half of the draft conservation objectives (41%) were given a ‘high’ confidence score for ‘presence’ of the feature, with confidence in ‘extent’ and condition being much lower. For all but 19 out of 1,205 draft conservation objectives, confidence in feature condition was scored as ‘low’. These low scores

²⁰⁶ <http://www.defra.gov.uk/publications/files/sap-mcz-final-report.pdf>

²⁰⁷ http://jncc.defra.gov.uk/PDF/120718_MCZAP_JNCC_NE_MCZ%20advice_final.pdf

illustrated that the 'bar' in the confidence assessment was set high, compared to the data that the regional projects had available to work with.

Additional layers of scrutiny were built into this evidence review, in that the SNCB advice protocols cited above were subject to a public consultation process. Furthermore, the protocols *and* the resulting SNCB advice itself were reviewed an independent expert review group established by Defra, prior to finalisation and publication of the advice. This independent expert review group consisted of five natural scientists (two of whom had also been members of the SAP), and their comments reflected a striving for objectivity in the confidence scores. Socio-economic evidence was explicitly excluded from their remit. The same expert group also scrutinised the SNCB's MCZ advice package to Defra, prior to its publication in July 2012 (their report on the SNCB MCZ advice can be read [here](#)²⁰⁸ - it includes the terms of reference of the group in an appendix).

3. / 4. The ABPmer evidence review and evidence gathering

In addition to the SNCB evidence review, Defra decided to commission a separate, independent evidence review and evidence gathering project, which was completed by an independent consultancy (ABPmer). This project did two things:

- It conducted another evidence review, creating confidence scores for each draft conservation objective. This essentially replicated the SNCB's evidence review, in that it followed the same protocols (methods).
- In addition, it aimed to 'mop up' any existing data or evidence that had either been missed by the regional projects, or had been newly collected since the regional projects.

The ABPmer project was described in the national MCZ newsletter in March 2012, with an appeal to anyone with access to additional evidence to supply it to ABPmer or its sub-contractors:

'The Ministerial Statement on Marine Conservation Zones (MCZ) published on 15th November 2011 included a commitment to carry out an in-depth review of the evidence base for all the regional MCZ projects' site recommendations.

To address this commitment and support the work already being taken forward by Natural England and JNCC, Defra has appointed ABP Marine Environmental Research Ltd (ABPmer), supported by the Marine Biological Association of the UK (MBA) and Marine Planning Consultants (MPC), through open competition, to undertake a review of the ecological evidence.

The aim of the project is to build on and extend the evidence-base of the regional MCZ projects, Natural England and JNCC, which will be used to support the designation of MCZs. It will also complement and extend the evidence reviews that have been recently undertaken by the Science Advisory Panel, Natural England and JNCC. The study will deliver a comprehensive review of the evidence collected by the regional MCZ projects and will seek to identify any additional data/information relevant to the 127 recommended MCZs (rMCZ) and Reference Areas (rRA). This will focus particularly on the Ecological Network Guidance features (see [JNCC's website](#)²⁰⁹ for information on the location of the sites and the detailed site reports). The study will also advise on how any new evidence would affect the

²⁰⁸ <http://www.defra.gov.uk/publications/files/pb13812-sncb-advise-review.pdf>

²⁰⁹ <http://jncc.defra.gov.uk/page-2409>

confidence that may be placed in the evidence used for each feature within each site, based on the [Evidence Protocols](#)²¹⁰ recently developed by Natural England and JNCC. The work will be undertaken in the period February to June 2012.

The study team is aware that many of you will have already supplied data and information during the data gathering exercises undertaken by the regional MCZ projects up to Autumn 2010. This has been invaluable in assisting with the recommendations made in August 2011. The regional MCZ projects, Defra, Natural England and JNCC are extremely grateful for all your contributions to date. However as part of the work to search for and identify potential additional information sources, particularly any data that have become accessible since Autumn 2010, the study team would like to talk with any organisation or individual that considers that it may have such evidence that would be relevant to any of the 127 rMCZ/rRA sites.

While the study team will be approaching many organisations and individuals, they are happy to be contacted directly, and to receive information via the e-mail address below. Before submitting data, the study team will be available to speak to you. They will clarify any points and the format to provide data in, and can discuss data agreements (to cover the use, storage and distribution of any information provided to the project). Any material submitted will be documented and used to inform the confidence assessment.

If you would like to get in touch with the study team, please contact the Project Manager – [name and contact details].’

5. New survey work

There have been recent (2012) offshore survey efforts by the JNCC, which have focussed on rMCZ areas. During the summer 2012 stakeholder interviews, it emerged that many stakeholders understood this survey work to be part of the wider MCZ ‘evidence review’. Technically, it is unrelated. While the regional projects were still operating, the JNCC were planning their offshore survey season for 2012 (as part of their regular activities). Recognising that there were significant data gaps in the offshore area, and knowing that the regional stakeholder groups were planning to submit MCZ recommendations for offshore areas where there was little or no recent survey data (i.e. sites based on modelled data), they planned ahead for visiting some of the offshore rMCZs and carry out multibeam and grab sampling, in order to improve the information base for these sites. The JNCC teamed up with CEFAS for this survey work, using the CEFAS research vessel *Endeavour*.

In addition, further offshore surveys by CEFAS on *Endeavour* were commissioned by Defra, specifically for the MCZ process, in response to the SAP ‘evidence scores’ being low for some of the offshore rMCZs. These surveys came in at a cost of over £4 million ([Defra contract MB0120](#)²¹¹).

The results from the 2012 offshore surveys were not fully analysed and written up in time to be taken into consideration during the MCZ evidence reviews. A blog with information about JNCC’s offshore surveys can be found [here](#)²¹².

²¹⁰ <http://www.naturalengland.org.uk/ourwork/marine/mpa/mcz/mczprojectadviceprotocols.aspx>

²¹¹ <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18221&FromSearch=Y&Publisher=1&SearchText=marine%20conservation%20zones&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

Drivers of the evidence reviews

One of the key drivers behind the MCZ evidence reviews seems to have been an independent review of the evidence underpinning new inshore SACs that were put forward to the EC, as part of the *Natura 2000* process, in 2010 (this is referred to from now on as ‘the SAC evidence review’). None of this had anything to do with the MCZ process *per se*, but the recommendations that came out of the SAC evidence review have now been applied to the MCZ process. In order to understand the full story, it is necessary to go into a bit of background to the SAC evidence review, and the conflicts that preceded it.

As discussed in section 6.1.5, the *Natura 2000* process operated in parallel to the Finding Sanctuary process. *Natura 2000* sites were planned in a science-driven process with no stakeholder involvement in the early stages. In 2009, plans for a series of new inshore SACs were made public in advance of a public consultation exercise. These plans included several large sites to protect rocky reef habitat in south-west England.

Prior to the new inshore SACs being published, in 2008, there had also been a decision to close over 60 square miles of Lyme Bay to scallop dredging. This was a one-off decision taken to protect pink sea fans (*Eunicella verrucosa*) under the Wildlife and Countryside Act 1981, and had nothing to do with the *Natura 2000* process (although the area that was closed was subsequently almost entirely included in one of the new inshore SACs). The Lyme Bay closure had caused significant conflict between Government conservation agencies and parts of the south-west fishing industry (see sections 3.3.2 and 6.1.6).

When the new inshore SACs were put forward, representatives of mobile gear fishermen openly challenged Natural England on the evidence that had been used to underpin both the selection of the SACs as well as the Lyme Bay closure, claiming that the evidence was not strong enough to support the actions taken, and that Natural England were biased against the fishing industry.

This ultimately triggered an independent review of the evidence that had been used by Natural England to underpin the decisions on the new cSACs, focussing on three reef sites in south-west England. This was Defra’s way of ensuring that the new sites would stand up to legal challenges of the evidence, if it came to that. [Defra’s website](#)²¹³ summarises the background to the SAC review as follows:

‘In March 2011, following concerns expressed by stakeholders about the robustness and integrity of the process to designate some marine Special Areas of Conservation under the EU Habitats Directive, Defra’s Chief Scientific Adviser, Professor Bob Watson FRS, commissioned an independent review of the process that Natural England (previously English Nature) and Defra used to select the three case study areas for designation as marine SACs.’

The decision to go ahead with this review had been preceded, over the latter half of 2010, with acrimonious exchanges in the pages of the *Fishing News* between a south-west fishing representative (associated with an offshore scallop trawling company) and Natural England. On July 16th, 2010, the *Fishing News* published an article by Terri Portmann of Scott Trawlers (Plymouth) Ltd,

²¹² <http://jnccoffshoresurvey.blogspot.it/>

²¹³ <http://www.defra.gov.uk/publications/2011/12/19/pb13694-marine-sac-review/>

in which she accused Natural England of anti-fishing-industry bias, and of misrepresenting evidence relating to the abundance of the pink sea fan, and the threats and impacts to the species. Another key accusation was that the evidence underpinning Natural England's case for the Lyme Bay closure lacked transparency, and that the organisation was purposefully making it difficult for external people to access their evidence – she claimed that this lack of transparency applied in the *Natura 2000* process as much as it had in the Lyme Bay case.

On August 13th, 2010, an article was published in the same paper by James Marsden, then Natural England's Marine Director, clearly refuting the accusations made against the organisation, and describing the ways in which Natural England had ensured a strong evidence base for its advice. Both the article by James Marsden, as well as a brief statement by the fisheries minister, Richard Benyon (published in *Fishing News* on August 6th, 2010), stressed a commitment to transparency in Natural England's advice and its underpinning evidence.

Another article on August 27th, 2010, by Jim Portus (chief executive of the South Western Fish Producer Organisation), responded to James Marsden and the Minister's Article by revisiting a lot of the grievances felt over the Lyme Bay closure process. A summary of some of these exchanges is covered in the final report from the SAC evidence review itself, which was published in July 2011 ([Graham-Bryce, 2011](#)²¹⁴).

In summary, the SAC evidence review was carried out by independent scientists under instruction from Defra's Chief Scientific Adviser, in response to the pressure from south-west fishing representatives. It was carried out to ensure that the evidence would, if necessary, stand up to legal challenges. It focussed on three south-west cSACs, including the one overlapping the area of the Lyme Bay closure.

The SAC evidence review concluded that the evidence underpinning the SACs was sound, and that putting forward the sites for designation was appropriate action to take to fulfil the requirements of the Habitats Directive. However, it also concluded that there had been shortcomings in Natural England's process of auditing, recording and communicating the evidence they had used. The summary of conclusions and recommendations from the final report of the SAC evidence review (Graham-Bryce, 2011) are significant, so they are reproduced here in full:

'Roles and responsibilities

1. We recommend that Natural England should adopt and embed the good practice principles set out in the Government Chief Scientific Adviser's (GCSA) Guidelines on the use of scientific and engineering advice in policy-making.
2. We recommend that Defra's Chief Scientific Adviser (CSA) should ensure that policy makers in Defra, specifically Senior Responsible Owners (SROs), are aware of and apply the GCSA's Guidelines on the use of scientific and engineering advice in policy-making. We further recommend that the CSA provides SROs with guidance on their responsibilities in circumstances where Defra relies on Natural England (or other arm's length bodies) to provide evidence-based advice.
3. We recommend that Defra's CSA should adopt a proactive and risk-based approach to identifying and intervening on specific policy issues. We also recommend that the

²¹⁴<http://www.defra.gov.uk/publications/files/pb13598-graham-bryce-independent-review-marine-sacs-110713.pdf>

CSA should clarify his remit with regard to the work of the Department's arm's length bodies.

4. We recommend that Natural England should put in place and publish formal guidelines and principles to ensure that the gathering, selection, analysis, and use of evidence are not compromised by its commitment to its statutory purpose to ensure conservation, and that greater transparency and opportunities for independent, expert review and scrutiny are incorporated in order to maintain public confidence in the integrity of complex, science-based projects.

The approach adopted by English Nature and Natural England

5. We conclude that the approach adopted by English Nature, relying on initial broad-scale desk studies and then focusing detailed investigation on areas of interest where reefs were most likely to be present, was appropriate given the remit it had been given by Defra.

The management of the process by Defra and Natural England

6. We recommend that in future for evidence-based projects of this scale and length, Natural England and Defra should put in place clearer and more robust project management, better able to manage risks and cope with change, and they should ensure that accountabilities are clear and recorded.
7. We recommend that Defra and Natural England should ensure that independent, expert review is built into processes which rely significantly on the gathering, synthesis and interpretation of evidence. Reviews should be transparent: the reviewers' comments and Natural England's response to them should be recorded and published.

Science and the use of evidence

8. We recommend that for major evidence-based projects, Natural England should establish and publish at the outset protocols setting out the key evidence needs, the principles against which evidence will be evaluated, and indicating the quality and quantity of evidence which is likely to be required to make robust decisions at different stages of the process. There should normally be consultation on the protocols before they are finalised.
9. We recommend that when independent, expert review is used, Natural England should be clear, and make clear to reviewers, the purpose of the review and its expectations.
10. We conclude that Natural England has built up a substantial body of evidence which supports the presence of reef habitats, as defined by the Habitats Directive, in each of the three case studies.

Engagement, public scrutiny and access to information

11. We conclude that Natural England went to considerable lengths to offer a genuine opportunity for stakeholders and interested members of the public to comment on the proposals and to provide new or better evidence during the public consultation stage, and that the comments received were taken seriously and appropriately, without bias.

12. We recommend that Natural England should routinely publish background material and consultants reports, to show how evidence has been gathered and synthesised.

Can there be confidence in the decisions in the case studies?

13. In summary, we therefore conclude that the evidence we have seen is sufficient, in both quantity and quality, to support the proposed designation of the three case study sites as SACs, in the light of the requirements of the Habitats Directive. However, we have concerns about aspects of the processes which Natural England and Defra followed.'

The language used in these recommendations very much emphasises the need to have good scientific evidence to support the presence of the features listed in the Habitats Directive (in this instance, rocky reef habitat), before *Natura 2000* sites can be designated. Four of the recommendations (points 4, 7, 8 and 9) make reference to evidence review and evaluation. Three of these explicitly refer to 'independent expert review', and one (point 4) includes the word 'scrutiny' (as does the sub-heading above point 11).

The recommendations effectively place a heavy burden of proof on the conservation agencies, when it comes to the designation of *Natura 2000* sites. Natural England has to find the evidence to 'prove' that relevant features are present and conservation actions are necessary before sites can be put forward for designation, and the evidence must stand up to scientific and public 'scrutiny'.

There is another significant phrase in point 4 of the recommendations, which is that:

'...Natural England should put in place and publish formal guidelines and principles to ensure that the gathering, selection, analysis, and use of evidence are not compromised by its commitment to its statutory purpose to ensure conservation...'

This statement implies that Natural England's commitment to ensure conservation (their statutory purpose) might 'compromise' the gathering of evidence to show that the action is necessary. It comes across as a warning to the organisation against being 'too green' by pushing for conservation actions in the face of scientific uncertainties and knowledge gaps, further emphasising the burden of proof referred to above.

It is noteworthy that the word 'uncertainty' does not appear in the above recommendations at all. 'Uncertainty' can be viewed as the simple flipside of 'evidence' (a word that *is* used throughout the recommendations). Where there are gaps in evidence and gaps in knowledge, there is uncertainty. Given that perfect knowledge about the environment does not exist, any evidence will come hand-in-hand with a degree of uncertainty. The recommendations do not provide any guidance on how Natural England might fulfil its statutory obligations within the *Natura 2000* process in the face of existing uncertainty.

Within the SAC process, scientific uncertainty and knowledge gaps are effectively a series of hurdles that need to be overcome by 'filling them in' with high levels of evidence, before any conservation action can be taken. This SAC review recommendations consolidate this approach by focussing entirely on ensuring that the evidence is 'good enough' to defend conservation advice given by Natural England. This represents the opposite of a 'precautionary approach'.

Within the context of the *Natura 2000* process, the emphasis on evidence gathering is understandable. The Habitats Directive Annexes list specific features for protection, and sites can

only be designated where those features are present. Conservation objectives for SACs are written in a way that requires information not just about feature presence, but also about the extent and current condition of features. Furthermore, sites are selected purely on a science-driven basis, i.e. on the basis of evidence that qualifying features are present, with no account taken of socio-economic factors.

Following the SAC review recommendations is essentially a way of ensuring that the site designations are legally robust, and that there is a public audit trail to demonstrate that they are. If it is evident that site designations are legally valid, Government is less likely to be challenged over proposed new site designations in a court of law, even where there is significant stakeholder opposition.

None of the above was directly concerned with the MCZ process. However, the wording of the final SAC review recommendations makes it clear that they are aimed at any 'major evidence-based projects' (e.g. see point 8 cited above). Following the publication of the SAC review recommendations in July 2011, Government took a decision to apply the recommendations to the MCZ process. This decision coincided with the end of the regional projects.

The [Written Ministerial Statement](#)²¹⁵ on MCZs made by Richard Benyon on 15th November 2011 (see section 1.1.7) made it clear that the MCZ process would attempt to follow the recommendations, citing this as the reason for a delay in the MCZ timetable:

'Natural England and the Joint Nature Conservation Committee will provide the MCZ impact assessment and their formal advice in July 2012. This is six months later than previously planned and this revised timetable will enable them to address the recommendations from the Independent Review of the Evidence Process for Selecting Marine Special Areas of Conservation (published July 2011) and take account of any further evidence obtained from the work that Defra is now commissioning.'

It is likely that fear of legal challenge is a significant reason why Government took the decision to apply the recommendations to the MCZ process. Section 3.3.2 discuss the fishing industry pressure group MPAC, which has used several approaches to try and halt progress on MCZs - challenging the evidence base has been one of them. Government and the SNCBs probably wish to avoid a repetition of the kind of conflict that led to the SAC evidence review in the first place, and wish to pre-empt any possible legal challenges.

Concerns about challenges to the evidence base are also reflected in the 'levels of evidence guidance' published by the SNCBs in June 2011:

'However, the limitations on knowledge and data gaps have led members of regional stakeholder groups to voice three main concerns around the available evidence:

- lack of certainty on the presence and extent of features in the potential sites;
- lack of clarity on the current condition of sites and the use of expert judgement to set conservation objectives; and,

²¹⁵ <http://www.defra.gov.uk/news/2011/11/15/wms-marine-conservation-zones/>

- gaps in evidence around the degree and extent of impacts caused by activities, and therefore the development of management measures will be based upon insufficient information.

From a stakeholder perspective, it is understandable that the quantity and quality of the information required to identify a site should be greater where there is higher likelihood that management of the proposed site will restrict stakeholder's operations. These issues are discussed later under designation and management section.

[...]

Some stakeholders remain concerned where the primary source of information on the distribution of habitats is derived from habitat models, even where the underlying data are robust and verified. Not surprisingly, stakeholders are highly likely to challenge such evidence where any subsequent MCZ may restrict their activities. However, the regional projects are clearly directed by prevailing Government policy to provide recommendations based on best available evidence.'

The 'levels of evidence' guidance was specific to the MCZ process, and was published before the SAC review recommendations were published. Nevertheless at the time that it was being written, the authors will have had insight into the SAC review process and the likelihood that Government would wish for the SAC review recommendations to be applied to the MCZ process. Some of the content certainly seems to pre-empt some of the recommendations, by shifting the MCZ approach away from 'use best available evidence' towards a process that is much more in line with the *Natura 2000* approach.

Problems resulting from raising the evidence requirements within the MCZ process

The first problem with the shift to increased evidence requirements within the MCZ process is the fact that it is a *shift* - i.e. they have changed over time. The shift undermines work carried out by the regional projects' stakeholder groups – they carried out their task based on data which, in retrospect, has been deemed 'not good enough' for underpinning decisions on site designation.

At the beginning of the stakeholder process, Defra GN1 (in draft form, at the time) had stated that:

'Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.'

By the time the regional projects were finalising their work, it had become clear that Government wanted to ensure the site recommendations would be robust, by applying the same evidence standards to MCZs as are applied in the *Natura 2000* process. This was a shift away from basing the process on 'best available evidence'.

Point 8 of the SAC review recommendations states that:

'We recommend that for major evidence-based projects, Natural England should establish and publish **at the outset** protocols setting out the key evidence needs, the principles against which evidence will be evaluated, and indicating the quality and quantity of evidence which is likely to be required to make robust decisions at different stages of the process. There should normally be consultation on the protocols before they are finalised.'

[emphasis added]

By the time these recommendations were published in July 2011, it was obviously not possible to retroactively define the MCZ advice protocols ‘at the outset’ of the process. All that could be done was to define new protocols for the evidence review that was bolted on *after* the stakeholder process had already finished.

Hand-in-hand with a shift away from the ‘best available evidence approach’, there was a shift towards a ‘feature-by-feature’ approach, whereby conservation objectives for MCZs were targeted at specific features in each site. This is the same approach that is taken for conservation objectives in *Natura 2000* sites. Once conservation objectives are made specific to individual features (rather than to MCZs as integral areas), then there has to be sound evidence to demonstrate presence and condition of those features in order for the designation to stand up to legal challenge. In that sense, feature-based conservation objectives directly fuel the need for evidence (see section 6.5.7).

This leads the process down a path where only those areas for which good survey data exists can be designated. Survey information is concentrated around the shoreline, with the spatial density of survey location decreasing rapidly with increasing distance from the shore. There are large areas of the UK’s continental shelf area where there is no recent detailed biological survey information available, and going down the ‘evidence-based’ route effectively precludes these areas from designation.

This means that offshore features will lack representation in the network, jeopardising the achievement of Marine Act section 123 (the requirement for a representative MPA network), and undermining the seven network design principles in Defra GN1 and the ENG. The use of ENG principles and modelled broad-scale habitat data was a pragmatic approach to overcome the problems posed by data gaps, and still design a representative network.

Another challenge the ‘evidence-based’ approach brings with it is that it leads the process down a very narrow, deterministic path. If only those sites with high levels of evidence can be designated, that narrows the available options to a vast degree, almost predetermining the outcome. It undermines the flexibility within the ENG, which had allowed trade-offs and compromises to be reached during stakeholder negotiations.

Several stakeholders stated, during the stakeholder interviews in summer 2012, that in retrospect they saw little point in all the time and effort they had poured into the planning process, only see the rules of the game change to the point that if they had known these rules from the outset, their contribution would have been very different, or they may not have bothered to contribute at all (as there might have been little to influence).

This is a highly significant finding, and one that those within the on-going MCZ process ought to be mindful of when still referring to rMCZs as ‘recommendations made by stakeholders’, or when referring to the MCZ process as ‘stakeholder-led’. Those terms may have been appropriate at the time the regional projects were operating, but over a year after their end, very little stakeholder ownership is left. The shift towards a deterministic, evidence-based approach is a key element that has led to this situation.

The shift towards an ‘evidence-based’ process has entailed a series of scrutiny and reviews of the scientific evidence underpinning the MCZ process, all of which are aimed at ensuring that the available evidence is fit for the process. There seems to be little consideration on whether or not the design of the current process is fit for the available knowledge base that exists at this point in time.

Scientific uncertainty is a fact of life, and no amount of research or ‘evidence gathering’ will completely remove uncertainty, especially not scientific uncertainty about large, complex, dynamic, and expensive-to-explore offshore ecosystems. For effective conservation measures to be implemented (as required by the Marine Act and MSFD), there needs to be an acceptance of uncertainty, and a way of progressing with conservation action *in spite of* knowledge gaps.

Instead, what has happened in the MCZ process is layer upon layer of scrutiny of the ecological and environmental evidence underpinning its various elements and stages, with increasing level of detail and increasing standards expected. It is worth reflecting on just how many stages of scrutiny have been applied to date:

- When the ENG were written, this entailed:
 - a scientific literature review by ENG’s authors,
 - newly commissioned scientific research to inform ENG criteria,
 - multiple reviews of the ENG once drafted, including scientific peer review
- During the main national biophysical data collation exercise (Defra contract MB102), there were independent data review and quality assurance procedures in place
- The EUNIS level 3 dataset used during Finding Sanctuary underwent several revisions over the course of the process, combining modelled and survey data (see Appendix 8 of Finding Sanctuary’s final report)
- The SAP reviewed the evidence used to inform the ENG application by the regional projects, and assessed whether or not the regional project recommendations adequately met the ENG
- The SAP reviewed the evidence underpinning each recommended site, having prior pushed the regional project team to carry out a scientific literature review to pull in as much ‘scientific information’ as possible into the final recommendations,
- The SNCB evidence review
 - before the review was carried out, the protocol it was based on was consulted upon and published
 - review of evidence was carried out for *each draft MCZ conservation objective* (in excess of 1000), assessing evidence for feature presence, feature extent, and feature condition
- ABPmer’s independent evidence review, again carried out for *each draft MCZ conservation objective*, assessing evidence for feature presence, feature extent, and feature condition
- Defra’s independent expert group reviewed SNCB advice protocols, and the SNCB’s final MCZ advice (before it was published in July 2012)

These multiple layers of scrutiny have entailed a lot of time, cost and effort. At times, effort has been duplicated (e.g. between the SNCB evidence review and ABPmer’s evidence review). There has to be a point at which a line is drawn under evidence gathering and scrutiny, and decisions to implement sites and conservation measures are taken. Acknowledging that the evidence base is likely to improve in future, the amount of time and resource that is currently being expended on scrutinising and reviewing evidence might be better spent on designing effective environmental monitoring strategies, and an adaptive process that would allow the design of the MCZ network to be reviewed and improved upon in the light of better information in future.

Clarity, transparency and influence of the evidence reviews

The previous pages described *what* has happened within the MCZ evidence reviews, analysed *why* they happened, and discussed some of the problematic issues around the evidence reviews and shift in evidence requirements.

These next few pages will discuss how the confidence scores from the evidence reviews are likely to impact on the MCZ proposals within the on-going process, how clear and transparent that process has been to outsiders, and what opinions stakeholders expressed about the evidence review process in the summer 2012 stakeholder interviews.

Point 9 from the SAC review recommendations (Graham-Bryce, 2011) recommend that:

‘[...] when independent, expert review is used, Natural England should be clear, and make clear to reviewers, the purpose of the review and its expectations.

The purpose and specific impacts of the MCZ evidence review outcomes may be clear to the SNCBs, Defra, and the external reviewers – but when the stakeholder interviews were conducted in summer 2012, it was not clear to people on the outside. Few interviewees even had a full understanding of what work had happened as part of the evidence review process.

Most interviewees were aware that an ‘evidence review’ was taking place, but few were aware of the distinctions between the work carried out by the SAP, SNCBs and ‘independent’ contractors, or the specific reasons why there were multiple reviews conducted by different people. Similarly, the specific ways in which the resulting confidence scores would impact on the progression of the rMCZs through the designation process was not entirely clear.

There was a suggestion that the outcome of the evidence reviews would serve to focus future survey efforts on sites with little or no recent survey data, and/or that it would help highlight sites for which further literature review might be carried out.

Most interviewees, however, expected that sites with the ‘best’ underpinning evidence would be ‘fast-tracked’ over sites with lower levels of underpinning evidence, i.e. that the outcomes of the evidence review would be the basis for the selection of sites to be included in the first tranche of MCZ designation in 2013. Sites with ‘good levels of evidence’ would go ahead in the first tranche, sites with low levels of evidence would not. It was not clear whether interview respondents were aware that the SNCB & ABPmer evidence reviews were carried out for individual features, rather than on a site-by-site basis.

Based on the November 2011 Ministerial Statement reproduced in section 1.1.7, and the implications of the SAC evidence review recommendations in Graham-Bryce (2011), this indeed seems likely to happen – however, until the MCZ consultation is launched in December 2012, there is no way for anyone outside Government and its advisory bodies to know for certain. There is also no way of knowing how exactly decisions will be made for sites with multiple features with different confidence scores for each one.

It is worth noting that using levels of evidence as a criterion for tranching is not explicitly supported by the SNCBs in their official advice to Defra. Accepting that tranching will happen, they advise that the criteria used for tranching should focus on ensuring the representativity and ecological coherence of the network, in order for the network to meet international obligations e.g. under the MSFD (section 6.1 of the SNCB MCZ advice package). They clearly state that moderate or low

confidence scores in the evidence assessment for feature presence and condition should not prevent site designation from going ahead (section 5.1 of the SNCB MCZ advice package).

As for the survey work carried out on board the *Endeavour* in 2011, there was also a lack of clarity of how the results from the surveys would impact on the MCZ process. Several interviewees were under the impression that the surveys aimed to gather enough data to justify the inclusion of the surveyed sites in the first tranche of MCZ designations, but the timing of the survey work was too late for this to happen (the new datasets needed time to be analysed, and this new evidence could not be built into the evidence review process).

The summer 2012 stakeholder also highlighted that the level of insight into the process varied a lot between interviewees. A small number were not aware of the evidence review process at all. Most had some awareness, often because they or someone they know have been approached by ABPmer or MBA for data, or because they had seen the research vessel *Endeavour* carrying out survey work (and assumed this to be 'something to do with the evidence review'). Very few interviewees fully understood the different aspects of the work, how they related to each other (or not), and what roles the SNCBs, ABPmer, the MBA and CEFAS play.

Stakeholder opinions about the evidence reviews

Whilst many respondents in the summer 2012 stakeholder interviews stated that they thought evidence gathering and review was an important part of the process (not least to ensure that the site designations and management measures would be legally defensible), most thought the timing of the review *after* the stakeholder process inappropriate, stating that this should have been done at the start.

There was frustration voiced over the fact that questions about evidence quality had been raised by stakeholders at the start of the process, with the response being 'you need to proceed with the planning, use the best evidence available', only for Government and SNCBs now seemingly saying 'actually, sorry, that wasn't good enough after all'. This frustration was voiced strongly by some industry stakeholders, who understood the importance of ensuring that the sites are legally robust (with good enough evidence underpinning them).

Many respondents had a poor overall opinion of the MCZ evidence review process. This was especially true for representatives of the environmental sector, and for some of the more local stakeholders who had invested a lot of their time and effort into the Finding Sanctuary stakeholder process. The evidence review was

- i. seen as stalling tactic to slow down progress towards implementing MCZs
- ii. seen as political manoeuvre (stalling tactic due to lack of political will)
- iii. seen as lack of forward planning
- iv. seen as undermining of stakeholder effort ('What was the point of all the effort if now the evidence was never good enough from start?')

One significant exception was the position of the offshore commercial fishing sector, who argued throughout the process that there was a need for 'higher levels of evidence' to underpin the process. They welcomed the evidence reviews, and the shift away from a 'best available evidence' approach to an 'evidence-based' process, where much more evidence is needed at several steps along a lengthy process before any restrictions are put in place.

6.5.7 Conservation Objectives: Fuelling the need for evidence

Legal requirements for stating conservation objectives and specifying protected features in MCZs

Section 117 of the Marine Act sets out the grounds for designation of MCZs:

‘117 Grounds for designation of MCZs

(1) The appropriate authority may make an order [to designate an MCZ] under section 116 if it thinks that it is desirable to do so for the purpose of conserving—

- (a) marine flora or fauna;
- (b) marine habitats or types of marine habitat;
- (c) features of geological or geomorphological interest.

(2) The order must state—

- (a) the protected feature or features;
- (b) the conservation objectives for the MCZ.

(3) Any reference in this Chapter to the conservation objectives stated for an MCZ is a reference to the conservation objectives stated for the MCZ under subsection (2)(b).

(4) The reference in subsection (1)(a) to conserving marine flora or fauna includes, in particular, a reference to conserving any species that is rare or threatened because of—

- (a) the limited number of individuals of that species, or
- (b) the limited number of locations in which that species is present.

(5) The references in subsection (1)(a) and (b) to conserving marine flora or fauna or habitat include references to conserving the diversity of such flora, fauna or habitat, whether or not any or all of them are rare or threatened.

(6) Any reference to conserving a thing includes references to—

- (a) assisting in its conservation;
- (b) enabling or facilitating its recovery or increase.

(7) In considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have regard to any economic or social consequences of doing so.

(8) The reference in subsection (7) to any social consequences of designating an area as an MCZ includes a reference to any consequences of doing so for any sites in that area (including any sites comprising, or comprising the remains of, any vessel, aircraft or marine installation) which are of historic or archaeological interest.’

So, whilst section 123 of the Marine Act sets out the legal objectives for the *network* of MPAs, section 117 sets out the specific ground on which *individual* MCZs can be designated. In essence, section 117 states that MCZs can be designated for the purpose of conserving any marine flora, fauna, and geological / geomorphological features.

Although subsection 4 places particular emphasis on rare or threatened species, there is no restriction on what features can be protected in MCZs - the Marine Act allows MCZs to be

designated for any feature of marine biodiversity. In that sense, it is very different from other environmental legislation, e.g. the EU Habitats Directive or the Wildlife and Countryside Act 1981, which contain annexes that list species and habitats that qualify for protection. This makes sense, because if MCZs could only be designated for the protection of a predefined list of species and habitats, there would be no easy way to build an overall network representative of the full range of marine biodiversity.

Section 117 (2) requires each MCZ designation to state which features are to be protected in the site. It does not specify at what degree of detail the ‘features’ need to be defined (species, biotope, broad-scale habitat, or even broader).

Section 117 (2) also requires each MCZ designation to state what the conservation objectives are for the site, i.e. each MCZ has to have its own site-specific conservation objectives. Beyond making clear that they need to be site-specific, the legislation imposes no further constraints on the conservation objectives, nor does it predefine the format they need to take. The legislation does not require conservation objectives to be feature-specific – they are required *in addition to* stating what features the site protects.

Given the course that the MCZ process has embarked upon, this is a crucial detail to bear in mind: The Marine Act does *not* explicitly require conservation objectives to be written for each protected feature in each MCZ, nor does it state that conservation objectives can *only* be written specifically for the site’s named protected features. There seems to be no legal reason why conservation objectives could not be written for sites as an integral whole, with the site designation order also (separately) stating what features the site is there to protect.

The conservation objectives are of crucial importance, because management of MCZs (protection measures, activity restrictions) depend entirely upon them. The Marine Act does not predefine any protection levels or activity restrictions that need to be put in place in MCZs. Instead, the legislation merely states that it is the duty of responsible authorities to manage MCZs in such a way as to further conservation objectives.

The approach taken to defining conservation objectives for MCZs, therefore, is of central importance in the MCZ process, as the conservation objectives are at the nub of translating the site designations into real-world management actions, and the realisation of conservation benefits.

As this section will go on to describe, the approach that the MCZ process has embarked upon for conservation objectives is highly laborious, and long-winded, trying to do more than is necessary to meet the requirements of section 117 of the Marine Act. The detailed and laborious approach to conservation objectives is a key ingredient in the shift from a strategic approach based on best available evidence (as embodied by the ENG), towards a deterministic ‘evidence-based’ process. As such, it is a major obstacle in the way of achieving a representative MPA network. Thus, the overly complex interpretation of the requirements of section 117 of the Marine Act are in direct conflict with the achievement of section 123 of the Marine Act.

The Conservation Objective Guidance

From the beginning of the formal phase, the remit of Finding Sanctuary included recommending draft MCZ conservation objectives, in addition to recommendations for the location and boundaries of MCZs. The [Conservation Objective Guidance](#)²¹⁶ (introduced in section 1.1.2, and referred to throughout this report as the COG), authored by JNCC and Natural England, defined the format in which conservation objectives had to be written in the regional project recommendations, and set out a process for defining them. It was published rather late in the process, in January 2011 (although a draft had been circulated to regional project staff for discussion in September 2010).

Prior to the publication of the COG, Finding Sanctuary had loosely defined developing conservation objectives as the contribution each site made towards meeting the BSH and FOCI targets in the ENG, i.e. the project team's emphasis when guiding stakeholders and when reporting progress had always been to focus on the network as a whole, rather than on formulating more defined site-specific objectives. In part, this was because the COG had not been available until so late in the process, and naturally, the achievement of the ENG targets was seen as the focal point for the stakeholder discussions. In part, it was also because the network configuration was still developing.

When the COG became available, it became clear that the definition and writing of draft conservation objectives was going to be a much more laborious process than originally expected by the project team.

The COG defined conservation objectives as follows:

'A conservation objective is a statement describing the desired ecological/geological state (quality) of a feature* for which an MCZ is designated (Table 2). The conservation objective establishes whether the feature meets the desired state and should be *maintained*, or falls below it and should be *recovered to favourable condition*.

*A feature can be a habitat, a species, a geological formation or a geomorphological process.'

It is not certain where this definition originated from, as the Marine Act makes no reference to MCZ conservation objectives having to be feature-specific, or having to define the 'desired ecological state' of the feature. It is notable, though, that the approach taken for MCZ conservation objectives is very similar to the approach taken for conservation objectives for *Natura 2000* sites, so it is likely that this had an influence – perhaps because of a desire within the SNCBs and Defra to keep approaches 'consistent' across different designations. The 'table 2' referred to in this quote showed the format in which the COG required each conservation objective to be written, and is reproduced in figure 6.1 overleaf.

²¹⁶ <http://jncc.defra.gov.uk/PDF/MCZ%20Project%20Conservation%20Objective%20Guidance.pdf>

Table 2 Template of draft conservation objective

Conservation Objective										
1 Maintain/ recover	[Insert sentence on the importance of the feature]. Subject to natural change, [maintain or recover] the [insert name of feature] to favourable condition [by 2020 and maintain thereafter], such that:									
2 Attributes ⁵ and parameters (indicated by *) of feature (insert the attributes and parameters list specific to the feature)	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 33%;"><u>Habitat</u></th> <th style="text-align: center; width: 33%;"><u>Species</u></th> <th style="text-align: center; width: 33%;"><u>Geological/ Geomorphological</u></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> the <ul style="list-style-type: none"> • extent, • diversity, • community structure, • natural environmental quality*, and • natural environmental processes* </td> <td style="vertical-align: top;"> the <ul style="list-style-type: none"> • natural range, • habitat extent, • population structure, • population density, • size structure, • natural environmental quality*, and • natural environmental processes* </td> <td style="vertical-align: top;"> the <ul style="list-style-type: none"> • extent, • component features, • spatial distribution, • integrity • natural environmental quality*, and • natural environmental processes* </td> </tr> <tr> <td colspan="3" style="text-align: center;">representative of the [feature] in the biogeographic region are all [maintained or recovered].</td> </tr> </tbody> </table>	<u>Habitat</u>	<u>Species</u>	<u>Geological/ Geomorphological</u>	the <ul style="list-style-type: none"> • extent, • diversity, • community structure, • natural environmental quality*, and • natural environmental processes* 	the <ul style="list-style-type: none"> • natural range, • habitat extent, • population structure, • population density, • size structure, • natural environmental quality*, and • natural environmental processes* 	the <ul style="list-style-type: none"> • extent, • component features, • spatial distribution, • integrity • natural environmental quality*, and • natural environmental processes* 	representative of the [feature] in the biogeographic region are all [maintained or recovered].		
<u>Habitat</u>	<u>Species</u>	<u>Geological/ Geomorphological</u>								
the <ul style="list-style-type: none"> • extent, • diversity, • community structure, • natural environmental quality*, and • natural environmental processes* 	the <ul style="list-style-type: none"> • natural range, • habitat extent, • population structure, • population density, • size structure, • natural environmental quality*, and • natural environmental processes* 	the <ul style="list-style-type: none"> • extent, • component features, • spatial distribution, • integrity • natural environmental quality*, and • natural environmental processes* 								
representative of the [feature] in the biogeographic region are all [maintained or recovered].										
Advice on operations										
3 Pressures	[Feature] is sensitive to the pressures: - [list all pressures to which the feature is sensitive as bullets, including those from the combined table] ⁶ ,									
Human activities	Human activities which cause these pressures will need to be managed if they prevent the conservation objectives from being achieved to ensure the MCZ contributes to an ecologically coherent and well-managed network of Marine Protected Areas.									

⁵ Definitions of attributes are provided in the glossary

⁶ If the feature's sensitivity to all pressures present is unknown and the feature condition cannot be assessed and therefore the draft objective cannot be set, seek guidance from SNCBs in this case (See Table 4 for connection to the vulnerability assessment).

Figure 6.1: Screenshot of table 2 of the COG, showing the template that each raft conservation objective included in the regional projects' final recommendations was expected to follow.

Table 2 of the COG (figure 6.1) illustrates that the COG required conservation objectives to do much more than make a statement about the objective(s) of including the site in the network. The COG required conservation objectives to

- 1) be specific to individual *features* in each site,
- 2) assess the *condition* of each feature in each site,
- 3) define the *desired ecological condition* the feature should have,
- 4) state the *attributes* of the feature that needed to attain the desired condition,
- 5) state the *pressures* the feature is sensitive to, and
- 6) state what *human activities* cause those pressures.

All of this makes the ‘conservation objective’ a lot more than an objective – it incorporates a feature condition assessment, indicators for condition monitoring (the attributes), and the basis for managing human activities.

The COG defined a generic aim that every feature with a conservation objective written for it within an MCZ should be in ‘favourable condition’ (and all features in reference areas should be in ‘reference condition’). The definition of ‘favourable condition’ has remained somewhat woolly throughout the process, with the best definition provided in the ‘attributes’ statement in row 2 of the conservation objectives template.

For features that are already in favourable condition, the COG required the conservation objective to be written as a ‘maintain’ objective, and for features in worse condition, the objective had to be written as a ‘recover’ condition. For reference areas, the COG required all conservation objectives to be ‘recover’ to reference condition, on the basis that no feature anywhere is currently expected to be in ‘reference condition’.

A condition assessment would require recent condition assessment survey data, which was unavailable for virtually all of the features in all of the sites. In the absence of direct survey-based evidence, the COG set out an alternative ‘vulnerability assessment’ process, to be carried out for each feature in each site.

For each feature in each site, the vulnerability assessment had to define whether or not the feature was likely to be in favourable condition based its sensitivity to a range of pressures, and on best available evidence on human activities present in the site, the distribution and intensity of those activities, and the individual and cumulative pressures of each activity. The task relied on the national ‘sensitivity matrices’, the most complex set of guidance provided to the regional projects during the stakeholder process, described in detail in section 6.5.10.

This process had to be carried out for hundreds of combinations of features and rMCZs, a task that could not feasibly be carried out within stakeholder meetings. Section 6.5.10 goes into further detail on how the vulnerability assessments were carried out within Finding Sanctuary, and the ramifications they had for the stakeholder process.

The conservation objectives: amplifying the need for evidence

The conservation objectives form the basis for all subsequent site management decisions. Once an MCZ is designated, it is not clear whether it would be possible to alter or amend the conservation objectives easily. It is therefore important to get the conservation objectives ‘right’: They ought to be understandable and workable, in the sense that they can be worked towards with practical and pragmatic measures, irrespective of current uncertainties and data gaps. The conservation objectives (and whatever measures are taken to achieve them) also have to be legally defensible, otherwise they will be challenged by people opposed to specific MCZs, and/or to MPAs in general.

The current approach has a number of drawbacks: It undermines the ecosystem approach, it greatly amplifies the amount of (paper)work that has to be completed before sites can be designated and managed, and it greatly exacerbates the challenge of achieving legislative conservation goals in the face of scientific uncertainty, by amplifying the need for supporting evidence.

The approach mirrors the *Natura 2000* approach. The legislation underpinning the *Natura 2000* process, however, is very different from that underpinning MCZs. Unlike the Marine Act, the Habitats and Birds directives list a comparatively small number of specific species and habitats for which sites can be designated (see section 2.2.1). It is therefore logical to pin conservation objectives to this set of features, and it is a realistic prospect to do so, as the number of features is small.

MCZs, in contrast, are supposed to represent the full range of marine biodiversity (when combined with the *Natura* sites) – this is a requirement of the Marine Act and the MSFD. Specifically, section 123 (3)b of the Marine Act requires

‘that the features which are protected by the sites comprised in the network **represent the range of features present in the UK marine area;**’ [emphasis added].

Under the feature-by-feature approach to conservation objectives, theoretically the only way to ensure that the network actually *protects* a representative portion of the full range of marine biodiversity, would be to write a conservation objective for every species, habitat, biotope, and geological or geomorphological feature within each site. Clearly, this is not a pragmatic approach. For the 58 sites in Finding Sanctuary’s final recommendations, there were 587 draft conservation objectives.

This huge number (by far) did not include all the features present in each site – it was limited to the ‘surrogate’ broad-scale habitats, geological and geomorphological features, and FOCI that were mentioned in the ENG. This was a natural result of the regional projects first having been provided with the ENG and ‘matching’ datasets (i.e. datasets showing the best available information on the distribution of the ENG-listed features), and subsequently being provided with the COG. Once it was clear that conservation objectives had to be written for specific features rather than for whole sites, the obvious practical way to fulfil that guidance was to utilise the datasets showing the distribution of the ENG features, and write conservation objectives for the features falling into each rMCZ. It was, after all, the distribution of those features (and the ENG targets) that informed the location of the rMCZs.

However, what this means is that the ENG features lists are being treated as the *de facto* equivalent of the Habitats Directive annexes that list the species and habitats covered by the legislation. This was *not* what the ENG was designed for. The ENG was meant to provide a set of pragmatic *network design guidelines*, not a list of features for protection. In fact, the ENG document itself makes it

clear, highlighting the fact that MCZs can be designated for *any* marine feature. But when regional projects suggested additional draft conservation objectives for seabirds and cetaceans (not listed in the ENG) for some of the sites, this was met with limited support from the SNCBs and Defra. For the offshore sites, JNCC stated categorically that they would not support these conservation objectives.

Furthermore, the guidance provided by Defra and SNCBS for writing the second part of each conservation objective (pressures, human activities), did not cover anything other than benthic BSH and FOCI. This effectively made it impossible to draft conservation objectives in the format required by the COG for anything else.

The Marine Act's requirement to build a representative MPA network is consistent with an ecosystem-based approach to management, and approach that is also embedded within the MSFD. The seven network design principles in Defra GN1 and in the ENG are consistent with an ecosystem-based approach. In contrast, the COG embodies a highly reductive approach to environmental management, which essentially attempts to break down the ecosystem into its constituent features, and design conservation objectives and management measures around each individual one. This represents the opposite of an ecosystem-based approach, whereby ecosystems are meant to be treated as an integral whole, rather than attempting to 'manage' individual elements within it.

From an entirely practical perspective, this reductive approach results in an unmanageable number of individual conservation objectives, amplifying the amount of (paper)work that has to be completed before a site designation can go ahead – work that costs time and (taxpayers') money, which has to be spent well before any conservation benefits can be realised. The COG is a veritable red-tape-generator.

Perhaps most concerningly, the feature-specific COG approach generates a huge demand for scientific evidence to underpin the conservation objectives. In order for the objectives to be legally defensible in the way they are currently structured, every one of the six elements of the conservation objectives listed in the previous section demands evidence to justify it:

- 1) There has to be sound evidence to *prove* the presence and extent of each feature for which a conservation objective is written.
- 2) There has to be sound evidence to prove what condition the feature is in, to support a 'recover' or 'maintain' objective.
- 3) / 4) There has to be evidence to underpin the definition of the *desired ecological condition* the feature should attain, including the attributes to measure in order to define it. This requires detailed knowledge about how a feature will react and change to the removal of pressures, and an idea of what a feature looks like in 'natural' condition, in order to predict what 'favourable condition' will look like (bearing in mind natural variability, of course). 'Favourable condition' remains a fairly woolly concept, and that is perhaps not surprising. There seems to be a desire to make this a clean, firm, 'science-based' assessment, but what is deemed 'favourable' is a question of value judgement rather than science. Whilst it is possible to use scientific information to influence the judgement, science alone will never provide an answer as to what is 'favourable' and what is 'unfavourable'. Scientists may come up with *their* ideas for scientific descriptors of 'favourable condition', but the line where 'favourable' changes to 'unfavourable' is still a matter of judgement. [There isn't anything inherently wrong with making judgements – they are an important aspect of any form of

governance – but the point here is that with judgement calls, one cannot expect the scientific process to provide the ‘right’ answers, because that is not what the scientific process is designed to do.]

5) There has to be evidence to demonstrate what *pressures* each feature is sensitive to at what benchmark frequency and intensity.

6) There has to be evidence to demonstrate what *human activities* cause those pressures at or above the benchmark frequency and intensity, at the location of each specific site.

This evidence has to be in place for every conservation objective (remembering that the total number in Finding Sanctuary’s recommendations was 587). Based on the SAC evidence review recommendations, it has to be independently reviewed, scrutinised and audited. And this has to be done *before* any measures can be put in place in order to turn MCZs from paper parks to genuinely protected areas within which *any* conservation benefits are realised above and beyond the status quo.

The COG approach effectively erects a long series of ‘evidence hurdles’ to be overcome, each one of which being a barrier to conservation measures being implemented in the face of scientific uncertainties. These evidence hurdles don’t just stand in the way of effective management measures, they stand in the way of site *designation*, because conservation objectives have to be written into MCZ designation orders.

The COG approach opens up the potential for challenges on the basis of insufficient evidence at five or six different points: If any of the evidence for any of the elements of a conservation objective does not stand up to scrutiny, then that conservation objective becomes challengeable. The conservation objectives, in their current form, can almost be visualised as rows of dominoes. If any single domino falls, the basis for the management of the site is undermined, making it very hard to progress to a point where MCZs are a) successfully designated and b) anything more than paper parks.

The SNCBs’ evidence review process described in the previous section scrutinised the evidence underpinning the first two of the six conservation objective elements listed above: feature presence and extent, and feature condition. The outcome, as reported in their MCZ advice package submitted to Defra in July 2012, included the following:

- Fewer than half (41%) of the 1205 draft conservation objectives assessed received a ‘high’ confidence score for feature presence
- 36% received a ‘low’ confidence score for feature presence, with an additional small percentage (<5%) scoring ‘no confidence’
- For feature extent, only 16 % received a ‘high’ confidence score, and over half (56%) received a ‘low’ confidence score
- For feature condition, *virtually all* (98%) received a score of ‘low confidence’

As stated within the SNCB advice package, these figures are not surprising, given the gaps in distribution of offshore marine survey data, and bearing in mind that the evidence assessment protocols require survey data in order for ‘high’ confidence scores to be achieved. The SNCB advice states that ‘the availability of evidence is only one factor when considering whether a recommended MCZ should go forward for designation’. However, despite this statement, present indications are

that site prioritisation for the first tranche will in fact be based on levels of evidence (see previous section).

It is difficult to see how the requirement of to establish a genuinely representative MPA network can be met within the required timescale, if the current approach to conservation objectives continues to be pursued. Demanding ‘SAC-levels’ of evidence to prove the presence, extent and condition of individual species and habitats in each MCZ poses a significant practical obstacle in the way of achieving the legal requirements of the Marine Act (even without further considering the difficulties around assessing pressures, sensitivities, and linking them with human activities on a site-and-feature-specific basis).

One final point of criticism of the current approach to conservation objectives is that it is contributing significantly to process-generated uncertainty, one of the biggest problems that stakeholders faced (and are still facing) within the MCZ process. The COG-defined pathway for developing conservation objectives is detailed and time-consuming, and leaves considerations about ‘possible management implications’ until the end. The reductive, feature-specific approach furthermore introduces a lot of variability in the possible combinations of objectives within individual sites, and management is to be ‘fine-tuned’ on a case-by-case basis, introducing further uncertainties that are left for resolution until after sites are designated.

Section 7.7.4 proposes an alternative approach to conservation objectives, which would overcome some of the problems created by the current approach. However, at present, it does not seem that the MCZ process will change direction on this matter, with an insistence on an ‘evidence-based’ process, multiple evidence reviews and commitments to more future survey work. By embarking down this complex and evidence-hungry, Government and SNCBs seem to accepting a high ‘burden of proof’ for supporting conservation measures, and actively taking on that burden with all the costs that entails (for those sites that do eventually go forward).

Considering all the drawbacks of the approach, it is worth reflecting on possible reasons why it is being taken. They include:

- 1) The legal requirement under Marine Act section 117 (2) that each MCZ designation order must state
 - (a) the protected feature or features;
 - (b) the conservation objectives for the MCZ.

The interpretation of this seems to have been that the two have to be wrapped together, i.e. that conservation objectives have to be written for each protected feature, and that they cannot be written for anything else (e.g. the site as a whole, or a very broad-scale ‘feature’ such as ‘the seafloor’).

- 2) Fear within Government and SNCBs over legal challenge of conservation objectives and management measures that are not underpinned by huge amounts of very detailed, site-specific evidence. This fear seems to be greater than the fear of being challenge over a failure to meet the legal goals of the MSFD and the Marine Act to implement a representative MPA network.
- 3) A lack of political will to truly implement an ecosystem-based approach, and focus management measures at *areas* rather than *features*. This became evident in a visit made by the Fisheries Minister (Richard Benyon) to the Finding Sanctuary project in 2011, during

which he reminded the project team and stakeholder representatives that the idea of MCZs was to protect 'features, not areas'. This would arguably mean that classifying MCZs as 'MPAs' would be mislabelling them.

- 4) A lack of political will to implement a precautionary approach, and take decisions to put restrictions on human activities without knowing exactly what the environmental outcomes of taking such actions would be. This contrasts with the stated policy position on deploying infrastructure with unknown environmental impacts (e.g. renewable energy devices), which is to 'deploy and monitor'.
- 5) A possible lack of desire within SNCBs and Defra to change established processes and ways of working from the *Natura 2000* process.

At point 5, it is worth reflecting on the *Natura 2000* process, and in particular, on the achievements made under the Habitats Directive since it became law twenty years ago in 1992. This might be seen as a model to help predict what might happen if MCZs continue down their current feature-based approach. The following statement cited from a recent overview of protected areas in Europe, written by the European Environment Agency (EEA), should cause pause for thought:

'The current European network of Marine Protected Areas cannot be considered to be either ecologically coherent or representative of the European marine ecosystems and their habitats.

The conservation status of both marine habitats and species targeted by the [Habitats and Birds] Directives remains poor. Only 10 % of the assessments of the marine habitat types and 2 % of the marine species were favourable. The conservation status reports also revealed a particularly large gap in knowledge of marine ecosystems: over 40 % of the habitat assessments and over 70 % of species assessments were considered unknown.'

This statement perfectly illustrates the lack of practicality of implementing the feature-by-feature approach in marine protected areas, even for legislation that explicitly targets only a limited set of features: Most of the current status assessments for features in European Marine Sites report back as 'status unknown', because of a lack of sufficient information. Only a very small percentage of features are known to be in favourable condition. The Habitats Directive has been in place for 20 years (what will be written about MCZs in 2032?).

The cited EEA report closes its chapter on marine protected areas with these sentences:

'Europe is standing at a crossroads. It must decide whether to truly protect the marine ecosystem and its constituent parts, or to continue to focus on specific areas and parts of the ecosystem. The choice we make now will define the legacy of the first 20 years of the new millennium.'

6.5.8 Process-generated uncertainty

Process-generated uncertainty in the MCZ process

Section 6.5.3 drew a distinction between scientific uncertainty / knowledge gaps, and process-generated uncertainty. Sections 6.5.4 to 6.5.7 have focussed on scientific uncertainty and knowledge gaps, and on the way in which the structure of the conservation objectives turns scientific uncertainty into an obstacle in the way of achieving the objective of the process.

Sections 6.5.8 to 6.5.11 will change the focus to process-generated uncertainty, the effects it has had on the process, and the ways in which Finding Sanctuary attempted to address it and make progress despite the challenges it posed.

From the point that it became clear to stakeholder representatives that they were being asked to actively participate in planning marine protected areas, two key questions were asked repeatedly, from across the spectrum of interests, which, essentially, boiled down to:

- What do you want?
- What does it mean for me?

From any stakeholder's perspective, these are obvious questions. Each represents a bundle of more specific questions that kept being voiced throughout the process, within the project's stakeholder forums as well as in correspondence and informal communications between stakeholders and project staff. The first question represents people wanting to understand the task they were being asked to participate in, its scope, scale, objectives and likely outcomes. The second represents their questions and concerns about their role within the process, and how they would be affected by the process and its outcomes.

As far as Finding Sanctuary was concerned, the answer to the first question was provided in the shape of the ENG (although since the end of the regional projects, the evidence review process and tranching of MCZs has somewhat called into question whether a network that meets the ENG will actually be implemented).

The answer to the second question has, to date, not been provided to stakeholders. Decisions on restrictions are left until after site designation, and are left to responsible authorities such as the MMO and IFCA (who were not even in existence when Finding Sanctuary began its work), in a process that will in all likelihood take months or years. There has never been any unambiguous guidance or answer on what activities will be restricted within MCZs.

This uncertainty posed the single most significant obstacle to constructive discussions throughout the duration of Finding Sanctuary's stakeholder project. Participants in the process found it very difficult to be faced with the task of designing a network when they did not know what restrictions would be put in place. It was not the attachment of a label ('MCZ') to an area of sea that people were concerned about. In order to be able to formulate an opinion on whether or not to support a particular location, and in order to be able to consider meaningful trade-offs and compromises, stakeholders from across *all* sectors needed to understand what the MCZ label *means*. Commercial and recreational stakeholders wanted to understand how the sites would impact on their activities, whilst conservation stakeholders wished to understand the degree to which the sites would limit damaging impacts.

Process-generated uncertainty was a theme that ran through the whole process. It was raised by stakeholders as a key concern right from the beginning. Here, this is illustrated with quotes from the reports of the first two Steering Group meetings that took place following Finding Sanctuary's formalisation. At the first full SG meeting in November 2009, the report records stakeholders asking:

'What is meant by "protection"? What will protection levels be? How will they be defined?'

The project team's position was made clear in the response (also in the meeting report), which includes:

'As the project team, we have always maintained that recommending protection levels needs to be an integral part of recommending sites, and should therefore be the role of the Steering Group. Otherwise, we cannot have a meaningful discussion about the location of sites and the economic and social impacts resulting from different network options. This is a position that we continue to maintain strongly, in ongoing discussions with our national partners and Defra. We will, of course, keep the Steering Group updated with relevant progress and developments.[...] However, there is still some uncertainty over who ultimately decides what specific activities cause which impacts, and what restrictions therefore will be put in place in MCZs, and we will need to make some working assumptions.'

The response recorded in this report reflects that the project team recognised how much of a problem process-generated uncertainty was going to cause for the stakeholder process, and that this was a cause of tension between the regional project team and the national MCZ project partners (see section 6.1.2). Right from the beginning, the project team also recognised that, in the absence of certainty, MCZ planning would have to proceed based on assumptions about how sites would eventually be managed.

At the Second SG meeting (Feb 2010), the same issue came up, as illustrated by these three quotes from different parts of the meeting report:

'Exploration of what can and cannot occur within an MCZ is crucial. Management /restriction of activities for a proposed MCZ must be considered at the same time as identifying the areas themselves, otherwise discussion and agreement from sectors is very difficult.'

'Need to discuss what activities would actually need to be restricted for a proposed site, as it may often be the case that the majority of activities won't be affected.'

'The risk of shifting regulations was raised e.g. restrict one type of fishing gear initially, but then change it to include more or different gears at a later date that not everyone would be willing to agree to. We need to ensure that what is stated stays as is and cannot be amended later.'

The third quote illustrates stakeholders' fears that the basis of their recommendations could easily be undermined by restrictions being imposed that they had assumed would not be imposed, or which they had stated they did not want imposed as a condition of putting forward a given site.

The uncertainty persisted throughout the stakeholder discussions. Finding Sanctuary's project team provided unofficial advice and guidance to the best of their abilities (see sections 6.1.2 and 6.5.9),

but they did not have any official remit to provide the necessary certainty, a fact which stakeholders were conscious of. Both the stakeholder group and the project team repeatedly and consistently requested clarity from the SNCBs, whose statutory role it is to provide advice on conservation matters to Defra and public authorities.

However, the SNCBs highlighted that under the Marine Act, decisions on management measures are the responsibility of the MMO and IFCAs. Following MCZ designation, these responsible authorities will have to make their own decisions on what management measures are needed in order to achieve MCZ conservation objectives. It was not possible for the SNCBs to categorically state upfront what management decisions the responsible authorities will take, nor did they see themselves in a position where they could provide clear and unambiguous advice on the matter.

The wider design of the MCZ process meant that it was no-one's responsibility to resolve the uncertainty whilst the regional projects were still in operation. The national MCZ project was collectively either unable or unwilling to change the process in order to empower someone to take management *decisions* earlier in the process, or even to give clear management *advice* upfront.

The extent of this problem is illustrated starkly by an SNCB advice [document](#)²¹⁷, which was published at the *end* of Finding Sanctuary (in June 2011), following continuous pressure from the regional projects. The document contained SNCB advice on mitigation measures for licensed activities in MCZs (it did not cover commercial fishing). A glance at the cover page demonstrates how unable the SNCBs felt to provide *any* degree of certainty on the matter, even this late in the process. The document was entitled:

'General advice on assessing potential impacts of and mitigation for human activities on MCZ features, using existing regulation and legislation'.

This title was followed, on the front cover, with the following disclaimer (**bold emphasis added**):

'In fulfilling our obligations under the Marine and Coastal Access Act 2009 to support the Regional MCZ Projects, Joint Nature Conservation Committee and Natural England have produced this package of advice providing a **general** assessment of **potential** impacts that human activities **could** have on habitats and species to be protected by Marine Conservation Zones, as listed in the Ecological Network Guidance, in the absence of Marine Conservation Zones but under existing regulations and legislation. Also included is advice on **hypothetical plausible** mitigation that **may** be required to avoid damage or disturbance to these habitats and species.

Whilst we have endeavoured to make these assessments as fit for purpose as possible, including seeking external review, it is generalised with the aim of supporting discussions and variations will occur on a site-to-site basis. For individual Marine Conservation Zones the advice should be used alongside site specific information, local knowledge and with the support from the relevant statutory conservation adviser. Therefore, **this advice does not pre-judge decisions of, nor bind Statutory Nature Conservation Bodies or regulatory authorities in any way.**'

²¹⁷ http://www.naturalengland.org.uk/Images/activities-advice_tcm6-26819.pdf

So, at the end of the regional projects, after process-generated uncertainty had been highlighted as a problem emphatically and repeatedly throughout, stakeholders were provided with nothing more definitive than non-binding ‘advice on hypothetical plausible mitigation that may be required’ for licensed activities (not including fisheries).

This should not be regarded as a failure on the part of the SNCBs – rather, it is a failure built into the design of the wider MCZ process, which put the SNCBs in a position where they were not able to provide any certainty, and within which no-one else from the top down was, at that point in time, pushing for clarity on the matter. From the bottom up, regional projects were not empowered to make any decisions, or even to provide any explicit recommendations on the matter. [Their remit was expanded, late in the process, to making recommendations on ‘MCZ management measures’ – a term that caused some confusion at the time. As explained in section 6.5.10, under the ‘vulnerability assessments’ heading, the expanded remit did not address the uncertainty].

Since the end of the regional projects, if anything, the uncertainty for stakeholders has increased. When the site recommendations were being developed, people could at least work on the assumption that the ENG had to be met, and that the network configuration they were working on would go forward. However, at the time of writing this analysis (a year after the end of the regional projects), there is no publically available knowledge about how many MCZs will be implemented, or which ones they will be. All that stakeholders have, at present, is maps showing recommended MCZs, of which an unknown number will be implemented, with unknown consequences for human activities within them.

This may change shortly, with the start of the public consultation on MCZs scheduled for December 2012. The consultation is very likely to shed some light on which sites will be included in the first tranche of designations. It is not clear how much detail it will contain on any possible future tranches, though, and it is highly unlikely to provide any certainty on site management.

In summary, then, the MCZ process ostensibly aimed for genuine and meaningful stakeholder participation, yet process-generated uncertainty has left key stakeholder concerns unaddressed within the MCZ process to this day, and if the process continues down the track it is currently taking, this uncertainty will remain unresolved for months or years ahead. Moreover, the process is designed in such a way that stakeholders no longer play any meaningful role in the resolving of this uncertainty (they do not at present, and it is unclear whether they will in future).

The extent of the challenge that process-generated uncertainty posed to stakeholder participants cannot be overstated. One interviewee who participated in the summer 2012 stakeholder interviews (appendix 4) described the experience of being asked to design MCZ locations and boundaries without knowing what impacts MCZs would have on human activities as akin to ‘flying blind’. The independent observer’s notes from one of the stakeholder group meetings (IWG4) record one stakeholder representative stating, during the meeting, that:

‘we are wandering around in the dark, choosing sites when we don’t know what will and won’t be allowed in them.’

Similarly, it would be difficult to overstate the challenge this uncertainty presented to the project team and facilitators, who had no power or remit to resolve the uncertainty, but had to find ways of incentivising stakeholders to continue to engage constructively and participate in the planning process, as well as finding ways of communicating stakeholder concerns to national partners

throughout the process, and capture them within the project's final recommendations. One of the biggest challenges was arguably faced by the project team's economist, who was tasked with carrying out an impact assessment on the project's recommendations, without knowing what activities were going to be restricted in the sites (see section 6.5.11).

The next section (6.5.9) describes the ways in which Finding Sanctuary tried to find informal ways of addressing the challenge of process-generated uncertainty. They were 'informal' in the sense that, when time was pressing and 'official' guidance was not available, the project team and facilitators developed their own methods and guidance, without official 'endorsement' from SNCBs or Defra (but always in their full knowledge).

Following that, there is a section (6.5.10) describing the 'formal' ways in which the uncertainty was addressed within the process, i.e. the guidance provided through Defra and the SNCBs on the matter (partly in response to pressure from the regional projects), and the 'vulnerability assessments' completed by the regional project as part of the official requirements of the national process.

The final section (6.5.11) sets out how process-generated uncertainty has impacted on almost all aspects of the MCZ process.

6.5.9 Addressing process-generated uncertainty informally within Finding Sanctuary

Interim Protection Levels

Early on in the process, the Finding Sanctuary project team developed a rough categorisation of MCZs (then referred to as pMCZs or MCZ building blocks). The categories, which were coloured differently on the developing network maps, were very broad:

- *'Sea floor protection'*: activities that impact the sea floor significantly would be restricted, i.e. no mobile benthic fishing gears, no dredging, no aggregate extraction. Static fishing gears or anything happening in the water column would be fine.
- *'Water column protection'*: activities that affect aggregations of mobile species within or on the surface of the water, or anything else living in the water column would be restricted where they cause a significant impact on the species to be protected within the water column. Water column protection includes a range of possible restrictions, largely around the avoidance of significant disturbance to or bycatch of the species to be protected. That could include no netting, longlining, or pelagic trawls; or the modification of fishing gears to avoid bycatch.
- *'Sea floor and water column protection'*: at least some activities that impact the sea floor significantly would be restricted, and at least some of the activities that affect things living in or on the water column would be restricted.

The categorisation was intended to help give a rough sense of the sort of activities that might be affected whenever a given site was discussed. It was used as a shorthand during stakeholder meetings, i.e. rather than having stakeholders question each other and the project team about the 'meaning' of every given site under discussion, it allowed the discussions to progress with people having a slightly clearer sense of what was being talked about.

This was helpful, but only up to a point: It was clear that this was not an official categorisation, and that in reality, no certainty existed over how a site might be managed in future if it was recommended by the regional project.

There was a lack of support from SNCBs, the SAP, and Defra for building on these interim protection levels, and developing a set of nationally consistent, pre-defined ‘types’ of MCZ with different protection levels (see section 6.1.2 for ideas that the project had originally had, during its pilot phase, for developing ‘MCZ types’ and tying these into the ENG).

Interim compatibility matrix

Another way in which the project team tried to provide stakeholders with more clarity on possible activity restrictions within MCZs was through the development of an interim compatibility matrix. This was developed as a tool that might help provide better clarity to stakeholders, whilst fitting better with the feature-by-feature approach that the national process was pushing for. It was shared with stakeholders in May 2010, and the Working Group meeting reports from May and June 2010 contain further details.

The matrix considered the compatibility of ENG features with activities occurring or likely to occur in the future. On one axis, the matrix listed marine activities, and along the other axis, it listed marine species and habitats listed in the ENG. It used a simple red/amber/green colour scheme to highlight which activities the project team considered to be incompatible with the protection of each feature (red), which activities might need mitigation (amber), and which activities would in all likelihood not have negative impacts on the protection of the feature.

The following extracts from OWG2 record some of the briefing given by the project team to stakeholders about the interim matrix:

- A compatibility matrix (appended in Annexe 1 at the end of this report) has been developed based on guidance from NE/JNCC, but composed by Finding Sanctuary. As more guidance and information becomes available, the matrix will be improved and brought in line with the other projects, so we are all working from the same matrix.
- The matrix sets out habitats and species along the top and activities along the side. You can therefore compare, for any feature, whether an activity will be able to continue whilst still protecting the feature in question. Some of the features and activities are compatible with proper management.
- The compatibility matrix is intended to be used to help define the protection levels necessary to meet the conservation objectives of building blocks, and later, proposed sites.

[...]

- Finding Sanctuary is not sure whether the government agencies will be providing an official compatibility matrix, but we would like to work with them and the other regional projects. The matrix will be based on best available evidence.

When the interim matrix was first introduced as a tool to stakeholder representatives, there was a strong reaction to it. This is illustrated here by the record of OWG2, both in the form of notes made by the independent observer, and in the form of quotes from the official report of the meeting. It was at this working group meeting that the OWG members were first introduced to the interim matrix (the initial reaction of IWG members and the wider SG membership is not presented at the same level of detail here, for brevity, but the themes emerging from their reactions were the same).

The strength of stakeholder reactions reflected the fact that the issues covered by the matrix went to the core of stakeholders' interests, and the opportunities to understand and discuss (including support or object to) these issues was the main reason why they were participating in the MCZ process at all.

The strongest reaction came from the offshore fishing representatives, who objected to one of 'their' activities (demersal trawling) being marked as the most consistently 'incompatible' one on the matrix. They voiced two main criticisms of the matrix:

- They stated they were 'critically concerned' about the scientific basis of predicted impacts of different gears employed in the interim matrix, and that the matrix needed to differentiate between different types of fishing gear and their impacts in much more detail. They objected to single category for 'demersal trawling', and the fact that the matrix indicated incompatibility of this activity with all seafloor features.
- They considered the matrix content to be a national policy matter, and stated that the matrix and its evidence-base need to be discussed at a national level, and needed to be consistent across all four regional projects.

Those stakeholder representatives whose activities were marked as largely incompatible with seafloor features (benthic trawling) were the ones who were most strongly questioning the evidence that the matrix was based on. These points are also reflected in the meeting report for OWG2:

- It is felt that the matrix is going to cause a big stir when it is released as it appears bottom trawling is not compatible with any MCZ which may be proposed to protect sea floor habitat. Equally, it is thought by the commercial fishing representative to be a very sensitive piece of information and it was clarified by the PT that not only is it a first draft, but also that it is only being used to help people start talking about protection levels and understand what they might mean for different sites which are being talked about.

[...]

- The commercial fishing sector would like to see the scientific evidence that the matrix was based on.

The areas marked in 'amber' or as 'unknown' on the matrix also caused concern. Observer notes of OWG2 record that renewables representatives were very concerned about the fact that the compatibility of renewables operations with most of the features on the matrix was marked as 'unknown', so the matrix did not provide them with any clarity.

Despite the strong reactions from some representatives, and a recognition that the 'unknown' fields needed filling in, the OWG members felt that the matrix could be a useful tool to help inform their discussions, in terms of its clarity and layout. However, they understood that the content of the matrix lacked support or endorsement by national partners. They stated that, in order to make the matrix a meaningful planning tool, they needed certainty that the information in the matrix reflected what would ultimately happen in MCZs, and the knowledge that the same 'rules' were being applied across all regional projects. This is reflected in further quotes from the OWG2 report:

- The group were asked whether the matrix was good enough to use in the OWG meetings or if they were unhappy to work with the document. The OWG felt that by working with the matrix it would flag up problems the group may have otherwise overlooked. They are happy to use it as a starting point to get the group thinking about the compatibility of different activities with the conservation objectives.
- On the other hand, it is also felt that the matrix may put people off coming to a consensus as they feel that their activity may be completely excluded. The group understand that the document is a work in progress but would like national support and more work done to complete the unknown boxes.

[...]

- A question was raised as to whether the other regional projects would have to abide by a similar matrix. For example, if you go across a project region border, will the same restriction apply with their MCZs? The hope is yes, the other projects will be working from something similar. Finding Sanctuary will be sharing the matrix with the other projects, NE/JNCC and the SAP in order to get feedback and work together to develop a matrix that can be used nationally.

The next set of extracts from OWG2 illustrate how stakeholder representatives at the meeting were beginning to engage with the matrix, despite their misgivings, bringing ideas about activity restrictions in sites into the discussion. This indicates that the matrix, if it had had 'official status', could possibly have helped make better decisions about shaping the network configurations. The comments quoted here were made by stakeholder representatives during their discussions about developing the network, with codes referring to individual sites ('MCZ building blocks') under discussion at the time:

- J1: Reflecting on the matrix, you wouldn't be able to use any towed gear here. Pelagic trawling and netting could be allowed. You could manage certain activities such as anchoring (depending on size of vessel) or collection by divers. Fixed anchorages could be a solution to reducing the effect of anchoring as an activity. It was noted that weights used for potting are more destructive than anchoring.
- A3 and A4: There is a question whether pelagic trawls are entirely incompatible with foraging birds and frontal areas and whether those areas need to be red on the matrix, or if they can be managed and made yellow. [...] According to the matrix, no bottom towed gears would be compatible with protecting seafloor habitats. This would impact A3 and A4 as there is activity which follows the shelf break in both building blocks. The idea of putting the building blocks there was to cover both the deep water and relatively shallower water for their varying conservation benefits. The building block could be moved a bit to make it less contentious. There could also be no dumping in an MCZ which has been put in place to protect the sea floor.

[...]

- The matrix gets us looking at the activities that are consistently coming up red and allows us to identify the activities that will be most affected and look at the habitat to see if we can protect it in areas that would least affect those sectors. It was pointed out that when drawing the building blocks in the first instance, activities which were most likely to be impacted (e.g. bottom trawling, port activities, aggregate dredging) were considered so as to avoid placing blocks in areas of high activity. Therefore the red on the matrix next to the towed gear isn't as bad as it appears as the most highly fished areas have already been avoided.

The above quotes from OWG2 also illustrate how impossible it was for stakeholders to separate out their thoughts and discussions about *where* MCZs might go from thoughts and discussions over what will or is likely to happen within those MCZs once they are designated.

Whilst stakeholders agreed to work with the interim matrix, it did not solve the fundamental problem. The matrix was developed by the project team, and not endorsed either by the SNCBs, or Defra. Because it had not been endorsed or peer-reviewed, it lent itself to being challenged (e.g. by fishing representatives challenging the underpinning evidence).

Working assumptions and the stakeholder narrative

In the face of process-generated uncertainty, it was inevitable that everyone within the process would make assumptions, and that these assumptions would inform their contributions to the planning discussions. Had stakeholders not held assumptions (or fears / hopes / expectations / suspicions) about the *meaning* of MCZs for human activities, they would not have had any reason to wish to participate in the discussions about where MCZs should go.

With help from the facilitators, Finding Sanctuary's project team made the effort to get everyone in the process to articulate those assumptions (fears / hopes / expectations / suspicions), and to record them as part of a narrative to accompany the developing recommendations. This brought issues out into the open, e.g. where different representatives were making different assumptions, leading to unconstructive cross-purpose arguments.

Although most of the time was spent discussing and recording assumptions, the narrative also included people's uncertainties, and expected implications of MCZs. The narrative did not *solve* any of the process-generated uncertainty, but it provided a space within which the challenges presented by it could be articulated. The narrative provided a space within which to explore assumptions, uncertainties and implications of the likely *meaning* of the sites that stakeholders were being asked to design – the 'meat' of the matter, as far as most of them were concerned.

The record of the planning meetings reflects many times when there was an impasse in a discussion, a conflict that could not be resolved, or concerns about a site that someone could not move past, and the facilitator (and project team) pointed to the narrative as the place to ensure all this was recorded. This makes the narrative an integral part of the final recommendations: The assumptions ultimately shaped the recommended network configuration, and the record of the discussions shows the concerns that people had about specific sites.

For recommended reference areas, much less time was spent on the narrative, as the draft reference area guidance greatly reduced the uncertainties around management, and there was no need to formulate detailed management assumptions.

The work on the narrative started at a broad, network-level, and then moved on to more site-specific detail and variation. The full set of rMCZ working assumptions were formulated with significant support from the project team, as had been requested by stakeholder representatives, who felt they needed advice on what activity restrictions were likely to be put in place – the project team were essentially asked to provide the advice that the SNCBs saw themselves unable to provide. The project team input was based on information available at the time in draft national sensitivity matrices (see section 6.5.10), and on the project team’s own experience and expertise (the meeting reports from late 2010 contain further details).

As already discussed in section 3 (conflicts), the recording of assumptions to accompany the developing recommendations was not a straightforward task. Not every stakeholder representative agreed with or supported every one of the working assumptions that were recorded, either because they disagreed on what was the most realistic assumption to make, or because specific assumptions went against people’s interests and wishes. There was a fear that recording an assumption might be misinterpreted as *support* for that assumption becoming reality, or that recording an assumption would make it a more likely outcome.

Furthermore, because people were uncertain that the stated assumptions would hold true, there were many instances where members of the group requested to include statements about the hypothetical consequences of the recorded assumptions *not* holding true, thus adding another layer of complexity to the discussions, and to the report containing the final recommendations. Over time, the narrative became increasingly complex, and writing it up in an understandable and coherent manner was a significant challenge for the project team within the short time available.

The following pages provide a series of examples of the challenges and complexities encountered in developing the stakeholder narrative, illustrated with quotes from the developing narrative at various points in the process.

Initially, the developing narrative was formulated for the developing network as a whole, rather than for each individual component site. Throughout much of the process, there were two alternative network configurations under discussion, based on a different set of assumptions about compatibility of renewable energy developments (see section 3.3.3). This is a perfect illustration of the fact that the shape of the network recommended by the regional project depended directly on the assumptions that were made when it was developed. When key assumptions changed, so did the shape of the network. This is illustrated in the following table, extracted from IWG4, which summarises the developing network narrative that was being formulated at that meeting:

	Network option with co-location	Network option with no co-location
Assumptions	Static gear is allowed, such that sea floor protection conservation objectives are not compromised. “Co-location” refers to renewable sites and the cabling required for their installation. iM4 is acceptable on the basis that the current management regime continues. iM4 is a water column site only.	Static gear is allowed, such that sea floor protection conservation objectives are not compromised. “Co-location” refers to renewable sites and the cabling required for their installation. iM4 is acceptable on the basis that the current management regime continues. iM4 is a water column site only.
Implications	There is more ground opened up for static gear fishing and some trawlers may even choose to change to static gear. iH4 and iH6 are contentious for the commercial fishing stakeholders.	The Atlantic Array site (iR1) will still be closed off to commercial fishing. An area of relatively equal size to the Atlantic Array site (iR1) will be closed off to trawling to achieve the target for sublittoral coarse sediment. Disproportionate economic impact on the North coast. Trawlers may be inadvertently forced into MCZ to avoid traffic.
Uncertainties		Traffic density information in new suggested area along the shipping lane. How much the new suggested site crosses into the offshore zone, and contribution it will make to coarse sediment. Whether NG broad scale habitat can be met without significant socio-economic impact to stakeholders.
Stakeholder support	This scenario has greater support from stakeholders.	Preferable for the renewables sector.

At SG4, Steering Group representatives were asked to write down their individual assumptions, uncertainties, and expected implications MCZs, in order to feed into the developing network-level narrative that was being formulated by the working groups at the time. Stakeholders were often frustrated at the difficulties created by the uncertainty within the process. The original comments are recorded in an appendix of the SG4 meeting report, and one Steering Group representative commented, in evident exasperation:

‘We are making assumptions based on assumptions.’

Within the comments made at SG4, contradictory statements appear side by side, generally because one person wrote down something they *feared* might happen (‘my activity will be banned’), and another person wrote down something they *wished* would happen (‘my activity will be unaffected’). Thus, the comments reflect a diverse combination of people’s assumptions, fears, wishes and

questions. The following SG4 extracts show some illustrative examples of contradictory comments recorded under ‘assumptions’ and ‘implications’:

[Example comments provided under ‘assumptions’, by different sectors]

‘Commercial fishing sector

- Water column protection is to protect seasonal birds and mammals
- Reference Areas only function is to fulfil the necessary percentage
- That all EU member states will have to comply with international sites
- Towed gear should be kept going as an important economic activity
- Towed gear will be restricted
- That there will be benefits for the marine environment

Ports and Harbours

- MCZs will have no impact on existing and future harbour revision orders, general directions, pilotage directions
- Ports are limited to their jurisdiction and will not change existing spatial planning by ports and harbours
- No additional administration, resource, legal or technical specialists associated with co-location of a port and an MCZ both on and off the water
- Will not change existing management practices on and off water, for example vessel and activity management, speed or timing restrictions
- No impact on existing emergency response-weather, pollution or security
- No impact on dredging required for maintenance of safe navigation channels
- No impact on berthing, mooring and anchoring of small and large vessels
- No impact on ship building, maintenance, refurbishment and repair
- No impact on maintenance, refurbishment and repair of port and harbour infrastructure
- Recreational activities within harbours will not be affected
- Ship access and egress to and from harbours will not be affected
- No additional impact on harbour regulation generally
- No additional impact on an already complex management regime’

[Example comments provided under the ‘implications’ heading, by different sectors]

‘Renewables

- If co-location assumptions are not correct the impacts would/could be: site locations that can’t be developed, increased costs, construction delays, failure to meet renewables targets, impacts on acidification, additional monitoring requirements, increased uncertainty and declining investor confidence in renewables activities.’

‘Ports

- Ability of ports sector to manage ports/harbours with safety, environment and security in mind
- Additional legal, financial burdens

- Restriction on a range of users
- Compromise maritime safety, efficiency, security and environmental protection which are inextricably linked to existing port management practices
- Risks complicating an already complex management system and one that caters for environmental and ecological management.
- Major impacts to ports and their role for the UK economy, trade and travel
- Users will no longer be able to operate in ports
- Loss of income from users
- Without a port there can be no management of the site'

The above extracts contain clear examples of 'wish lists' and 'fear lists' being mixed together in the narrative. One example is the commercial fishing industry stating that 'towed gear should be kept going' (a wish) as well as 'towed gear will be restricted' (a fear). Similarly (in an example previously discussed in section 3.3.4), the comments made by the ports sector under 'assumptions' are not logically consistent with their comments under 'implications'. Under 'assumptions', they state that all ports activities will be allowed to continue unaffected ('wish list'), whereas under 'implications', they state that MCZs will have major negative implications on the sector ('fear list').

Drawing this mixed-up commentary together into a coherent whole required the sort of approach taken by the renewables sector in their above 'implications' comment, which states clearly that certain implications would come true if specific assumptions turned out to be wrong. During later planning stages, stakeholders were encouraged to record the narrative on that 'what-if' basis, i.e. linking the recorded assumptions with statements about the implications that would materialise if the assumptions did / did not come true.

The following extract from OWG7 illustrates the complexities of the stakeholder discussions around recording a single assumption, that mobile bottom-towed fishing gears would be banned in MCZs (the conflict around this assumption was also discussed in section 3.3.2):

- The fishing industry feels they cannot support the blanket ban of demersal mobile trawling in sea floor protection areas. The recreational and renewables sector highlighted the fact that every effort has been made both to avoid areas of high fishing intensity when first designing the building blocks, and later, when shaping the boundaries. The whole process the OWG have gone through has been to reduce the impact on activities such as fishing.
- There was a suggestion that now we have a selection of sites on the table, we need to focus down on much more detailed information on activities (such as gear types), then a detailed discussion can be had at a much finer level. This will help the group to progress and fine-tune their assumptions.
- In terms of time, the PT has to consider how realistic it is to provide this detailed information and be able to do this in the time available. Although some of this highly detailed information may be available, there is often a judgement call to be made when it comes to whether or not particular activities cause impacts. The PT responded that it is not realistic to work through this information in the context of the meetings and the time remaining.

- There will undoubtedly be uncertainties remaining when the group ultimately have to make their final decisions. Assumptions will have to be made in order to come to decisions.
- The assumptions that have been made so far have shaped the network. If they were different, then of course the network may well have been shaped differently.
- The group feel it would be unfair to undo the assumptions and all the work that has already been done. Information can be added to the narrative to highlight the impacts that various sectors feel will be present if the selected sites are designated.

The independent observer notes from the same meeting record this exchange as being heated and difficult to resolve. It represents an example of a ‘third dimension’ conflict, as defined in section 3.1, and is a direct consequence of process-generated uncertainty. The difficulty of this conflict illustrate the point made at the beginning of this section, which is that although the stakeholder narrative was designed as a mechanism to address uncertainty, it did nothing to *solve* the underlying uncertainty.

In fact, some fishing representatives wished to replace assumptions about fishing restrictions with an assumption that all fishing activities *would* be permitted within MCZs, unless subsequently shown to be incompatible with conservation objectives. Such an assumption would effectively have done nothing more than re-state the fundamental uncertainty, however. Finding Sanctuary’s third progress report described this in detail:

‘Note that the fundamental assumption about human activities within MCZs is that activities can continue (under current licensing regimes where applicable), as long as they do not prevent the conservation objectives from being achieved. This assumption applies to all activities.’

A request was made by several Steering Group members (from a range of sectors) to adopt the above phrasing specifically for fishing activities. As an example, instead of recording an assumption of “bottom-towed fishing gear will not be allowed”, they suggested stating that “bottom-towed fishing gears can continue as long as they do not prevent conservation objectives from being achieved”.

However, there are two difficulties with this. Firstly, this assumption applies to all activities, so if this phrase is used for fishing activities, then (in order to be consistent) it would need repeating for every other activity. This would add length to what is already a long document.

Secondly, although the statement is accurate within the policy context we operate in, there is a danger that it could be meaningless or misleading, especially to the wider stakeholder community who have not been involved in the process directly, and especially in those instances where we have knowledge that an activity is very likely not compatible with conservation objectives. The Working Groups have been making their assumptions much more specific, and this has been recorded. Taking the example of fishing activity, the network has been shaped in a way that tries to avoid the areas that are most valuable to fishing (especially to bottom-towed mobile gears). This only makes sense based on the assumption that bottom-towed mobile gears will not be allowed in MCZs.

As a solution, we have adopted the generic phrasing (the bold text above) as an umbrella statement for our assumptions on activity restrictions, both at the network level, and also within each site-level report. This umbrella statement is then followed by what we are

assuming this will mean in practice for human activities within the network or a given site. In other words, where assumptions are made that specific activities will not be allowed, or will require mitigation, then this is based on knowledge or expectation that the activity would prevent the conservation objectives from being achieved.'

Throughout the planning process, the stakeholder groups tried to avoid areas most intensively fished by bottom-towed fishing gears, based on the assumption that this activity would not be permitted within MCZs. Despite this, it was in the offshore fishing representatives' interests to retain the uncertainty about this assumption within the process. Thus, the design of the MCZ process, with management decisions left until the end, incentivised stakeholder representatives to defend the interests of their sector on several 'fronts' at the same time –by pushing for MCZs to be located away from areas of sectoral interest at the same time as arguing against the recording of any assumption that MCZs would limit sectoral activities, a logically inconsistent stance, but one which makes sense in terms of protecting the interests of the sector.

Despite all the difficulties and complexities of the discussions, at times stakeholders were nevertheless able to come up with constructive, detailed suggestions for appropriate activity restrictions to be put in place in a specific site.

The meeting report for IWG6 records a very detailed discussion about suggestions made by Local Groups, with the IWG taking time to explore trade-offs between conservation and sectoral concerns (primarily fishing, potential future development of tidal resources, and cabling associated with MCZs), accommodating the LG suggestions in many cases (including the assumptions based on which the LGs put the site forward). The following comment illustrates that this discussion included detailed management suggestions for specific sites:

[the IWG agreed to] Take on board the Cornwall Local Group assumptions for this building block (iH16). These are:

Potting, spearfishing, handlining and angling would be allowed to continue. Protection from mobile and static nets, and any other extractions. (Fishing rep on the Local Group suggested to look at static access with pingers). Speed limit to protect cetaceans/basking shark. Possible small reference site.'

The level of detail of this discussion demonstrates how with good use of participative and knowledge incentives, it is possible to have in-depth constructive discussions about complex situations within a cross-sectoral setting. It also demonstrates people's desire to discuss 'real' issues (i.e. the *meaning* of MCZs) rather than the abstract.

Unfortunately, the wider MCZ process (nationally) was not geared up to receive, understand and build on the sort of discussion illustrated in the above quote. There was nowhere for these ideas to go, as the regional projects' remit was restricted to recommending site locations and boundaries.

Fundamentally, the process-generated uncertainty remained unaddressed, incentivising specific sectors to try and 'unpick' assumptions they would not wish to see borne out in reality, even where those assumptions had significantly shaped the developing network, as in the above example from OWG7 of fishing representatives objecting to the no-trawling assumption.

The complexities described above meant that writing up a coherent stakeholder narrative within the project's final report was a significant challenge. The final report includes a series of complex narrative tables for each of the 58 recommended sites in the final recommendations, in addition to an (equally complex) generic narrative for the network as a whole. The narrative is not straightforward to comprehend by a new reader. This is a serious issue, as the stakeholder narrative forms an integral part of the stakeholders' recommendations.

An additional factor that impacted negatively on the clarity of presentation of the final narrative was a simple lack of time. Following the final Steering Group meeting, the project team had a six-week turnaround time for the production of the final report (a document exceeding 1000 pages in length). A nationally-prescribed structure for each rMCZ site report had been provided to the project very late in the process (the 'SAD' structure – see section 6.1.2), which entailed a significant degree of re-formatting of the project's output materials, a strong emphasis on ecological information, and significant amounts of additional research (an environmental literature review for each site). This compressed the short amount of time available for drafting and reviewing the complicated stakeholder narrative sections of the final report.

In fact, as highlighted in section 6.1.2, the national 'SAD' structure had contained no space for the stakeholder narrative at all. This was a matter of great concern to the regional project, as it reflected the fact that the national MCZ process was not geared up to receiving, understanding, and building on what stakeholders would have considered an absolutely integral part of their work.

The Finding Sanctuary project team added the stakeholder narrative into each site report, deviating from the 'SAD' structure to ensure it was not 'lost' from the final recommendations. There was no way to ensure, however, that the subsequent national process would make any attempt at comprehending, internalising, or building on any aspects of the narrative. This represents one of the points within the MCZ process where two fundamentally different planning approaches collide and clash with each other (see section 7.1).

In fact, there is little evidence of the current process paying any attention to the assumptions that underpinned Finding Sanctuary's recommendations. This undermines the integrity of the stakeholders' work, ignoring the discussions which stakeholders would have regarded as 'the meat of the matter'.

Rather than attempting to build on the stakeholder assumptions, the subsequent national process carried out an impact assessment based on possible management scenarios developed through a separate 'vulnerability assessment' process, based on the COG. This started during the final stages of Finding Sanctuary, highlighting what human activities *may* be incompatible with draft conservation objectives for specific sites. The vulnerability assessment was done without any involvement from the stakeholder group, and none of the management scenarios it developed are in any way binding (the 'vulnerability assessment' process is fully covered in section 6.5.10).

With the stakeholder narrative sidelined in the current process, and the regional stakeholder group no longer in existence in order to provide any collective commentary on the management scenarios that the impact assessment is based on, it is questionable whether the current MCZ proposals can still accurately be referred to as 'stakeholder recommendations'. There is little evidence of any ongoing stakeholder ownership of the sites currently going through the national process (e.g. see the summer 2012 stakeholder interviews, appendix 4).

6.5.10 Addressing process-generated uncertainty formally in the national MCZ process

Process-generated uncertainty and the formal MCZ process

Section 6.5.9 discussed the ways in which Finding Sanctuary staff and facilitators attempted to address process-generated uncertainty. The interim protection levels and interim matrix were both developed by the project team as practical tools to help stakeholders make progress within the very limited timespan they had available, as well as to demonstrate to national project partners that such simple and pragmatic tools were needed and could work in the setting of stakeholder meetings. Through the creation of these interim tools, the regional project team at the time also attempted to catalyse a process whereby either the interim tools would become 'endorsed' nationally, or whereby a formal process would develop equivalent tools to supersede the 'interim' ones.

As stated in the previous section, and in section 6.1.2, the approach taken with the interim protection levels never gained support from national project partners, as pre-defining MCZ protection categories or levels went against Defra policy (with the exception of reference areas).

However, following the development of the interim compatibility matrix, and on-going feedback from the regional projects that tools of this sort were needed to reduce the levels of uncertainty, an official set of 'sensitivity matrices' were developed nationally, and provided to all for regional projects as official guidance. However, they did not provide the clarity that was sought. The development of these national sensitivity matrices, and the way in which they were used by Finding Sanctuary, is described in more detail below.

The second part of section 6.5.10 moves on to discuss a process referred to as 'vulnerability assessments' (VA). The VA process was an official (i.e. nationally endorsed) process which aimed to develop some indications about what human activities *may* be incompatible with *draft* conservation objectives, on a feature-by-feature, site-by-site basis. The approach was defined in the COG, and it used the national sensitivity matrices. Because of the laboriousness of the COG approach, the VA was carried out in parallel to the stakeholder process. The outcome was a series of possible (non-binding) management scenarios for each MCZ, which informed the impact assessment that was written by the project's economist, and delivered to Defra in July 2012.

The end of this section also includes a discussion of work carried out by Finding Sanctuary in response to formal requests from the national process, and a late expansion of the project's remit to include recommendations for 'management measures' in their final recommendations.

National sensitivity matrices

In the early summer of 2010, national data contract MB102 (see K5 in section 5.1.4) was extended to include the creation of a set of national sensitivity matrices. In part, this was in response to requests from Finding Sanctuary and other regional projects to develop a national and 'official' version of the interim compatibility matrix.

However, the national matrices differed significantly in format and content from Finding Sanctuary's interim compatibility matrix. The latter was a relatively simple tool, directly indicating what activities were compatible (or not) with what features (species, habitats, BSH). The national process did not deliver anything as simple, in part because Government policy was that activity restrictions in MCZs should not be pre-judged.

A direct *compatibility* matrix was considered too blunt and simplistic by Government, and by some advisers within the SNCBs, who feared that a direct compatibility matrix lacked detail (e.g. by not allowing for the consideration of cumulative impacts of multiple activities on a single feature). They considered that using a matrix approach for predicting ‘compatibility’ would give spurious and in many cases misleading answers. There were also concerns that the evidence base for a compatibility matrix would not stand up to scrutiny.

Instead of developing a simple matrix that straightforwardly linked activities and features, the national process developed two separate matrices, one linking activities with the pressures they cause (e.g. noise, abrasion) at defined benchmarks, and another indicating the degree to which individual features (species, habitats, BSH) are sensitive to the same set of pressures. The two matrices were then combined, in order to be able to make the link between individual features and human activities causing pressures that they are sensitive to.

As a result, there were three separate matrices (collectively referred to as ‘sensitivity matrices’, although technically, the term is only correct for the second on the list):

Activities/pressures matrix: This was developed by SNCBs, and showed what pressures are caused by what activities. It was published in draft form in May 2010.

Pressures/sensitivities matrix: This showed which features (including ENG-listed features) are sensitive to which pressures, using the same list of pressures as the activities / pressures matrix. It was developed through the MB102 contract, led by ABPmer, through September and October 2010.

Activities/features matrix: This was a combination of the above two matrices developed by the SNCBs, setting out activities against features.

The activities / features matrix was not equivalent to the Finding Sanctuary compatibility matrix, as it made no direct statement over whether a given activity was deemed compatible with the protection of a given feature within an MCZ. The national project partners explicitly discouraged the use of the term ‘compatibility matrix’, stating that the activities/features matrix merely provided an initial indication of which activities are associated with pressures that can impact certain features.

They highlighted that decisions on MCZ management would ultimately require judgement (by the responsible authorities) on a case-by-case basis, and the compatibility or incompatibility of features with activities would depend on a wide range of site-specific variables, such as local environmental conditions, cumulative impacts, as well as the intensity (frequency and duration) and exact spatial distribution of any activities taking place. In other words, the national sensitivity matrices, by design, did not resolve the process-generated uncertainty.

An additional problem that Finding Sanctuary faced with the national matrices was their size and complexity. The pressures / sensitivities matrix came accompanied by a technical report exceeding 900 pages in length, and the combined activities / features matrix contained thousands of possible combinations of features, sensitivity levels, pressures, pressure intensity benchmarks, and activities. This meant that, in their raw form, they could not be used as practical tools during stakeholder meetings.

One of the project team members of Net Gain (the regional MCZ project covering the North Sea) developed MS Access interfaces (referred to as PRISM and PISA) that could be used to interrogate

the activities / features matrix. PRISM enabled the user to select a single species or habitat, and extract a list of all human activities that cause pressures the feature is sensitive to at a selected pressure benchmark and sensitivity level. PISA enabled the user to select a specific human activity, and pull out a list of all features that are sensitive to pressures it causes (again, filtered by pressure benchmark and sensitivity level).

PRISM and PISA were intuitive interfaces, and understandable for stakeholders. Theoretically, they could have been used to check the validity of the assumptions made for each rMCZ. That would have meant selecting the relevant features for each site, and checking which human activities potentially cause pressures that they are sensitive to, and comparing that activity list with the assumptions previously made. The COG defined the exact pathway that would have to be followed for each feature (see section 6.5.7).

In practice, this was not a workable approach for Finding Sanctuary. The south-west maritime region is biodiverse, and many rMCZs had a long list of features with associated draft conservation objectives. For the 58 sites in the recommendations, there were more than 500 draft conservation objectives, which each would have needed checking individually. Given the laborious and repetitive nature of the COG approach, this was not a reasonable task to expect stakeholders to engage in within the setting of a cross-sectoral planning meeting.

Alternative approaches were discussed at OWG6 and IWG5 (October 2010), where it was agreed that the only viable option was for the Finding Sanctuary project team to take on the 'legwork' of checking the existing assumptions against the information in the matrices, and report back to the stakeholder groups. This ultimately developed into the 'vulnerability assessments' described below, a process that disenfranchised stakeholders from discussing MCZ activity restrictions.

Irrespective of the voluminous nature of the matrices, the laboriousness of the COG approach, and the consequent disengagement of stakeholders from the discussions, arguably the most significant problem with the matrices was the fact that (as stated above) they entirely failed to reduce the uncertainty about what activities would be restricted within MCZs. The advice provided by national project partners at the time stated that they were explicitly *not* designed as tools that could be used to understand compatibility or incompatibility between features and activities.

The activities / features matrix was created from a combination of two 'source' matrices, which contained a range of pressure benchmarks and sensitivity levels. This led to a situation where, on multiplying the matrices, for any single feature, a long list of activities was flagged up as potentially causing pressures the feature might be sensitive to.

Once these activity lists were pooled for all the features with draft conservation objectives for a given site, inevitably, virtually all human activities were flagged up as 'potentially causing pressures' that one or more of the features within the had some degree of sensitivity to. There was no agreed way of narrowing down which of these activities would actually need managing. When initially being presented with PRISM and PISA, the message to stakeholders was essentially that 'anything could happen'. Rather than reducing process-generated uncertainty, then, the national sensitivity matrices *increased* uncertainty, by undermining the assumptions that had previously been made. One illustrative remark, noted down by the independent observer at OWG6, was from a stakeholder representative who described PRISM and PISA as 'more vague than complicated'.

Subsequent stakeholder meetings highlighted additional problems with the classification of human activities used in the national matrices, which in the opinion of some of the stakeholder representatives, at times lumped diverse activities together into single categories, and omitted what they considered important activity types. For example, the OWG7 meeting report records that:

‘The regional development and economy representative raised the question why some activities (e.g. renewables infrastructure and operation) are not listed within the matrices, PRISM and PISA or in the assumed management implications document. With no information on the compatibility of those activities (e.g. construction /maintenance /operation), it is impossible for the renewables industry to be clear on what the Government advice is. JNCC responded and are actively trying to refine the list of activities to a finer resolution. The WG will be made aware when this is available.’

Stakeholders also quickly articulated their concerns that the arrival of the national matrices, and the beginning of a parallel strand of discussions about MCZ management which did not involve them as a group, risked undermining the basis on which they had developed their recommendations. This is illustrated in this extract of the record of the IWG ‘expert group’ meeting that took place the day before IWG6, in November 2010:

[...]

‘Both RWE and Eneco are concerned at the potential for MCZs to cause issues for seabed cable corridors – something that developers had been relaxed about until the publication of the ABPmer sensitivity guidelines.’

[...]

‘Risk – that our assumptions may be thrown out, particularly given that the sensitivity matrix highlights everything as causing an impact.’

The uncertainty around submarine cables continued to be discussed the following day, at IWG6:

- Concern was raised over the outputs from the national matrices which are suggesting that cabling may not always be permitted within MCZs. From the renewables perspective it has been assumed that cabling would be permitted within all MCZs. There was a request for the project team to see if they could clarify the situation using the matrices. The project team responded that the matrices are not definitive enough to give this information and that it would need to be looked at on a site-by-site basis.
- Rob Angell suggested that the IWG continue using their assumptions and developing them, and the policymakers could be asked if the assumptions are realistic.
- Natural England stated that cabling is almost always going to be possible within an MCZ, but mitigation required may lead to additional costs incurred, which in turn might make it prohibitive. He agreed that it would need to be looked at on a site-by-site basis.
- A conservation representative said that it was the Group’s job to minimise socioeconomic impacts, not to remove them entirely.
- The RDA representative said that if the renewables industry felt that a given site would lead to more cost involved, they would not be able to support it. This is an issue for current developments but also for potential future developments as they do not currently know where the cabling landing sites would be. There are two or three inshore

sites that would be paramount for renewables in the future and he said that he can predict some of the sites which will need to be cabled through.

- Tom Hooper said that the Group could use some reality guidance from Natural England as the matrices cannot give us the actual answer to this question. Rob Angell summarised that the Group is asking for feedback on the working assumption that cabling and maintenance cabling is assumed to be compatible with MCZs and that MCZ status would not make cabling prohibitively expensive.
- One member of the Group said that what is prohibitively expensive now, may not be in 20 years time. The RDA would like to avoid creating barriers to developments.
- One of the Group said they assumed that the relevant authorities would require renewable development companies to protect sensitive species and habitats such as eelgrass or reefs anyway, whether inside or outside a protected area. The RDA agreed that the developers need to go through the Environment Impact Assessment (EIA) process anyway, but that the MCZ status may lead to significantly more EIA work, more re-routing etc.
- It was noted that the consenting body would ask Natural England and the JNCC what their views are to cabling. The conservation objectives would need to be identified for each site and then one could identify what mitigation would be required to allow cabling to continue.

The meeting reports summarised discussions rather than reproducing them word-for-word, so the above excerpt from the IWG6 report indicates that a significant amount of time was spent at this meeting discussing the uncertainties that the matrix had opened up concerning one single activity (submarine cables), and there is a sense of the discussion having gone around in circles. None of it was focussed on the actual task of the group at the time (finalising the design of their network recommendations). The uncertainty about how MCZs would affect their sectoral interests proved too much of an obstacle for people to simply 'let go and move on'.

The difficulties of trying to use the national sensitivity matrices to 'reality-check' the assumptions that the working groups had been making were also recognised within the wider Steering Group, as illustrated by the following comment made by an SG member at SG5:

'The shipping representative stated that the SG needs to think what these assumptions are for; they are a fundamental caveat on whether the pMCZ should go forward. He accepts that the process has been hampered by the lack of clarity for management implications but felt that the compatibility matrices need to be reality checked themselves first and not used for reality checking. The matrices appear to have broad categories with many activities grouped together. Shipping for example, is shown as affecting everything because all ships are classed under one category. Similarly, tourism and recreation are all grouped together, including jet skis and yachting. Because something will always have an effect on the environment this category is shown on the matrices as affecting everything.'

The Vulnerability Assessment

The circulation of the first draft of the COG to the regional project teams in September 2010 coincided with the development of the national matrices. It was at this time that the extent and complexity of the feature-by-feature approach to conservation objectives which the national process was pushing for became evident to the regional projects.

There was a period of intense discussions between the regional project team and national project partners about the COG, and how it might be made more workable in practice, within the context of what still aimed to be a participatory process (Finding Sanctuary project staff objected strongly to the laborious, reductive, and unrealistically evidence-hungry approach set out in the COG). The COG was finalised and published in February 2011, i.e. late in the process. This period coincided with the discussions between the regional stakeholder group, regional project team, and national partners, around how to use the national sensitivity matrices within the context of the stakeholder process.

With time running short, the COG pathway yet to be completed, and the project economist urgently requiring some clarity on activity restrictions in order to be able to complete an impact assessment, there was an attempt to wrap together the process for finalising draft conservation objectives (in the format required by the COG) with the process for using the national sensitivity matrices to try and ‘reality-check’ the assumptions that the stakeholder group had been basing their discussions on. This process was referred to as the ‘vulnerability assessment’ (VA), a term taken from the COG.

The remainder of this section will describe the VA process in more detail. In order to do so, it is necessary to revisit the content of the COG (see section 6.5.7). The COG required that:

- Each protected feature in an MCZ have a conservation objective written for it, and that conservation objectives only be written for protected features.
- Every feature with a conservation objective written for it should aim to reach ‘favourable condition’ (and all features in reference areas should be in ‘reference condition’).
- For features that are already in favourable condition, the COG required the conservation objective to be written as a ‘*maintain*’ objective.
- For features in deteriorated condition, the objective had to be written as a ‘*recover*’ condition.
- For reference areas, the COG required all conservation objectives to be ‘*recover*’ to reference condition, on the basis that no feature anywhere is currently expected to be in ‘reference condition’.

It was generally assumed by stakeholders that a ‘recover’ objective would result in activities being restricted within an MCZ, whereas a ‘maintain’ objective would mean that current activities would not need restricting. However, SNCB advice stated that this would not necessarily be the case – there was complete uncertainty over management.

In order to decide between a ‘recover’ and ‘maintain’ objective for each feature in each site, the preferred approach in the COG was to carry out a direct condition assessment, based on recent survey data describing feature condition. This was an unrealistic approach, as such survey data was unavailable in virtually all cases. In the absence of direct survey-based evidence, the COG set out an alternative ‘vulnerability assessment’ (VA) process, to be carried out for each feature in each site.

For each feature in each site, the VA had to define whether or not the feature was likely to be in favourable condition or not, based on best available evidence on human activities present in the site, the distribution and intensity of those activities, the individual and cumulative pressures caused by those activities, and the sensitivity of each feature to each pressure (the latter two being informed by the national sensitivity matrices). Within Finding Sanctuary, this process had to be carried out for 478 combinations of seafloor features and rMCZs.

The above figure (478) does not count Finding Sanctuary's draft conservation objectives for mobile FOCI or for non-ENG listed species, for which no guidance was contained in the national sensitivity matrices or the COG – despite the fact that the Marine Act and ENG explicitly allow conservation objectives to be written for *any* species or habitat. The figure also does not count the draft conservation objectives for features in recommended reference areas, for which the COG advises a draft conservation objective of 'recover to reference condition' (so the VA was not necessary in order to decide between a 'recover' or 'maintain').

The repetitive and laborious nature of the VA approach required by the COG, combined with the large number of features, meant that it could not be carried within the setting of the stakeholder group meetings. Furthermore, the VA pathway was so narrow and prescriptive that, in reality, there was little room for stakeholders to have any say in its outcome – yet another manifestation of the clash between two approaches that characterises the MCZ process.

Because it was not possible to carry out vulnerability assessments and define draft conservation objectives during stakeholder meetings, a separate series of meetings was set up between SNCB staff, project team, and public authority representatives (IFCA, MMO, EA). Public Authorities were invited to attend in order to provide advice on the intensity of activities present, and on appropriate management. SNCBs attended in order to provide advice on feature sensitivity and draw conclusions on feature condition. Project Team members were present to facilitate and record the meeting, and to provide the necessary materials and data. Twelve VA meetings were held, each lasting a day.

The VA meetings were designed with two objectives in mind:

- To define draft conservation objectives for ENG-listed features in rMCZs, i.e. decide between 'recover' and 'maintain' objectives for the features listed, and write them up in the detailed format required by the COG (see figure 6.1).
- To discuss the likely activity restrictions needed in order to achieve the conservation objectives. This second objective, in turn, served two main purposes:
 - reducing process-generated uncertainty by 'reality-checking' the stakeholder assumptions in order to be able to flag up any discrepancies to stakeholders, and
 - developing realistic management scenarios for the project economist to use in the impact assessment.

In the COG, the VA is intended solely as a method for defining a conservation objective for a feature, i.e. for deciding whether it should be a 'recover' or a 'maintain'. Strictly speaking, therefore, the second objective (the discussion of activity restrictions) was not part of the VA process as defined by the COG. It was carried out at the same time, however, because the uncertainty urgently needed addressing, and because the VA process includes a review of human activities causing pressures in each site - this went hand-in hand with considerations over what activities will need restricting.

Although the timing of the VA discussions was too late for any management scenarios emerging from them to have a direct bearing on the shaping of the network by stakeholders, stakeholders would at least be able to react to them, and record that reaction as part of their narrative. Management scenarios would also allow the impact assessment to be completed.

Unfortunately, the discussions on activity restrictions did not result in any clearly defined or definitive management proposals. This was because of the laboriousness of the VA process as required in the COG, the levels of evidence it required, and the 'vagueness' inherent within the sensitivity matrices (the matrices had explicitly not been designed to provide certainty about MCZ activity restrictions - see previous section).

In a final attempt at gaining clarity and reducing process-generated uncertainty, Finding Sanctuary's project team requested the SNCBs to carry out their own 'sense-check' of the assumptions stakeholders had been making, and provide feedback on whether or not those assumptions were likely to be in line with future advice they might provide in managing the sites. The JNCC completed this for offshore sites, but subsequently (after the end of the stakeholder process) changed some of the outcomes. Natural England, who faced a much larger number of sites and draft conservation objectives inshore, were unable to complete any sense-checks before the end of the stakeholder process, even though an attempt was made.

At the time of writing this report, it is clear that the process of defining activity restrictions and site management within MCZs will continue beyond the designation of MCZs, and that the VA meetings might be seen as no more than a first step in that process. Indeed, Finding Sanctuary's economist and the SNCBs continued discussions about the MCZ management scenarios that were used in the impact assessment after the end of the regional stakeholder meetings, and after the delivery of the project's final recommendations.

With all their inherent uncertainties, the management scenarios emerging from the vulnerability assessment meetings were written up and shared with stakeholders. They were referred to as the 'VA snapshot' in the final set of stakeholder meetings, and in the project's final report. The term meant to reflect the fact that the VA outcome reflected no more than a 'snapshot' of the point that discussions about possible future MCZ management had reached at that point in time. The VA snapshot consisted of a short table for each site, summarising the outcome of the activity restriction and site management discussions held during the VA meetings, and a visual representation of the same information on maps.

The project team considered it important to present the VA snapshot to stakeholders, and to include a record of the VA snapshot in the project's final report, in order to provide stakeholders with the opportunity to react to the discussions that had been held while they still existed as a group, and in order to provide a record of the point that these discussions had reached at the time that the stakeholder groups provided their final comments.

Predictably, the stakeholder reaction to the VA snapshot at their final meetings (JWG6 and SG6) was strong. They felt they were being disenfranchised from precisely the discussions which they considered the most important, many did not trust the VA process or its outcomes, some questioned the evidence underpinning it, and many were frustrated that some of the VA outcomes contradicted the assumptions that they had based their recommendations on. The stakeholder reaction to the VA is covered in detail at the end of section 6.5.11.

Developing recommendations for management measures

Late in the process (early 2011), the remit of the regional projects was extended to include recommendations for 'management measures', which came along with a 3-month extension to the original project timeline. There was some confusion around the meaning of the term 'management measures', which is explained in a briefing note provided by the project team to the stakeholder group in January 2011:

'A note on terminology in relation to the Finding Sanctuary project

[This was a briefing note prepared for stakeholder representatives in January 2011, which was reproduced in appendix 12 of Finding Sanctuary's final report]

At Finding Sanctuary we've always considered it of key importance to clarify what activities will need restricting in MCZs, in order for our process to work effectively, and for our recommendations to be clear. We have strived hard to get as much clarity as possible, working with (amongst others) Natural England, the Joint Nature Conservation Committee, Defra, the Marine Management Organisation and other relevant authorities and organisations.

It has become increasingly evident that there is a lot of confusion around terminology. In particular, the term 'management measures' is sometimes used loosely to refer to the nature of activity restrictions, the mechanism by which restrictions are achieved, or both. Other people use the term in a much more narrowly defined way, to mean the mechanism through which management is put in place. Our own usage of the term has changed as we've realised this, and we now use the term in its narrower definition.

When it comes to management of MCZs, we now distinguish between the 'what' and the 'how':

- The 'what' refers to what needs to happen on the ground in order to achieve the conservation objectives: what activities need excluding entirely from a site, what activities are allowed to happen without restrictions, and what activities are allowed as long as they are managed, restricted, or modified in a particular way.
- The 'how' refers to the mechanism through which activity restrictions are put in place. For example, that might be a byelaw, activity licensing, a voluntary agreement, or a restriction put in place through the Common Fisheries Policy.

We use the term 'management measures' to refer only to the 'how', not to the 'what'. We have now been given an extended timeline and remit, in that we've been asked to develop options for management measures within our proposed MCZs, and to do so by working together with relevant regional stakeholders. We're currently planning how to approach this new work area.

However, before the 'how' can be addressed in any meaningful way, the 'what' needs to be clear. Getting the 'what' right and properly defined has been a real priority for us throughout, and a central aspect of our stakeholder work. In the absence of official guidance, we started by developing assumptions on what management restrictions would need to be put in place. These assumptions were based on project team and stakeholder knowledge.

Late last year, the regional projects were given official guidance on the environmental pressures that the species and habitats listed in the Ecological Network Guidance are sensitive to, and some guidance on what activities cause these pressures. This gives an indication of the activities that might need restricting in MCZs, but unfortunately does not give us any clear answers. We are

therefore continuing to work with assumptions as previously, although the project team will now be cross-referencing the assumptions with the official guidance to ensure there are no obvious discrepancies. We have also asked Natural England and the JNCC to provide us with a ‘reality check’ of our assumptions throughout the remainder of our process, so that we can be assured that they will be able to support our recommendations.’

The extension of the project remit was limited to recommending the ‘how’, but not the ‘what’ (and as discussed at length in the previous sections, no clarity on the ‘what’ was provided by anyone else in the MCZ process, either). As stated in the briefing note on the previous page, formulating any recommendations on management measures was not a realistic proposition without having any clarity on what activities would need restricting.

A meeting was held in June 2011 with representatives of responsible authorities (MMO, EA, IFCAs), at which they were presented with the VA snapshot, the closest thing the project had to clarity on what activities might need restricting. The aim of the meeting was to discuss possible management measures (as per the narrow, ‘official’ definition of the term), but given the short amount of time available, and the great level of uncertainty about the ‘what’, it was not possible to formulate any specific recommendations. The project’s final recommendations therefore did not include any recommendations for management measures.

It is not clear what drove the extension of the regional projects’ remit to include management measures, without providing any means of clarifying the necessary activity restrictions (the ‘what’) first. It is possible that it was a way of justifying the regional projects’ three-month time extension, although given the previous delays in key guidance – particularly, the delayed ENG at the beginning, and the late publication of the COG in February 2011 - the original submission deadline of June 2011 was already unrealistic.

It is also possible that it was in response to feedback from Finding Sanctuary to the national project partners, who had argued throughout the process that the regional projects needed to be able to address site management as an integral part of the planning process, and had used the term ‘management measures’ to mean the ‘what’, not the ‘how’.

The following quote shows an extract from an addendum to the meeting report for SG1, in which the project team provided written answers to questions the stakeholders had asked during the meeting. It illustrates two of the points made in the previous paragraph. Firstly, that the COG was significantly delayed (it was expected by the project in spring 2010), and secondly, that the project team was arguing for the stakeholders’ remit to include the recommendation of protection levels²¹⁸:

²¹⁸ What the quote does not state is that, in their discussions with national project partners, the regional project team had previously suggested possible constraints imposed on protection level recommendations to ensure adequate protection of the network, e.g. by pre-defining a set of MCZ protection levels (a classification of management zones) and building minimum requirements for the inclusion of each level into the ENG (see section 6.1.2), and / or the SAP being given a remit to assess whether suggested protection levels were appropriate. These discussions had been on-going from the beginning of Finding Sanctuary’s pilot phase in 2007, and much of them were carried out in phone calls, face-to-face meetings, workshops, and email correspondence, for which no detailed written record is publically available. Until the end of the project, the project team maintained their position that discussions about site management (*including* activity restrictions) needed to be an integral part of every planning discussion, and that there needed to be a mechanism whereby clarity on the matter could be reached before the group had to finalise the recommended network configuration.

'[Question from SG member] What is meant by "protection"? What will protection levels be? How will they be defined?

[response from PT]

There is no fixed level of protection for MCZs - an MCZ could mean anything from a restriction on a small number of activities through to complete no-take areas. The appropriate level of protection will depend on the ecological objectives for a site.

So, when designing MCZs, we will need to think about ecological objectives for each site, and what impacts are incompatible with those objectives. For example, the objective might be to protect fragile sponges and seafans on a rocky reef, or to protect the animals that live in stable, sandy seafloor habitat (forming an important component of the food web). In those cases, aggregate extraction or bottom-towed fishing gears would cause impacts that would not be compatible with the conservation objectives, and those activities would not be allowed within the protected area. However, other types of activities, such as pelagic fishing (fishing in the water column) and sea angling would not impact on the seafloor itself, so they would not need to be restricted.

In a different example, if the ecological objective is to set up a scientific reference area, then any extraction of living or non-living resources (fish, gravel, seaweed – anything) would cause impacts incompatible with the objective, so the area would need to be a no-take zone.

So the chain of thinking starts with the ecological objective for a site, then moves to the impacts that are not compatible with the objective, followed by what activities cause those impacts. We will be given guidance by Natural England / the JNCC on what impacts are incompatible with what conservation objectives, which will go some way towards clarifying our discussions, this should be available in spring 2010.

However, there is still some uncertainty over who ultimately decides what specific activities cause which impacts, and what restrictions therefore will be put in place in MCZs, and we will need to make some working assumptions.

The final decisions will need to be made by responsible authorities like the IFCA and the MMO, but the process is not entirely clear at the moment. There is also some uncertainty over the timing of these decisions relative to our planning process, and to what extent we as a project can or can't be explicit about recommending protection levels for MCZs.

As the project team, we have always maintained that recommending protection levels needs to be an integral part of recommending sites, and should therefore be the role of the Steering Group. Otherwise, we cannot have a meaningful discussion about the location of sites and the economic and social impacts resulting from different network options. This is a position that we continue to maintain strongly, in ongoing discussions with our national partners and Defra. We will, of course, keep the Steering Group updated with relevant progress and developments.'

6.5.11 Impacts of process-generated uncertainty

Overview of impacts

This final section of the cross-cutting themes discussion distils out a comprehensive list of the impacts of process-generated uncertainty reverberating across many aspects of the MCZ project. The analysis in this section extends beyond the impact of the uncertainty itself, to consider the impacts of the fact that stakeholders currently have no formal role in resolving the uncertainty, and the way in which Finding Sanctuary's VA discussions did not involve the regional stakeholder group. Many of the issues discussed in this final section have already been mentioned on earlier parts of this report, this section merely serves to bring them all into one place.

The impacts of process-generated uncertainty within the MCZ process can be grouped under eight headings:

- 1) Slowing progress by adding complexity to stakeholder conflicts and discussions
- 2) Missed opportunity for meaningful conflict resolution and compromise
- 3) Undermining stakeholder engagement and goodwill in MCZ planning
- 4) Preventing good understanding of and support for MCZs
- 5) Preventing opportunities for finding synergies ('win-wins')
- 6) Preventing the use of economic incentives during the planning process
- 7) Preventing the writing of a meaningful impact assessment
- 8) Undermining the foundations of stakeholder recommendations *post-hoc*

Each one of these headings is elaborated on below, some more briefly than others (depending on how much detail has already been covered in other sections of this report).

Most of the negative impacts of process-generated uncertainty relate to the difficulties of running a successful participatory process where stakeholders are asked to 'fly blind'. Throughout the operation of the regional projects, there was no impetus from the top-down to modify the process in a way that would allow the resolution of the uncertainty, even when it became evident how much of an obstacle it was to the successful running of a participatory planning process.

These eight headings focus specifically on the MCZ process itself, and on the way in which process-generated uncertainty interferes with achieving the operational objective of this case study (implementing a representative and effective MPA network). In reality, the impacts of process-generated uncertainty extend beyond the goals of the MCZ process itself, affecting other sectoral objectives as well. The following few paragraphs briefly expand on this point, based on statements made by stakeholders, before the subsequent sections return to the eight headings above.

During the summer 2012 stakeholder interviews, an interviewee with good insight into licensed industrial sectors described four levels of uncertainty that industry is currently facing in the MCZ process:

- In an application for a new development that might affect an (r)MCZ, there is uncertainty about what level of information is adequate, what level of (environmental) assessment is necessary, and how much extra cost / time that will require, above and beyond what would be necessary without the (r)MCZ being present.

- There is uncertainty about what restrictions on activity will apply in MCZs. In the opinion of the interviewee, the issue is not necessarily about how severe the restrictions will be, as much as it is about having the certainty on *what* they will be.
- There is uncertainty about which of the 127 sites will be designated.
- There is uncertainty over the status of the ENG. If sites are dropped from the regional project recommendations, and ENG targets consequently not met, does that mean another round of MCZ planning in future?

The interviewee's assessment was that this multi-layered uncertainty poses a significant risk to investment in industry projects such as new wind farms, echoing statements made by other interviewees (see appendix 4), and by industry representatives during Finding Sanctuary's planning meetings (e.g. the renewables sector, see section 3.3.3). Uncertainty is seen as damaging to economic activity, especially within sectors where heavy investment has to be made in going through a licensing process (including environmental assessments), and subsequently putting in place infrastructure, before any economic returns are realised.

Similar comments were also made by representatives of the ports industry at a sector-specific marine conservation conference, organised by Lawrence Graham LLP in London on November 8th, 2012, attended by the main author and by Peter Jones. There was strong pushback against MCZs from several ports industry representatives present, for two main reasons. The first was fears about restrictions and additional costs that the sector might face within MCZs, the second was the on-going uncertainty about what those restrictions and costs would be, with little prospect of the process in its current form resolving any of that uncertainty any time soon.

One interesting observation at the ports sector conference was that several industry representatives were challenging the process on the basis of its underpinning evidence (like MPAC have done in the past). Some of them had overtly stated their objection to the MCZ process happening in the first place, and especially to MCZ proposals in areas where other designations are already in place. The evidence challenge was therefore a relatively overt attempt to stall the process, and block sites from going ahead. At the same time, the same ports representatives were highlighting uncertainty as a key problem for them.

It is likely that industry challenges (and threats of legal challenges) of the evidence underpinning the process were an important driver of the shift towards a more evidence-based approach, with multiple evidence reviews, delays to the original timeline, and no decisions taken until there is certainty that the evidence base will stand up to scrutiny. One knock-on effect of this shift is an extension of the period of uncertainty for industry.

So in a sense, by challenging the evidence underpinning the MCZ process, industry stakeholders might (in a roundabout way) be prolonging and exacerbating the negative impacts of uncertainty on their sectors. Fear of being challenged will not make Government willing to take the upfront management decisions that would be necessary to remove the current uncertainty.

The remainder of this final section returns to the above eight headings, discussing each one in detail.

1) *Slowing progress by driving complexity in stakeholder conflicts and discussions*

Section 3 of this report provided a detailed analysis of conflicts within Finding Sanctuary. Section 3.1 defined five dimensions within the conflicts in this case study, and section 3.2 discussed process-generated uncertainty as a key driver of complexity (multi-dimensionality) in conflicts.

Essentially, what it stated was that, because of the uncertainty, the conflicts that emerged during the stakeholder groups' discussions were based on a mixture of fears, hopes, suspicions and assumptions on how MCZs would (or would not) impact on human activities. They included disagreements about assumptions on what restrictions *will* or *should* be put in place. This meant that the discussions were more lengthy and complicated than they might have been, leaving less time to focus on resolving the genuine substance of possible conflicts.

The primary conflicts about reference areas, whilst they included the most intense and serious conflicts within the process, were a lot less complex than the primary conflicts about MCZs in general. This is because there was much less uncertainty underpinning this discussion. The stakeholder group was provided with (draft) reference area guidance from the SNCBs, which made it clear that reference areas would prohibit all extractive and depositional activities, with potential limits on an additional list of 'potentially damaging and disturbing activities'. There was some uncertainty, e.g. about whether reference areas would impact on activities in surrounding areas (this question was raised at SG6), however, compared to MCZs in general, there was a lot of clarity over what these sites would mean.

Whilst the highly protected status of these sites was highly controversial, the clarity provided by the draft reference area guidance meant that there was very little time spent by stakeholders discussing questions like 'yes, but what do we *mean* by reference areas?', or 'what restrictions *should* apply in reference areas? Because no assumptions had to be formulated, there were no circular discussions, with stakeholders trying to unpick or challenge the assumptions made by others. In other words, there was very little second, third or fourth dimension to these primary conflicts.

Instead, the discussions tended to focus on the spatial task at hand, i.e. the task of finding locations for reference areas where ENG targets could be met with the least economic impact. In that sense, the reference area primary conflicts are the closest that Finding Sanctuary came to dealing with primary conflicts in the first dimension – 'real' conflicts.

As stated in Finding Sanctuary's final report, the final recommendations for reference areas failed to meet ENG requirements. However, reference areas were by far the most controversial part of the process. With the same level of clarity for MCZs in general, with fewer restrictions in place and hence lower levels of controversy surrounding them, the planning discussions might have been a lot more focussed and streamlined, making progress faster (and perhaps even leaving more time in the later planning stages to do a better job on the reference areas).

2) *Missed opportunity for meaningful conflict resolution and compromise*

If there had been total certainty within the process over what activity restrictions will be put in place, the primary conflicts within the process would all have been first dimension conflicts. This would have meant that the resource invested in the regional projects by Government and stakeholders alike would have been spent trying to solve and find compromises to 'real' conflicts.

Instead, a significant proportion of the resource invested in the process was wasted on trying to solve conflicts about what assumptions to make, discussing a range of 'what-if' scenarios (e.g. the two alternative developing network scenarios based on different assumption about compatibility between wind farms and MCZs), and having to formulate a complicated narrative to go with the recommendations and bring the underlying assumptions out into the open.

As it is, the process has been designed to leave decisions on site management until after designation, which means that the 'real' (dimension 1) conflicts will only become clear at that point – probably years after the end of the stakeholder process during which the site recommendations were developed.

This has profound implications. The regional stakeholder group was given a spatial task to complete, based on a process of negotiation, trade-offs, and compromise. However, every trade-off they explored, every negotiation they carried out, and every compromise they reached had to be based on uncertain assumptions, fears and expectations. If the assumptions don't hold true, the basis underpinning the compromises is undermined, and the time, effort and resource invested in the negotiations will have been wasted.

If stakeholders had understood upfront what site management would entail, they may have come up with a different configuration of sites, representing a different set of compromises under different parameters. Without the uncertainty, they would have had the opportunity to develop a network that was genuinely well-understood, and genuinely as well-supported as a network of inherently controversial conservation zones can be. However, the process-generated uncertainty never gave them this opportunity. They were prevented from working on meaningful compromises and meaningful conflict resolution, because they could never be sure what the conflicts actually *were*.

A related point is the stifling of knowledge input and a missed opportunity to let that knowledge inform detailed, creative, site-specific compromises. There are several examples where members of the stakeholder group made detailed suggestions for how a site might be managed, and how the impacts of specific activities might be mitigated, and subsequent discussion about these suggestions with the rest of the group. There was nowhere for the content of these discussions to go, except the stakeholder narrative, which appears to have no bearing on the current and future process for deciding MCZ management. Process-generated uncertainty, and the separation of MCZ boundary planning from MCZ management planning, interfered with knowledge incentives that the stakeholder process was attempting to employ.

The following extract from the report of IWG5 illustrates the detail and quality of some of the stakeholder discussions that centred on MCZ management, the amount and diversity of knowledge contributed by stakeholders, as well as the amount of time and effort that some stakeholder representatives put into the process, both outside the meetings and within meetings. It also

illustrates, again, that it was impossible for stakeholders to discuss the location, size and boundaries of potential MCZs without discussing how the sites would be managed:

- Rick Parker (RP) has spoken to the Torbay Harbour Master about this building block to get his opinions on what he feels could work in the area. The harbour master did not support the current building block being put forward for seafloor and water column protection.
- He is concerned that ensuing restrictions would affect buoyage and access. It is currently the only building block put forward for both water column and seafloor protection.
- The Group asked what the implications of water column protection would be. Would it affect craft going through the area? RP explained that the existing byelaw on the south coast of Berry Head prevents traffic going through the area during the birds' nesting period, and also restricts netting. However, the byelaw is not enforced and is regularly broken.
- The Group clarified why the site had originally been suggested for protection. The seagrass beds are currently not covered by the existing SAC protection. It was also suggested that the seabird protection could be brought in under the MCZ status in order to have a holistic approach.
- RP said the harbourmaster would be ok with the area being given seafloor protection, as long as it would not affect port activity. He would also be ok with water column protection being afforded to some of the area, but he did not agree with extending the existing byelaw for birds 1km beyond Berry Head as suggested by RSPB, due to the disruption to trafficking around Berry Head this would cause.
- RP said he also met with local fishermen who use mainly static gear. They said they could accept a dusk till dawn netting restriction, which could work for guillemots and is easier to monitor.
- The Group was not clear on why the RSPB wanted an extension to the nesting area byelaw and whether they would be suggesting traffic restrictions in the extension.
- The Group agreed that the whole ID3 area would be put forward for seafloor protection to protect the seagrass beds, and that only the area where the existing byelaw is in place to protect the seabirds, would be put forward for water column protection. [...]
- The Group agreed to the assumption that the MCZ status would supersede the existing byelaw to protect birds and that the restrictions should be modified to allow some trafficking with speed restrictions subject to what the Harbour Master feels is practical.
- RP agreed to speak to the Harbour Master to clarify what the Group is suggesting about the level of protection they are recommending for this area.
- RP agreed to speak to Paul St. Pierre from the RSPB to find out the details of the extension the RSPB are calling for i.e. what restrictions they would want to see in place and to clarify the IWGs suggestions about the level of protection for this area.

3) *Undermining stakeholder engagement and goodwill in MCZ planning*

Stakeholder representatives were well aware of the problems posed by process-generated uncertainty, and highlighted them throughout the planning process (as reflected in the meeting record, including many of the quotes and observations throughout this report). The fact that the uncertainty was never properly addressed resulted in a great deal of frustration. This frustration was most notable at the end of the process, when the VA process took the MCZ management discussions out of the stakeholder forum, undermining some of their previous assumptions, but not providing any certain answers.

In that sense, the process-generated uncertainty, and the separation of MCZ location / boundary planning from MCZ management planning, constituted significant participative *disincentives* that clashed with the participative incentives that Finding Sanctuary was trying to employ.

4) *Preventing good understanding of and support for MCZs*

This is perhaps an obvious follow-on from the two previous points, but it is worth stating explicitly, because an oft-repeated policy goal was to develop a ‘well-understood and supported’ network of MPAs:

‘Our aim is to develop an ecologically coherent and well-managed network of Marine Protected Areas (MPAs) that is well understood and supported by sea-users and other stakeholders.’ (p.4 Defra GN1)

The purpose of establishing regional stakeholder projects was to ensure that MCZs would be well-understood by stakeholders, and as well-supported by them as possible. But the design of the process, with its (avoidable) separation between planning MCZ boundaries / location and planning MCZ management, made it impossible for any of Finding Sanctuary’s stakeholders to understand the *meaning* of an rMCZ (beyond recommended lines on maps), and made it difficult for stakeholders to articulate their support or lack of it.

In many cases, the lack of certainty made stakeholders assume (or fear) a ‘worst-case scenario’, lowering their support for the sites, and arguing for MCZs to be located away from their areas of interest. Thus, the design of the planning process directly undermined what ostensibly were two key purposes of establishing the regional projects.

The following extract from a stakeholder meeting report illustrates the way in which uncertainty lowered support for MCZ proposals. At the IWG expert meeting in November 2010, experts external to the working group were invited to contribute knowledge, and to voice their questions and concerns. A representative from RWE, the developers of the Atlantic Array wind farm attended the meeting, and the meeting report includes the following passage (bold emphasis added):

‘RWE has a pragmatic approach to co-location, but there are significant ongoing uncertainties. There have been examples of additional hurdles only becoming apparent after designation decisions have been taken and therefore developers need to understand the process going forward in order to quantify that uncertainty. The economics of offshore wind can be marginal and extra costs could alter the viability of the projects. Would developers be required to show no adverse effect at all, like in an SAC? **Whilst the current uncertainties remain, developers cannot support a co-location network.**’

The formulation of a narrative to accompany the site recommendations was not sufficient to address this problem, because stakeholders frequently stated that they feared ‘creeping restrictions’, whereby increasingly strict levels of restriction would be implemented following site designation, irrespective of any assumptions or conditions they had based their site recommendations on. This is illustrated in the following extract from the record of the discussions at the final stakeholder meeting of the project, SG6:

‘The representative for regional development and economy stated that the information from the Local Groups has been essential and there are a number of assumptions key to certain sites that need to be set in concrete for future consideration.

A representative for commercial fishing felt this was unrealistic because in the past SACs were planned to let certain activities continue and 5 years down the line in light of new information these activities were prohibited. Commercial fishing is wary of this risk.

The recommendations that are submitted will be dependent on these assumptions and caveats and may not be so well supported if this is changed.’

5) *Preventing opportunities for finding synergies (‘win-wins’)*

In the same way that the uncertainty prevented meaningful compromise, it proved to be a great obstacle in the way of finding synergies between MCZs and compatible activities (‘win-wins’) – no-one could say for certain what activities would be compatible in any given location.

At the first OWG meeting (OWG1), the group discussed an MCZ building block which covered the area of the mid-channel potting agreement. This is an international voluntary agreement between fishermen in the UK, France and Belgium, which aims to reduce fishing gear conflict between static and mobile gear fishermen by partitioning out areas of seafloor which are left seasonally untrawled, so they can be used by static gears.

Some people considered that seasonal mobile gear closures have environmental benefits, and that therefore this area could be seen as a ‘de-facto’ MPA, and a ‘win-win’ candidate for MCZ designation. However, the fishing representatives voiced concerns that establishing an MCZ in this area would interfere with the established working agreement between fishermen, and this would lead to loss of buy-in from the wider industry:

‘The H block which covers much of the mid channel potting agreements has the potential to create conflict within the fishing industry if handled badly. Conservation objectives of the site may work together with the agreement, allowing the current fishing methods to occur. This would however mean that bottom trawling gear would not be able to be used any other time of the year, or it could be a seasonal MCZ with the same seasons as the voluntary agreements. [...]

Stipulating a seasonal restriction could work, so is a possibility. Further guidance will be coming from JNCC/NE to help define this. This is most likely to be relevant for pelagic features and not seabed features. [...]

Certain areas may be able to be proposed such as the ray box where there is already voluntary exclusion which will be compatible with protecting bottom sediment.’

There was no way to establish any certainty over what restrictions might be put in place if the area was to become an MCZ, so at OWG2, the group decided not to include the area within the developing recommendation.

A different outcome was reached with the Inshore Potting Agreement (IPA) area off Start Point in south Devon, another area where a voluntary agreement had been reached through negotiations that had spanned several years, partitioning out the area amongst fishermen in order to reduce gear conflict. The IPA was subsequently formalised through byelaws.

The IPA site was seen as another potential 'win-win' and *de-facto* MPA. Unlike the mid-channel potting agreement area, the stakeholder group decided to include the IPA area in the recommendations, *on condition that current management would be maintained*. However, at the end of the process, the prescriptive and top-down nature of the VA process, combined with on-going uncertainty about what the final decision on site management would be if this site went ahead, led to disagreement within the stakeholder group over what the exact boundary for this recommended site should be, which remained unresolved. The problem is described in the relevant site report (Skerries Bank and Surrounds rMCZ) in the project's final recommendations:

- The area is considered a *de-facto* MPA by some, and making it an MCZ (on the assumption that current management would be maintained) would serve to consolidate the conservation benefits of the site for the future, and allow it to be 'counted' within the context of the overall network. However, there is a strong feeling amongst stakeholders that if the MCZ designation altered the current management of the site, then that would have more negative consequences than benefits (in particular, loss of goodwill of people who have been working together over years to reduce conflict). Therefore, the recommendation for this rMCZ is made on the condition that the current management under the IPA would be maintained.
- This site differs from other rMCZs, in that it includes zones where the working assumption is that mobile bottom-towed fishing gears would be allowed to continue seasonally. In all other rMCZs, the working assumption is that bottom-towed gears would not be allowed (because they would prevent the achievement of conservation objectives). A solution to this logical inconsistency (suggested within the Local Group) might have been to reduce the size of the Skerries Bank and surrounds rMCZ, to only cover the area where trawling is permanently excluded. This would have meant dividing the site into two parts, including only the red areas on the Inshore Potting Agreement map (see end of this site report).
- Discussions at the vulnerability assessment meetings highlighted the possible consequences of including the seasonally trawled areas within the rMCZ: Natural England highlighted that the inclusion of the seasonally trawled areas ('corridors') would mean that for the seafloor habitat within the corridors, the conservation objectives would not be met, unless the mobile gear was excluded from the entire site. The project team identified this as a potential danger to the condition based on which the site had been recommended by the stakeholder group, i.e. that current management should be maintained.
- This prompted the project team to review the previous stakeholder discussions around this site, and reconsider the boundary. At the final Joint Working Group meeting in June

2011, the project team stated that the site boundary would be revised to only include the areas currently closed to trawling year-round, splitting the site into two parts. We regarded this boundary adjustment as a correction rather than a change, as the intention was to maintain the integrity of the stakeholder recommendations.

- However, the suggested two-part boundary caused negative feedback from stakeholders within the JWG and from outside the working group. Concerns were raised that excluding the seasonally trawled areas would be perceived as an indication that the area within the trawl corridors is not ecologically important, which might lead to pressure to open it year-round to mobile gears. This was perceived as a potential danger to the condition based on which the site had been recommended, i.e. that current management should be maintained.
- The dilemma we faced as a project team was that everyone was essentially expressing the same concern ('maintain current management'), but whichever way we drew the site boundary, there was a perceived risk. Ultimately, we returned the site boundary to the original single site, which includes the trawl corridors. As such, the site recommendation is treated in the same way as the Bideford to Foreland Point example, where the site recommendation states that dredging of the shipping channel should be allowed to continue within the rMCZ boundary, but that the part of the seafloor affected is not counted towards ENG targets. The seafloor habitat area figures presented in the tables above therefore do not include the seasonally trawled areas.

Perhaps the most significant potential 'win-win' that was discussed throughout the process was the potential co-location of MCZs and renewable energy installations. However, because of a lack of certainty that co-location would be possible, the renewables representatives frequently opposed 'co-location' scenarios, despite accepting 'co-location' as a sensible idea in principle. This has already been illustrated in several quotes within this report (above, and in section 3.3.3). The inclusion of the Atlantic Array wind farm site was only possible after lengthy and time-consuming discussions between the developer (RWE), and Natural England, a 'mini appropriate assessment' during which both parties satisfied themselves that co-location would indeed not prevent the (draft) conservation objectives for the site from being achieved, if the designation went ahead.

6) *Preventing the use of economic incentives during the planning process*

As highlighted at the end of section 5, the MCZ process has only used a relatively limited range of possible incentives, and the range has decreased significantly since the end of the regional projects. The lack of clarity on MCZ management directly prevented the use of many possible incentives during MCZ planning. Most notably, it practically eliminated any possibility of employing economic incentives, such as the promotion of customary use and alternative livelihoods.

Apart from being a pragmatic way of building social and economic sustainability considerations into the planning process, economic incentives could have worked synergistically with participative incentives. They might have been powerful in terms of promoting goodwill amongst stakeholders, increasing willingness to compromise, and increasing levels of support for individual sites and the process as a whole.

In particular, the promotion of traditional inshore small-vessel fisheries in economically deprived areas such as west Cornwall could have been a powerful way to improve support for inshore MCZs in

the region. Concern about potential impacts on traditional Cornish cove fishermen was discussed within the stakeholder groups, and there was unanimous agreement that their activities should be supported rather than curtailed, with several members feeling quite strongly about the matter. This is reflected in the stakeholder narrative for the Land's End rMCZ site report in the project's final recommendations:

- Local Group feedback highlights the existence of traditional fishing methods in the area, and the Local Group would like to see these activities enhanced and protected. Concern was raised over any potential moves to put in place a reference area within this area, because small fishing boats based in coves would be unable to move to alternative fishing grounds, and the fishing carried out by the small cove boats is deemed sustainable.
- These Local Group concerns were discussed during group work sessions at the Joint Working Group, and several JWG members commented that they would not wish to recommend a site that might impact negatively on small-scale cove fishermen using traditional and low-impact fishing methods in the area.

7) *Preventing the writing of a meaningful impact assessment*

Finding Sanctuary's obligations, apart from delivering MCZ recommendations, included the delivery of a formal [impact assessment](#)²¹⁹ (IA) on the recommended sites. The appendices to the reports from IWG2 and OWG3 (June 2010) contain a briefing, written by the project's economist, on how the IA was intended to work and what it was for:

'The primary purpose of the impact assessment is to communicate the consequences of designating a particular set of MCZs in order to aid Government decision-making. Feedback is requested from the Stakeholders on each iteration of the impact assessment so that by the time of the final submission the information used in the report is considered suitably up-to-date and accurate. Feedback should be commensurate with the state of impact assessment being submitted.

The impact assessment shall also provide feedback to the Steering Group as a formal representation of the impacts associated with their MCZ site recommendations. However, during the MCZ identification process the Steering Group and Working Groups may require information on impacts of potential MCZs and other issues which are not relevant to the formal impact assessment submission e.g. on sites which are not included in the Steering Groups iterations. The Finding Sanctuary Project Economist can be used to carry out any ad-hoc research required by the groups to aid the decision-making process.

Legal Background:

The Marine and Coastal Access Act 2009 specifies that „in considering whether it is desirable to designate an area as an MCZ, the appropriate authority may have regard to any economic or social consequences of doing so “ (Section 117(7)). The Explanatory Notes 335 and 336 on the Act expand on this further:

335. Subsection (7) allows Ministers to take account of the economic or social consequences of designation. This ensures MCZs may be designated in such a way as to conserve

²¹⁹ <http://publications.naturalengland.org.uk/publication/2071071?category=1730361>

biodiversity and ecosystems whilst minimising any economic and social impacts. Where an area contains features that are rare, threatened or declining, or forms a biodiversity hotspot, greater weight is likely to be attached to ecological considerations. Where there is a choice of alternative areas which are equally suitable on ecological grounds, socio-economic factors could be more significant in deciding which areas may be designated as an MCZ.

336. Subsection (8) clarifies that the reference to “social” consequences of designating an MCZ includes any consequences of doing so for sites of historic or archaeological interest.’

The persisting uncertainty about activity restrictions in MCZs meant that it was not possible to complete the IA as planned and outlined in the above briefing, with the IA process informing the stakeholder deliberations, and vice versa.

The original plan had been for the IA to be completed alongside the stakeholder recommendations. But the late arrival of the COG, and the VA process happening late in the project, meant that the project economist needed an extension to his timeline, delivering the IA in summer 2012, together with the SNCB delivery of their MCZ advice to Defra. Whilst the economist continued to liaise with stakeholders during the drafting of the IA (as mentioned by most interviewees in the summer 2012 stakeholder interviews – see appendix 4), the IA had no bearing on the shaping of the network.

The final IA was based on a series of potential management scenarios, informed by the VA process, which continued beyond the end of the stakeholder process. As a result, scenarios were included in the IA which were not presented during the stakeholder group meetings, nor did they necessarily match the assumptions that stakeholders had made when planning their recommendations. So, whilst the IA is a public document, it is based on a series of management scenarios that were only finalised after stakeholders were asked to make their decisions on site locations and boundaries, and which do not ‘pre-judge’ what will actually happen once sites are designated.

The IA attempted to estimate the range of possible monetary costs of implementing the network (£237.5m to £817.5m), as well as provide a qualitative description of benefits. The wide range in potential monetary costs indicates the wide variation between the management scenarios considered. Ultimately, the validity of the cost-benefit analysis in the IA is undermined by the fundamental lack of certainty on activity restrictions, and the fact that none of the management scenarios are in any way binding. The summary of the IA effectively states as much (emphasis added):

‘Management will be decided after designation, so plausible scenarios are used to describe the additional management of activities that may be needed. Uncertainty in the management that may be required is addressed through the use of more than one scenario, which reflects the potential range of impacts. **Scenarios do not pre-judge the management that will be required in practice and may be underestimates or overestimates of the true impact of MCZs.**’

8) *Undermining the foundations of stakeholder recommendations post-hoc*

The discussion above has already covered how process-generated uncertainty undermined stakeholder support for MCZs, and reduced their goodwill and engagement in the process. In a participative process, MCZ boundary / location planning cannot successfully be treated as a task that is separate from planning activity restrictions and management measures. Carrying out the second task years after the first, with no guaranteed role for stakeholders, seriously risks creating an outcome that undermines the foundations that the stakeholders built their network on.

The regional stakeholder group based its recommendations for MCZ locations and boundaries on a series of assumptions, expectations, and (in some cases) explicit conditions, recorded in the stakeholder narrative. However, there was never any guarantee that the national MCZ process would accept that narrative as an integral part of the final recommendations, and stakeholder representatives were always conscious of the fact that once sites were designated, management might differ from what they had assumed or requested would happen. This was a key factor lowering support for MCZs and engagement in the process.

There are many incidences of this issue being raised as a concern, e.g. at the expert drop-in day organised before IWG6 in November 2010:

Assumptions have been used to move forward in the face of uncertainties. If these assumptions do not hold, then the support does not stand. We have to be realistic about what we can do within our timetable.

[...]

Risk – that our assumptions may be thrown out, particularly given that the sensitivity matrix highlights everything as causing an impact.

Similarly, at IWG6, the following was recorded:

Concern was raised by a member of the Group over the current lack of clarity over what activities would need to be restricted in estuaries and whether giving an estuary MCZ status would then give relevant authorities the power to put in place stricter restrictions than the IWG would be happy with.

Towards the end of the process, with the establishment of the VA, the stakeholder group saw some of its fears realised. Not only had their task (planning MCZ locations and boundaries) been separated in time from the planning of MCZ management, but the latter was now being carried out through a diverging process in which they played no role – it was being taken out of their hands. Furthermore, the VA made no attempt at considering or building on the stakeholder assumptions. Instead, it followed the reductive and prescriptive approach defined in the COG, starting with each individual feature to be protected in the site.

The notes made by the independent observer at SG5 record one stakeholder representative making the observation that the potential for undermining the stakeholders' work was 'the nub of it'. At the time, the national sensitivity matrices had been delivered, and the VA process was underway. The representative highlighted that the 'reality checking' of assumptions agreed earlier in the process could lead to WG/SG assumptions being discounted, and that the emphasis ought to be for stakeholders to be given the opportunity to re-visit any recommended sites where the national matrices indicated that the assumptions might not hold. Another representative stated that

stakeholders should not be ‘manipulated in a chess game, with rules already having been decided’ – and that the VA approach ‘rubbed a little in what was supposed to be a stakeholder-led process.’ These were not isolated opinions or comments.

The unease with the VA process continued over subsequent meetings. For example, the meeting report for JWG5 stated (with ‘CO’ being short for ‘conservation objective’):

‘It was noted that the presence of the JWG at this meeting is not an endorsement of the work carried out on the COs, it is an opportunity to react to the COs that have come out of the vulnerability assessments.

[...]

A commercial fishing representative stated that they are surprised that the project team expect the industry to accept the COs without having seen the detail and are not happy to endorse them through their attendance at this meeting.

[...]

Some of the group felt that what they were given was an outcome that they had no say in, which can be disengaging and could potentially undermine the work.’

Similarly, the report for the SG drop-in event held in May 2011 stated:

‘There are concerns from stakeholders regarding the speed at which these management decisions are being taken. A lot of work has been input into developing the network so far and stakeholders are worried that the part of the process they are most interested in - which activities will need to be managed or restricted - will have very little time to be considered or influenced by them. They feel that because stakeholders have been involved very little in suggesting management for the sites, that there is a risk at the end of the process that they will no longer be supportive of the network or parts of it.’

During Finding Sanctuary’s two final stakeholder meetings (JWG6 and SG6), concern over the VA process increased significantly, as stakeholders were presented with the ‘VA snapshot’ referred to in section 6.5.10. The remainder of this section deals with the reaction to the ‘VA snapshot’ in detail.

In discussing the reaction to the ‘VA snapshot’, it is impossible to separate out the impacts of process-generated uncertainty from the impacts of the break in participative incentives (the end of the regional Steering Group, and the fact that stakeholders wished to take an active role in the management discussions, but were not empowered to do so). Much of the remainder of this section therefore serves to illustrate the discussion in section 5.2, as much as it serves as an illustration of how process-generated uncertainty led to a situation where stakeholders saw their work undermined.

For some sites, the potential management restrictions indicated in the VA snapshot differed significantly from the assumptions that the stakeholder group had been making, with the outcome for Torbay rMCZ being a particular cause of frustration. For this site, the VA (at the time) had concluded that mobile bottom-towed fishing gears could continue, despite the presence of seagrass beds and other seabed habitat that some group members considered to be highly vulnerable to the impacts of such fishing gear.

The independent observer notes from JWG6 record one stakeholder representative stating that

‘I worked hard on the process and had ownership of the process but the rug was taken out from under me and it was all changed.’

and that

‘My time here has been wasted.’

This is a stark example of the impacts caused by the break in participative incentives (see section 5.2), combined with the impacts of a lack of upfront clarity on activity restrictions.

The report from JWG6 includes a joint statement made by the group on the second day of the meeting, formulated with the aid of the facilitators. It reflects the strength of shared feeling across the group:

‘Group statement:

Up to this point we feel we had made good progress in the task we had been set, namely devising a network of MCZs. Within the constraints that we were given, we think we had reached a reasonable understanding between us to be able to put this network forward as a set of recommendations from Finding Sanctuary stakeholders.

We were very keen to ensure that we put forward the strongest possible set of recommendations at the end of this process.

In order to get to this point we based our network on a set of working assumptions about the activities that would and would not be permitted in the MCZs.

Ideally we would not have had to use assumptions but would have had policy guidance that gave us this. We had asked for this policy guidance early on in our work but it was not forthcoming.

It has now been made available to us as a result of the Vulnerability Assessment work that has been done.

Many members of this group are disappointed by the apparent outputs of the Vulnerability Assessment and therefore how it affects our proposed Network because:

- The advice means that we would want to review some of our working assumptions, therefore some of recommendations might have been different
- had we had this advice earlier and therefore had time, some elements of our network would have been different;
- this key element of the decision process has been done in a top-down manner, without engagement or consultation of us as stakeholders, contrary to the spirit and practice of the rest of the work;
- Frustration has focussed in particular around a key working assumption that had been made by the group for mobile fishing
- The timing in particular has had significant implications for our work, since we have not been able to revisit our recommendations on the basis of the outputs from the Vulnerability Assessment.

We are left with feelings of:

- Worry, both for the conservation value of certain MCZs and for the credibility of the stakeholder process leading to the network.
- Questions in our minds about the validity of agreements that were reached within and outside the Working Group.
- Doubt about how we can explain to our colleagues and constituents the discrepancy between what we have said as a stakeholder group and what is being told to us.

15 June 2011

Elements of this statement were not agreed to by the representative for the NFFO. ‘

The meeting report went on to state the following:

- The group felt that the statement went a long way to summing up how the JWG were feeling.
- The statement captured that work up to this point has been carried out in a very collaborative manner and highlighted that the Vulnerability Assessment has not.
- The representative for the NFFO stated that they did not want to be shoehorned into the statement, parts of which they do not agree with.
- There were concerns that the statement may undermine some of the good parts of the network and that it is important to state that the issue is with a limited number of MCZs. A representative from commercial fishing stated that the MCZs in question are those in the inshore, then it should be stated that the working group spent a long time refining the network to avoid fishing interests. Inshore mobile gear fishermen will feel like not a lot has changed through the designation of MCZs if the likely management proposed from the outcomes of the Vulnerability Assessment is recommended.
- It was highlighted that it is not just the work in this room that is being disregarded but the work of local groups and the time spent talking to constituents and making them understand the process and the network. There was also concern that the public will wonder what all the money has been spent on when there are MCZs that essentially don't protect anything.
- A representative from commercial fishing stated that they agreed to the JWG statement and doesn't want to be included in the statement made by the representative from the NFFO. They stated that they cannot see the value of having an MCZ with the most damaging kinds of activity in the fishing industry allowed to continue.

These additional comments further illustrate the strength of feeling within the room, but also highlight that several members of the group wished to point out some of the positive aspects of the work they had gone through up to the point the VA process started. This was echoed in the overall findings of the summer 2012 stakeholder interviews (appendix 4), carried out a year after JWG6, where a lot of interviewees still had serious misgivings about their lack of engagement in management discussions, but almost all stated that they had valued the experience of taking part in a participatory, cross-sectoral process.

Another point of interest to note in the above comments is the fact that one fishing representative explicitly went on the record to distance himself from the statements made by another (from the

NFFO), illustrating the intra-sectoral conflicts within the fishing sector that are described in section 3.3.2 of this analysis.

Finding Sanctuary's final stakeholder meeting was SG6, in July 2011. At this meeting, the sense of frustration with the VA process, and disappointment at stakeholders' lack of engagement in management discussions, continued to be palpable. The record of the discussions held at the meeting reflect a basic lack of trust in the outcome of the VA amongst most members of the SG.

Because of the persisting uncertainty (the VA outcome being non-binding), the fact that this was the final cross-sectoral meeting, and the lack of a direct role for stakeholders in the management discussions that were set to continue into the future, there was little incentive for stakeholders to continue to be constructive in their contributions. It was already evident that there was a hardening of positions, with sector representatives reverting to positions held prior to engaging in the collaborative process. A year after this final meeting, during the stakeholder interviews in summer 2012, this hardening of positions was highlighted by several interviewees as an on-going reality (see appendix 4).

The meeting report also reflects the fact that the COG-prescribed approach followed by the VA required a lot of evidence, and hence was already starting to be challenged and unpicked by some stakeholders.

The following extracts from SG6 record parts of the discussion that was held in reaction to the VA outcome, and the joint statement written down by the JWG at JWG6 (reproduced above). These extracts are somewhat chaotic (reflecting the sense of confusion and disillusionment in response to the VA process on the day), but they do illustrate all of the above points:

- The representative for ports and shipping raised objections to the SNCBs advice from the Vulnerability Assessment on the basis that the evidence used so far isn't substantial. They also object to a blanket ban on towed gear regardless of its impacts because this then has implications for other sectors.
- The representative for regional renewables suggested that they could refute the SNCB advice because they haven't been able to see the outcome of the quality assurance and highlight in the recommendations that issues that have come up in specific sites has flagged up uncertainties on SNCB advice and its validity. Any management decisions need to be based on good evidence and there needs to be a process review. Torbay rMCZ could be used as a specific example that has been looked at detail. A representative for commercial fishing requested that a second example be included to show the opposite where management has been proposed that is not suitable from a commercial fishing point of view, like Newquay Bay and the Gannel rMCZ.
- The representative for science stated that the management implication for Torbay would not allow for the Conservation Objective to be met. Allowing scallopers to fish in seagrass beds would not allow recovery and so this was a special case. In some cases the management does not support meeting the Conservation Objectives but in others it is that the Conservation Objective is seen to be incorrect.
- The representative for Natural England explained that in some cases the Conservation Objective is correct but the management implication wasn't felt to be

adequate. In other cases the Conservation Objective has been set to maintain and some people have doubts as to whether this should be set to recover.

- A representative for commercial fishing stated that this should also be vice versa. It may be that the Conservation Objective has been set to recover but fishing feels it should be set to maintain.
[...]
- A representative for commercial fishing raised the point that there is no clear definition for mobile gear. There are many gear types within this broad category and they will each have a different impact depending on habitat and environmental conditions and so a clear blanket ban is inappropriate.
[...]
- A representative for commercial fishing on the JWG informed the group that there were core sites that caused the issues. The Torbay rMCZ in particular took a long time to design a shape that worked to avoid areas heavily fished by scallopers. When the site was designed the JWG assumed that mobile gear would be banned. Then the JWG were told that scalloping could take place in this rMCZ.
[...]
- A representative for commercial fishing stated that a lot of work had been done at a local level and this hadn't been fed into the Vulnerability Assessment. He stated he couldn't see where the marine protection is if scalloping is allowed in an MPA.
[...]
- Some of the activity restrictions were not logical on certain sites and this undermined confidence in the rest of the Vulnerability Assessment outcome.

Despite the sense of frustration and disillusionment at the final SG meeting, there was still a wish amongst many members of the group to continue to be part of the process, and for the cross-sectoral Steering Group to continue to work as a platform for engagement. There was a feeling amongst many people that with the persisting uncertainty about management, their work was left unfinished. There was also a sense of concern and responsibility towards the constituencies that they had been representing, and the Local Groups in particular. One comment that reflects this is the following:

'The representative for offshore renewables stated that if the final deadline wasn't 31st August they would like to be able to review the outcome of the management measures, go back to the Local Groups to discuss further and then bring this back to consider making recommendations and this needs to be highlighted. To get stakeholder buy in and support the group would want to see the management measures reviewed sensibly.'

Rather than adopt the full statement that had been formulated by the JWG at JWG6 (reproduced in full above), the Steering Group decided to use its last meeting to formulate its own statement about its work, with the help of the facilitator. This statement (reproduced in section 5.2.2) expressed a clear wish to remain engaged in the process, to finalise the planning task by clarifying how the sites that they had drawn on a map would be managed in future, and to have the opportunity to review the shape of the network configuration in light of that clarity.

7 Conclusion

7.1 The clash and the shift between two approaches

7.1.1 One process, two approaches

This final part of the report draws out key conclusions of the process. Section 7.1 provides a reasonably comprehensive overview, framed in terms of contrasting the two planning approaches that the MCZ project has attempted to mesh together. Sections 7.2 to 7.6 pull specific key elements out of that frame, in order to highlight their importance, but these sections are comparatively brief, because for the most part, the issues they refer to have already been covered in 7.1. The report ends with the primary author's recommendations and ideas for improving the MCZ process.

As stated in section 4, the most salient characteristic of the MCZ process is that it consists of a combination of two separate planning approaches. The first approach represents a new way of working, compared to existing MPA planning and implementation processes (e.g. for *Natura 2000* sites). The second approach represents established, 'old' ways of working. The characteristics of the two approaches have been grouped into two columns in table 7.1, with equivalent process elements set side-by-side to allow a comparison, and keywords emphasized in bold font.

Table 7.1 Characteristics of the two clashing approaches in England's MCZ process.

Approach 1	Approach 2
<p>Systematic network planning:</p> <ul style="list-style-type: none"> - A network of sites is planned as a whole entity, so that the network is more than the sum of its parts. - Sites are designed to complement each other, and (when put together) represent the full range of marine biodiversity <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - The ENG were used as a benchmark for planning, grounded in the network design principles in Defra GN1. 	<p>Planning of individual sites to protect specific features:</p> <ul style="list-style-type: none"> - Each site is planned in its own right, assessing its specific merits. - Each site is designed to protect specific features within it, e.g. named species, habitats, or geological features. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - An evaluation of each individual site following the end of the regional projects, especially on the basis of its underpinning evidence. - 'Tranching' of the implementation of sites, rather than implementation of a network that will meet ENG criteria. - Highly complex, feature-specific conservation objectives for each MCZ.
<p>Broad spatial scale planning:</p> <ul style="list-style-type: none"> - Systematic network planning requires the process to consider relatively large sea areas in one go. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - England's waters (and offshore waters beyond the territorial sea of Wales) were divided into four planning regions. 	<p>Fine-scale planning:</p> <ul style="list-style-type: none"> - The process focusses on individual sites, and individual features. - Sites may be selected and implemented as 'one-offs', with no consideration of broader spatial scales. <p>In another sense, the planning scale can be ad-hoc:</p>

<ul style="list-style-type: none"> - National-scale reviews were built into the planning process (through the SAP and SNCB reviews of each planning iteration), to ensure the network was systematic and coherent beyond the individual planning regions. 	<ul style="list-style-type: none"> - There may be a legal requirement to protect specific features where they occur within a particular jurisdiction (e.g. in the <i>Natura 2000</i> process). Whilst each site is assessed on an individual basis, there may still be a broad-scale approach to ‘searching’ for suitable sites. - The difference is that while approach 1 <i>necessitates</i> the consideration of broader spatial scales in planning, approach 2 does not. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - The process continues to operate at a broad (national) level, but focussing on individual features and sites within that area.
<p>Strong participative incentives:</p> <ul style="list-style-type: none"> - Stakeholders are given an active role and influence in the planning process from the beginning. - Cross-sectoral collaboration is encouraged and facilitated, looking for synergies and compromises, and evaluating trade-offs. - There is transparency in the planning process throughout (i.e. the development of proposals happens openly). - Participative incentives could also be used during the development of the goals and objectives of the process. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - Representative, regional cross-sectoral groups stakeholder groups were tasked with developing MCZ recommendations, supported by dedicated staff and facilitators. - Participative incentives were combined with top-down elements in the process (e.g. the ENG), designed to ensure that legal and policy goals would be met. No participative elements were incorporated into the development of the ENG, but there was considerable flexibility in how the ENG could be met. 	<p>Strong top-down elements:</p> <ul style="list-style-type: none"> - Site proposals are developed by Government bodies, perhaps with advice from selected experts. - Stakeholders have a limited role (e.g. through being able to respond to a public consultation on proposals, once those are finalised). - There is no transparency in the planning process, i.e. proposals are finalised by Government bodies / experts before being shared more widely. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - Following the end of the regional projects, the proposals are in the hands of Defra and its advisory bodies. Decisions on which sites to select for the first tranche are not open to wider discussion, and there is no transparency about which sites are being selected or considered, or based on what exact criteria (this will only become clear once the public consultation starts).

<p>Proceeded based on best available evidence:</p> <ul style="list-style-type: none"> - The best available information that is relevant to the task is gathered. - Planning at broad spatial scales inevitably necessitates consideration of areas where there are data gaps – these areas cannot be excluded from the process without jeopardising the objective of a coherent and representative network. - Pragmatically, surrogates (e.g. remotely sensed or modelled broad-scale habitat types) are used to build a representative network. - Different types of knowledge are actively sought, and can underpin and influence planning decisions. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - At the start of the process, Defra data contracts (e.g. MB102) and regional project teams collated existing biophysical and human use data for the region. - The ENG included BSH targets, on the basis that BSH represented surrogates for biodiversity. - Modelled and survey data were combined to form comprehensive regional coverage of BSH distribution maps. This information underpinned planning discussions with stakeholders. - During Finding Sanctuary, stakeholders were able to bring in their own knowledge of sites, and consider trade-offs based on considerations that went beyond the ENG criteria (including socio-economic considerations) to try and find compromise solutions. 	<p>Only proceed where there is strong scientific evidence to underpin individual sites:</p> <ul style="list-style-type: none"> - In order to justify the decision to designate, sites require detailed survey data (e.g. multibeam surveys, dive surveys, camera drops or tows, grab samples) to map out the presence and distribution of species and habitats on a fine scale. - Similarly, management measures / activity restrictions need to be justified with detailed, feature-specific information, including evidence on the condition of each feature, the level of sensitivity each has to different pressures (at specified benchmarks), on what activities cause those pressures, and on whether those activities take place in the site (feature vulnerability). - network. - Scientific data (ecological survey data) is valued above other types of knowledge, in terms of the level of influence it has on a decision in favour of designating a site. <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - The evidence review processes since the end of the regional projects have assessed the level of survey data available for each rMCZ. - Indications are that tranching will favour sites with high levels of scientific survey evidence. - Scientific survey data is explicitly given more weight than other forms of knowledge.
<p>Upfront clarity on site management:</p> <ul style="list-style-type: none"> - In order for a successful stakeholder process to happen, approach 1 requires early clarity on what activities will be restricted in protected areas, and how those restrictions will be implemented. This can happen by different means, for example: - by developing an upfront classification of ‘types’ of protected area, anchored in 	<p>Management decisions left until the end:</p> <ul style="list-style-type: none"> - Because of the high levels of evidence required to justify site designation and subsequent management decisions, there is a long process of evidence gathering and review before management decisions are taken. - The planning process separates the planning of site location and boundaries (pre-designation) from the

<p>legislation or policy, where different protection levels apply.</p> <ul style="list-style-type: none"> - by allowing stakeholders to recommend protection levels (to ensure sufficient protection for MPAs, they could be required to meet specified benchmarks, or subject to feedback / approval from expert panels) - by providing clear guidance on what activities will be affected, depending on the ecological characteristics of the site, and the features present (e.g. a compatibility matrix between ecological features and activities) <p>Specifically, in the MCZ process:</p> <ul style="list-style-type: none"> - This was not achieved in the MCZ process, but would have been needed for the successful implementation of approach 1. - As an exception, there was clear (draft) guidance on activity restriction in reference areas. This remains in draft form at the time of writing. 	<p>determination of activity restrictions and management measures (post-designation).</p> <ul style="list-style-type: none"> - Pre-designation, there is a focus on gathering ecological evidence to support the decision to designate. This is sometimes seen as a rigorous, 'science-based' approach. - Because of the intensive work load associated with gathering evidence to support designation, management discussions are left until later. - There is also a separation between the organisations involved in designation advice and decisions, and the organisations subsequently responsible for management decisions. The role of the latter does not start until post-designation.
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7.1.2 The shift

The initial idea for the Finding Sanctuary pilot was to trial an approach that was different from other MPA planning processes in the UK (particularly, from the *Natura 2000* planning process), in two significant ways:

- 1) Planning at a regional scale, using a systematic approach, with the aim of establishing a representative, ecologically coherent network (rather than simply a collection of sites aimed at protecting specific features).
- 2) Giving a significant role to a cross-sectoral platform of stakeholders from the beginning of the planning process, aiming to maximise levels of support for the sites.

Essentially, the pilot phase of the project developed a model that incorporated the fundamental aspects of approach 1. With the formalisation of the process, the model was built on and extended (e.g. by carrying out a better stakeholder analysis and expanding the membership of the Steering Group, and by using professional facilitators).

At the time, the formalisation of the process in itself represented a shift within Defra and the SNCBs, away from approach 2 (long-established under *Natura 2000*), towards supporting approach 1. The necessary funding was made available to establish three other regional projects in other parts of the country, based on Finding Sanctuary's model, and the regional projects were given a formal remit under the (then newly enacted) Marine Act. A national MCZ project was established to provide national management and oversight of the process, and to provide guidance.

Initially, the national project partnership (at the time, Natural England, the JNCC, and Defra) provided support and guidance that was in line with approach 1. Defra GN1 elaborated policy

objectives that built on the legal network goal of the Marine Act, outlining network planning principles consistent with basic principles of systematic conservation planning. One of those principles was that ‘network design should be based on the best information available.’ As discussed in section 2.1, Defra GN1 also stated an aim for the network to be ‘well-understood and supported’ by stakeholders.

Whilst Defra GN1 covered goals and principles, it did not constitute a practical guidance document – this was provided in the form of the ENG. The regional projects had indicated that without official (nationally endorsed), clear, pragmatic, quantitative network design guidelines, the stakeholder discussions would fail to make much progress. The information base needed in order to be able to apply the ENG in practice was provided through Defra-led national data gathering projects, and the efforts of the regional project team.

However, since the establishment of the four regional projects based on approach 1, and the publication of Defra GN1 and the ENG, there has been a marked shift in the MCZ process, away from approach 1 towards approach 2. This can be regarded as a reversion to established ways of working.

As Finding Sanctuary pushed for additional elements to be put in place within the national process, in order to further support and build on approach 1, the project increasingly was met with resistance from national project partners. The most significant issue in that respect was the failure within the national process to address process-generated uncertainty, which severely hampered the successful implementation of participative incentives – stakeholders were asked to complete their task ‘flying blind’.

The reluctance to address the process-generated uncertainty was based on a reluctance to depart from a planning model that left decisions about site management until the very end of the process (after site designation). This was driven, in part, by the fact that the Marine Act gives MCZ management responsibility (mainly) to IFCA and the MMO. These organisations were still being established when Finding Sanctuary operated.

Nevertheless, since the SNCBs retain an advisory role under the Marine Act, it would theoretically have been possible for them to develop clear upfront advice on the matter to both regional projects, and subsequently, to IFCA and the MMO. There are several possible reasons why this did not happen:

- a desire within SNCBs to retain flexibility to provide tailored and site-specific management advice at a much later date, without having ‘committed’ to a given set of more generic advice early on
- a reluctance within SNCBs to depart too far from established processes and ways of working for *Natura 2000* sites (‘not re-inventing the wheel’)

The reversion to approach 2 became even more apparent with the publication of the COG in early 2011, preceded by an unpublished release of a draft COG in late 2010 (the mere fact that this draft was not to be shared or discussed beyond project staff highlights a lack of transparency in the process, a characteristic of approach 2).

The COG is a highly significant document, as it does a lot more than prescribe a format for the drafting of MCZ conservation objectives. In effect, it prescribes a process for developing MCZ management measures, all of it hinging upon individual features, requiring a great deal of scientific

evidence, and the step-by-step completion of a (potentially) expensive and time-consuming process. The COG embodies approach 2 more than any other guidance document within the MCZ process, together with the national sensitivity matrices it depends upon.

Since the end of the regional projects, the process has reverted almost entirely to approach 2. It is not even clear, at the point of writing, whether the ENG criteria or the goal to establish an ecologically representative MPA network will have any significant impact on real-world outcomes. The evidence reviews that the process has undergone highlight its adherence to the 'evidence-hungry', feature-by-feature COG approach, with a significant amount of nervousness over the potential for legal challenges from MCZ opponents driving the process down a route where only sites underpinned by high levels of evidence (recent, detailed survey data) are likely to be implemented.

It is worth noting that in 2010, there were significant shifts in the process, and in its political context. In March 2010, Defra left the national board to become a 'critical friend', leaving the management of the national MCZ process in the hands of its advisory bodies, Natural England and the JNCC. Shortly after, general elections were held in the UK (May 6th, 2010), during which the Labour Government was replaced by the current Conservative / Liberal Democrat coalition. In the face of on-going economic crises, the current Government seems to lack strong political will to implement conservation measures in the face of opposition from stakeholders, particularly, from industry stakeholders (political will has not been considered in depth as a factor in this report up until now, but it is discussed in a bit more detail in section 7.6 below).

7.1.3 The clash

The combination of the two approaches, and the shift from one to another, was not a seamless integration. As stated throughout this report, where the two approaches have met, they have clashed and undermined each other. There are many points at which the clash manifested itself, generating a range of problems including delays, tensions, and conflicts. Some key examples are:

- The failure within the national process (approach 2) to address process-generated uncertainty, with all its ramifications for the implementation of approach 1, is a key point of tension. This has already been discussed above under 'the shift', and in section 6.5.6.
- Following on from the previous point, the separation of boundary and location planning ('drawing lines on maps') from the process of determining site management is a characteristic of approach 2 that is fundamentally incompatible with approach 1.
- The 'cliff' in stakeholder involvement, with its ramifications (loss of buy-in and support, a sense of disempowerment and disenfranchisement from the process), discussed in section 7.2.
- The VA process (section 6.5.10) represents the only part of the planning process where regional projects became directly involved in trying to apply elements of approach 2 to a significant degree (drafting the conservation objectives following the COG). It led to the disenfranchisement of the stakeholder group, jeopardising the hard work and resource previously invested in approach 1.
- 'Tranching' of MCZs undermines the integrity of the network, where sites were designed to complement each other.

- The current ‘evidence-based’ approach undermines the basis on which MCZ recommendations were founded. The evaluation of sites through the *post-hoc* evidence review did not apply an appropriate ‘yardstick’ to the recommendations – sites were *not* selected on the basis of where the most detailed evidence was, yet ‘levels of evidence’ was the yardstick used to assess their robustness. Instead, in Finding Sanctuary (approach 1), sites selected on the basis of the ENG, best available (regional-scale) information, and a series of negotiations, compromises, and trade-offs between stakeholders, as captured in the stakeholder narrative. The value of the latter has been lost through the shift to approach 2 (see next point).
- The ‘SAD’ structure (section 6.1.2), developed by SNCBs as a standard template for regional projects to submit their recommendations on, was based on approach 2. It had no room for the stakeholder narrative, a key elements of approach 1, which was (predominantly) the approach followed to develop the recommendations. The template, which was only provided late, did not reflect the reality of the process that had taken place regionally, even though it was supposed to serve as a format for writing up the outcomes of the regional process.
- Finding Sanctuary strived for transparency, sharing draft documents and the developing network configuration throughout the process. This clashed with the internal processes and working culture within SNCBs, where there are often multiple levels of internal approval and sign-off required before information can be made ‘public-facing’.

7.1.4 Which is the better approach?

The answer to this question is a value judgement, and depends on the objectives of the process, as well as the goals, values and motivations of the person answering (which may or may not be aligned with the ‘official’ objectives). Rather than an outright statement on which approach is better, this section therefore examines which approach is more likely to:

- 1) lead to the fulfilment of the operational objective and associated goals as set out in section 2.1 (representative network, good stakeholder support and understanding), and
- 2) be consistent with the wider principle of ecosystem-based management (EBM), as promoted by the EU MSFD.

Approach 1 would be far more likely than approach 2 to lead to achievement of the operational objective and its associated goals. The systematic, broad-scale planning is directly consistent achieving a representative network, and the strong participative incentives (if implemented well) serve to improve understanding and support for the network. However, the realisation of these advantages depended on the consistent implementation of approach 1, especially in terms of the realisation of the benefits of the participative elements of the process. Through shifting from one approach to another, a lot of these benefits have been lost in this case study.

Fundamentally, approach 1 is also much more consistent with the principle of ecosystem-based management (EBM) promoted by the MSFD. Systematic planning considers marine ecosystems as whole systems covering broad scales, aiming to ‘protect a bit of everything’ from across the whole system, in order to help ensure wider ecosystem health (‘GES’, in the terminology of the MSFD) as a foundation for social and economic sustainability. Making the full range of stakeholder interests integral to the process is also consistent with EBM, as it recognises humans as an integral part of the

wider ecosystem, and recognises their interests as important. With cross-sectoral, participative platforms, it is possible to bring up and discuss ecological, economic, and social considerations within the process from the start.

Approach 2, with its focus on specific features, breaks the ecosystem down into its constituent parts, and then attempts to protect individual components, rather than considering the system as a whole. It lacks the flexibility to give stakeholders a clear and meaningful role from the outset, thereby not giving sufficient attention to the human elements of the ecosystem in the early planning stages.

Approach 2 is also very 'evidence-hungry'. Decisions to implement conservation action (designating sites in the first place, and then implementing the activity restrictions that turn 'paper parks' into genuinely protected areas) require layer upon layer of scientific evidence (in this case study, to back up every step of the complex process outlined in the COG). Insufficient evidence at any step creates a weak spot in the process, opening up a point of attack for legal challenges by opponents of marine protected areas. The fear of judicial review appears to be widespread (including within Defra, the SNCBs, and some of the responsible authorities such as IFCA), because of the associated costs, and a perceived reputational threat.

The COG (which embodies approach 2), whilst it hangs together logically in theory, is not fit for implementing EBM within the context of reality - reality is that there *are* gaps in scientific understanding, and in detailed marine ecological survey data coverage, especially in offshore environments, which are hostile habitat for humans, and therefore hazardous and very expensive to survey. Unless there is a major technological revolution, or a *very large* increase in the money available for offshore surveys, these gaps will not be comprehensively filled within the foreseeable future. The successful implementation of EBM therefore requires legal systems, policies, and decision-making processes that accept scientific uncertainty as a fact, and that allow conservation actions to be implemented without the actors in the process effectively being paralysed by fear of legal repercussions.

Rather than trying to fill in every evidence gap before taking decisions, scientific research and survey work need to be allowed to progress in parallel to conservation actions being implemented, improving the evidence base continually over time. Monitoring programmes can serve to add to the evidence base over time, so that an adaptive process can be designed whereby conservation actions (i.e. the spatial configuration of the network, and the activity restrictions in place) are periodically reviewed and modified as appropriate. Each successive review process can be anchored in improved information. Such an adaptive management approach would be perfectly consistent with approach 1. Each review cycle could even generate a new set of ENG, based on an improved translation of basic systematic conservation principles into quantitative guidelines.

Following on from that, it is worth highlighting that approach 1 is much more flexible in terms of allowing different forms of knowledge to influence decisions (knowledge incentives), thereby allowing the broadening of the knowledge base for decision-making beyond ecological survey data.

This flexibility applies not just to knowledge incentives: Approach 1 is much more consistent with the implementation of a diverse range of incentives than approach 2. This was highlighted at the end of section 5, where table 5.1 illustrates a reduction in the number and diversity of incentives within the MCZ process since the shift to approach 2. If management decisions had been taken earlier in the process, then the initial range of incentives within the regional projects could have been broadened

even further, to include economic incentives. Jones *et al.* (2011) conclude that a greater diversity in incentives improve the resilience of systems of governance, just as greater biodiversity in an ecosystem is thought to improve ecosystem resilience.

Approach 1 is flexible in the way it allows a combination of top-down and bottom-up elements. The regional project model contained strong top-down elements, most significantly, in the form of the ENG, which were drafted by the SNCBs. It would, theoretically, be possible to draft a set of guidelines like the ENG through a participative process (although this would entail a longer planning timescale, and if EBM is an objective, it would need to build in safeguards to ensure the guidelines were ecologically 'strong' enough to effectively protect the wider ecosystem).

Approach 2 lacks the flexibility to build in strong participative elements. This is best illustrated with the COG, which prescribes a very narrow, deterministic pathway for drafting conservation objectives (it even contains an 8-step flow diagram to describe it step-by-step). Although the COG suggested that regional projects could have involved their stakeholder groups in the process, this was not a pragmatic suggestion. It was not possible to give stakeholders any meaningful role in the process, other than to 'bring them along' in the sense that they could have seen the process first-hand (it was lengthy and repetitive, and they could not have influenced the outcome).

The VA process that was carried out at the end of Finding Sanctuary (section 6.5.10) very much represented approach 2. It combined the 'worst of both worlds' for stakeholders. On the one hand, there was no room for stakeholders to engage meaningfully. On the other hand, the outcomes lacked any clarity or any certainty. There was a general assumption that a 'maintain' objective would mean no management measures would be needed at all, on the basis that, if a feature is already in favourable condition, whatever activities are currently taking place are not leading to its deterioration. However, a close reading of the COG shows that even that is not a given.

Process-generated uncertainty is very much a characteristic of approach 2. As discussed at length in section 6.5.11, it has negative consequences that reverberate around the process. Approach 1 would allow this uncertainty to be addressed early in the process (see table 7.1 for some suggestions). This would require the political will for difficult decisions to be taken upfront, and willingness to change long-established ways of working within the SNCBs and other organisations (i.e. the established methods of the *Natura 2000* process). The benefits of eliminating process-generated uncertainty should be clear from the extensive discussions in sections 3 and 6. They include:

- Less complexity in conflicts. This would not reduce the intensity of conflicts, nor would it solve them, but it would allow real conflicts to be identified and addressed, without wasting time and energy on working through the multiple dimensions of complexity in discussions described in section 3.1.
- Genuine, meaningful compromises.
- A higher likelihood of synergies being identified and realised.
- Better understood sites.
- Better stakeholder engagement and buy-in to the process, because their key questions would not be left ignored.
- The possibility to carry out a genuinely meaningful and realistic impact assessment.
- A shorter planning process, by integrating management planning into decisions on site location and boundaries.

The last point is significant, because it means a process with a smaller proportion of overall costs 'front-loaded', that is, costs incurred before any benefits are realised. Conservation benefits of protected areas are not realised until there is effective protection in place on the ground. In the MCZ process, several million pounds of public money were spent on data gathering and the running of the regional projects. With upfront clarity on management, management measures could subsequently have been consulted on in December 2012, along with proposed site boundaries, and implemented immediately following site designation in 2013²²⁰.

Instead, there is a potentially long and protracted process ahead, and it may take several years before management measures are actually implemented on the ground. The decision-making process entails significant cost, not least in the form of staff resource at the SNCBs, who have, since the end of the regional projects, undergone several major rounds of recruiting new marine staff. Arguably, the MCZ process has already created some beneficial outcomes (e.g. through the collation of a wide range of marine data layers, and the building of working relationships). However, to date, it has not generated any conservation benefit on the ground, and it probably will not do so for years to come.

In that context, it is worth re-iterating the reflection on the *Natura 2000* process, made at the end of section 6.5.7. The marine *Natura 2000* process has largely followed approach 2. The Habitats Directive came into force in 1992 (the year of the first Rio Earth Summit). Twenty years later, in 2012, the European Environment Agency made the following, sobering assessment of marine SACs (and SPAs) in Europe (EEA, 2012):

'The conservation status of both marine habitats and species targeted by the [Habitats and Birds] Directives remains poor. Only 10 % of the assessments of the marine habitat types and 2 % of the marine species were favourable. The conservation status reports also revealed a particularly large gap in knowledge of marine ecosystems: over 40 % of the habitat assessments and over 70 % of species assessments were considered unknown.'

The MSFD came into force in 2008, and the Marine Act in 2009. If the MCZ process continues down the same approach that has been used in the *Natura 2000* process, what will MCZ assessments state in 2028 and 2029?

²²⁰ At the time of writing, the content of the public consultation is not yet publically available. It is therefore unknown whether site management will be covered at all. However, given the pathway the process has embarked upon, it is certain that detailed or specific management plans will not be part of the consultation.

7.2 Stakeholder participation: The cliff

From a stakeholder's perspective, the MCZ process has resembled a steep climb up one side of a (foggy) mountain, only to find an abrupt, steep cliff to fall down on the other side. Engagement in the regional projects was hard work, and it demanded a lot of commitment from stakeholder representatives, particularly from those who participated in the working groups. Almost all interviewees in the summer 2012 stakeholder interviews (appendix 4) stated, however, that they had greatly valued the cross-sectoral discussion platform, and that they had had a sense of ownership of the developing recommendations at the time, with genuine influence on them.

Their active role in the process ended abruptly with the end of the regional projects, despite their written request in their final meeting to remain an integral part of the process. Since then, their engagement has been ad-hoc and unequal. The summer 2012 stakeholder interviews carried out in summer 2012 reveal that there is a lack of clarity within the current and future MCZ process, and a lack of genuine transparency.

A lot of information is available about the current MCZ process, but there is no single point of access that provides a comprehensive overview, and there is no transparency on the thought processes and decisions being made on substantive issues (such as what sites will be included in the first tranche, how many, whether there will be a second tranche, whether any sites will be discarded entirely, and what weight and status is now accorded to the ENG).

It is not clear what will be included in the public consultation about to begin at the time of writing (December 2012), what questions it will ask, how opposing responses will be reconciled, and what influence consultation responses will have on the outcome. Beyond the public consultation, there is no clear perspective for stakeholders in terms of how they might access the longer-term implementation process for MCZs, or whether they will be asked to take on any specific role.

These issues have led to a sense of disillusionment with the process, disengagement from it, and loss of ownership of the site proposals. In that sense, it is no longer appropriate to refer to the MCZ proposals that are currently going through the system as 'stakeholders' recommendations' – most stakeholders would not consider them 'theirs' anymore.

Furthermore, the loss of the cross-sectoral forum that previously had a specific role and influence, has removed incentives for different sectors to try and reach across sectoral divides to reach compromises. Instead, the public consultation process and ad-hoc (mostly bilateral) stakeholder engagement within the current process incentivises each sector to fight hard for their own sectoral interests.

A shorter timespan between the delivery of the final regional project recommendations and the start of the public consultation may have reduced some of the problems highlighted here, but it would not have addressed them in the longer term.

7.3 Marine Protected Areas or Marine Protected Features?

The drawbacks of binding MCZ conservation objectives to individual species and habitats were discussed at length in section 6.5.7. It fundamentally goes against the principles of ecosystem-based management to try and protect the marine ecosystem by targeting protection measures solely at its individual component features – and yet, this is exactly the approach required by the COG.

Focussing only on ecosystem components not only loses sight of the MPA network and the ecosystem as a whole, but it also leads to a paperwork-heavy and lengthy designation process. Bearing in mind that for the Finding Sanctuary region alone the recommendations included over 500 draft conservation objectives, the COG might be described as a veritable red-tape-generator. As any future MCZ management measures will hinge on the conservation objectives, the COG in its current form is not likely to lead to lean, efficient and understandable management measures. Furthermore, as discussed at length in section 6.5.7, the current COG is so ‘evidence-hungry’ that it practically prevents the achievement of the requirements of the MSFD and Marine Act.

It would be more consistent with ecosystem-based management principles to treat MPAs as *areas* to be protected, rather than as areas containing *features* to be protected (it would also be more consistent with the term ‘*marine protected area*’).

It is perhaps not entirely consistent with the principles of ecosystem-based management that section 117 of the Marine act requires that:

- ‘The order for designating an MCZ must state
- (a) the protected feature or features
 - (b) the conservation objectives for the MCZ.’

However, there is no requirement for the conservation objectives to be written specifically and individually for each named protected feature – it explicitly requires conservation objectives to be stated ‘for the MCZ’. There is no reason in the text of the Marine Act why protected features could not be stated separately from the conservation objectives. Conservation objectives could be drafted at the site level, as long as they ensured the protection of the named features (in order to be consistent with the spirit of the law). Section 7.7.4 makes some suggestions as to how that might happen.

Management measures could then be focussed on whole areas, and on eliminating the most damaging activities from within those areas, monitoring environmental outcomes (in a representative subset of sites, if there is insufficient resource to do so for the whole network), and then adapt conservation measures as appropriate.

7.4 Evidence fit for the process? A process fit for available evidence?

In systematic MPA planning, when covering extensive offshore areas, it is not a sensible option to wait for marine scientists to find out everything there is to know about the offshore environment, and only then make any decisions. On the other hand, data gaps cannot simply be ignored – the process and the information it relies upon has to stand up to legal scrutiny.

One way through this dilemma is to design a process that draws a line at a given point in time, and makes decisions based on the evidence available at that point, with the flexibility to subsequently adapt and change those decisions as better information becomes available (adaptive management). It is important not just to bring together the best available information at the point when decisions are taken, but also to identify data gaps and uncertainties, acknowledge these openly, and develop strategies to address them explicitly during decision-making.

Approach 1, at the start of Finding Sanctuary, was designed to be fit for the available evidence base. It gathered together existing data, but was accepting of existing scientific uncertainty, following the ‘best available evidence’ principle as defined in Defra GN1:

‘Best available evidence – Network design should be based on the best information currently available. Lack of full scientific certainty should not be a reason for postponing proportionate decisions on site selection.’

Existing data gaps were openly acknowledged, and addressed through the use of surrogates (the BSH targets in the ENG).

The wording of the ‘best available evidence’ principle in Defra GN1 is noteworthy. The word ‘proportionate’ is a value-laden one, and open to very different interpretations. More importantly, the principle makes reference to ‘network design’ and ‘site selection’, but not to ‘site designation’ or ‘site management’. With the publication of the ‘levels of evidence’ guidance document written by the SNCBs, it became clear that as the process progressed from site selection to site designation and site management, decisions would require increasingly high and detailed levels of scientific evidence.

Apart from undermining decisions taken in the earlier stages (one might reasonably ask what is the point of selecting sites if they cannot be designated, or of designating sites if they cannot be effectively managed), this shift towards an ‘evidence-based’ approach requires new evidence to be generated to suit the process, rather than ensuring that the design of the process suits the evidence that is actually there to begin with. This leads to delays at every stage, resulting in years passing during which a lot of effort and money is spent, without generating any conservation benefit.

The need for high levels of evidence within the current process is largely driven by the approach that is being taken to writing conservation objectives for individual features, and defining the objective on the basis of feature condition. As a result of the feature-specific approach required by the COG, Finding Sanctuary’s recommendations included over 500 draft conservation objectives, and each one requires evidence on feature presence, feature extent, and feature condition – an unrealistic ‘evidence hurdle’, especially for offshore sites.

Given the coarse scale and resolution of the information we currently have available for which there is comprehensive coverage across the entire UKCS, the feature-by-feature approach can be likened to someone zooming in on a low-resolution digital photograph. Looking at the entire photo, they

would easily recognise a coherent picture – of a landscape, say, or a building. However, upon zooming in, pretty soon, all that can be seen are meaningless coloured squares.

Similarly, when trying to find sound evidence to underpin an assessment of the condition and extent of an individual species at a location 100 nautical miles offshore, one inevitably runs into difficulties – however, ‘zooming out’ to a coarser level of resolution, it is perfectly possible to deal with the existing data gaps, and still design a network that captures ‘a bit of everything’, through the use of surrogate broad-scale habitat data.

The level of detail that a process focuses on should take account of the level of detail in the information base available at any given point in time. The current MCZ process focusses in on such a detailed scale that it has lost sight of the broader picture. Science is always a work in progress. By drilling down to increasing levels of detail, data and knowledge gaps will always appear sooner or later, like pixels in a digital photo. Environmental decision-making processes need to be designed to cope with that fact, i.e. they need to be designed around the scale and detail of the best available evidence.

7.5 Flying Blind

Section 6.5.11 discusses the corrosive impacts of the avoidable on-going uncertainty about what activities will be restricted within MCZs, and they were also discussed in section 7.1.4. They include:

- Increased complexity in conflicts, leading to wasted time and energy working through the multiple dimensions of complexity in stakeholder conflicts, described in section 3.1.
- Preventing genuine, meaningful compromises.
- Preventing synergies being identified and realised.
- Low understanding of MCZs (no-one knows what they ‘really mean’, they are ‘just lines on maps’).
- Lowered support for MCZs (people assume a ‘worst-case scenario’ for their activity)
- Reduced stakeholder engagement and buy-in to the process, because their key questions are left ignored.
- Preventing a genuinely meaningful and realistic impact assessment.
- A longer planning process, by having separated management planning from the planning of site location and boundaries.

As stated in section 6.5.11, the fact that stakeholder representatives were asked to participate in the development of site boundaries and locations, without knowing how the sites would affect them, was described as being akin to ‘flying blind’.

It is interesting to reflect on the fact that there has been a lot of pressure from some marine industry (MPAC, in particular) to ensure that every conservation measure is supported by strong levels of evidence. This can be seen as a tactic to minimise the number of measures that will go ahead, especially where they restrict the sector represented by MPAC. Similar pressure has also been exerted from other industrial sectors, e.g. by representatives of the ports industry. It is this pressure from industry that creates the apparent nervousness about legal challenges within the public sector actors in the process.

Fears of legal challenges, in turn, are a driving force in the shift towards an ‘evidence-based’ process, insisting on high levels of detailed evidence to back up decisions for every species and habitat to be

protected in every site, so that every decision is legally robust. This almost automatically creates a process where no management decisions can be taken until the very end, after every evidence hurdle has been overcome – creating the on-going management uncertainty with all its corrosive impacts. The same sectors exerting pressure for ‘better evidence’ have repeatedly highlighted management uncertainty as a major problem with the process.

7.6 Political will

Political will is crucial in the successful implementation of a piece of legislation such as the Marine Act. It is something that has been alluded to at several points in this analysis, but has not been elaborated on in detail until now.

The Marine Act was passed under a Labour Government, but it had strong cross-party support. It was a significant new piece of legislation, and it had undergone intensive scrutiny within both Houses of Parliament. The degree of scrutiny is apparent in [this](#)²²¹ document, published in September 2008, containing the Government’s response to pre-legislative scrutiny and public consultation of the then Marine Bill.

The drafting and scrutiny of the Marine Bill largely took place before the current global financial crisis hit in the latter part of 2008, and the scale of the crisis was only emerging as the Bill made its final passage through Parliament, to receive Royal Assent (i.e. become law) at the end of 2009. Thus, the political and economic context within which the Marine Bill was drafted, and enjoyed strong cross-party support, was very different from the economic crisis context of 2012.

In May 2010, there were general elections which resulted in a change of Government, to the current Conservative / Liberal Democrat coalition. Shortly after being elected, and in the face of the economic crisis and the drive to reduce Government debt and deficit, the new Government proceeded with a round of significant cuts to the public sector, the [Comprehensive Spending Review](#)²²² (CSR). The budget of the Government Department responsible for environmental matters, Defra, was cut by 30%.

Defra’s public response to its 30% budget cut included the [following](#)²²³:

‘Defra has been working closely with its largest environmental arm’s length bodies – the Environment Agency and Natural England – to ensure a radical and comprehensive package of measures which will transform them into leaner, more efficient front line delivery bodies focused strongly on the Government’s ambitions for the environment and the green economy.

There will be significant change across the organisations, to create a new delivery model that is the most effective and cost-efficient way to deliver, and exert leverage, in support of the Government’s objectives. Both Environment Agency and Natural England will:

- dramatically reduce their back office costs while keeping to the minimum possible reductions in delivery;

²²¹ <http://www.official-documents.gov.uk/document/cm74/7422/7422.pdf>

²²² http://cdn.hm-treasury.gov.uk/sr2010_completereport.pdf

²²³ <http://www.defra.gov.uk/news/2010/10/14/public-bodies/>

- work more closely with other arm's length bodies to eliminate any duplication in the work they carry out;
- implement demonstrable culture change and lead on innovative new ways of working which embrace Localism, Big Society and an improved customer focus;
- stop activity that Government does not need to do
- stop policy making and lobbying activities.'

The Defra budget cuts, and the striving for 'leaner' and 'more efficient' organisations, created a challenging situation for the SNCBs, who at the time, were key players in the MCZ process. There were job losses at Natural England – although this did not directly affect the people involved in MCZs, it created a climate of insecurity and uncertainty within the organisation. This was not a climate that engendered the confidence in people to challenge established processes or policy. In fact, as illustrated by the final bullet point in the quote above, the SNCB's were explicitly removed from 'policy making and lobbying'.

When Finding Sanctuary and other regional projects came across problems (such as the corrosive effects of process-generated uncertainty), and came up with solutions that would have necessitated changes in policy (e.g. the proposal to make management decisions earlier in the process), the SNCBs found themselves caught in the middle. On the one hand, regional projects were highlighting the challenges they were facing, and the urgent need for pragmatic solutions, many of which would have required changes in policy and in established ways of working. On the other hand, they were not in a position to challenge policy, or be seen as 'lobbying' on environmental matters.

One of the bullet points in the above quote refers to 'Localism' and 'Big Society'. These are political phrases used by the UK's current Coalition Government to describe the notion of people taking greater responsibility in solving problems at a local level, and having a greater say in local decision making. It is easy to see how the Finding Sanctuary model aligns with these notions. Nevertheless, the regional project model was not extended beyond the delivery of the recommendations.

The track record of the current UK Government does not indicate that environmental conservation is a political priority. In fact, the opposite is true. This is illustrated by the following extract from UK Chancellor George Osborne's November 2011 budget statement to Parliament (the full text of the speech is reproduced [here](#)²²⁴):

'But I am worried about the combined impact of the green policies adopted not just in Britain, but also by the European Union, on some of our heavy, energy-intensive industries.

We are not going to save the planet by shutting down our steel mills, aluminium smelters and paper manufacturers.

All we will be doing is exporting valuable jobs out of Britain.

So we will help them with the costs of the EU Trading Scheme and the carbon price floor, increase their climate change levy relief and reduce the impact of the Electricity Market Reforms on these businesses too.

This amounts to £250 million package over the Parliament.

²²⁴<http://www.telegraph.co.uk/finance/budget/8923191/Autumn-Statement-2011-George-Osbornes-speech.html>

And it will keep industry and jobs here in Britain.

It is a reminder to us all that we shouldn't price British business out of the world economy.

If we burden them with endless social and environmental goals – however worthy in their own right – then not only will we not achieve those goals, but the businesses will fail, jobs will be lost, and our country will be poorer.

Our planning reforms strike the right balance between protecting our countryside while permitting economic development that creates jobs.

But we need to go further to remove the lengthy delays and high costs of the current system, with new time limits on applications and new responsibilities for statutory consultees.

And we will make sure that gold plating of EU rules on things like Habitats aren't placing ridiculous costs on British businesses.'

The last sentence is particularly telling, especially in the context of the findings of the European Environment Agency report cited above (EEA, 2012).

The written 2011 treasury statement (see [here](#)²²⁵) is similarly focused on removing barriers for private industry to develop, above and beyond any concern about environmental regulations. Referring to planning reform, it states that Government will (amongst other things):

'ensure that compliance with the Habitats and Wild Birds Directives does not lead to unnecessary costs and delays to development, while continuing to support the Directives' objectives. The Government is reviewing the Directives as currently implemented in England by Budget 2012 and is committed to tackling blockages for developments where compliance is particularly complex or has large impacts. In addition, the Government has announced progress on specific projects where compliance has already proved problematic, including Falmouth Harbour.'

Similarly, the [National Infrastructure Plan 2011](#)²²⁶ states that (emphasis added):

6.26 The European Union's habitats and wild bird directives protect Europe's most precious ecosystems, flora and fauna. The Government strongly supports this objective but is **keen to ensure that compliance with the directives does not lead to unnecessary costs and delays in the delivery of important, sustainable infrastructure projects, such as offshore wind developments.** In order to tackle problems, the Government is reviewing the directives as currently implemented in England by Budget 2012 and has published terms of reference for this work. In addition the Government will:

- establish a Defra-led problem-solving unit to **address blockages for developments** where compliance with the directives is particularly complex or has large impacts;
- make it easier for businesses to understand what they must do to comply with the directives by improving Natural England's support and assistance offer to developers and consulting on updated guidance before Budget 2012; and

²²⁵ http://cdn.hm-treasury.gov.uk/autumn_statement.pdf

²²⁶ http://cdn.hm-treasury.gov.uk/national_infrastructure_plan291111.pdf

- give industry representation on a group chaired by Ministers so it can raise concerns deriving from the Directive at the top of Government

6.27 In addition, the **Government can announce progress on a number of projects which have been held back by difficulties stemming from the directives:**

- the Marine Management Organisation and the Port of Falmouth have agreed a way forward on a scientific trial to resolve environmental issues around development of the harbour. A decision on the developer's marine licence application will follow if the trial succeeds. If this application is then successful, it is anticipated that development could proceed in early 2013;
- Natural England have confirmed that environmental issues relating to the Habitats Directive need not cause delay to the Able Marine Energy Park, as satisfactory options are available to address the main concerns stemming from the directive; and
- Natural England is working closely with Chiltern Railways to resolve licensing issues at the Wolvercote tunnel by January subject to receipt of satisfactory information from the company.'

The successful implementation of the MCZ goals in the Marine Act depends on the political will for the goals to be achieved. Taking controversial decisions to deploy environmental protection measures in the face of scientific uncertainties requires courage, and the will to not lose sight of the long-term, broader reasons for the actions being implemented. This is especially true at a time of on-going economic crises, and deep-running uncertainty about what the future holds for the UK and the EU.

Given the view within the current Government that the Habitats Directive (which does not strive for a representative protected network) is placing 'ridiculous costs on British business', and the emphasis in all of the above quotes on 'unblocking' progress on industrial development, it is difficult to see where that political will is going to come from. This is despite the intense scrutiny that the Marine Act underwent in its drafting, and the cross-party support it enjoyed when it received Royal Assent.

7.7 Where do we go from here?

This final section of the report lists some recommendations, based on the findings of the analysis. These are the primary author's own suggestions for improving the MCZ process, and applying lessons learnt from it. The recommendations are loosely ordered by their immediacy, i.e. short-term recommendations that could be addressed immediately are nearer the top, whereas longer term recommendations are nearer the end.

Readers should focus less on what order the recommendations are in, however, and more on the recommendations themselves, and on thinking about situations they might apply to. Some of these recommendations are very specific to the MCZ process, but many of the lessons learnt here may apply to situations and projects that extend beyond marine protected areas, even beyond marine spatial planning.

7.7.1 Improve clarity in the current MCZ process

- **Establish clear responsibilities**, ensuring that all key aspects of the process have a lead person or organisation responsible for delivery.
- Ensure that responsible organisations / individuals have sufficient resource and support to allow them to fulfil their responsibilities. That includes appropriate, timely, and fit-for-purpose advice (e.g. clear and practical advice on appropriate activity restrictions). Identify clear responsibilities for producing such advice.
- **Establish a clear process for amending roles and responsibilities**, and making any other necessary adaptations or amendments to the wider process, in the face of changing circumstances or unforeseen challenges.
- Map out a clear process and timetable for future tranches of planning / decision making.
- Map out a clear process and timetable for MCZ implementation (including the development and implementation of management measures).
- Map out a clear process and timetable for MCZ monitoring, backed up with the necessary resource.
- Map out a clear process and timetable for MCZ reporting and reviews (adaptive management).

7.7.2 Improve transparency in the current MCZ process, and ensure equal access to information

- Ensure all of the above is clearly communicated to *all* interested parties (stakeholders).
- **Establish a clear central point of access for comprehensive and up-to-date information** about the MCZ project for stakeholders or any interested members of the public. Make sure it is the first hit on google.
- Keep and publish a record of all meetings between SNCBs and / or Defra, and any interested stakeholders, where the MCZ process has been an agenda item, or any update about the process has been provided by Defra / SNCBs.
 - This should include meetings not organised by Defra / SNCBs.
 - Any information about the MCZ process provided at these meetings should be easily accessible to the wider public, through a central point of access.
 - Full minutes should be published for any meetings chaired / organised by Defra / SNCBs.

- **Strive for maximum transparency, including in substantive issues.**
 - Openly provide answers about progress on substantive issues in response to queries on such matters, e.g. which sites look likely to go forward, which ones look like they will not, and why. Caveat responses as appropriate (e.g. ‘this is work in progress, things might change, but this is where we are currently at’). As far as is reasonably possible, such information should be made available upfront (e.g. online).
 - Make draft documents available on request. Caveat / mark appropriately as work in progress. Highlight whether or not comments or feedback will be listened to, and if yes, indicate when and through what process people should provide it.
 - Create a working culture within the Defra ‘family’ where staff are supported and encouraged to provide such open answers, rather than a working culture that routinely differentiates between ‘internal facing’ and ‘public facing’ information, with the latter requiring lengthy multi-level internal sign-off procedures before any information can be released, thereby preventing swift, simple and straightforward answers to outside questions.
 - Openly share the reasoning behind any significant or potentially controversial decisions (‘show your workings’). This should include evidence relied upon, but should not be limited to scientific data.

7.7.3 Be pragmatic about evidence and uncertainty

- **Adapt the process to the available evidence, rather than the other way around.** A legal, planning, decision-making, and implementation process can be designed to suit real-world circumstances. Evidence, on the other hand, cannot be designed to fit the specifications of an idealised, pre-determined process.
- Broad-scale knowledge and coarse-scale evidence require a broad-brush process. Only where detailed, fine-scale information exists will a details-oriented process have any chance of succeeding. Given the broad spatial scope of the MCZ process, a broader approach is more likely to yield success than a fine-scale approach.
- To be consistent with the principles of EBM, and to meet the legal requirement under the Marine Act and MSFD to put in place a biologically representative MPA network, focus on the system (and network) as a whole, rather than ‘salami-slicing’ the process to the point that all decisions hinge upon individual features (system components), and whatever detailed data is available for these at a limited number of localities.
- **Draw a clear line under the gathering of evidence, and proceed with decision-making and implementation** on the basis of what is known, accepting and acknowledging existing data gaps and scientific uncertainties, and the fact that better information will always be just around the corner. Accept the use of surrogates, even where there is uncertainty in modelled datasets mapping their expected distribution.
- The previous point is obviously not a recommendation to *stop* scientific research and survey work, or to stop striving for better access to and sharing of existing data. Quite the opposite, this should continue in *parallel* to decision-making and implementation, in order to be able to improve on the network in future reviews.
- As far as possible, focus basic ecological research effort on data-poor areas. This research should be viewed as an on-going effort to continuously improve the available evidence base, rather than as something that has to happen before any decisions can be taken, filling in

evidence gaps whilst going through a process where every step has to overcome a higher evidence hurdle than the previous.

- **Design the process to be adaptive**, i.e. map out a process whereby decisions can be revised and updated in the light of newer, better, and more detailed data emerging over time. Whenever a review or new decision-making process takes place, draw together all the best available data at that point in time (see below).

7.7.4 Develop an alternative, more practical approach to conservation objectives

- There needs to be a significant change in the way that conservation objectives (COs) are drafted and developed for MCZs. This change should focus on several goals:
 1. Reduce front-loaded costs, realise conservation benefits sooner
 2. Eliminate repetition and duplication of effort (streamlining the process)
 3. Consistency with the principles of ecosystem-based management
 4. Adapting COs to the amount and detail of data available
 5. Increase clarity and reduce uncertainty on management at an early stage
- The main recommendation is to separate the list of protected features for each MCZ from the conservation objective(s) for that MCZ. A designation order for an MCZ requires both, but there is no legal requirement for each individual feature to have its very own individually drafted and specific CO, and there is no requirement for each CO to be linked specifically to one individual feature. Thus, **in each designation order, separately state:**
 - **The list of features to be protected in the MCZ**
 - **The conservation objective(s) for the MCZ**
- It is not clear how easy it will be to amend an MCZ designation order, once it is in place. Therefore, it is important to think about a way in which an order can be drafted that is strong enough to base management measures on, but flexible enough to ensure it does not become obsolete with new survey data emerging.
- **Drafting a list of features to be protected in each MCZ:**
 - The Marine Act definition of ‘feature’ is broad. When drafting the list of features to be protected in an MCZ, it would be possible to **use a nested approach. Start with broad features** that are known for certain to occur in the site (at the most basic level, that could include ‘seafloor and its associated biodiversity’). Where fine-scale data exist, specific species and habitats (or other ecological features) could be added. The advantage of a nested approach would be that it allows progress despite data gaps, but at the same times allows whatever the best available data is to add to the detail in the order. Here are two hypothetical examples (they are focussed on the seafloor, but this approach could be used for other components that are important for the integrity of the ecosystem, such as food webs – including pelagic elements coupled with particular seafloor environments through benthic-pelagic coupling, or predictable / seasonal aggregations of mobile fauna):
 - data-poor site: ‘The features to be protected in this MCZ are the seafloor, and associated flora, fauna, and geological / geomorphological features.’
 - data-rich site: ‘The features to be protected in this MCZ are the seafloor, and associated flora, fauna, and topographical features. This includes species and biotopes a,b, c (...), and geomorphological feature x.’

- **Separate the list of features in the ENG from the pool of features listed in the site designation order.**
 - There may be strong overlap, but conceptually, the ENG should serve as pragmatic design guidelines on how to put together a coherent and representative network, not as an equivalent of the species and habitats list of the Habitats Directive annexes.
 - The ENG addresses scientific uncertainty, using BSH habitat targets as surrogates or proxies, a pragmatic way of maximising the likelihood that the network as a whole will ‘protect a bit of everything’. This is fine for a pragmatic process that is trying to do its best at capturing a bit of everything in the face of an imperfect evidence base. But it makes little sense to include proxy or surrogate BSH features on the designation orders’ lists of features to be protected in the site:
 - Over time, a better set of proxies might emerge, e.g. a different broad-scale environmental habitat classification system, and it might be sensible to change the ENG in a future network review process (see below).
 - Over time, improved spatial data will become available to more accurately map out the BSH types in the existing BSH classification (or the habitat categories of a new and improved, alternative classification system, should that become available). If new survey work reveals existing BSH data to be inaccurate for a specific site, and the BSHs are listed on the designation order as features to be protected in the site, the legal validity of the designation order is undermined (raising the likelihood of successful legal challenges of the process).
- **Drafting conservation objectives for the site:**
 - In line with the principles of EBM, **pitch conservation objectives at the scale of the site**. Establish marine protected *areas* (as opposed to ‘marine protected features in some areas’). This would reduce the number of COs by an order of magnitude, thereby cutting back the red tape associated with them, simplifying and streamlining the implementation process.
 - Keep indicators (for monitoring) separate from site-level COs. Currently, they are (effectively) part of the feature-based COs (through the list of attributes – see the CO template in figure 6.2). Keeping them separate would allow more flexibility to keep indicators and monitoring programmes under review, so they can be improved with better knowledge, and kept efficient based on the resources available.
 - **State a conservation objective that addresses human activities and impacts**, rather than environmental features. We know more about these, and know which cause the most direct impacts on the marine ecosystem. In any case, it is not practically feasible to manage the marine environment (in the same way that the terrestrial environment can be managed, e.g. by planting trees, exterminating rats, or implementing grazing regimes). It is, however, feasible to manage human behaviour at sea. This is where marine conservation action has to be focused, so that is what the COs should focus on.

- This is in line with advice from the SAP. In paragraph 7.1.4. of their [final advice](#)²²⁷ (and repeated in paragraph 8.5.3.), they recommend an alternative approach to setting conservation objectives in the face of uncertainty: ‘[...] an alternative approach is recommended, where insufficient information is available at present to define the condition of features for which the MCZ is designated: Given that ecological change within rMCZs is inevitable, the stated goal should not be to return these areas to an unknown pre-existing state but to mitigate damaging practices within them.’
- As an example, a CO might state something like ‘Conservation objective for this MCZ: to protect this area and the features within it from activities causing significant direct physical impacts, such as x, y and z.’
- This would also have the advantage of allowing site management to be planned in conjunction with the site selection and drafting of conservation objectives, rather than kicking these difficult discussions ‘into the long grass’, thereby paving the way for a process that reduces or eliminates process-generated uncertainty with all its corrosive impacts.

7.7.5 Clarify MCZ management

- Section 6.5.11 details how problematic the on-going uncertainty about MCZ management is within the MCZ process. It is important to develop some clear, pragmatic MCZ management principles. This could go hand-in-hand with developing COs along the lines suggested in the previous point.
- Consider developing a list of activities *compatible* with MCZs, rather than a list of activities *not* compatible with MCZs. This would prevent loopholes (e.g. by modifying an activity slightly in order for it to be different from one listed as not compatible). This principle should be carried over into the development of byelaws or CFP measures.
- The upfront approach suggested in the previous point would enable the process of developing and implementing management measures to be more efficient. Rather than develop specific byelaws on a case-by-case basis, measures could be applied to several sites at the same time, thereby reducing the burdens on responsible authorities, and reducing the overall number of regulations in place. The regulatory environment would also be much simpler to navigate and understand for stakeholders.
- Permits should be used in a way that enables low-impact activities, particularly in inshore sites, encouraging a sense of local ownership, bearing in mind social and economic value of certain activities in local areas (the Cornish cove fishermen mentioned in section 6.5.11 would be an example). In other words, use the economic incentives that become possible once MCZ management requirements are clarified.

²²⁷ <http://www.defra.gov.uk/publications/files/sap-mcz-final-report.pdf>

7.7.6 Cross-sectoral stakeholder participation: 'Once More, With Feeling'

- The cross-sectoral platform of the Finding Sanctuary process brought a lot of benefits to the MCZ process. It did not resolve fundamental conflicts (based on different world views), but it created better understanding between sector representatives, established working relationships, and created a forum within which genuine compromises and synergies were sought (within the constraints of the process, as discussed throughout this document). In the current process, there is no incentive for stakeholders to seek such compromise. During the public consultation process that is about to start, it is highly likely that each sector will revert to fight exclusively for their own interest, irrespective of whether that is to the detriment of others. Given that no sites are yet designated, and no management has been decided, everyone will still consider that there is everything left to fight for. In the medium to long-term, **the process should seek to re-establish on-going, representative, cross-sectoral dialogue, in order to incentivise co-operation and compromise.**
- The stakeholder process should be genuinely inclusive, representative, and balanced. Bilateral engagement, ad-hoc groups, and public consultation do not incentivise cooperative behaviour.
- Endeavour to integrate with, build on, and support existing local and regional cross-sectoral platforms, where they already exist (e.g. estuary forums, coast forums).
- **Any future stakeholder process should be designed without a 'cliff'** of the sort experienced in the MCZ process – there should be continuity to the use of participative incentives (see section 5.2). Stakeholders are not a commodity to be 'dipped into' periodically, and establishing trust and relationships takes time. Once a group dissipates, the social capital generated through its existence is at risk. An on-going group with an on-going role **should ideally serve as a stakeholder platform for wider marine planning**, not just MCZs.
- If a stakeholder group is established as a 'task-and-finish' group, then it is important that the task they are given is a complete task from the stakeholders' perspectives. In the MCZ process, a lot of frustration and loss of engagement was created by the fact that they were asked to 'draw lines on maps', with management discussions happening in parallel / left inconclusive. There was a sense, at the end of Finding Sanctuary, that the 'important discussions' were still to be had in future, and the group would have no role in them.
- The stakeholder group has to have a **clear role** (including clear tasks) to focus on, and it has to wield genuine and significant influence. This has to be meaningful from the perspective of the participants, i.e. **there has to be something in it for them**. Otherwise, there is no focus to the group interactions, nor is there any incentive to participate and be constructive. Trying to retain complete control over outcomes from the top down will create tensions, so the courage is required to let the group fulfil its remit, within its defined parameters.
- Ensure that appropriate and **continuous, bespoke support** is provided to the stakeholder group, including the provision of information and data, appropriate (practical) guidance where necessary, facilitation, and open reporting (transparency matters).
- Continuity of membership is important to building and maintaining relationships, trust, and group dynamics. The same goes for the people providing support to the stakeholder group – continuity is important in order to build up trust.
- **Manage expectations.** As an example, be careful about using the word 'consensus'. Realistically, in a process dealing with controversial matters, it is very unlikely that

stakeholders with fundamentally opposing views will reach ‘consensus’. What *can* realistically be aimed for is a compromise, where people agree to an outcome on the basis that they can ‘live with it’, rather than it being something they would actively want to promote.

- Establish a clear, transparent, and preferably participative process for reviewing and amending the group membership and role (putting in place the necessary process elements for being adaptive).
- **Don’t shift the goalposts.** In the MCZ process, the stakeholder group were given the ENG as the benchmark against which their recommendations were assessed. With the shift to an ‘evidence-based’ approach, this benchmark is falling by the wayside, thereby undermining the work of the stakeholder groups. If amendments have to be made to the process in the face of changed circumstances, go through a clear and transparent process, as defined in the previous point.
- On any matters that fall under the remit of the stakeholder group, **do not let individuals, individual sectors, or lobby groups influence outcomes from outside the stakeholder platform.** That disempowers the group, and is a disincentive to cooperation. Arguably, this happened in the MCZ process, e.g. when the SNCBs ‘welcomed’ the establishment of MPAC, and they (and Defra) engaged in direct discussions with them while the regional projects were still operating^{228 229}.

7.7.7 Diversify the incentives used

- Following approach 2 would allow a great diversification of the incentives in use within the MCZ process. In addition to legal and interpretative incentives, the process should combine economic, knowledge, and participative incentives, as discussed in section 5.2.

7.7.8 Monitor MCZs

- Map out a clear impact monitoring strategy, both for environmental impacts as well as socio-economic impacts.
- If insufficient resource is available to monitor impacts at all sites in detail, monitor the impacts of representative subsets of sites.
- Monitor *activities* as well as impacts (in line with the [final SAP advice](#)²³⁰, section 7.2.1). Automated remote navigation and communication technology makes this a more realistic prospect to achieve for all sites than detailed impact monitoring. Activity monitoring can a) indicate effectiveness of a site (are impacts genuinely being reduced or removed through the designation and management measures?), and b) if done in real-time, form part of enforcement.
- Monitoring cycles should be timed in a way that ties in with any future review timetables, being mindful of the time it takes to process information, analyse it, and share it with the actors involved in the review process.

²²⁸ <http://jncc.defra.gov.uk/page-5222>

²²⁹ http://www.fishnewseu.com/index.php?option=com_content&view=article&id=2900:mpa-fishing-coalition-launched-in-london&catid=44:uk&Itemid=55

²³⁰ <http://www.defra.gov.uk/publications/files/sap-mcz-final-report.pdf>

7.7.9 Map out an effective review process (adaptive planning and management)

- Over time, better information and science will emerge. That includes basic scientific research, new offshore survey work, better access to existing information (where data ownership has, to date, proved to be a barrier), and data from MCZ monitoring. It is therefore important to keep the network under review.
- In order to maintain integrity of the network, and consistency with the ecosystem-based approach, review the network as a whole, rather than individual sites on a case-by-case basis.
- The review process should consider the ENG (as well as the network). Improved data (e.g. a better 'surrogate' habitat classification system, or improved species-area curves) may enable refinement and improvement of the ENG in future, i.e. a better translation of the seven network principles in Defra GN1 into pragmatic, quantitative design guidelines.
- The review process should consider the network configuration, i.e. location, number, and size of sites. In view of new data, is the network representative? Could it be more efficient?
- The review process should consider levels of protection within the sites. Based on monitoring data, are the levels of protection appropriate to the achievement of conservation objectives?
- The review process should consider management measures and their effectiveness. Are they being adhered to? Are enforcement models working?
- The review process should consider socio-economic developments, especially in view of developing marine plans. Are there new priorities and goals in other sectors that conflict with the network? Can amendments be made to accommodate them without compromising the ecological integrity? Can new synergies be found?
- The review process should give a significant role to a cross-sectoral stakeholder platform (or series of regional platforms).
- The review process should be an on-going process, with a timetable for a review every few years. This could integrate with the six-yearly reporting cycle required by the Marine Act.

7.7.10 Establish multidisciplinary expert advice panels

- The SAP membership in the MCZ process was limited to natural scientists, and the remit of the SAP was limited to providing advice on scientific questions. Because the SAP's expertise and remit were so narrowly defined, the panel could not engage fully in the wider range of practical and socio-economic considerations that led the stakeholder groups and regional project teams to embark on a particular approach or make particular decisions. At times, this meant that SAP advice could not be applied in practice. One example was highlighted in section 5.1.4, under incentive K4: The SAP initially recommended that the regional projects use the FisherMap data as a 'surrogate' for ecological value, favouring the selection of areas fished by a diversity of methods. This piece of advice was retracted following protests from regional project staff that this went against the purpose of why the data were collected in the first place (which was to better understand the distribution of fishing effort, and plan MCZs with minimum unnecessary negative impact on fishermen).
- A further disadvantage of the narrow remit of the SAP was that the project staff and stakeholders could only turn to the SAP if they had ecological / scientific questions. There

was no equivalent panel of experts for addressing legal, social, economic, governance, or even wider spatial planning questions.

- In future processes of a similar nature, it may be worth considering the establishment of cross-disciplinary expert panels, including natural scientists, spatial planning experts, economists, social scientists with relevant expertise, and legal experts. This would provide stakeholders and staff with a wider pool of expertise to draw upon, and make it easier for a process to effectively integrate different strands (e.g., in this case study, it may have been possible to better integrate the development of the impact assessment with the planning of the network configuration – see section 6.5.11). It would also allow each individual expert to learn about wider aspects and realities of the process they are being asked to provide advice to, thereby enabling cross-disciplinary learning, and making it possible for them to jointly ‘reality-check’ their input and provide more practical advice. Such a multidisciplinary approach may even act as an incentive for experts to participate.

7 Appendices

Appendix 1 Sources

Overview

The analysis of Finding Sanctuary presented in this report is based on material from five main sources:

- 1) The main author's first-hand experience of the Finding Sanctuary process
- 2) Independent observations of Finding Sanctuary's stakeholder meetings by Peter Jones
- 3) Finding Sanctuary's public record (meeting reports, process reports, final report and accompanying materials)
- 4) Grey literature and news relating to the MCZ project
- 5) Interviews with stakeholder representatives carried out in summer 2012

First-hand experience of the process

As stated in the cover note, the main author worked as Finding Sanctuary's MPA planner from the start of the project's pilot phase in 2007 until the project's end in October 2011. This has given her first-hand experience and an in-depth understanding of the regional project. She attended most of the project's stakeholder meetings.

Independent observations

Peter Jones attended most of Finding Sanctuary's stakeholder meetings as an independent observer. His notes and observations serve to add detail and richness to the official meeting record, and offer analytical insights. The observer's notes are not specifically referred to as documents in this report, but table A1.1 highlights the meetings at which the observer was present.

Finding Sanctuary's public record

Finding Sanctuary strived for transparency, and published a record of all its stakeholder meetings as the project progressed, in addition to progress reports, and the project's final report with its accompanying materials (including a full set of maps used during the project). For this analysis, the author's own experience and the independent observations were anchored within a document analysis of most of the materials produced by the project.

Many of the quotes that are included in the analysis are taken from the meeting reports of the Inshore, Offshore, and Joint Working Groups (IWG, OWG and JWG), and of the regional Steering Group (SG). Table A1.1 contains a chronological list of the meetings of these groups (Local Group meetings are not included in the table, as the related reports are not specifically quoted in this analysis). At the time of writing, the quoted reports can all still be accessed via the project's website (www.finding-sanctuary.org / <http://tna.europarchive.org> / <http://www.finding-sanctuary.org/>).

Any reference to a specific meeting should be read as a reference to the published report of that meeting, generally using the abbreviations shown in table A1.1 (e.g. 'IWG3' means the third Inshore Working Group meeting).

Table A1.1 Colour-coded chronological list of meetings held by the Inshore Working Group, Offshore Working Group, Joint Working Group, and Steering Group. There is a published meeting report for each one, which was analysed in depth for this report, and which is referred to in the text by the meeting abbreviation indicated in this table. Presence of Peter Jones (as an independent observer of the process) is also indicated for each meeting, his notes were also drawn on in this analysis. There were additional stakeholder meetings during Finding Sanctuary (Local Group meetings), these are not included here as their reports were not analysed to the same degree of detail, and are not referred to in this report.

Date	Meeting name	Meeting Abbreviation	Independent observer present
Sept 28th, 2009	Steering Group induction meeting	SG induction	No
Nov 24th, 2009	First Steering Group meeting	SG1	No
Feb 2nd, 2010	Second Steering Group meeting	SG2	No
April 7th, 2012	First Offshore Working Group meeting	OWG1	No
April 27th, 2010	First Inshore Working Group meeting	IWG1	No
May 6th, 2010	Second Offshore Working Group meeting	OWG2	yes
June 9th, 2010	Third Steering Group meeting	SG3	yes
June 17th, 2010	Third Offshore Working Group meeting	OWG3	yes
June 28th, 2010	Second Inshore Working Group meeting	IWG2	yes
July 21st, 2010	Fourth Offshore Working Group meeting	OWG4	yes
July 27th, 2010	Third Inshore Working Group meeting	IWG3	yes
September 8th, 2010	Fifth Offshore Working Group meeting	OWG5	yes
September 9th, 2010	Fourth Inshore Working Group meeting	IWG4	yes
October 7th, 2010	Fourth Steering Group meeting	SG4	yes
October 14th, 2010	Sixth Offshore Working Group meeting	OWG6	yes
October 20th, 2010	Fifth Inshore Working Group meeting	IWG5	yes
November 18th, 2010	Seventh Offshore Working Group meeting	OWG7	yes
November 22nd, 2010	Meeting between IWG members and external experts, prior to IWG6	IWG expert workshop	yes
November 24th, 2010	Sixth Inshore Working Group meeting	IWG 6	yes
December 8th, 2010	Seventh Inshore Working Group meeting	IWG 7	yes
December 15th, 2010	First Joint Working Group meeting	JWG 1	yes
January 13th, 2011	Second Joint Working Group meeting	JWG 2	yes
February 10th, 2011	Fifth Steering Group meeting	SG5	yes
March 9th & 10th, 2011	Third Joint Working Group meeting	JWG 3	yes
April 6th and 7th, 2011	Fourth Joint Working Group meeting	JWG 4	yes
May 5th, 2011	Fifth Joint Working Group meeting	JWG 5	yes
May 24th, 2011	Drop-in day for Steering Group members wishing to get a progress update from JWG members	SG drop-in	No
June 14th, 2011	Sixth Joint Working Group meeting	JWG 6	yes
July 26th, 2011	Sixth (and final) Steering Group meeting	SG6	yes

In addition to the above meeting reports, this document also often refers to 'Finding Sanctuary's final report', or 'Finding Sanctuary's final recommendations'. The full citation for this document is:

Lieberknecht, L.M.; Hooper, T.E.J.; Mullier, T.M.; Murphy, A.; Neilly, M.; Carr, H.; Haines, R.; Lewin, S.; and Hughes, E. (2011) *Finding Sanctuary final report and recommendations*. A report submitted by the Finding Sanctuary stakeholder project to Defra, the Joint Nature Conservation Committee, and Natural England. Available at www.finding-sanctuary.org/ / The UK National Archives http://tna.europarchive.org/*/http://www.finding-sanctuary.org/

The report should remain accessible via the archived version of Finding Sanctuary's website on the above link for the foreseeable future. At the time of writing, Finding Sanctuary's final report is also available to download in sections via [this](#)²³¹ JNCC webpage (the [full document](#)²³² is a 45 MB PDF file).

Finally, this document also makes reference to Finding Sanctuary's 'progress reports'. There were three progress reports, which were written at the end of each planning iteration, in order to inform the SAP of the progress the stakeholder group was making towards finalising its MCZ recommendations. The progress reports were published on the following dates:

- Finding Sanctuary's first progress report, submitted to the SAP on June 30th, 2010; version with cover note and one correction published on July 12th, 2010
- Finding Sanctuary's second progress report, October 29th, 2010
- Finding Sanctuary's third progress report, February 28th, 2011

The second and third progress reports were accompanied by an extensive set of additional materials, such as maps and data tables (as was the final report). The project's stakeholder meeting reports, progress reports, and final report (plus additional materials) can currently all be accessed [here](#)²³³. The stakeholder meeting reports and progress reports are accessible via the last link on the page. The reports can also be accessed or [here](#)²³⁴, Finding Sanctuary's website, which remains live at the time of writing – in future, this will continue to be accessible via the [UK's National Archives](#)²³⁵.

Grey literature and news

The document analysis underpinning this report extended to grey literature, websites, and news articles. Websites and news reports are linked to in footnotes throughout the text, where possible (not all news articles are available online). Documents in the grey literature are listed separately in appendix 3.

Stakeholder interviews

In June, July and August 2012, semi-structured interviews were carried out with 23 of the 42 former Finding Sanctuary Steering Group members. The interview methods, questions, and key outcomes are covered in appendix 4.

²³¹ <http://jncc.defra.gov.uk/page-6230>

²³² http://jncc.defra.gov.uk/PDF/120718_FindingSanctuary_FinalReport_14Sep2011.pdf

²³³ <http://findingsanctuary.marinemapping.com/>

²³⁴ <http://www.finding-sanctuary.org/page/resources.html>

²³⁵ <http://www.nationalarchives.gov.uk/>

Appendix 2 Reference list

This lists peer-reviewed publications and non-peer reviewed research reports. Government documents and other grey literature references with specific relevance to the MCZ process are listed separately in Appendix 3, so if you can't find a reference here, look there.

Airamé, S., Dugan, J. E., Lafferty, K. D., Leslie, H., McArdle, D. A. & Warner, R. R. (2003) Applying ecological criteria to marine reserve design: a case study from the California Channel Islands. *Ecological Applications* **13**, S170-S184.

Appleby T. and Jones P.J.S. (2012) The marine and coastal access act - A hornets' nest? *Marine Policy* **36**(1), 73-77. <http://www.sciencedirect.com/science/article/pii/S0308597X11000686>

Ball, I.R., H.P. Possingham, and M. Watts. 2009. Marxan and relatives: Software for spatial conservation prioritisation. Chapter 14: Pages 185-195 in [Spatial conservation prioritisation: Quantitative methods and computational tools](#). Eds Moilanen, A., K.A. Wilson, and H.P. Possingham. Oxford University Press, Oxford, UK.

Cabeza, M. & Moilanen, A. (2001) Design of reserve networks and the persistence of biodiversity. *Trends in Ecology and Evolution* **16**, 242-248.

Coote (2010) *Cutting it: The 'Big Society' and the new austerity*. A report by the New Economics Foundation. http://neweconomics.org/sites/neweconomics.org/files/Cutting_it.pdf

Day, J., Fernandes, L., Lewis, A., De'Ath, G., Slegers, S., Barnett, B., Kerrigan, B., Breen, D., Innes, J., Oliver, J., Ward, T. J. & Lowe, D. (2002) The Representative Areas Program for Protecting Biodiversity in the Great Barrier Reef World Heritage Area. *Proceedings of the Ninth International Coral Reef Symposium, Bali, Indonesia, 2000*.

Day, J., Tanzer, J., Fernandes, L., Chadwick, V. & Jago, B. (2005) The relative roles of science, public participation and political support in rezoning the Great Barrier Reef. *Conservation Biology* **19**, 1733-1744.

De Santo E.M. and Jones P.J.S. (2007) Offshore marine conservation policies in the North East Atlantic: emerging tensions and opportunities. *Marine Policy* **31**(3), 336-347
<http://www.homepages.ucl.ac.uk/~ucfwpej/pdf/Tensions%20Marine%20Policy.pdf>

des Clers, S.; Lewin, S.; Edwards, D.; Searle, S.; Lieberknecht, L. and Murphy, D. (2008) *FisherMap – Mapping the Grounds: recording fishermen's use of the seas*. A report published by Finding Sanctuary. http://findingsanctuary.marinemapping.com/06_all%20project%20reports/Fishermap%20report%20November%202008.pdf

European Environment Agency (2012) *Protected areas in Europe – an overview*. EEA Report No 5/2012 ISSN 1725-9177 <http://www.eea.europa.eu/publications/protected-areas-in-europe-2012>

Evans, S. M. J., Jamieson, G., Ardron, J., Patterson, M. & Jessen, S. (2004) *Evaluation of Site Selection Methodologies for Use in Marine Protected Area Network Design*. Department of Fisheries and Oceans, Nanaimo, BC, Canada.

Fleming D.M. and Jones P.J.S. (2012) Challenges to achieving greater and fairer stakeholder involvement in marine spatial planning as illustrated by the Lyme Bay scallop dredging closure. *Marine Policy* **36**(2), 370-377.
<http://www.sciencedirect.com/science/article/pii/S0308597X11001217>

Jones, PJS, Qiu W, and De Santo EM (2011): *Governing Marine Protected Areas - Getting the Balance Right*. Technical Report, United Nations Environment Programme. ISBN: 978-92-807-3159-0
<http://www.unep.org/ecosystemmanagement/Portals/7/governing-mpas-final-technical-report-web-res.pdf>

- Jones P.J.S. (2012) Marine Protected Areas in the UK: challenges in combining top-down and bottom-up approaches to governance. *Environmental Conservation* **39**(3), 248-258. Open Access, <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8676550>
- Leslie, H., Ruckelhaus, M., Ball, I. R., Andelman, S. & Possingham, H. P. (2003) Using siting algorithms in the design of marine reserve networks. *Ecological Applications* **13**, S185-S198.
- McBreen, F., Askew, N., Cameron, A., Connor, D., Ellwood, H. & Carter, A. 2011. UKSeaMap 2010: Predictive mapping of seabed habitats in UK waters. *JNCC Report*, No. 446. http://jncc.defra.gov.uk/PDF/jncc446_web.pdf
- OSPAR (2005) *Guidance on developing an ecologically coherent network of OSPAR marine protected areas*. OSPAR Commission, Summary Record MASH. 2005Document MASH 05/8/1-E, Annex 7.
- Ostrom E (1999) Coping with tragedies of the commons. *Annual Review of Political Science* **2**, 493-535.
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- Partnership for Interdisciplinary Studies of Coastal Oceans (2011). *The Science of Marine Reserves* (2nd Edition, Europe). 22 pages. http://www.piscoweb.org/files/file/science_of_marine_reserves/SMR_EU-web-FINAL.pdf
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- Pugh, D. (2008) *Socio-economic Indicators of Marine-related Activities in the UK economy*. The Crown Estate, 68 pages. http://www.abdn.ac.uk/mrm/publication/socio_economic_uk_marine.pdf
- Pugh & Skinner (2002) A new analysis of marine-related activities in the UK economy with supporting science. IACMST report no. 10. <http://www.marine.gov.uk/publications/NEWMARSURVACRO.PDF>
- Qiu, W. and Jones, P.J.S. (2013) The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* **39**, 182–190 http://ac.els-cdn.com/S0308597X12002084/1-s2.0-S0308597X12002084-main.pdf?_tid=a5103dca-58ec-11e2-9d43-00000aacb362&acdnat=1357578598_f9ef4fdf999936b7709b5ef8aa3a9b55
- Roberts, C. M., Branch, G., Bustamante, R. H., Castilla, J. C., Dugan, J. E., Halpern, B. S., Lafferty, K. D., Leslie, H., Lubchenco, J., McArdle, D. A., Ruckelhaus, M. & Warner, R. R. (2003) Application of ecological criteria in selecting marine reserves and developing reserve networks. *Ecological Applications* **13**, S215-S228.
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Vincent, M., Atkins, S., Lumb, S., Golding, C., Lieberknecht, L. M. & Webster, M. (2004) *Marine nature conservation and sustainable development-the Irish Sea Pilot*. Peterborough, UK, JNCC.
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<http://www.maritimestudiesjournal.com/content/11/1/6>

Appendix 3 List of MCZ-related grey literature

There is some important grey literature that has relevance for the MCZ project. A lot of it was generated specifically as part of the MCZ project, largely consisting of guidance written by the SNCBs or Defra. The list provided here is not exhaustive, but it gives the full references of the documents that are referred to repeatedly throughout this document. Some of them are referred to by abbreviations, as they are such key elements of the process- where this is the case, the abbreviation is given in brackets.

Peer-reviewed articles and non-peer reviewed research reports are listed separately in Appendix 2, so if you can't find what you are looking for here, have a look there.

Department of Energy and Climate Change (2011a) *Overarching National Policy Statement for Energy (EN-1)*

<http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/consents-planning/nps2011/1938-overarching-nps-for-energy-en1.pdf>

Department of Energy and Climate Change (2011b) *National Policy Statement for Renewable Energy Infrastructure (EN-3)*

<http://www.official-documents.gov.uk/document/other/9780108510793/9780108510793.pdf>

Department of Energy and Climate Change (2011c) *UK Renewable Energy Roadmap*

http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/re_roadmap/re_roadmap.aspx#

Department for Transport (2011) *National Policy Statement for Ports*

<http://assets.dft.gov.uk/publications/national-policy-statement-for-ports/111018-ports-nps-for-das.pdf>

Defra (2010) *Guidance on selection and designation of Marine Conservation Zones (Note 1). Guidance on the proposed approach to the selection and designation of Marine Conservation Zones under Part 5 of the Marine and Coastal Access Act (Defra GN1)*

<http://archive.defra.gov.uk/environment/biodiversity/marine/documents/guidance-note1.pdf>

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http://ec.europa.eu/fisheries/documentation/publications/pcp2008_en.pdf

Finding Sanctuary, Irish Seas Conservation Zones, Net Gain and Balanced Seas (2012) *Impact Assessment materials in support of the Regional Marine Conservation Zone Projects' Recommendations (IA)*

<http://publications.naturalengland.org.uk/publication/2071071?category=1730361>

Graham-Bryce, I (2011) *Independent review of the evidence process for selecting marine special areas of conservation (the SAC evidence review report)*

<http://www.defra.gov.uk/publications/files/pb13598-graham-bryce-independent-review-marine-sacs-110713.pdf>

HM Government (2009) *The UK Renewable Energy Strategy*

http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/energy%20mix/renewable%20energy/renewable%20energy%20strategy/1_20090717120647_e_@@_theukrenewableenergystrategy2009.pdf

HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government (2009) *Our seas – a shared resource. High level marine objectives*.

<http://archive.defra.gov.uk/environment/marine/documents/ourseas-2009update.pdf>

HM Government, Northern Ireland Executive, Scottish Government, Welsh Assembly Government (2011) *UK Marine Policy Statement*. London: The Stationery Office
<http://www.defra.gov.uk/publications/files/pb3654-marine-policy-statement-110316.pdf>

Independent Expert Review Group (2012) *Review of the SNCBs advice to Defra on rMCZs*.
<http://www.defra.gov.uk/publications/files/pb13812-sncb-advise-review.pdf>

JNCC and Natural England (2010a) *Marine Conservation Zone Project - Ecological Network Guidance. (ENG)*
http://www.naturalengland.org.uk/Images/100608_ENG_v10_tcm6-17607.pdf
http://jncc.defra.gov.uk/pdf/100705_ENG_v10.pdf

JNCC and Natural England (2010b) *Marine Conservation Zone Project - Draft Marine Conservation Zone Reference Area Guidance Document for Regional MCZ Projects. (draft reference area guidance)*
http://www.naturalengland.org.uk/Images/MCZ-regional-guidance_tcm6-23451.pdf

JNCC and Natural England (2010c) *Marine Conservation Zone Project - Delivering the Marine Protected Area Network -Project Delivery Guidance on the process to select Marine Conservation Zones. (PDG)*
<http://jncc.defra.gov.uk/PDF/Project%20Delivery%20Guidance%20FINAL%20020710%20secure.pdf>

JNCC and Natural England (2010d) *Marine Conservation Zone Project - Additional guidance for regional MCZ projects on planning for areas where licensed, planned or existing socio-economic activities occur*
http://jncc.defra.gov.uk/PDF/MPA_300710_MCZsWhereLicensedPlannedOrExistingActivitiesOccur.pdf

JNCC and Natural England (2011a) *Marine Conservation Zone Project - Conservation Objective Guidance (COG)*
<http://jncc.defra.gov.uk/PDF/MCZ%20Project%20Conservation%20Objective%20Guidance.pdf>

JNCC and Natural England (2011b) *Marine Conservation Zone Project - Levels of evidence required for the identification, designation and management of Marine Conservation Zones (levels of evidence guidance)*
http://www.naturalengland.org.uk/Images/MCZ-evidence_tcm6-26491.pdf

JNCC and Natural England (2011c) *General advice on assessing potential impacts of and mitigation for human activities on MCZ features, using existing regulation and legislation - Advice from the Joint Nature Conservation Committee and Natural England to the Regional MCZ Projects*
http://www.naturalengland.org.uk/Images/activities-advice_tcm6-26819.pdf

JNCC and Natural England (2012a) *SNCB MCZ Advice Project –Assessing the scientific confidence in the presence and extent of features in recommended Marine Conservation Zones (Technical Protocol E)*
http://jncc.defra.gov.uk/pdf/120111_SNCB%20MCZ%20Advice_Protocol_Feature%20Evidence%20V5.0.pdf

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Appendix 4 Summer 2012 stakeholder interviews

A4.1 The interview process

This appendix summarises the methods and key emerging themes of semi-structured interviews that were carried out by the lead author with 23 former members of the Finding Sanctuary Steering Group in June, July and August 2012. Interview participants ranged across the spectrum of sectoral interests that were represented on Finding Sanctuary.

All former Steering Group members were contacted by email, asking whether they would be willing to be interviewed. The email contained an attachment which explained some background about MESMA, and which contained the interview outline. The email attachment is reproduced in full in section A4.2.

The number of responses to the initial email was small, so follow-up phonecalls were made with specific individuals, with the aim of ensuring interviews with a cross-section of the group. The group of people that were interviewed consisted of:

- Four representatives of recreational activities, covering national organisations as well as local private business
- representatives of both SNCBs, a regulatory agency, and two other Government-related bodies (non-environmental)
- two environmental NGO representatives
- two representatives of regulated offshore industry
- a science representative
- five representatives of the fishing industry, covering a geographic spread around the region's coastline, and including offshore (large vessel) as well as inshore (small vessel) representatives, and regional as well as national federations.
- Four Local Group representatives

The next section (A4.2) reproduces the exact information that was sent out to the former Steering Group as part of the invitation to participate in the interviews. It covers basic background of the MESMA project, an outline of the interview itself, and a description of what would happen during the interviews, and to the information provided by stakeholders. Section A4.3 is a summary of the emerging themes from the interviews.

A4.2 Background information and interview outline, as provided to interviewees

University College London's MESMA research into Finding Sanctuary and England's Marine Conservation Zone (MCZ) process

What's this document?

This document was prepared in May 2012 by Louise Lieberknecht, a research associate in the Department of Geography at University College London (UCL). It provides information about research being carried out by UCL into Finding Sanctuary and England's on-going MCZ process. It is aimed at former members of Finding Sanctuary's Steering Group (SG), who are being asked for input into UCL's research by sharing reflections on the on-going MCZ process. This will be through telephone interviews in the first instance, and – for those who are able to attend – a one-day workshop in Nov 2012.

What's MESMA?

'MESMA' (www.mesma.org) is a European-funded academic research project on the 'Monitoring and Evaluation of Spatially Managed Marine Areas', focussing on Marine Spatial Planning (MSP). The project involves 21 partners (universities & research institutions), from 13 European countries. The MESMA project started in November 2009 and will finish in October 2013.

The MESMA partners are analysing a series of MSP case studies across Europe's seas. The case studies are actual MSP processes, e.g. marine protected area initiatives and/or renewable energy developments that are taking place in the real world. UCL's 'local' case study is Finding Sanctuary, which we are analysing within the context of England's wider on-going MCZ and MSP processes.

Some of the MESMA partners play a direct role in their local case studies, e.g. as advisers to the relevant authorities and decision-makers. Others (like UCL) are independent observers of their local case studies.

What's UCL's role in MESMA?

The MESMA project is divided into several work packages, each one led by a different partner. Peter Jones, of the Department of Geography at UCL, is leading a work package on governance. This fits in with his on-going research at UCL, which focuses on governance related to MSP and marine protected areas, both in the UK and globally.

The MESMA governance work package aims to analyse the process taking place in each MESMA case study: the legal context and social /economic drivers, the people & institutions involved, their roles & interrelationships, conflicts, levels of top-down state control & stakeholder participation, etc.

UCL has developed a governance analysis framework - essentially a set of guidelines and headings for an MSP governance analysis. This framework is currently being applied by the different MESMA project partners to their local case study. By late 2012, there will be a governance analysis for each case study, based on a consistent approach.

Next year (2013), when all partners have completed their individual governance analyses, UCL will be able to carry out a comparison between case studies. The aim is to begin to understand key commonalities and key differences between MSP processes in different parts of Europe, and factors that tend to lead to successes or failures in MSP governance. In the meantime, UCL is focussing on a

governance analysis of its own 'local' case study: Finding Sanctuary and the wider MCZ process in England.

What's the governance analysis about?

The governance analysis aims to understand and describe the *processes* that are being undertaken. Amongst others, the analysis explores the following themes:

- Organisations, institutions and people involved in the process, their roles and relationships, and how those roles have been evolving or changing through the process
- Conflicts emerging during the process, and the driving forces behind the conflicts
- Key factors that affect the process, e.g. uncertainty; how those factors impact on the process, and ways in which they are addressed
- The incentives that are being used (or have been / will be used) to encourage people to behave in particular ways, e.g. to participate in the process, to share information, and (ultimately) to change behaviour on the ground
- How top-down state control and participative approaches have been combined.

The governance analysis is *not* concerned with evaluating the *content* of the MCZ recommendations that emerged from Finding Sanctuary, i.e. whether the rMCZs configuration is 'right' or 'good enough', whether it represents the right combination of habitats & species, whether the evidence underpinning the site recommendations is 'good enough', or what the impacts of MCZs might be. It is focused on the governance processes that led to these recommendations and on the subsequent processes within the MCZ project.

Who at UCL is involved in this work?

Finding Sanctuary's former Steering Group members will be aware that Peter Jones has been observing the MCZ process (Finding Sanctuary in particular) since early 2010. Louise Lieberknecht joined Peter as a research associate on the MESMA project after her job as Finding Sanctuary's MPA planner finished in October 2011. Another research associate, Wanfei Qiu (Feifei), also works on the MESMA governance work package.

Does UCL's research have anything to do with the official MCZ process?

UCL is an observer of the MCZ process, not a participant in it. We hope that the analysis will help lessons to be learnt from Finding Sanctuary and the on-going MCZ process, that it will be widely read, and that it will help improve MSP-related governance in future. However, we think it's unlikely that it will have any influence on the current process.

Why does UCL want input from former Finding Sanctuary Steering Group members?

The governance analysis has to be based on solid information about the process. We are aiming to understand and describe the process as comprehensively as possible (i.e. based on materials that reflect multiple perspectives).

We have plenty of material available for the regional project phase of the MCZ process: e.g. Finding Sanctuary's project reports and our own observations of the process, which (given the participative nature of the project) provide us with an understanding of the perspectives of a wide range of stakeholders.

However, we have much less material for the period since the end of Finding Sanctuary. *We would like an up-to-date understanding of how the continuing process is unfolding from the perspectives of multiple stakeholders, particularly those who put a lot of time and effort into developing MCZ recommendations.* This will help us tell as much of the ‘whole story’ of the Finding Sanctuary & MCZ process as we can (within the time constraints of the MESMA project, which finishes in 2013).

What does UCL want former SG members to do?

We are asking former SG members to input into our research in two ways:

- by participating in one-to-one phone interviews (in June / July 2012)
- by participating in a cross-sectoral workshop on November 7th, 2012 (at Exeter Racecourse)

People can participate in the interviews without committing themselves to the workshop.

In the phone interviews, we will ask about the level of involvement (or non-involvement) that former SG members have had in the MCZ process since summer 2011, about how clear the on-going MCZ process is from different perspectives, and about whether there are any other reflections on the process that former SG members would like to share with us (or with each other).

The workshop (which will be facilitated by Rob Angell) will focus on sharing reflections on the process. It will be planned in more detail after the interviews, so there is no detailed plan available at the moment. We would like as many people to participate as possible, in order to get a representative set of perspectives.

What will the interviews be like?

Louise will arrange a convenient time to call you in June or July 2012 (the interview will take about an hour or so).

The interview will be ‘semi-structured’, which means that there is a rough outline of questions to cover (see appendix 1) – but it’s more of a checklist of topics to cover than a rigid questionnaire. There will be room for the conversation to cover specific issues in more detail, for questions to be added, and for you to add reflections that you think are important and relevant.

What will happen to the interview material?

The interviews will, with your permission, be recorded, so that Louise can focus on the conversation while the interview is taking place, without trying to write notes at the same time (notes can be written more easily following the interview, by listening to a recording that can be paused). The recordings will be stored in a locked filing cabinet in an office at UCL.

The notes from each interview will be written up in an anonymous form, and will be stored on UCL’s computer network. Each interviewee will be sent a copy of the notes from their interview, so they can check them and provide feedback if they wish.

The interviews will ultimately feed into several outputs:

- a summary document with the key emerging messages from all interviews combined – this may be shared with other stakeholders before the workshop we are planning to hold in November

- a MESMA case study report (the governance analysis on Finding Sanctuary & the MCZ process, this will be shared widely including the European Commission & MESMA partners across Europe)
- a MESMA final report on the governance work package (comparative analysis of governance across all the MESMA case studies, again shared widely including across MESMA partners & the EC)
- peer-reviewed papers in academic journals, about the MCZ process, and/or about marine spatial planning approaches in different parts of Europe

These outputs may make reference to the interviews, but always anonymously i.e. no interviewee names will appear.

Appendix 1 Outline of interview questions

- What is your understanding about what is / has been going on in MCZ process since the final SG meeting?
- Have you been contacted by anyone (since the end of Finding Sanctuary) to be informed about any aspect of the on-going process?
 - (if yes) By whom? What did they inform you about?
- Have you made an effort to follow developments since the last RSG?
 - (if yes) What has that consisted of, and how easy has it been?
 - (if no) Any particular reason why not?
- Have you been asked for any input into the MCZ process since the last SG meeting?
 - (if yes) What sort of input have you been asked for, and by whom?
- Have you had any input or active involvement?
 - (if yes) What input or involvement have you had?
- Do you feel like you have a full understanding of what the MCZ process is at the moment? (i.e. who is involved, what roles they are playing / what work they are doing, what the timelines are)
- Do you feel like you have a full understanding of what the MCZ process will be in future? (including beyond the decisions next year, into the stages of implementation, management, enforcement & monitoring of MCZs)
- Are you planning on being involved in the public consultation, i.e. submitting a response?
- Are you planning on being involved beyond the consultation / designation? How?
- Do you still feel that the site proposals are *your* recommendations? If so/not, why?
- Have you had any interactions with other stakeholders / other former SG members since the last SG meeting in relation to the MCZ process? If yes, how/why?
- Has the process since the last SG meeting had any impact on conflicts that you are aware of? (Has the process addressed conflicts? Has it exacerbated conflicts?)
- Are there any messages you would like to say to other stakeholders?
- What do you think about the Government's role in the MCZ process?
- How do you think the process will proceed and what do you think are the prospects?
- Is there anything else you would like to say about the on-going MCZ process?

A4.3 Summary of interview themes

The summary of emerging themes from the interviews is provided as a hierarchical bullet list. Some of the main headings summarise comments that were made directly and repeatedly by a large proportion of interviewees, or they summarise an emerging theme that becomes clear when looking across the full range of responses (i.e. the headings reflect some degree of analysis of the full set of responses, rather than simply reproducing statements made by stakeholders). The bullet points beneath the main headings provide detail to illustrate the point in the heading by summarising more specific points made by a smaller number of people, or individuals.

Points 1-5: communication, transparency, clarity of current and future MCZ process

- 2) Communication about the current national process is ad-hoc and disjointed, and not everyone has equal level of access to information
 - a. since the end of Finding Sanctuary, there has been a lack of a 'central point' for accessing clear and authoritative information about the MCZ process, or to access an overview of the whole process
 - b. there has been no clear effort to keep the full range of stakeholders (including all people who participated in the regional project) engaged and informed, neither nationally nor regionally
 - c. The official MCZ newsletter is described as 'infrequent', 'bland', 'superficial', and 'aimed at the general public'. There was a sense in some comments that 'stakeholders who put so much in to the regional process are owed more'.
 - d. from the range of interviews, it emerges that there has been a range of ad-hoc meetings at regional and national level where MCZs have been discussed, e.g. ministerial visits / meetings with specific stakeholders, and SNCB meetings with specific stakeholders
 - e. existing forums often have MCZs as agenda point, but not all sh have access – unequal, national sh favoured, 'professional' sh favoured
 - f. It takes a lot of effort and time to keep up to date, even for those with good access to national forums, not everyone can invest it

- 3) As a result of point 1, there is big variation in amount of knowledge about current process
 - a. basic facts that most people seem to know:
 - i. there has been a significant delay in the process
 - ii. there will be a public consultation at the end of this year (2012)
 - iii. sites will be designated in tranches, though it is not clear how many will be in the first tranche, or on what criteria they will be selected - many suspect those with the highest levels of underpinning evidence will go forwards first
 - iv. first MCZs will be designated in summer 2013
 - v. management measures / activity restrictions will be decided upon later, the process is not clear in detail but IFCA's & MMO have something to do with it, possibly also the SNCBs (the degree of knowledge varies significantly, but the detailed process is genuinely unclear, not yet mapped out)
 - vi. something is happening with evidence (the degree of knowledge about the evidence reviews varies **enormously** – almost no-one understands the entire process)

- 4) The current process lacks clarity and transparency
 - a. The process seems unclear (who is involved, what are they doing)
 - i. what are SNCBs doing during the 'gap' (between the end of the regional projects and the delivery of their advice to Defra), and who is doing it (knowledge varies a lot)
 - ii. what are Defra doing in between receiving the SNCB advice and the public consultation
 - iii. ad-hoc meetings (see 1d above): not transparent, i.e. not always public knowledge which meetings have taken place and who attended, or what was discussed (agenda and/or minutes); no central place where people can find out about meetings relating to MCZs, no 'register', no coordination
 - b. There is little or no information about what is happening to the substance of the recommendations:
 - i. which sites will go forward
 - ii. how many
 - iii. will there be changes to the recommendations made by the regional projects
 - iv. what criteria will tranching be based on
 - v. management / activity restrictions in MCZs (see below)

- 5) The future process is uncertain
 - a. The implementation process for the first tranche of MCZs is not mapped out , especially the process for determining management /activity restrictions
 - i. there is a varying degree of understanding of the basics of the implementation process (role of IFCAs, MMO, EA, SNCBs)
 - ii. expectation that it will be long and complex
 - iii. stakeholder role is unclear / expected they will play no role
 - iv. concern about lack of resource available, especially to IFCAs, to fulfil their MCZ obligations
 - b. future tranches
 - i. will they happen?
 - ii. when?
 - iii. what process?
 - iv. if not, what does that mean for eco coherence [*status of ENG??*]

- 6) There is a lack of clear leadership of the MCZ process
 - a. comments vary, they include:
 - i. process piecemeal
 - ii. no-one championing MCZs or stakeholder recommendations
 - iii. no coordination of communication (see point 1)
 - iv. no-one is clearly in charge of process
 - v. no-one is taking responsibility, it's always 'that's not my/our responsibility, but theirs over there'

- b. when comparing statements across interviews, the ad-hoc nature of meetings where MCZs are discussed is apparent, because different respondents refer to different events and forums

Points 6-9: Change in nature of process, end of stakeholder phase

- 7) Since the end of Finding Sanctuary's stakeholder phase, there has been a shift to a different process:
 - a. Finding Sanctuary generated social capital (trust, relationships, progress made, ownership). This was valued a lot by most, although several stated that it took a lot of resource (time, especially).
 - b. Since the end of Finding Sanctuary, there's been a hiatus, pause in process, 'radio silence' - this felt abrupt to many even when it was foreseen
 - c. removal of role for stakeholders is resulting in current lack of ownership ('they are no longer my/our recommendations'), and loss of social capital
 - d. sense that stakeholder input is not valued in the current process, and that recommendations will not be listened to
 - e. there is currently no clear 'way in' to the process for stakeholders, and this is mirrored by lack of interest / cynicism by many
 - f. sentiments range from disempowerment, frustration, anger, cynicism to sanguine acceptance (latter more for people less affected by MPAs, people who invested less in the process, or people who still have access to good info compared to others)

- 8) Stakeholder representatives miss Finding Sanctuary's Steering Group as a regional 'marine hub'
 - a. some legacy (in terms of relationships persisting), but very limited without on-going provision of regional platform
 - b. regret that group no longer exists, relationships & trust dissipating
 - c. knowledge has been lost from the MCZ process because there is no more Steering Group and no more regional project team
 - d. understanding of issues / positions of other sectors is diminishing
 - e. it is only useful to have a cross-sectoral group like the SG if it has a formal role / task to focus on within a process (existing cross-sectoral forums e.g. coast forums lack this)

- 9) Rumours, conjecture, and myths are circulating – both on the MCZ process and on its likely outcomes (e.g. which / how many sites will go forward), because of:
 - a. Lack of regional project team as a regular source of authoritative info
 - b. stakeholder process end
 - c. communication issues, ad-hoc, unequal (point 1)
 - d. genuine lack of clarity & coordination in current and future process (points 3 and 4)

- 10) Lobbying and retrenchement
 - a. many interviewees mention 'hardening' of stances they have observed,
 - i. many regretted the fact this is happening,

- ii. usually seen as a consequence of having had the process ‘taken away’ from stakeholders and a lack of a cross-sectoral platform in the current process
- b. key conflict is seen between conservation and commercial fisheries
- c. most people have at least some vague awareness of NGO campaigns,
 - i. they often don’t know the detail
 - ii. the NGO stance (‘designate all 127 recommended MCZs’) is seen by several interviewees as ‘extreme’, non-constructive and divisive (including by some interviewees close to conservation)
 - iii. NGOs are baffled / cannot comprehend why their view should be seen as ‘extreme’ – they see themselves as pushing forward regional project recommendations that had been developed in collaboration across sectors (‘championing stakeholder recommendations), and in compliance with SNCB’s ENG, they feel ‘cheated’ by process
 - iv. NGOs are seen as powerful by fishing representatives and one or two others (those with experience of SAC process & knowledge of ClientEarth / MCS challenge)
- d. many know about MPAC
 - i. seen as powerful and effective (including by MPAC themselves)
 - ii. seen as ‘extreme’ by most (except MPAC)
 - iii. often seen negatively / as undermining the process

Points 10-12 Evidence review

- 11) Work which is happening /has happened relating to reviewing evidence [*Pieced together from several interviews, including of people who have very close involvement in the process*]
- a. SAP evidence review
 - i. in final SAP feedback
 - ii. site-specific ‘evidence’ scores
 - iii. ‘scored’ based on number of citations in the site reports contained in the final reports of the regional projects, amongst other things
 - iv. rough, not applicable to individual conservation objectives, and based in part on information (e.g. number of citations) that had no bearing on the decisions made in the planning process
 - b. SNCB evidence review
 - i. Feature (conservation objective) specific: scored evidence for presence, extent, and condition
 - ii. based on (almost solely GIS) data analysis
 - iii. follows published SNCB protocols
 - c. ABPmer evidence review
 - i. aims (but fails) to be fully ‘independent’
 - ii. costly, duplicates SNCB methodology
 - iii. also includes an attempt to ‘mop up’ data that was missed by regional projects / any new data that has become available since MB102, by approaching specialists and stakeholders to see if they hold any additional information, including some of the same people approached by Finding Sanctuary and / or MB102 (this was one of the ways in which some of the

interviewees had found out about an 'evidence review' taking place – through having been approached for data)

- iv. sub-contracted parts to MBA
- v. uses same methods as SNCB but with less data as not all SNCB-held data passed on, so discrepancies in outcome
- d. Survey work (with RV Endeavour, a research vessel operated by CEFAS)
 - i. new data collection in rMCZs
 - ii. not really related to evidence review, but perceived by many interviewees to be part of it
 - iii. survey cruise collaboration between JNCC and CEFAS

12) Purpose / impacts of evidence review (ER) not entirely clear, different interviewees had different perceptions:

- a. the ER serves to focus future survey effort by identifying current gaps
- b. the ER serves to focus additional site-specific research (including literature reviews and data collation) to be carried out for MCZs / rMCZs
- c. the outcome of the ER serves as a justification selecting specific sites for implementation /a criterion for tranching (most people believe this is true)
- d. Endeavour surveys:
 - i. serve as baseline surveys for rMCZs that will definitely go forward
 - ii. serve to gather additional evidence to determine whether implementation of sites is justified
 - iii. timing of the survey work is too late to influence the information for (or the selection of) sites going forwards in the first tranche (though most interviewees did not realise this)

13) Awareness and understanding of the evidence review process varies hugely – process is not transparent, it's complex, and clear overview information not easily or obviously accessible

- a. some not aware of it at all, but most are (at least on the level of 'they're doing something to do with gathering more evidence')– usually because they or someone they know have been approached by ABPmer or MBA for data, or because they've seen Endeavour out surveying sites
- b. few people understand the different aspects of the work, how they relate (or not), and what the role of different people is: SNCBs, ABPmer, MBA, CEFAS
- c. small number of people understand details
- d. those who understand detail mostly believe it will be used as criterion for tranching, though SNCB advice is against that

14) Opinion of the evidence review

- a. very poor amongst most, especially within the environmental sector, and some more local stakeholders and people who invested a lot of time and effort in Finding Sanctuary's stakeholder process
 - i. seen as stalling tactic
 - ii. seen as political manoeuvre (to stall process / prevent sites from going forwards)

- iii. seen as significant lack of forward planning
 - iv. seen as undermining of stakeholder effort – ‘what was the point of all our effort, if now they say the evidence was never good enough from the start?’
- b. Most people think the timing is inappropriate, and the evidence review / evidence gathering should have happened sooner, at the start of the planning process, and those responsible for the process should have been satisfied that the evidence was good enough before getting stakeholders to use it
- c. several commented on the fact that they had, at the start of the process, been told explicitly to ‘proceed based on best available evidence’, even when gaps in data had been highlighted or particular issues about datasets had been queried
- d. the opinion of the evidence review is good amongst most (but not all) fishing representatives, they stated they saw it as necessary / important, ‘have to have good evidence before putting in place sites that will impact on people’s livelihoods’, ‘we need an evidence-based approach’
- e. some other interviewees (marine industry / close to industry) see it as vital to have better evidence to underpin sites so they are legally robust , but at the same time had negative comments about the timing of it: it should have happened at start of the process. They voiced specific frustration that questions about evidence quality had been raised by stakeholders at the start, with the response being ‘ use the best available’, only for Government and SNCBs now seemingly saying ‘actually, that wasn’t good enough after all’

15) Drivers of evidence review (and consequent delay in the process)

- a. people with only a vague idea of what is happening often think it was SAP advice and/or the ministerial statement of November 2011 that is driving the evidence review
- b. people who know more detail give various answers (often several):
 - i. MPAC lobbying (MPAC themselves say this – see it as success)
 - ii. Government’s fear of being challenged in court over insufficient evidence
 - iii. cSAC review recommendations (this is seen as key by those with arguably most in-depth understanding, including SNCBs), leading to Government’s fear of challenge in court (by MPAC or similar most likely)
 - iv. political motivations – lack of political will to implement MCZs, so this is a stalling / undermining tactic
 - v. ClientEarth / MCS challenge on managing fisheries in European Marine Sites: if successful, Government will fear massive knock-on implications for MCZs, so will want fewer, and are using evidence as ‘excuse’ to stall

Role of Government & Government agencies

- 16) Government were progressive / brave in running regional stakeholder projects
- 17) Government did not handle the stakeholder process well
 - a. they were too distant
 - b. they had a lack of genuine interest / concern for stakeholders' views, paid 'lip service' to participation
 - c. they don't understand the nature of stakeholder process & how to handle relationships – cannot empower people, then take the power away from them and expect no repercussions
 - d. wasted opportunity – there was genuine goodwill, a lot of effort, good work wasted
 - e. the regional stakeholder project could have been extended / served as model for wider marine spatial planning
 - f. they are undermining the outcomes of the regional projects
 - g. in undermining the outcomes, they are undermining future stakeholder engagement (people will be reticent to engage in future stakeholder processes)
- 18) Lack of political will
 - a. lack of interest in conservation
 - b. MCZ process not a political priority, therefore it's not well run / no leadership
- 19) Institutional problems
 - a. very high staff turnover within Defra and SNCBs means it is difficult to form relationships with people in those organisations, and for those organisations to build up knowledge - constantly have to go over same ground with different people
- 20) Lack of trust in / poor opinion of SNCBs
 - a. SNCBs did not engage openly enough in the Steering Group
 - b. not trusted
 - c. not accessible as organisations
 - d. not good at communicating
 - e. high staff turnover

Uncertainty is a huge problem, especially uncertainty about restrictions within MCZs

- 21) Activity restrictions / management measures still not known, which means that
 - a. the job is not finished
 - b. uncertainty gives rise to lobbying (there is still something to fight for)
 - c. uncertainty leads to precautionary stances (assuming 'worst-case-scenario' for sector), and therefore lack of support for MCZs
 - d. uncertainty leads to lack of trust in process & outcomes & Government / Government bodies
 - e. being asked to plan MCZ locations and boundaries without knowing how those sites would impact on people was like 'flying blind' – an unreasonable task
 - f. uncertainty leads to reduced quality of outcomes (recommendations) – had the restrictions been known, the sites might have been designed differently / better
 - g. uncertainty undermines the stakeholder process
 - h. means 'real' issues were not tackled during the stakeholder process

- 22) There are many layers of uncertainty, which are already costing marine industry money now
- a. how many sites will go forward?
 - b. which sites?
 - c. what criteria used for tranching?
 - d. what restrictions?
 - i. impacts on activities?
 - ii. impacts on licensing process / cost for regulated activities?
 - e. will there be future tranches?

Low expectation of outcomes

- 23) Many interviewees have low expectation of the outcomes of the MCZ process
- a. there will be few sites (though all expect there will be some)
 - b. they will be poorly managed
 - c. there will be a long implementation process
 - d. sites will be ineffective

The Isles of Scilly are something different entirely

- 1) Isles of Scilly are a separate nation, with a lot of ownership of the MCZ process locally, positive engagement in it, driving the process forwards under their own initiative
- a. engagement continues, driven by IFCA and local stakeholders
 - b. generally positive view of MCZs (and wider environmental protection)
 - c. initiative taken locally – ‘getting on with it’ irrespective of others in distant England
 - d. management & monitoring plans are being developed for local rMCZs
 - e. some of the management & monitoring has already started, many regard the sites as ‘already there’
 - f. aware of problems within the process nationally but seen as ‘distant’ issues
 - g. some uncertainty over future independence (with respect to control over their local MCZs), but confident

Appendix 5 List of Abbreviations

BSH	Broad-scale habitat
CEFAS	Centre for Environment, Fisheries & Aquaculture Science
CFP	The EU Common Fisheries Policy, see section 2.4.4
CFPO	Cornish Fish Producers' Organisation
COG	Conservation Objective Guidance, full citation and link in appendix 3
Defra	The UK Government's Department for Environment, Food and Rural Affairs
Defra GN1	Defra Guidance Note 1, full citation and link in appendix 3
DCO	Development Consent Order (consent for an NSIP)
EA	Environment Agency
EBM	Ecosystem-based management approach
ENG	Ecological Network Guidance, full citation and link in appendix 3
EUNIS	European Nature Information System, a pan-European habitat classification system
FOCI	FOCI stands for 'Feature of Conservation Importance', and refers to a list of rare, threatened or otherwise important species and biotopes with their own specific targets in the ENG
GIS	Geographic Information Systems
IA	MCZ project impact assessment, full citation and link in appendix 3
IFCA	Inshore Fisheries and Conservation Authorities, see section 1.2.5
IPA	Inshore Potting Agreement – see section 6.5.8
IPC	Infrastructure Planning Commission – no longer in existence, see section 2.4.2
IWG	Inshore Working Group – one of Finding Sanctuary's type of stakeholder groups (see section 1)
JNCC	Joint Nature Conservation Committee
LG	Local Group – one of Finding Sanctuary's type of stakeholder groups (see section 1)
LOA	length overall – refers to the length of a fishing vessel
MCS	Marine Conservation Society
MCZ	Marine Conservation Zone
MESMA	Monitoring and Evaluation of Spatially Managed marine areas – a European research project, see http://www.mesma.org/
MESMA WP6	Work Package 6 in the MESMA project, which focuses on governance and marine spatial planning
MMO	Marine Management Organisation, see section 1.2.5
MPAC	The MPA Fishing Coalition, see section 6.2.2
MPS	Marine Policy Statement, see section 2.2.2
MSFD	EU Marine Strategy Framework Directive, see section 2.2.1
NFFO	National Federation of Fishermen's Organisations

NPSs	National Policy Statements, see section 2.4.2
NSIPs	Nationally Significant Infrastructure Projects, see section 2.4.2
NUTS	NUTS stands for the French <i>nomenclature d'unités territoriales statistiques</i> , and refers to the EU's standard Nomenclature of Territorial Units for Statistics
OWG	Offshore Working Group – one of Finding Sanctuary's type of stakeholder groups (see section 1)
ORRAD	Offshore Renewables Resource Assessment and Development Project, full citation in appendix 2
PDG	MCZ Project Delivery Guidance, full citation and link in appendix 3
RAC	Regional Advisory Council
rMCZ	recommended MCZ
SFC	Sea Fisheries Committees (now replaced by IFCA's, see section 1.2.5)
SAD	Selection Assessment Documents - a template for submitting MCZ recommendations (see section 6.1.2)
SAP	Science Advisory Panel
SG	Steering Group – Finding Sanctuary's main stakeholder group (see section 1)
SNCB	Statutory Nature Conservation Bodies - in the MCZ project in England, this refers to Natural England, and the Joint Nature Conservation Committee (JNCC) – see section 1.2.5
UKMBSG	UK Marine Biodiversity Policy Steering Group, comprised of Government departments, devolved administrations, and advisory bodies
VA	Vulnerability assessment - a process intended to help draft MCZ conservation objectives, explained in section 6.5.10

Appendix 6 Epilogue

As this report was in its final editing stages, on December 13th, 2012, the public consultation on MCZs was launched by Defra, set to run until March 31st, 2013.

Out of the 127 MCZ recommended by the four regional MCZ projects nationally, 31 were set to be included in the first tranche of designations in 2013 (with no clear commitment to designating all of the 31). No reference areas were included. Out of the 58 recommended MCZs put forward by Finding Sanctuary, 15 were set to go forward. Within the sites that were set to go forwards in the first tranche, fewer than 50% of the recommended conservation objectives were included.

The consultation materials placed considerable emphasis on scientific evidence underpinning the proposed sites and feature-specific conservation objectives, and little emphasis on any accompanying stakeholder narrative.

The consultation questions focused on individual sites, not on the network as a whole.

No further clarity was provided on likely MCZ management. The impact assessment's management scenarios included in the consultation documents were described as 'illustrative' (despite the fact that 'cost' had served as a criterion for selecting which sites to progress, along with the degree of underpinning evidence, and the degree of risk of ecological damage).

There was no clear roadmap for any future MCZ tranches, nor for a review of the approach to reference areas, nor for a process of implementing the 'tranche1' sites following designation (including the management measures that will convert them from paper parks into well-managed protected areas), other than to say that a reconstitution of the regional stakeholder groups was 'unlikely'.

On the day the consultation was launched, [The Guardian](#)²³⁶ reported the dismay of environmental groups at the outcome.

A full analysis of the consultation documents, and the likely implications for this case study, is beyond the scope and timeline of this report. At the time of finalising this analysis, the MCZ process clearly has a long way to go yet, and the conflicts, incentives and cross-cutting themes discussed here will continue to unfold over time.

Details on the consultation can be found [here](#)²³⁷ (until March 31st, 2013).

²³⁶ <http://www.guardian.co.uk/environment/2012/dec/13/uk-marine-conservation-zones?INTCMP=SRCH>

²³⁷ <http://www.defra.gov.uk/consult/2012/12/13/marine-conservation-zones-1212/>

A7.12 Case study report: The Greek case study

Basic details of the case study:

Initiative	Marine Protected Areas in the Inner Ionian Archipelago-Patraikos and Korinthiakos Gulfs, Greece
Description	The planning and implementation of the Kyllini, Zakynthos and Inner Ionian SACs
Objectives	Nature conservation / MPAs: Effectively protect sites so that they are maintained at or restored to favourable condition, focusing on Kyllini, Zakynthos and Inner Ionian SACs
Scale	Three specific MPAs
Period covered	~1992-2013
Researchers	P. Panayotidis, V. Vassilopoulou, C. Anagnostou, V. Drakopoulou, V. Gerakaris, Y. Issaris, S. Kavadas, A. Kokkali, G. Mavromati, M. Salomidi (Hellenic Center for Marine Research)
Researchers' background	Natural Science
Researchers' role in initiative	Scientific advisers to government

The next 37 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Panayotidis, P.; Vassilopoulou, V.; Anagnostou, C.; Drakopoulou, V.; Gerakaris, V.; Issaris, Y.; Kavadas, S.; Kokkali, A.; Mavromati, G.; Salomidi M. (2013) *Governance report (MESMA, WP 6). Case Study: Inner Ionian Archipelago & adjacent gulfs*. A case study report for Work Package 6 of the MESMA project (www.mesma.org). 37pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.



Monitoring and Evaluation of Spatially Managed Areas



Hellenic Center for Marine Research



Governance report (MESMA, WP 6)

Case Study: Inner Ionian Archipelago & adjacent gulfs Final draft

Coordinator: Vassiliki Vassilopoulou

Governance report editor: Panayotis Panayotidis

Contributors (in alphabetical order): Anagnostou Christos, Drakopoulou Vivi, Gerakaris Vassilis, Issaris Yiannis, Kavadas Stefanos, Kokkali Athina, Mavromati Georgia, Salomidi Maria

Athens, February 2013

Greek MESMA case study “Inner Ionian Archipelagos & adjacent gulfs” Governance Report (MESMA, WP 6)

Governance Analytical Structure based on UCL guidelines for MESMA WP6

Introduction

1. Context
2. Objectives and management measures
3. Conflicts
4. Governance approach and effectiveness
5. Incentives
6. Cross-cutting themes
7. Conclusion

Introduction

The governance issue in the Greek MESMA case study could be summarised as a conflict between conservation initiatives and human activities (fisheries and tourism) in a given area (Inner Ionian Archipelago, Patraikos Gulf and Korinthiakos Gulf), under the National and the European Union (EU) legal framework.

The Greek MESMA case study reflects the lack of a national strategy for the marine spatial planning, but also the contradictions of the EU conservation policy (as this policy is expressed by the DG “Environment”) and the EU Common Fisheries Policy (as this policy is expressed by the DG “Mare”).

The lack of a clear international framework for the Integrated Coastal Zone Management (ICZM) gives space to the national authorities to formulate sectoral spatial plans for several human activities (tourism, aquaculture etc). These plans are vague and usually they create conflicts amongst different human activities, as well as conflicts between human activities and conservation initiatives in the given area.

The contradictions of the EU policies could be summarised as follows:

- On one hand the DG ‘Environment’, since the early ’90, has clearly describe the targets of the conservation initiatives. The implementation of three EU Directives is ongoing in the Greek MESMA study area: the Habitats Directive (HD) the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD)..

- On the other hand, in the same area, since the early ’90 the implementation of the EU Common Fisheries Policy is also on going. This policy has as concrete result more powerful vessels for specific fisheries, mainly beach seiners and trawlers. Economic incentives were given for the innovation of the fleet and the pressure on the fish stocks became higher. Although there is a clear framework of National restrictions for the protection of the fish stocks, the maintenance of the innovated fleet is now more expensive than 25 years ago. Hence, the fishermen are pushed towards the illegal practices, even when they know that these practices will drive -sooner or later- to the collapse of the fish stock in the area.

Finally, the centralised and typical “top-bottom” model of the national administrative structures give an additional degree of complexity to the governance issues in the Greek MESMA case study area

1 CONTEXT

1.1. About the existing initiative in the Greek MESMA case study

In the Greek MESMA case study area are included 1) the Inner Ionian Archipelago and 2) the adjacent gulfs Patraikos and Korinthiakos (Figure 1, left). In this large geographic area we can highlight the “story” of three similar sub case study areas (Figure 1, right). All of them belong to the Greek marine Natura network, having common elements of marine spatial planning but different level of administrative “maturity” and also different stakeholder conflicts. Using three sub-case areas as examples, the different aspects of governance issues in the Greek case study, which is summarised as “*the conflicts in the triangle: conservation-fisheries-tourism*” could be illustrated.

As it is already mentioned the common element of marine spatial planning in the Greek MESMA case study is the fact the three sub-case areas belong to the Greek marine Natura network and their common principal objective is to implement the HD. These sites are:

- 1) “Lagans Bay Zakynthos Island” (Natura code GR 2210002)
- 2) “Kylini Bay” (Natura code GR 2330007) and
- 3) “Inner Ionian Archipelago” (Natura code GR 2220003)

The “story” of the implementation of the HD in Greece will be exposed in paragraph 1.1.4, but as an introductory remark we could highlight some difficulties in meeting the targets, which are specific to the Greek marine environment.

The first remark is that the Greek coastline is very long (about 15.000 Km). This very long coastline, disproportional to the surface and the economic capacity of Greece, makes unrealistic any effort of “traditional” habitat mapping (e.g. using side scan sonar and ROV observations). Thus, the implementation of the EU HD and the choice of the Natura sites was based on qualitative information and expert judgment. The gaps of knowledge about the real surface of the marine habitats listed in the Annex I of the HD drives to an uncertainty about the percentage of the surface of the habitats to be included in the Natura sites. To overcome this problem we tried to estimate the surface of the “priority habitat” Posidonia meadows using modeling approaches (Panayotidis & Dracopoulou, 2010 & EU project MEDISEH data viewer, 2013).

The second remark is that on the Greek coastline find the ultimate refuge two emblematic species of the Mediterranean: the monk seal *Monachus monachus* and the sea turtle *Caretta caretta*. Thus Greece has the responsibility for the maintenance of the population of these two species.

At the administrative level the difference between the sub case area “Lagans Bay, Zakynthos Island” and the two others is that “Lagans” is the only area with a precise marine spatial planning (zoning) because the area has also the status of National Marine Park. In that case there is only local fisheries activity (trawling is prohibited) and the conflict is mainly focussed between conservation and tourism. The other two sub-case areas belong only partially to National Parks (Figure 2). In these two sub-case areas there is no marine spatial planning. The main conflict is focussed between conservation and fisheries, with tourism being a secondary source of conflicts. In the sub case area 2 “Kylini Bay” the conflict is focussed on illegal trawling on Posidonia meadows and in the sub case area 3 “Inner Ionian Archipelago”

the conflict is focussed on fish stock decline, probably due to small pelagic fisheries and the decline of dolphin populations.

Table 1. Basic information for the 3 sub-case MPAs, surface, year of designation, and the specific conservation features for which the sites are designated

Name of the sub-case study area	Name of the National Park (MPA) in which is included	Specific conservation features for which the MPA was designated
1) “Lagans Bay Zakynthos Island” (Natura code GR 2210002) Surface: 6.957 Year of designation: 1996	National Marine Park of Laganas Bay (Zakynthos Island) Surface: 13.500 Year of designation: 1999	Marine habitat protection with emphasis on <i>Caretta caretta</i> nesting beaches
2) “Kylini Bay” (Natura code GR 2330007) Surface: 13.166 Year of designation: 1996	Kotychi-Strophylia Wetlands” National Park Surface: 13.600 Year of designation: 2009	Coastal habitat protection with emphasis on wetlands
3) “Inner Ionian Archipelago” (Natura code GR 2220003) Surface: 88.333 Year of designation: 1996	Messologhi Lagoon National Park Surface: 33.470 Year of designation: 2006	Coastal habitat protection with emphasis on coastal lagoons

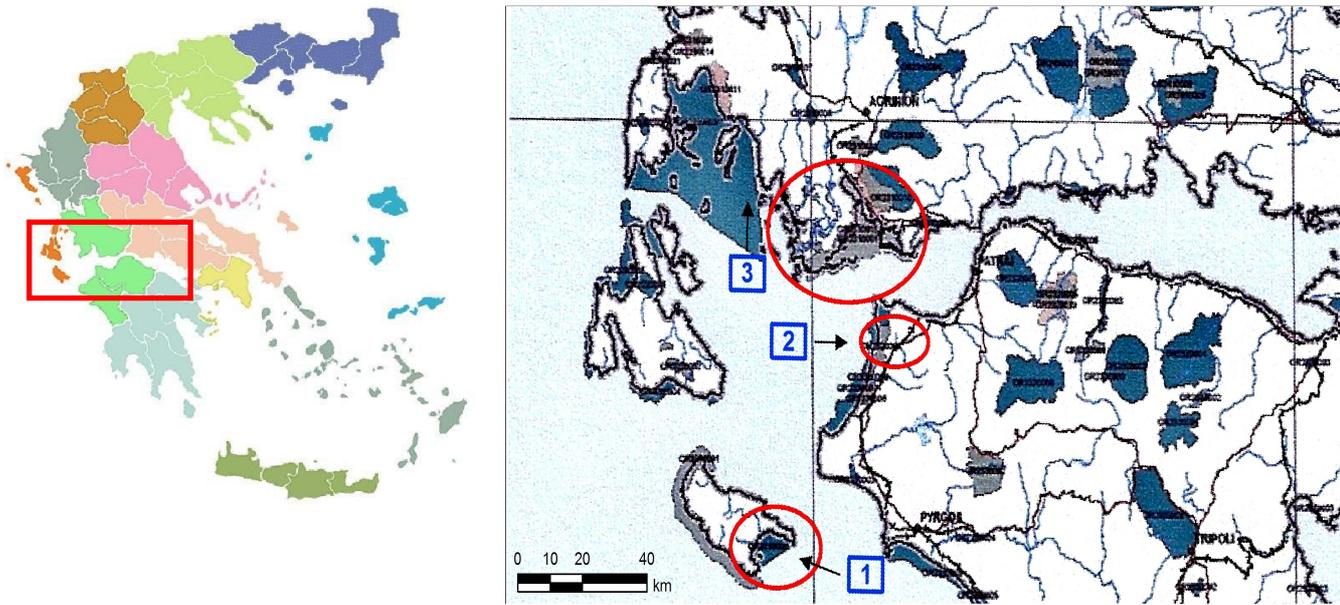


Figure 1. Red spots = Natura 2000 sites,
 1= National Marine Park of Zakynthos (Natura code GR 2210002)
 2= Kylini Bay (Natura code GR 2330007)
 3= Inner Ionian Archipelagos (Natura code GR 2220003)

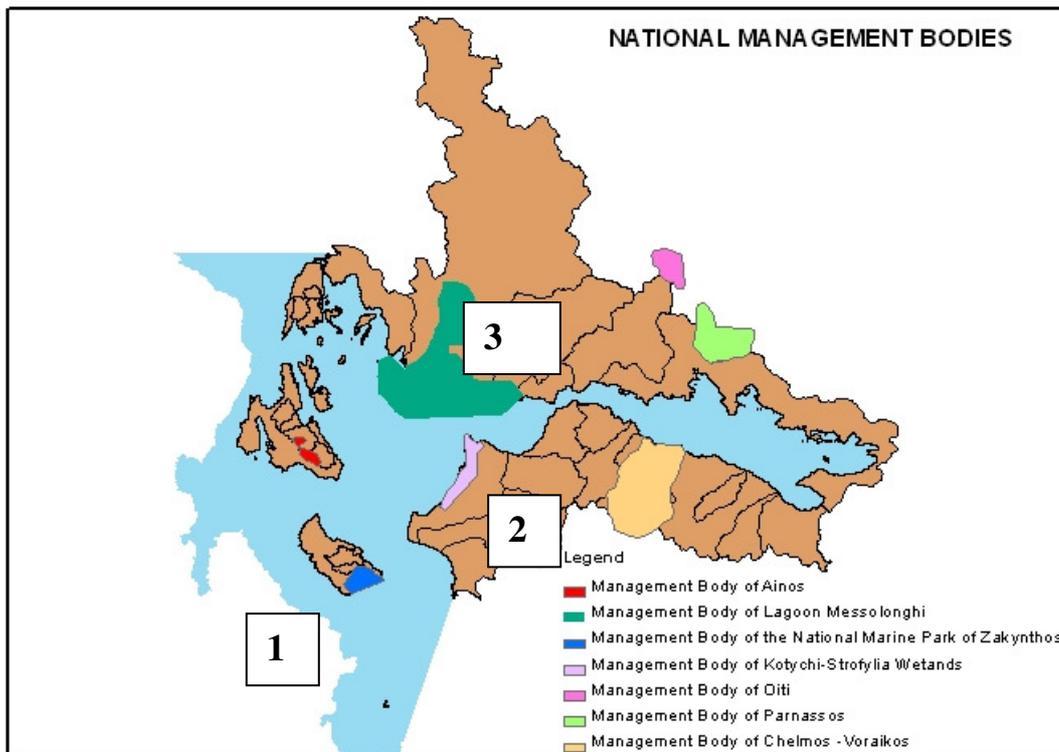


Figure 2. National management authorities for the Natura sites. Three of them in the Greek MESMA case study.
 1 = Administrative Body of “Laganas Bay” National Marine Park of Zakynthos.
 2= Administrative Body of “Messologhi Lagoon” National Park
 3= Administrative Body of “Kotychi-Strofyliia Wetlands” National Park

1.1.1. Name of the existing initiative

Implementation of the Habitat Directive 92/43/EEC and designation a network of Natura sites fulfilling the requirements of Directive

1.1.2. Geographical boundary of the existing initiative

Three sub-case studies of the Greek MESMA case study area “Inner Ionian Archipelago and adjacent gulfs”

- National Marine Park of Zakynthos (Natura code GR 2210002)
- Kylini Bay (Natura code GR 2330007)
- Inner Ionian Archipelagos (Natura code GR 2220003)

1.1.3. Location

The Greek MESMA case study area is the marine space between the western part of the Greek mainland and the Ionian Islands, including mainly Greek territorial waters (only 6 nm from the coastline), but also international waters.

1.1.4. History of the existing initiative (how and why it was established)

Since 1992, when the Habitat Directive (92/43/EEC) was voted, Greece as EU Member State had to propose a network of “areas of community interest” known as “Natura 2000 sites” in order to fulfil the requirements of the Directive. The list of the Greek Natura network sites as it was proposed to the EU Commission (from 1996 to 2001) includes more than 100 marine areas. The choice of the marine Natura sites was mainly based on the presence of “priority” habitats and species according to the Annex I & II of the Directive. An additional criterion for the choice of the Greek marine Natura sites was the implementation of the EU bird Directive (79/409/EEC).

Eleven marine Natura 2000 sites are included in the Greek MESMA case study area. Some of them have additional international or national conservation status, as they are areas under the Ramsar Convention or National Marine Parks (e.g. the National Marine Park of Zakynthos).

On June 2010 at Brindizi (Italy) a “bio-geographical seminar” was organized by the EU Commission (supported by the thematic centre “biodiversity” of the European Environment Agency) to evaluate the progress in implementation of the Habitat Directive the Mediterranean eco- region. The main remark on the Greek marine Natura network was that although the proposed sites were focused on the target habitats and species of the Directive the operational objectives (60% of the priority habitats and 20% of the species to be included in the Natura sites) were not yet reached. Hence, a review of the design of the Natura sites was recommended.

The new design of the Natura 2000 sites of the MESMA case study is part of the review of the Habitat Directive implementation at the national level. The final marine Natura network in all the EU Member States has to be ready the latest at 2012.

1.1.5. Competent authority/authorities (e.g. which government authority is in charge of the existing initiative, and collaborating national/local authorities)

a) At the Central Government level:

a.1. Ministry of Environment, Department of protection of the natural environment.

a.2. Ministry of Food/Agriculture, Department of Fisheries

a.3. Ministry of Culture & Tourism, Department of Tourism

b) At the Regional level:

b.1. Regional Government (“Periferia”) of Western Greece, department of environment.

b.2. Regional Government (“Periferia”) of Ionian Islands, department of environment.

c) At the local level:

c.1. The local Municipalities.

c.2. The Administrative Bodies of the National Park and Natura 2000 sites, when an administrative board is designated -and financed- by the Ministry of Environment.

1.1.6. Main sectors and stakeholder groups involved in the initiative

Laganas Bay (National Marine Park of Zakynthos):

Trawling fisheries are not allowed.

The main conflict is tourism versus conservation.

The main stakeholder groups are the following:

- Owners of hotels and bars on the *Caretta caretta* nesting beaches
- NGO’s for *Caretta caretta* protection
- The Administration Body of the National Marine Park of Zakynthos
- The municipality of Zakynthos

The governance scheme applied in Laganas Bay is the implementation of a precise marine spatial planning by a local Administrative Body (the authorities of the National Marine Park of Zakynthos) assisted by specific NGO’s, acting at the local as well as at the national and the international level.

Kylini Bay:

The main conflict is fisheries versus conservation.

The main stakeholder groups are the following:

- Owners of trawling vessels fishing on Posidonia meadows protection
- NGO’s for nature conservation (Greenpeace, WWF)
- The management body of the Natura site complex “Kylini and Kalogria lagoon” part of the National Park Kotychi-Strophylia Wetlands
- The municipality of Kylini

The authorities of the National Park Kotychi-Strophylia are not competent for the marine front, because the main objective of the park is the protection of the wetlands and the coastal lagoons. The local NGO’s are not specific and their capacity for action is limited. The Regional Authorities and the Coast Guard are in charge for the implementation of the fisheries restrictions. But even when they are informed by the local coastal fisherman about the presence of an illegal trawler, they do not have the means to act rapidly and effectively. The exploitation of VMS data, the use of clear habitat maps and the extension to the marine environment of the authority of the Administrative Board of the National Park Kylini-Strophylia could improve the implementation of the fisheries restrictions and attain the priority objective.

Inner Ionian Archipelago

The main conflict is fisheries versus conservation.

The main stakeholder groups are the following:

- Small pelagic fisherman fishing on the food stock of dolphins
- NGO's for the protection of cetaceans
- The administration body of the National Park of Messologhi Lagoon (is involved for the southern part of the area)
- No specific municipality is involved, as the area is very large (about 100.000 ha) and the conflict does not affect the coastal activities

This huge marine area of 100.000 hectares of surface, which was nominated as Natura site for the protection of the dolphin population, not only failed to protect them, but in the contrary contributed to their extermination. The Natura site "Inner Ionian Archipelago" coincides only partially to the National Park of Messologhi Lagoon, which is mainly a park for the protection of coastal lagoons and wetlands. There is no marine spatial planning and there are no specific restrictions for small pelagic fisheries.

1.2. The socio-economic and political context of the case study

1.2.1 Socioeconomic indicators of the Greek case study area

At national level: Greek GDP Per inhabitant: 20.100, (Eurostat, 2011) Population density per km² : 75.1,

In 2012 the GDP growth rate at current prices is -6.4% and the real GDP growth rate -6%.(Source: Eurostat, 2012).

Due to the economic crisis in Greece, for 2012 the level of the GDP is evaluated at -25 % compared to 2008 values

For the Greek MESMA study area the GDP composition by sector, main economic sectors, main source of employment etc, are given in Tables 2 & 3 (Source EL.STAT)

Table 2: Economic Indicators (2008) for the Administrative Region of Western Greece (Dytiki Ellada) and for the Administrative Region of Ionian Islands (Ionia Nisia, source: Eurostat)

Indicators for 2008	Dytiki Ellada	Ionia Nisia	Source
Regional GDP (PPS per inhabitant by NUTS 2 regions)	15500	19100	Eurostat
Real GDP growth rate	1.4	2	Eurostat
GDP growth at current prices	2.3	3.47	Eurostat
Population density per km ²	67.4	102	Eurostat
Unemployment Rate	17.3%	14.2%	Eurostat
Gini Index	33.2	33.2	CIA

Table 3: GDP composition by economic sector

Economic Sectors	<i>Dytiki Ellada</i>	<i>Ionia Nisia</i>
Agriculture, hunting and forestry	699.93	82.53
Fishing	62.18	16.27
Mining and quarrying	15.30	5.08
Manufacturing	1,084.59	107.80
Electricity, gas and water supply	308.82	96.67
Constructions	471.13	269.00
Wholesale and retail trade, repair of motor vehicles and personal household goods	1,916.64	703.55
Hotels and restaurants	533.02	831.10
Transport, storage and communication	1,284.94	489.38
Financial intermediation	402.55	125.55
Real estate, renting and business activities	1,189.93	532.49
Public administration and defence compulsory social security	1,038.74	338.88
Education	978.40	302.33
Health and social work	522.94	144.49
Other community, social and personal service activities	156.17	49.98
Private households with employed persons	62.07	16.31
Extra-territorial organizations and bodies		
Total gross value added	10,727	4,111

1.2.2 Governance capacity indicators

The governance capacity of the Greek MESMA case study is based on the findings from the project 'Worldwide Governance Indicators' (Kaufmann et al., 2010). The project proposes six governance indicators based on 30 data sources by using the statistical methodology of unobserved components model. Figure 7 illustrates the six dimensions/indicators of governance over the period 1996-2011 (definitions are given by <http://info.worldbank.org/governance/wgi/resources.htm>):

1. ***Voice and Accountability***: reflects perceptions of the extent to which citizens are 'able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media'.
2. ***Political Stability and Absence of Violence***: evaluates perceptions of the probability that 'the government will be destabilized'.
3. ***Government Effectiveness***: embodies perceptions of 'the quality of public-civil services the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies'.
4. ***Regulatory Quality***: reflects perceptions of 'the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development'.
5. ***Rule of Law***: reveals perceptions of the extent to which 'agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence'.
6. ***Control of Corruption***: captures perceptions of 'the extent to which public power is exercised for private gain'.

Each indicator takes a value from -2.5 (low) to 2.5 (high). Obviously, the government capacity in Greece is declining for each indicator (Fig. 7). Especially, the rate of decrease drops considerably after 2007. Probably this decrease is linked to the financial crisis in Greece which has changed the governance process and public participation in decision making. Further analysis of the relevant data is advised in order to identify the sources of governance capacity decline.

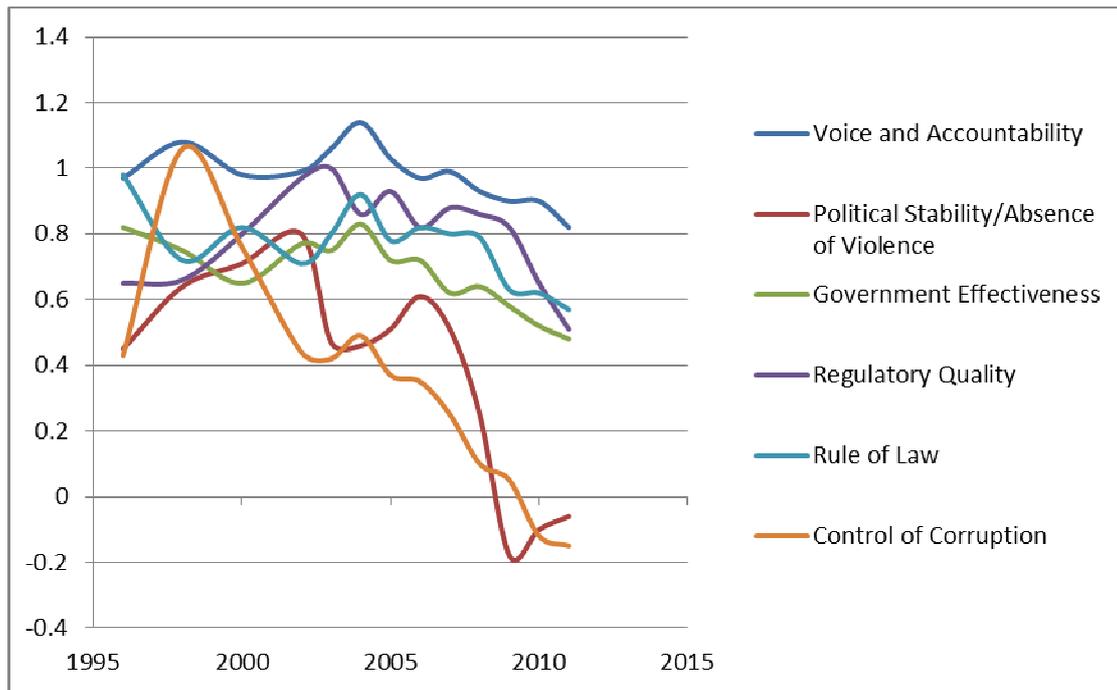


Figure 7: Governance Indicators for Greece based on data http://info.worldbank.org/governance/wgi/sc_chart.asp. Source: Kaufmann *et al.* (2010).

References

Kaufmann D., Kraay A. & Mastruzzi M. (2010). The Worldwide Governance Indicators: Methodology and Analytical Issues. Knowledge for Change Program of the World Bank

1.3. The regional policy framework within which your specific WP6 focus is ‘nested’, eg regional sea action plans.

During the '70, long time before the EU conservation initiatives for the marine environment (e.g. before the Habitat Directive voted on 1992), the text of the Regional Convention for the Mediterranean (Barcelona Convention) mentioned, among others, the need for protection of the sea turtles, the cetaceans and the seagrass meadows at the basin level. The first National Marine Parks of Greece (Alonissos in the Aegean and Zakynthos in the Ionian) were created for these purposes. A specific initiative of the UNEP Mediterranean Action Plan, the MEDPOL based in Athens, has organized for the pollution monitoring at the basin level and the UNEP RAC/SPA (based in Tunis) has carried out benthic habitat mapping in many Mediterranean areas including the National Marine Park of Zakynthos which is part of the Greek MESMA case study.

The Barcelona Convention was last amended in 1995. The convention and its protocols, together with the Mediterranean Action Plan, form a part of the [UNEP Regional Seas Programme](#). But Greece has not ratified the SPAMI's and the ICZM protocols. In the case of SPAMI's the main obstacle is the fact that the territorial waters of Greece are limited to the 6 nm. In the case of the ICZM protocol the main obstacle is the distance from the coastline where any human construction is prohibited (50 m in the National legislation versus 100 m proposed by the protocol).

The first step for a concrete conservation policy in the Greek MESMA study area was done by the implementation of the Habitat and Birds Directives. The reason is that 1) the Barcelona Convention is a UN “soft” legal text in contrast to the EU Directives and 2) the EU Directives usually impose clear operational objectives (e.g. 60% of the priority habitats to be included in the Natura network of protected sites). Summarising the conservation action plans in the area where the Greek MESMA case study is “nested” we observe that starting from one marine protected area (the National Marine Park of Zakynthos) in the late 80's, representing less than 1% of the marine surface devoted for conservation, during the first decade of the 21st century a network of sites “under sustainable environmental management” (= under Natura 2000 status) was created in the area, representing more than 10% of the marine surface.

As far as fisheries are concerned, the Greek fisheries legislation contains a great variety of conservation / management measures which can be broadly separated into two major categories: 1) those aiming to keep the fishing effort under control and 2) those aiming to make the exploitation patterns more rational.

The first set of measures is based on restrictions imposed on the number or fishing capacity of the vessels, rather than on catch limits and controls of discards and by-catches. The second set of measures is based on prohibitions concerning season, area, gear, fishing practices and resource exploitation patterns, and are commonly known as technical measures. Trawlers and purse seiners are subjected to more severe restrictions in comparison to the coastal fisheries.

In the Greek MESMA case study are applicable restrictions for the use of fishing gear (applicable also everywhere in Greece). There is also a general regulation for trawling near the coastline. The minimum distance is fixed at 1,5 n from the coastline, but exceptionally, in some areas this limit is reduced at 1 nm. This exception has created a big conflict between trawling activity and Posidonia meadows conservation (see also chapter 3 “conflicts” the sub-case of Kylini Bay).

Excluding those limitations in the study area, additional restrictions applied, both in space and in time, especially for the operation of trawlers and purses seiners. The time period for the activity of the trawlers inside Patraikos and Korinthiakos Gulf is the lowest in Greece, three months for Patraikos Gulf (December - February) and four months for the Korinthiakos Gulf (December - March). These restrictions were applied since the early of 80's. Alongside these, in several sensitive fishing areas of the region is prohibited throughout the year to use dynamic fishing gears. In addition, almost all bays in the study area are under partial or total protection throughout the year, mainly on the open sea fishery. So essentially, we have limitations on the two gulfs, and additional restrictions on bays located inside the MESMA study area. In the study area, there are five areas where fishing is prohibited, namely the National Marine Park of Laganas Bay, the Messolonghi lagoon, and three areas inside Korinthiakos Gulf.

The results of the restrictions and prohibitions seem to have a positive result: Stocks have been maintained satisfactorily and have reduced the conflicts between the coastal and open sea fishermen (Initial Assessment Report of the MSFD implementation in Greece).

Purse seines are the main gears for fishing of small pelagic fish. The main laws regulating the operation of the purse seine are: RD: 23/3/53 (which specifies the technical characteristics of a purse seiner) and RD: 666/66 (which specifies the licenses). There are eight additional laws which introduce some modifications to the two main laws. In addition to the general restrictions there are seven restrictions referring to the local level, prohibiting fishing in several geographic areas, mainly closed bays.

The prohibitions in the operation of a purse seine are the following:

- Fishing at a distance less than 300 m from the shore line or in areas shallower than 30 m (EU Regulation 1626/1994).
- Fishing between 15 December and the end of February for the night seine and between 1 July and 31 August for the day seine.
- Fishing in areas closer than 1.000 m from aquaculture units or 500 m from pond trapping devices.
- Fishing with both night seine and day seine in a way that the seine is trawling.
- Fishing with the night seine two days before and after a full moon.
- Minimum mesh size for the night seine is 7 mm and for the day seine 20 mm. The minimum size has been increased to 14 mm by the new Regulation 1967/2006.
- The maximum length of the seine is 800 m while the maximum altitude is 120 m.

2 OBJECTIVES & MANAGEMENT MEASURES

2.1. Priority objective

The priority objective in the Greek MESMA case study governance analysis is “to maintain or restore conservation features to favourable conservation status”. The conservation features are deriving from the National legislation (e.g. National Marine Park of Zakynthos), the Barcelona Convention Protocols and implementation of the Habitat Directive. Only the Habitat Directive gives operational objectives:

1) At the habitat level

- Include at least 60% of the priority habitat type code 1120 “Posidonia meadow” of the Habitats Directive in Natura 2000 network of sites
- Include at least 20% of the non priority habitats of the Habitats Directive in Natura 2000 network of sites. These habitat types are: reefs (code 1170), sandbanks (code 1110)

2) At the species level

- Ensure sustainability of the population of the endangered species *Monachus monachus* on a global basis
- The abundance and distributional range of the loggerhead sea turtle *Caretta caretta* is stable or has a positive trend
- The abundance and distributional range of the dolphins is stable or has a positive trend
- The abundance and distributional range of the *Pinna nobilis* is stable or has a positive trend
- The abundance and distributional range of the sea-hors (=hippocampus) is stable or has a positive trend

2.1.1. Priority objectives in the sub-case study area “Laganas Bay”

- The abundance and distributional range of the loggerhead sea turtle *Caretta caretta* is stable or has a positive trend
- Ensure sustainability of the population of the endangered species *Monachus monachus* on a global basis
- Include at least 60% of the priority habitat type code 1120 “Posidonia meadow” in the Natura site

2.1.2. Priority objectives in the sub-case study area “Kylini Bay”

- Include at least 60% of the priority habitat type code 1120 “Posidonia meadow” Natura 2000 site

2.1.3. Priority objectives in the sub-case study area “Inner Ionian Archipelago”

- The abundance and distributional range of the dolphins is stable or has a positive trend

2.2 What are the key policies, legislations, regulations and/or plans that enable/facilitate the achievement of the above priority objective?

The conservation policy framework in the study area became more concrete through the implementation of the following EU legislation

- Water Framework Directive (voted on 2000),
- Mediterranean Fisheries Regulation (voted on 2006) and
- Marine Strategy Framework Directive (voted on 2008).

2.3. What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?

The initial phase of the WFD implementation in Greece, carried out by HCMR during the period 2009 - 2009, gave for the first time a global evaluation of the Ecological Quality Status of the Greek coastal waters based on biological quality elements. Until then the MEDPOL was focussing only on the pollution hot spots, based on chemical monitoring and for this reason there was a very biased impression about water quality in the Greek coastal waters. The result of the WFD initial assessment was impressive: more than 80% of the Greek coastal water bodies were classified at the "high" or "good" status (which is the final goal of the WFD for 2015). From the water bodies not reaching the WFD goal more than 15% were classified at the "moderate" status. Based to the 2008-2009 results we could say that with a small additional management effort the Greek coastal water bodies will probably reach the goal of the WFD before 2015. The problem is that there are no previous global evaluations to compare the 2008-2009 results. Nevertheless, our feeling is that during the two last decades the implementation of the EU directives concerning waste water treatment (91/271/EEC) and nitrate limitations (91/676/EEC) had a benefit effect on coastal water quality in Greece.

During the same period the implementation of the Mediterranean Fisheries Regulation has put an end to the conflict between NGO's claiming for the protection of seagrass meadows from illegal fisheries by prohibiting fishing with beach seines.

Finally, when the Initial Assessment of the Marine Strategy Framework Directive will be carried out and the Good Environmental Status (GES) will be defined, the implementation of the Marine Strategy Framework Directive will give the global evaluation of the Ecological Status, as the whole study area (territorial waters plus Exclusive Economic Zone) will be concerned. The negotiation between Greece and Italy is ongoing for the delimitation of Exclusive Economic Zone in the Ionian Sea.

A weak point for the implementation of an effective conservation policy in the study area is the lack of a Directive on Integrated Coastal Management (ICZM). The EU Recommendations for ICZM as well as the Barcelona Convention Protocol for the ICZM represent "soft" legal texts. In our point of view this is the reason why in Greece the national spatial planning for tourist development and the national spatial planning for aquaculture (two human activities affecting conservation and fisheries) are very vague and ineffective.

Reviewing on the National, Regional and EU policy framework in which the Greek MESMA case study is "nesting", we arrive to the conclusion that during the last decades there was a strong legal effort to regulate the human activity in the sea and assure nature conservation and the capacity of the marine environment to provide "goods and services" for this and the next generations.

The question is how efficient is the Central Government and the Local Authorities to implement the legal framework and how mature is the human society to accept the limitations deriving from the legislation. The interview report carried out in the framework of the WR6 of the Greek MESMA case study is a first approach to this issue.

In the Greek MESMA case study there are 15 water bodies (Figure 3) officially declared, through WISE data base, in the first phase of implementation of the WFD

(2008). Nine (9) of these water bodies have already reached the ‘Good’ environmental status, which is the final goal of the WFD for 2015 the latest. For the 7 water bodies found in the “moderate” status general management measures (nitrogen input limitation, more efficient waste water treatment etc) have been proposed. The Regional Authorities have to specified these management measures at 2014 the latest.

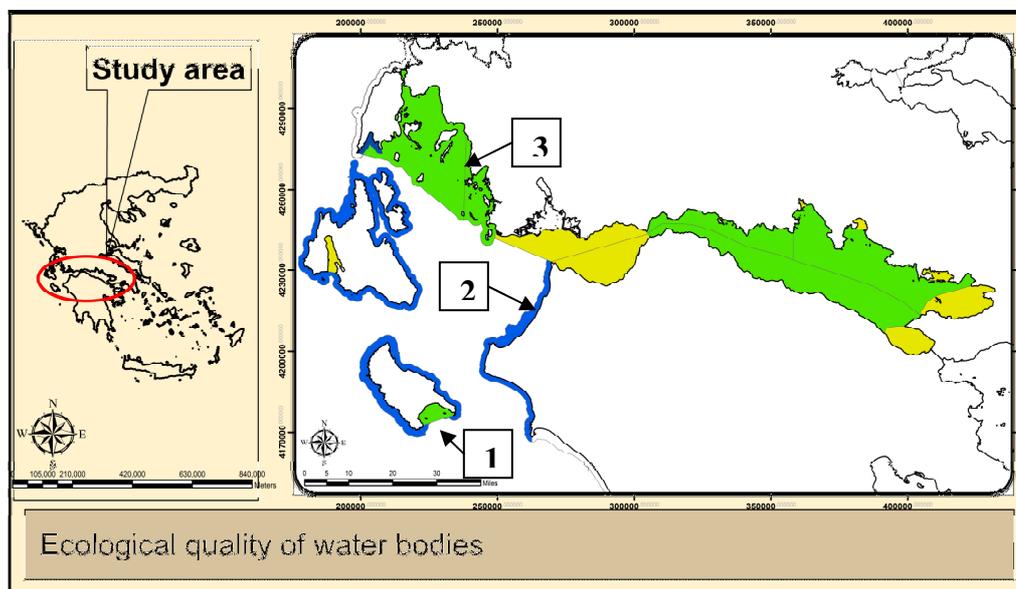


Figure 3. Evaluation of the ecological quality in the Greek MESMA case study, based on the 2008 report of the Initial Assessment of the WFD implementation for the coastal waters (Blue = areas with high quality, Green = areas with good quality, Yellow = areas with moderate quality)

2.4 Other specific and particularly important sectoral priorities, objectives, obligations etc that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective.

In the Greek MESMA case study the main sectoral priority conflicting with the priority objective “conservation” is tourism. More specifically:

- Tourist development on *Caretta caretta* nesting beaches
- Tourist presence (daily cruisers) in caves where there are *Monachus monachus* babies
- Shipping ways affecting cetaceans

The Spatial Management Plan for Tourism (Figure 4) was instituted in 2009 and aims to provide clear directions for the spatial planning, organization and development of tourism in Greece. In this respect, a 15-year Action Plan has been created to allow for improvement of the competitiveness of tourism product, sustainable use of resources, as well as for spatial planning and development of tourism accommodation units and enterprises.

The Spatial Management Plan for Tourism categorizes the Greek areas according to the viability and dynamic of tourism in each area, the contribution of tourism industry to the local economy and the existing tourism market in each occasion. This case study comes under four categories of the Spatial Management

Plan, namely (A) the existing developed areas, (B) the developing areas, (C) the coastal areas and (D) the islands.

As far as the Greek MESMA case study area is concerned, the Spatial Management Plan for Tourism proposes the development of different forms of tourism according to the specific attributes of each area such as:

- Urban tourism in metropolitans such as Patras city
- Conference tourism in areas with services that are able to support research activities such as Patras, Zakynthos, Mesolonghi, and Kefallonia
- Marine Tourism in areas with modern mooring infrastructures such as Lefkada Island, Patras.
- Cultural Tourism especially in areas with high archaeological and architectural interest
- Religious Tourism in areas such as Zakynthos Island
- Sport Tourism in areas such as Patras and Zakynthos
- Dining Tourism
- Ecotourism especially in areas with Protected Areas and National Parks
- Geotourism in areas with high geological interest ex. Coastal area of Korinthiakos Gulf.

The Spatial Management Plan for Tourism brings into discussion the coexistence of different active sectors in an area. The only example where these different activities are coexist under a specific legal framework is the Marine National Park of Zakynthos where zones of different activities are clearly described (Figure 5).

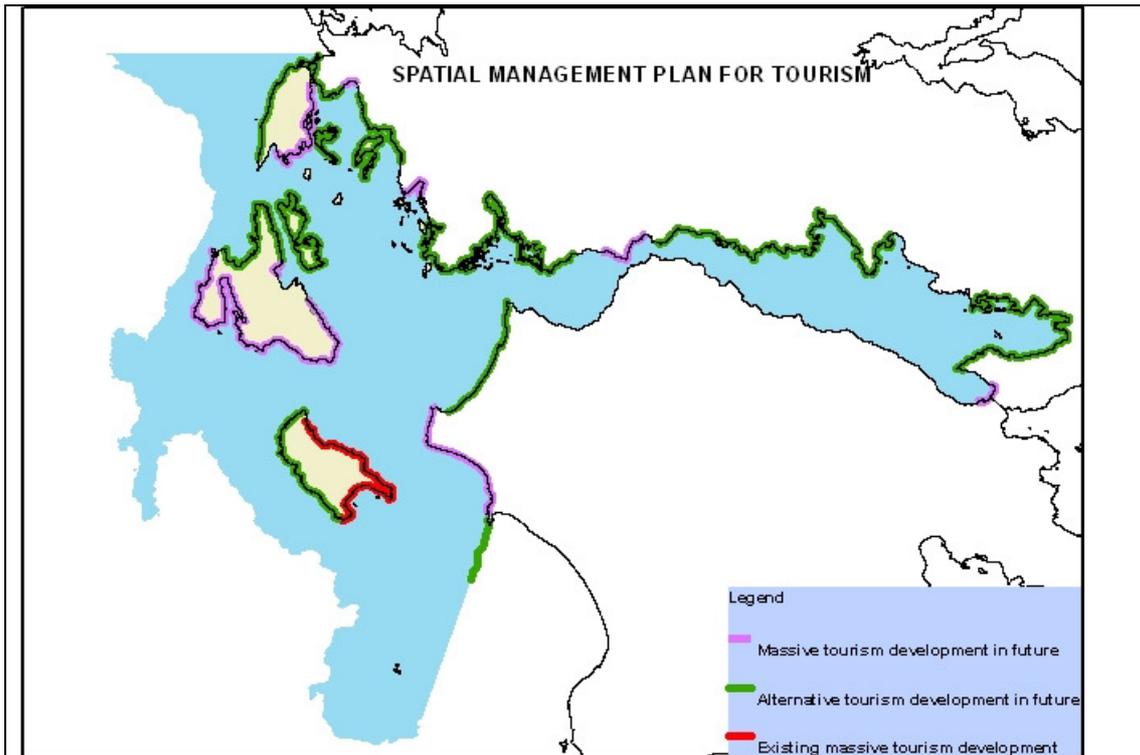


Figure 4: Spatial Management Plan for tourism (Scale, 1: 2.000.000)

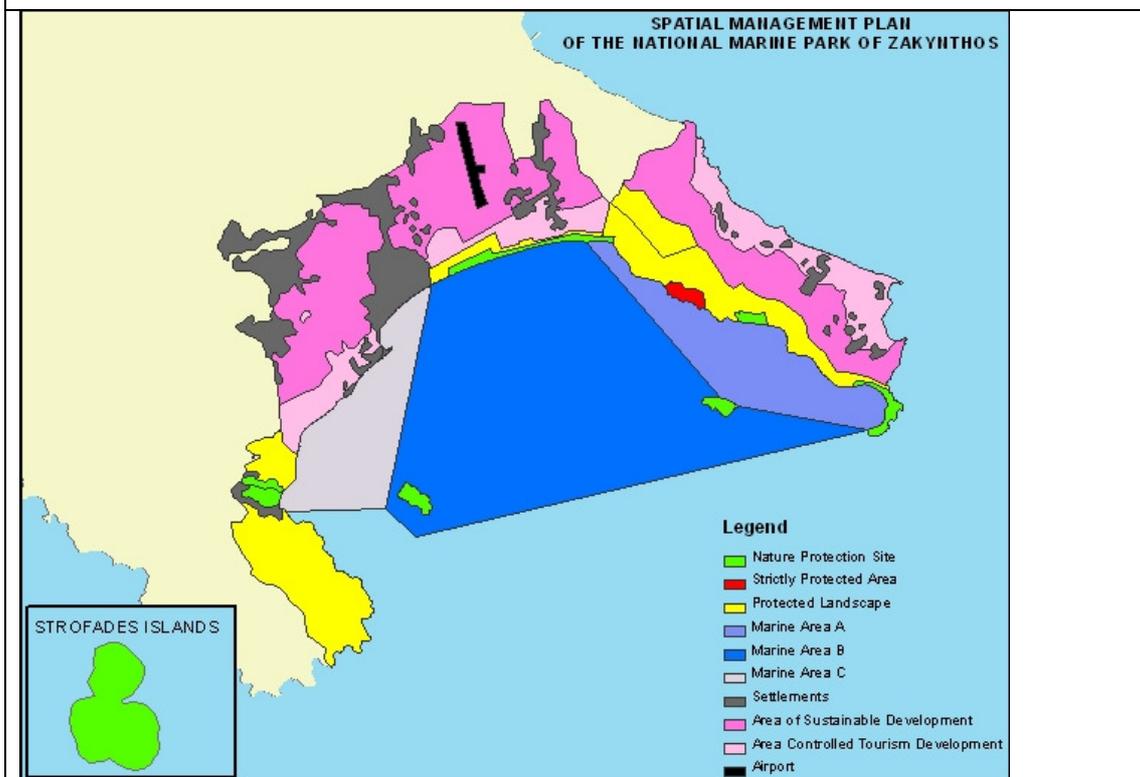


Figure 5. Spatial Planning in the National Marine Park of Laganas Bay (Scale 1: 100.000)

3 CONFLICTS

3.1. Trawling on Posidonia meadows

According to the regulations the trawling activity is legal only beyond the 1,5 nm (marked with a purple line in the right part of Figure 6) from the coast (marked with a grey raster in both parts of Figure 6).

In the case of Natura site Kalogria - Kylini (Natura code GR 2330007) the implementation of this regulation ensures the conservation a large part (78,8 %) of the Posidonia meadows (marked with a green raster in both parts of Figure 6).

Exceptionally, the Greek Department of Fisheries has decided to reduce the distance from the coast to the 1 nm (marked with a purple line in the left part of Figure 4). The implementation of this exception from the regulation ensures the conservation of less than the half (42,8 %) of the Posidonia meadows.

Posidonia meadows are abundant in the Greek MESMA case study (Figure 5). In many cases trawling activity, which is very intensive in the area (Figure 6), has strong impacts on the meadows (see Annex I).

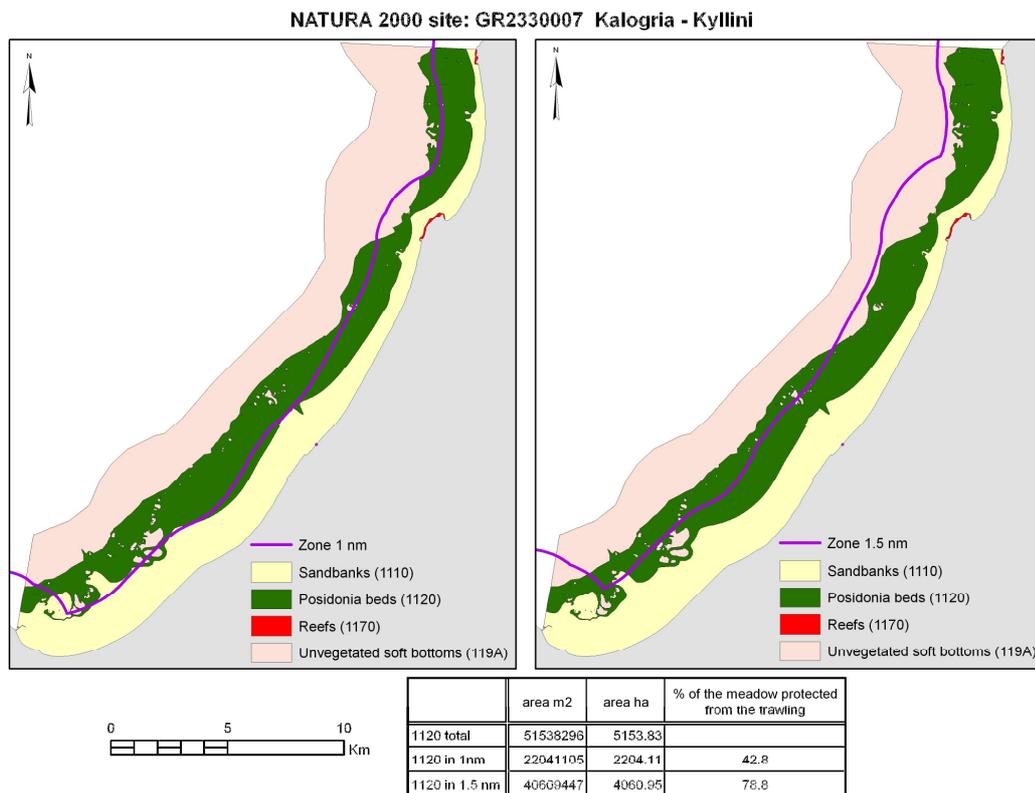


Figure 6. Kylini Bay sub-case study area: trawling limitations on Posidonia meadows

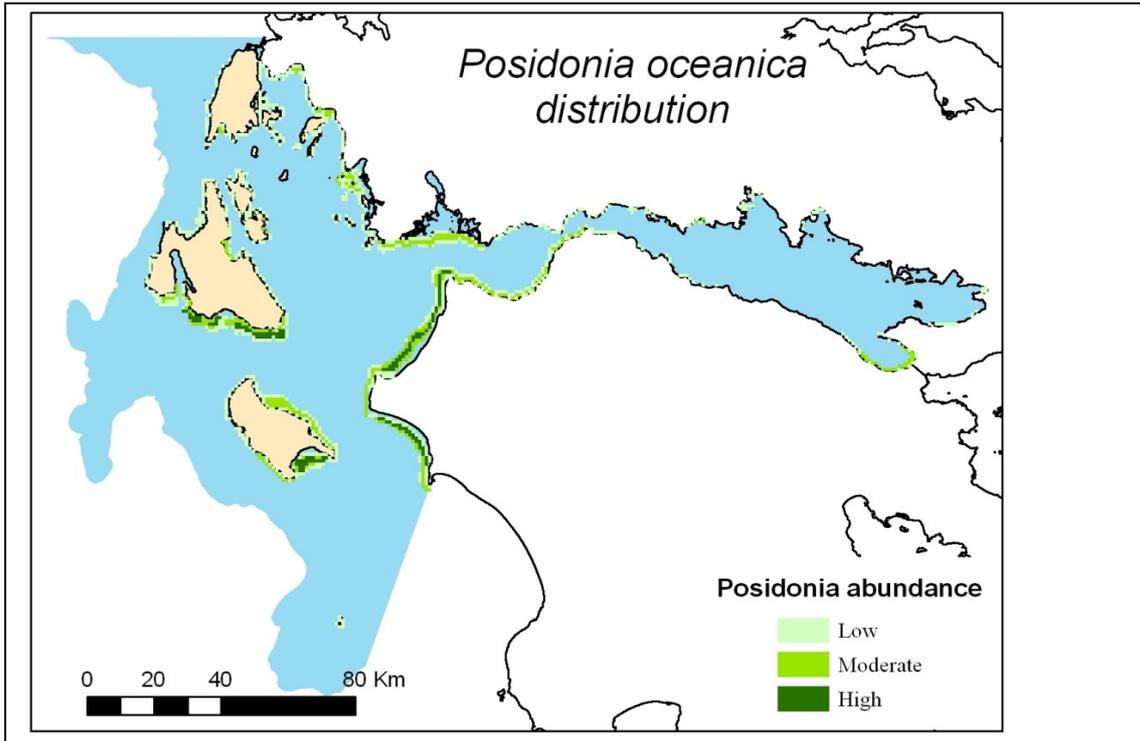


Figure 7. *Posidonia* meadows in the Greek MESMA case study area

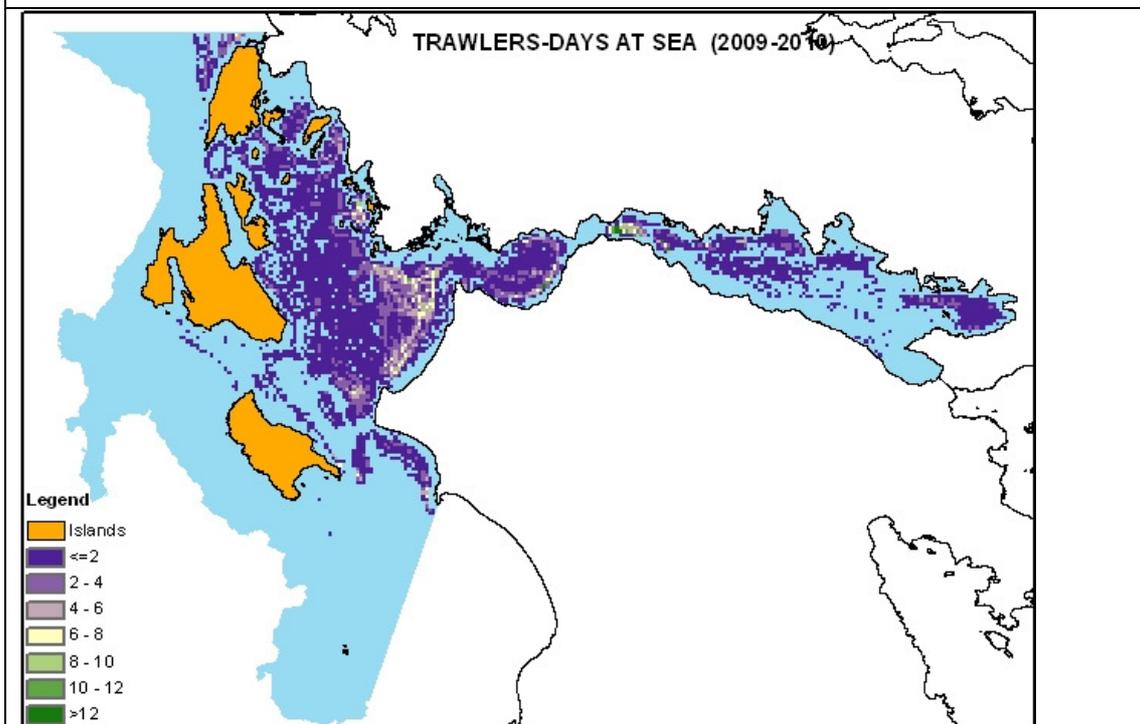


Figure 8. Trawlers days at sea (2009-2010) in the Greek MESMA case study area
Scale, 1:2.000.000

3.2. Overfishing of small pelagic fish depleting dolphin and other top predators' food resources

The wider central Ionian Sea and the western Greek coasts are known to host an important part of the total Mediterranean population of the sperm whale (*Physeter macrocephalus*), the bottlenose dolphin (*Tursiops truncatus*) and the short-beaked common dolphin (*Delphinus delphis*). The more elusive Cuvier's beaked whale (*Ziphius cavirostris*), the humpback whale (*Megaptera novaeangliae*) and the fin whale (*Balaenoptera physalus*) also occur here (Frantzis et al. 2003; Frantzis et al. 2004; Frantzis 2009).

The Inner Ionian Archipelagos, in particular, seems to present special conservation interest for the short-beaked common dolphins *Delphinus delphis*, a species included in the Appendix I and II of the Convention on the Conservation of Migratory Species of the Bonn Convention. The Mediterranean subpopulation of this species has been also classified as Endangered in the IUCN Red List of Threatened Species, due to extent declines in their numbers and degradation of their habitat (Bearzi, 2003; Bearzi et al. 2008).

The Inner Ionian Sea, also known as the Echinades Archipelagos, is a semi-enclosed marine area encompassing numerous small islands and islets, most of which are uninhabited or solely taken up by small fish farm operations. This area has long been known as one of the last places in the central Mediterranean Sea where abundant groups of the common dolphin could be found (Politi et al. 1999). On that grounds, the area has been characterized as a Site of Community Importance under the 92/43 EEC Habitats Directive and as an Area of Conservation Importance under the 2002 Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) (Bearzi et al. 2004).

However, Bearzi et al. (2008) showed a recent dramatic decline of the species in the area; within slightly over a decade, the total numbers of recorded individuals dropped from 150 down to a mere 15. Similar depletions had also been recorded for other megafauna species previously known to forage in the same area, such as Tuna and swordfish (Bearzi et al. 2006). Monitoring the local fishing fleet, the authors provided ample evidence that this decline is due to resource depletion (Figure 9), resulting from unsustainable fishing practices, and particularly purse-seining and beach-seining competing for the same key prey species such as the Clupeidae and Engraulidae (Bearzi et al. 2008).

This finding represents one of the most striking conflicts between fishing and conservation sectors, and urges for direct management measures to ensure protection of the species and sustainability of fishing practices.

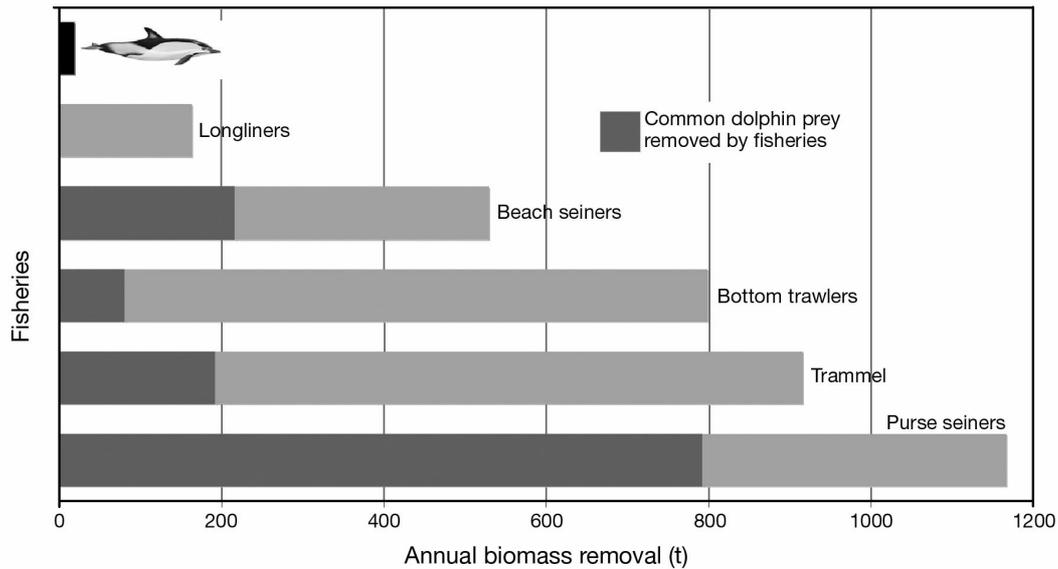


Figure 9. Total biomass removed by common dolphins and fisheries during a study by Bearzi et al. 2008, the darker parts representing prey resource overlap between common dolphins and various fishing gears in the Inner Ionian Archipelago (Figure taken as is by Bearzi et al. 2008)

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3.3. Illegal collection (poaching) of *Pinna nobilis*

On the southeastern part Korinthiakos Gulf lies the Perachora peninsula, which comprises the Vouliagmeni Lake lagoon on its southwestern part (Iraion). The lagoon connects to Korinthiakos Gulf via a narrow (18.7 m) and shallow (1.1 m) artificial channel, constructed about a century ago (Katsanevakis, 2005). Vouliagmeni Lake lagoon at Iraion has been shown to support large and important populations of the endangered Mediterranean fan mussel *Pinna nobilis* (Katsanevakis 2005).

The global population of the Mediterranean endemic *P. nobilis* has been greatly reduced during the last few decades, reportedly due to recreational and commercial fishing for food, use of its shell for decorative purposes, and incidental killing by trawling and anchoring (Katsanevakis, 2007a). The species is thus strictly protected under the Annex IV of the Habitats Directive, and the Bern and Barcelona Conventions. It is also enlisted in the Greek Presidential Decree 67/1981, and has been identified as endangered in the recently updated Greek Red Data Book (Katsanevakis, 2010).

The longlived fan mussel *Pinna nobilis* is rather ubiquitous in the wider Ionian Sea, but occurs in significantly denser populations within the Vouliagmeni Lake lagoon (Katsanevakis, 2005a). More particularly, the *Pinna nobilis* population in Lake Vouliagmeni was estimated to be 8501 ± 4395 individuals in 2004 (Katsanevakis, 2005a). According to Katsanevakis (2006; 2007a;b; 2009) who studied the fan mussel population size, growth and mortality in Lake Vouliagmeni (Katsanevakis, 2007b), the abundance of large individuals in shallow waters (3-5m) were found to be strikingly low in comparison to 12 m depth. This abnormal size segregation was attributed to poaching, usually conducted by free-diving in this area of relatively low visibility (usually much less than 10 m). Moreover, a significant population decline (by 50%) was recorded within a period of the next three years (Katsanevakis, 2009), a fact which was attributed to both poaching and low recruitment rates.

This case study clearly depicts that Illegal recreational fishing is an important and highly unassessed threat for many marine species, including several of which are, supposedly, enjoying a protection status in Greece and elsewhere.

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4 GOVERNANCE APPROACH & EFFECTIVENESS

4.1. A typical top-down approach

The main governance approach applied in the Greek MESMA case study area is a top-down approach, imposed by the central government. More precisely for the elaboration and the implementation of the legal framework there are two competent ministries: 1) Ministry of Environment, Energy and Sustainable Development (Department of Natural Environment) for conservation issues and 2) Ministry of Food and agriculture (Department of Fisheries) for fisheries issues.

In Greece there is lack of a strong National legal framework for both conservation and fisheries. Thus, the EU Directives and Regulations are covering the “empty space”. The EU Directives and Regulations represent “hard” legal texts and they are transposed to the Greek legal system through a vote in the Greek Parliament, usually without effective consultation with the Regional Authorities, the end-users or the public in general.

Since 2010, before the vote in the Parliament, there is an open consultation in the internet known as “open-gov”, but the efficiency of the procedure is limited by the short duration of the consultation and the small number of internet users in Greece. Hence, the end-users (e.g. fisherman) usually learn about a new legal framework after the vote in the Parliament, at the phase of implementation. On the other hand the NGO’s which usually have access at the web-consultation they do not have enough time to prepare a well organised reaction (e.g. prepare alternative legal texts). The result is that just after the vote at the Parliament of a legal text on conservation or fisheries issues, the central government has to face an “opposition front”: the end-users claiming that the legal provisions are very severe and the NGO’s claiming that the legal provisions are vague or ineffective.

The Regional Authorities (in Greek “Periferies”) might have a buffer role between the Ministries and the end-users. Nevertheless, the Central Government keep them usually out of the consultation-preparatory phase of the legal texts. Even when the Regional Authorities are invited to the consultation phase their capacity is limited due to the lack of qualified staff. The result is that the Regional Authorities are rarely able to implement the legal framework voted by the Parliament. Sometimes the Regional Authorities support the end-users against the Central Government decisions, because they are directly exposed to the social pressure of the local end-user. It is worth mention that due to the insular and mountainous character of Greece the Regional Authorities which are based at the capital of the Region have not easy access to the local problems. For example the Regional Authority competent to control illegal fishing activity needs many hours to arrive *in situ* (if any staff available and if there is budget for such mobilisation). Additionally, sometimes the Regional Authorities try to avoid local social tensions. Thus, even the governance at the Regional Authority level is a top-down approach not able to compromise national and local priorities.

In order to bridge the gap with the opposition front (NGO’s plus end-users plus Regional Authorities) the central government has create a specific administrative institution: an Administrative Body for each National Park or for each specific Natura site. The Administrative Board have a competent academic (e.g. professor of ecology) as President and as members have representatives of the local municipalities and competent NGO’s. The Administrative Body is financed by the central government and is based in the Park or the Natura sites. Its role is to implement locally the rules

deriving from the legal framework. The Administrative Body use local people as administrative staff and local fisherman as guards. The staff of the Park authorities has direct social contact with the local end-users and usually they are more effective from any other authority, because they are able to arrive to a compromise.

Thus, the Administrative Body at the Park or Natura site level could be an active partner to the governance giving a decentralised dimension to the typical top down approach.

4.2. Perspectives according to stakeholder recommendations

In order to take into account the stakeholder opinion on the governance approach and effectiveness a number of interviews was carried out (see Annex II). The interview method for conducting qualitative research was the “semi-structured” questionnaires, which is a very flexible technique.

The questions were neither highly structured (closed-ended questions), nor unstructured with open ended questions that encourage interviewees to express themselves in their own way. According to the bibliography semi-structured interviews offer carefully designed topics and questions to in order to elicit the interviewee’s ideas and opinions on the topic of interest, as well as to avoid leading the interviewee towards preconceived choices.

For practical reasons in the questionnaires the marine areas under investigation are mentioned as Marine Protected Areas (MPA’s). The main objective of the ‘semi – structured’ interviews was to get actors opinion of the management of the specific marine areas concerning the following issues:

- *Effectiveness* of the existing Spatial Management Plan, if there is one.
- *Consequences* due to the lack of Spatial Management Plan if there is no plan.
- *Good governance* of MPAs.

Our findings reveal that the majority of the involved actors suggest that MPAs are regulated through inappropriate or unclear legislative framework leading to their misconception and mismanagement. This conclusion is very important as the effective MSP prerequisites transparency and clarity at least at the legislative level. Almost all of the interviewees demand from the governmental bodies to develop and adopt management plans in MPAs as soon as possible. Their main claim is the promotion or restriction of the socioeconomic activities that either comply or not with the objectives set for the MPAs. The main point arising from our survey is that there is a consensus among the involved actors concerning the importance managing plans play towards ensuring the proper management of MPAs.

Stakeholders made policy recommendations on three main axes:

Management Plans: Our analysis reveals that there is a need for developing management plans for MPAs with clear guidelines, rules and penalties for the involved actors. The development of management plans is a complicate process that among other factors requires the participation of stakeholders and the definition of trade-offs among the socioeconomic activities.

Implementation measures: This dimension describes the proposed implementation measures that can potentially enable management plans to be successful. It is worth to

highlight that most interviewees seem to believe that penalties and control mechanism are efficient tools for managing MPAs.

Involved actors: The role of involved actors plays an important role for managing MPAs. All stakeholders suggest that the central government should develop mechanisms for supporting a network of MPAs sharing the same principles and objectives. Moreover, the revision of the Greek administrative structure (known as ‘Kallikratis’ plan), from the central government constitutes an issue that needs special attention.

4.3. Recent changes in the Greek administrative structure

The “Kallikratis” plan (Law 3852/2010) changed the administrative system of Greece. The former system of 13 Regions (one Secretary General was nominated by the central government for every Region) and 54 Prefectures and 1033 Municipalities and Communities (local authorities, through general elections), was replaced by 7 Decentralized Administrations (one Secretary General is again nominated by the central government for every Decentralised Administration) and 13 Regions and 325 Municipalities (local authorities through general elections). The 7 Decentralised Administrations and 13 Regions under the “Kallikratis” plan are presented in Table 4. The recent changes in the Greek administrative structure will probably have a negative effect on the effort for a decentralised governance of the MPA’s. Nowadays it is not clear if the responsibility for the “Regional Water Authority” will stay at the Regional level or at the level of the Decentralised Administration. Finally, the central government foresees –for economic reasons- only one Administrative Body for all the Natura sites of a Region. If this plan will be applied the new “Regional Administrative Body” of the Natura sites will lose the bottom-up participative.

Table 4: Administrative Structure under the: “Kallikratis” Plan

Decentralised administrations	Regions (Periferies)
Administration of Attica	Attica Region
Administration of Macedonia and Thrace	East Macedonia and Thrace Region Central Macedonia Region
Administration of Epirus and Western Macedonia	Epirus Region West Macedonia Region
Administration of Thessaly and Continental Greece	Thessaly Region Central Greece Region
Administration of Peloponnese, Western Greece and Ionian Islands	Peloponnese Region West Greece Region Ionian Islands Region
Administration of the Aegean	North Aegean Region Southern Aegean Region
Administration of Crete	Crete Region

5 INCENTIVES

The structure of the section 5 was build according to the guidelines for MESMA WP6 governance research proposed by UCL

5.1 Economic incentives

E1 Promoting and protecting the rights and entitlements of local ‘customary’ users, *eg* through assigning fishing rights to certain marine areas and fish stocks

The prohibition of the beach seiners is promoting and protecting the rights of the small coastal fisherman. Small scale coastal fishery is compatible with habitat conservation.

The limitation of the trawling effort only to the local vessels could protect the fish stocks from the massive arrival of vessels from other Greek areas. If the local fish stock is healthy the local fisherman are not pouched towards illegal practices (trawling on seagrass meadows).

E6 Seeking NGO and corporate funding through endowments to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot ‘capture’ governance through an inappropriate degree and type of influence

During the last 25 years the NGO “Archelon” is financed through successive LIFE-Environment programs to support the development and implementation of the initiative “protection of *Caretta caretta* nesting” in the National Marine Park of Zakynthos. For the EU Commission the agreement of a national ministry of Environment is crucial for the selection of a LIFE proposal.

5.2 Interpretative incentives

I1 Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority operational objective

Maps at scale 1: 10.000 were provided by HCMR to support conservation actions in the Natura sites. On these maps the 9 habitat types of the HD Annexe I were presented as polygons with different colours. The purpose was to localise in each Natura site the priority habitats (Natura code 1120 “*Posidonia meadows*” and 1150 “coastal lagoons”) in a user friendly way, and put the emphasis of the conservation effort in these location (e.g. no aquaculture activity over *Posidonia meadows* no outfall of waste water treatment near the lagoons etc), as a first step to the “ecosystem based management”. Unfortunately, the dissemination of these maps was very limited. In most cases the local authorities were not aware that there were maps for their area, although there was specific EU funding for the dissemination process (organisation of local workshops and seminars). In the rare cases where such dissemination and awareness process was carried out the maps were the basic tool for decision making.

5.3 Knowledge incentives

K2 Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

After the 2010 biogeographical seminar, the Ministry of Environment has organised several meetings of consultation between the Administration (Ministry + HCMR) and the NGO's acting for marine conservation, in order to merge the conflicting information and reach a consensus on a realistic review of the Greek marine Natura network. The Greek MESMA case study was proposed as a top priority area for marine mammal conservation.

5.4 Legal incentives

L2 International-regional-national-local legal obligations that require the fulfilment of the priority operational objective, including the potential for top-down interventions

The top down interventions are the main governance incentive in the Greek MESMA case study (as it is everywhere in Greece) for any international-regional-national-local legal obligations that require the fulfilment of the priority operational objective.

5.5 Participative incentives

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *e.g.* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc.*, including training to support such approaches

The main participative government structure in the Greek MESMA case study is the Administrative Body of the National Marine Park of Zakynthos. The Administrative Bodies of Messologhi Lagoon National Park and Kotychi-Strophilia Wetlands National Park are less involved in the Greek MESMA case study, because they focus their conservation activity on costal lagoons and wetlands.

5.2 A discussion on how you think governance could be improved to better meet the priority objective and to address related conflicts through improved individual or combinations of incentives.

The actual governance approach in the Greek MESMA case study could be improved to better meet the priority objective if the following incentives (according to the guidelines for MESMA WP6 governance research proposed by UCL) would be applied:

Economic incentives

E3 Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority objective and can generate sustainable income for local people

An alternative livelihood in the Greek MESMA case study is the eco-tourism and the fishing-tourism. These economic activities depend on the good ecological status of the area. In that case the stakeholders have an advantage if the priority objective is reached.

Interpretative incentives

I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions

In the Greek MESMA case study the existing habitat mapping is focussing on the HD Annexes I & II. Nevertheless, the habitat types and species included in these two Annexes are not reflecting only partially the biodiversity of the Greek coastal

waters. The Protocols of Barcelona Convention offer a better basis for the description of the Mediterranean biodiversity and the MSFD, which is supporting the Regional Seas Conventions, give to the EU Member States the obligation to promote the recognition of the biodiversity and ecosystem conservation benefits as the ultimate goal of the MSFD is “to maintain the capacity of the sea to provide goods and services, for this and the next generations”. I3 is an incentive creating high synergy with the incentive E3

Knowledge incentives

K4 Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc* to support the achievement of the priority objective while reducing conflicts

In the Greek MESMA there is a need of interactive maps combining conservation data with fisheries data to support the achievement of the priority objective while reducing conflicts

Legal incentives

L6 Clarity and consistency in defining the legal objectives of the existing initiative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority objective and existing plans/regulations for the management of individual sectoral activities

In the Greek MESMA clear zones for different uses are defined only in the case of the National Marine Park of Zakynthos (Natura code GR 2210002). In the two other sub case study areas (Kylini - Kalogria, Natura code GR 2330007) and Inner Ionian (Natura code GR 2220003) there is only partially spatial overlapping respectively with the National Park of “Kotychi-Strophylia” wetlands and the National Park of Messologhi lagoon. As these National Parks are focussing on the wetlands and the lagoons the introduction of spatial restrictions (zoning) for the marine area under their jurisdiction could be an incentive promoting the better meet the priority objective.

Participative incentives

P2 Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect

P3 Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

P6 Providing for participative enforcement amongst users, *eg* peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of restrictions

P9 Bringing in ‘neutral’ facilitators to support governance processes and negotiations or training state employees to do so

P10 Employing ‘neutral’ and widely respected panels to arbitrate on issues, conflicts, options, *etc* and recommend decisions

In our point of view the participative incentives are the most promising ones for the improvement of the governance not only for the Greek MESMA case study area, but for the whole country. The difficulties in the development of participative incentives derive from historical, geographical and socio-economic reasons which are nowadays outdated.

The difficulty in decentralising some roles and develop participating incentives at a local government level (P2) derive from the global structure of the Greek Administration. For historical reasons Greece is one of the most centralised Member States in the EU. Many actual Greek Administrative Regions were independent state entities (e.g. the Ionian Islands and Macedonia), before to be integrated to the Greek State in the first decades of the 20th century. Nevertheless, this integration was not readily accepted by the neighbouring countries. During the Second World War II Italy proceeded to the annexation (not occupation) of the Ionian Islands and Bulgaria to the annexation of Macedonia. The civil war that followed (1944-1949) resulted in an even more difficult situation. For a long period, in many regions of the country, the power of the Central (Royalist) Government was challenged by Democratic (Communist) Army, who had the support of Albania and Yugoslavia. Four decades after the defeat of the Democratic Army the Greek Regional Authorities (52 Prefectures) were nominated by the Central Government. The first elected Prefecture Councils were established during the last decade of the 20th century and the first elected Regional Council (13 Periferies) was established in 2010.

Although the Greek Administration has powerful centralised features (Ministries) there is no coordination amongst them and difficulty in establishing clear rules in participation processes amongst different sectoral stakeholder groups (P3). There is no clear plan for the development of the Greek economy, which is based mainly on EU funding and international opportunities, thus very exposed to international economic crises as it is the case after 2007. A very good example of lack of clear rules in participation processes is the case of the Natura sites, where nobody knows which economic activity is compatible with the conservation targets and which is not compatible. The economic crisis obliges the Central Government to set up a clear development plan, thus clear rules in participation processes.

Finally, the difficulty in the promotion of the potential for cooperation (P6) has to do with the individualist character of the Greeks. Nevertheless, under the pressure of the economic recession everybody is willing to cooperate and ready to accept enforcement of restrictions. In this framework state employees (e.g. the Research or the Academic staff) are now accepted by the stakeholders as “neutral” facilitators ((P9), they are able to form widely respected panels (P14) on issues and conflicts and recommend decisions.

6 CROSS-CUTTING THEMES

Based on the findings of the previous sections, as well as on the interview report (Annex II of the present “governance report”) we consider that the major governance issues in the Greek MESMA case study are the following:

- Combining top-down role of state and bottom-up participative approaches;
- Inter-sectoral integration and related power issues including compensation (in emerging MSP framework);
- Cross-border issues between different countries;
- Environmental and social justice issues and related rights of appeal;
- Influence of different knowledge and of uncertainty in decision-making (e.g. different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships).

6.1 Combining top-down role of state and bottom-up participative approaches

In the Greek MEAMA case study there is no balance of the influence of stakeholders and the influence of national-local government in the existing initiative (6.1.1 according to the guidelines for MESMA WP6 governance research proposed by UCL). The top-down approach is dominant. The degree of decentralisation (*i.e.* influence of the Administrative Bodies of the National Parks) is small compared to the relative influence of national government on the existing initiative (6.1.2). Nobody is promoting MSP at national and ground levels, including promoting stakeholder participation to achieve strategic outcomes (6.1.3).

The level of consensus, compromise and imposition in the existing initiative is low (6.1.4). The views of stakeholders from different sectors on the priority objective, as they came out from our questioners is that “*there is a need for developing management plans for MPAs with clear guidelines, rules and penalties for the involved actors*” (6.1.5). The existing initiative (designation of a network of marine Natura sites) could be a vehicle for promoting cooperation and collaboration between different levels of governments (*eg* national/federal, regional, and local) and different sectoral agencies in developing and implementing marine spatial plans (6.1.6). Nevertheless, the lack of transparency in decision-making processes has a negative effect in the promotion of cooperation (6.1.7).

The role of NGO’s in promoting cooperation and fulfilling the priority objective is positive. But in some cases there are conflicts between NGO’s acting for the same objective. The conflict between “Archelon” and “MEDASET”, two NGO’s acting for the protection of *Caretta caretta* in the National Marine Park of Laganas Bay give us a typical example (6.1.8). Indeed, these two NGO’s are working for the same purpose: “Archelon” is a large open popular organisation able to mobilise every year many volunteers for field work (counting of nests, protection of nesting). On the other hand “MEDASET” is a small “personalised” organisation with few members able to promote lobbying on the sea-turtle issues. Both NGO’s are benefit for sea-turtle conservation and theoretically their activity is complementary. Nevertheless, in practice they act as competitors, because their funding depends from the Ministry of Environment. Even in the case of EU funding (e.g. LIFE-environment & LIFE-nature financial tools) where the NGO’s can propose projects and actions for funding, the approval of the

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

In the Greek MEAMA case study there are no general approaches adopted for promoting interactions and dialogue between different sectors, *eg* employing fora, bilateral consultations *etc* in order to reduce divide, mistrust and conflicts among different sectors and user groups, including the interactions between new and existing sectors. The role of NGOs as intermediaries for resolving inter-sectoral conflicts is doubtful (6.2.1).

Competition for space between sectors (*eg* tourism and conservation) and within sectors (*eg* between small scale coastal fisheries and trawling) is a source conflict for the existing initiative (6.2.2). The development and implementation of the existing initiative could be a vehicle for promoting integrated management of different sectors: brand name of the agricultural products of the Natura sites (6.2.3). There are potential winners and losers in the existing initiative, as displacement issues could give advantages to one of the stakeholders (6.2.4). The NGO's will have a rising role in promoting particular agendas and objectives when they will be more massive and less depending from government funding (6.2.5).

6.3 Cross-border issues between countries

In the Greek MESMA case study area there are cross-border issues regarding historical fishing access rights under 'relative stability' between Greece and Italy. There is Italian long line fisheries in the area, but there are no conflicts with the principal conservation objectives (6.3.1). In contrast, there is low effectiveness of transboundary cooperation and collaboration in the existing initiative, *eg* to designate a MSP for large cetaceans and managing adjoining MPAs cross national borders. The main reason is that Greece is not willing to accept an international SPAMI in the zone between 12 nautical miles and 6 nautical miles. It is worth mention that the Greek territorial waters are nowadays limited to 6 nm, due to territorial conflicts between Greece and Turkey in the Aegean Sea. In the Ionian Sea Greece looks forward to extend its jurisdiction at 12 nautical miles and negotiates with Italy an Exclusive Economic Zone (6.3.2). Sharing of data and information between different member states in the existing initiative is foreseen in the MSFD (6.3.3). Obviously the EC has a significant role and the principle of subsidiarity could be applied in the Greek MESMA study area. Nevertheless the EC is reluctant to play this role as far as the negotiations between EU and Turkey are ongoing (6.3.4). A mechanism for cross-border monitoring and integrated assessments could be the UNEP/MAP MEDPOL (6.3.5). MEDiterraneanPOLlution is an international monitoring project in the framework of the Mediterranean Action Plan, deriving from Barcelona Convention <http://www.medpol.unepmap.org>.

6.4 Justice issues

In the Greek MESMA case study the provision of legal rights to appeal in addressing justice issues could be the International Tribunal for the Law of the Sea's (6.4.1). Environmental justice issues – conserving marine environment for indirect benefits (ecosystem services) of wider society could be discussed at the Court of Justice of the European Union (6.4.2). Social justice issues – rights of users to access areas/resources for their livelihoods and 'way of life' could be the Greek Council of State (6.4.3)

6.5 Influence of different knowledges and of uncertainty in decision-making. *eg* different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

In the Greek MESMA case study the relative influence of expert and local knowledge in decision-making processes is low (6.5.1). The power of information and innovative communication tools is also low (6.5.2). No effects of uncertainty in decision-making. Decisions are usually taken by the central government on short term economic analysis, although the role of the precautionary principle is generally mentioned (6.5.3). No transparency on issues arising from uncertainty. Such issues are communicated some days before the voting in the Parliament and there is not time to debate and accommodate. The national scientific advisory bodies (*eg* National Research Centres) are used only when they agree with the decisions of the government (6.5.4). Expanding the role of the international scientific advisory bodies, *eg* CIESM in gathering data and providing advice on marine management could be possible only under the MSFD obligations (6.5.5). Accessibility to and transparency of existing data and information held by expert bodies, within sectors and by different nations could also be possible only under MSFD and INSPIRE obligations (6.5.6). The distribution of data and information between countries and regions is uneven. The implementation of EU Directives (*eg* INSPIRE) and the open data bases (*eg* WISE) under the control of the European Environmental Agency could bridge the differences in capacity for gathering and providing of data and information (6.5.7).

6.6. Impact of the Greek economic crisis: governance capacity index

New 6.6

Economic crisis and governance capacity

Key issue in our analysis is the identification of the parameters that do not allow efficient marine spatial planning in the MESMA Greek case study area. Our analysis reveals a top-down governance approach that is further supported by the current economic (and social) crisis in the country. Section 1.2 presents key governance indicators in Greece for the last fifteen years. Relevant indicators, developed from the OECD concerning the sustainable governance in terms of the quality of democracy and performance in policy fields in case of Greece for the years 2009 and 2011 lead to similar conclusions. Policy implementation and natural resources management are both rated poorly in comparison with other OECD countries.

(http://www.sginetwork.org/index.php?page=countries_keyfindings&country=GRC).

In the long run, moving beyond the obstacles that financial crisis imposed at governance level requires strategic management related to three historical legacies:

1. The last thirty years the political system is characterized by “polarized party competition and conflict-prone political culture”.
2. Second, the administrative system has a “legacy of weak state capacities”.
3. Third, at the level of state-society relations many problems of “powerful interests” are allowed to prevent reforms, are systematically favored at the expense of others. Simultaneously, the capacity for social pacts has been considerably diminished due to the system of corporatism.

Another important issue that the Greek financial crisis revealed was the extent of corruption and especially the political one. The last years, new legislation aims at fighting corruption but it seems not be so effective. According to the Transparency International’s Greek Office “In theory Greece appears to be doing fine, in reality though, laws are violated and those breaking the law are legitimized”. (<http://greece.greekreporter.com/2012/03/02/anti-corruption-chief-says-greek-laws-condone-graft/>). Further analysis of the relevant data and sources is advised to better understand how the economic crisis and governance capacity are interrelated.

7. CONCLUSION

The Greek MESMA case study area (Inner Ionian Archipelago & adjacent gulfs) is the marine space between the western part of the Greek mainland and the Ionian Islands, including mainly Greek territorial waters (only 6 nm from the coastline) but also international waters. The governance issue in the Greek MESMA case study area could be summarised as a conflict between conservation initiatives and human activities (fisheries, tourism etc) in a given area, under the National and the EU legal framework.

The priority objective of the governance in the Greek MESMA case study is “to maintain or restore conservation features to favourable conservation status”. The conservation features are deriving from the National legislation, the Barcelona Convention Protocols and the implementation of the Habitats Directive (HD).

Using as example three sub-case areas in the Greek MESMA case study, we tried to illustrate the different aspects of governance issues, which can be globally described as “conflicts in the triangle conservation-fisheries-tourism”. The common element of marine spatial planning is the fact the three sub-case areas belong to the Greek marine network of Natura sites. The status of the marine Natura sites is not exactly synonym to Marine Protected Areas (MPAs), but marine areas under “specific sustainable management”. The common objective in the Natura sites is the implementation of the HD. The difference between the first sub-case area “Laganas Bay Zakynthos Island” (Natura code GR 2210002) and the two others is that Laganas Bay is the only area with a precise marine spatial planning (zoning) because the whole area has also the status of National Marine Park. In that sub-case area there is only small scale fisheries activity and the conflict is limited between conservation and tourism. The other two sub-case areas belong only partially to a National Park and there is no precise marine spatial planning. In these cases the main conflict is between conservation and fisheries, with tourism as a secondary conflict. In the second sub-case area “Kyllini Bay” (Natura code GR 2330007) the conflict is focussed on trawling on *Posidonia* meadows and in the third sub- case area “Inner Ionian Archipelago” (Natura code GR 2220003) the conflict is focussed on small pelagic fisheries and the dolphin population decline.

In the three sub-case study areas the priority objective “to maintain or restore conservation features to favourable conservation status” is attained at a different degree due to the different maturity of the administrative and legal incentives:

In the first sub-case study area “Laganas Bay Zakynthos Island” the priority objective is attained in practice, although there are large margins of improvement. More specifically:

- The nesting beaches of *Carretta caretta* are open only to nature friendly tourism
- The marine caves with *Monachus monachus* are visited only by organised eco-tourism cruises
- Trawling fisheries on *Posidonia oceanica* meadows is prohibited

The governance scheme applied in Laganas Bay is the implementation of a precise marine spatial planning by a local Administrative Body (the authorities of the National Marine Park of Zakynthos) assisted by specific NGO’s, acting at the local as well as at the national and the international level.

In the second sub-case study area “Kyllini Bay” the priority objective is theoretically attained: the legal provision for trawling beyond 1,5 nautical miles from the coastline is assuring the protection of about 80% of the meadows. Nevertheless in practice the fishermen do not respect the restrictions and they are working closer to

the coastline, affecting more than 40% of the meadow. The authorities of the National Park Kotychi-Strophylia Wetlands are not competent for the marine front, because the main objective of the park is the protection of the wetlands and the coastal lagoons. The local NGO's are not specific and their capacity for action is limited. The Regional Authorities and the Coast Guard are in charge for the implementation of the fisheries restrictions. But even when they are informed by the local coastal fisherman about the presence of an illegal trawler, they do not have the means to act rapidly and effectively. The exploitation of VMS data, the use of clear habitat maps and the extension to the marine environment of the authority of the Administrative Board of the National Park Kotychi-Strophylia Wetlands could improve the implementation of the fisheries restrictions and attain the priority objective.

In the third sub-case study area "Inner Ionian Archipelago" the priority objectives is not attained. This huge marine area of 100.000 hectares of surface, which was nominated as Natura site for the protection of the dolphin population, not only failed to protect them, but in the contrary contributed to their extermination. The Natura site "Inner Ionian Archipelago" coincides only partially to the National Park of Messologhi Lagoon, which is mainly a park for the protection of coastal lagoons and wetlands. There is no marine spatial planning and there are no specific restrictions for small pelagic fisheries.

In Greece the status of the Natura sites is not clear from the management point of view. Until today the Central Government has not demonstrate the willingness to clarify which human activity is legal in a Natura site and which has to be restricted. Thus the local societies are afraid that in the Natura sites there will be restrictions in the near future. The reaction of the local stakeholder in the Natura sites is to abandon the traditional sustainable practices and take as much resources as possible before the arrival of the restrictions. The sub-case study area "Inner Ionian Archipelago" is a good example of the general principle "don't declare a marine area as MPA if you are not able to protect it". An alternative livelihood in "Inner Ionian Archipelago", as for example the eco-tourism and the fishing-tourism, could be a solid economic incentive to change the stakeholder behaviour towards the over-exploitation of the natural resources. The eco-tourism and the fishing-tourism activity depend on the good ecological status of the area. In that case the stakeholders have a strong economic advantage if the priority objective is reached.

The three examples given in the framework of the Greek MESMA case study area demonstrating that the main governance approach applied in Greece is a typical top-down model. In order to develop participative governance structures and processes that support collaborative planning and decision-making, the Central Government has created a specific administrative institution: an Administrative Body for each National Park or for each Natura site. Nevertheless, the effectiveness of this institution is limited as the Administrative Boards are nominated and funded by the Central Government.

The findings of the stakeholder interviews, carried out for the purposes of the present report, reveal that the majority of the involved actors suggest that MPAs are regulated through inappropriate or unclear legislative framework leading to their misconception and mismanagement. Almost all of the interviewees demand from the governmental bodies to develop and adopt management plans in MPAs as soon as possible. Their main claim is the promotion of the socioeconomic activities that comply with the objectives set for the MPAs or the restriction of the non complying activities. The main point arising from our survey is that there is a consensus among

the involved actors concerning the importance managing plans play towards ensuring the proper management of MPAs.

The financial crisis in Greece has changed the governance process and the public participation in the decision making. The governance capacity of the Central Government and the Regional Authorities in Greece is declining considerably after 2007, which is the starting point of the economic recession. Since 2010 the “Kalikratis” administration plan has change the Greek administrative structure. This plan led to a more centralised Regional Authorities (grouping 54 Prefectures in 13 Regions). The new Regional Authorities are not Regional Governments, as they are strongly dependant from the Central Government, and they are not flexible enough compared to the old Prefectures.

Finally, the Central Government foresees, for economic reasons, to create only one Administrative Body for all the Natura sites of each Administrative Region. If this plan will be applied the new “Regional Administrative Body” of the Natura sites will loose any bottom-up participative.

A7.13 Case study report: The Polish / Baltic Sea case study

Basic details of the case study:

Initiative	Marine Protected Areas in Puck Bay, Poland*
Description	Designation and implementation of <i>Natura 2000</i> sites in Puck Bay
Objectives	Nature conservation / MPAs: Maintenance or restoration of favourable conservation status of conservation features in the <i>Natura2000</i> sites
Scale	Local
Period covered	1970s-2013 (main focus on 2004-2013)
Researchers	Joanna Piwowarczyk, Borys Wróbel, Jan Marcin Węśławski (Institute of Oceanology, Sopot, Poland); Silje Holen (Norwegian Institute for Water Research)
Researchers' background	Economics
Researchers' role in initiative	Independent observers

*The Baltic Sea case study initially also encompassed a second initiative in Östergötland, Sweden, which is described in the case study report included in appendix 7.13. However, the detailed governance analysis for this case study centred on the Polish initiative, which is the one referred to throughout this report.

The next 84 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

Holen, S., J. Piwowarczyk, J.M. Węśławski and B. Wróbel. 2013. MESMA WP6 – Governance analysis. Baltic Sea Case – Baltic Sea Action Plan (BSAP) and NATURA 2000 sites in the Puck Bay: The Puck Bay (PLB22005) & The Puck Bay and the Hel Peninsula (PLH220032). A case study report for Work Package 6 of the MESMA project (www.mesma.org). 84pp.

A paper on this case study analysis is in preparation for a special issue of Marine Policy.

MESMA WP6 – Governance analysis

Baltic Sea Case – Baltic Sea Action Plan (BSAP) and NATURA 2000 sites in the Puck Bay: The Puck Bay (PLB22005) & The Puck Bay and the Hel Peninsula (PLH220032)

Partner 17: Norsk Institutt for Vannforskning (NIVA)

Partner 22: Instytut Oceanologii Polskiej Akademii Nauk (IOPAN)

Compiled by: Silje Holen (BSAP and Östergötland), Joanna Piwowarczyk (BSAP and Puck Bay), Borys Wróbel (Puck Bay), and Jan Marcin Węślawski (Puck Bay)

The report was prepared between January 2012 and March 2013, limited revision was done in October 2013;

0 Introduction

The Baltic Sea Case study focuses on two coastal areas in the Baltic Sea; Puck Bay in Poland and Östergötland County in Sweden. The main focus will be on Puck Bay with a brief comparison between Puck Bay and Östergötland. These areas share some characteristics; both being marine areas with brackish water and having quite similar climates and largely the same species. Located in the Baltic Sea, both areas form a part of the Helsinki Commission (HELCOM) area and are being managed under the HELCOM Baltic Sea Action Plan (BSAP). The plan aims to be fully in line with the Marine Strategy Framework Directive (MSFD) and all countries around the Baltic Sea have developed or are developing National Implementation Plans (NIPs) in which they apply national instruments for the implementation of the BSAP.

However, there are also great differences between the two areas. Östergötland County has a relatively well developed spatial management, existing plans for nature conservation and relatively few stakeholder conflicts. In Puck Bay there is no spatial management plan and strong conflicts between fisheries, nature conservation and tourism. A pilot plan has been developed for the area but it has not been implemented. By focusing on implementation of Natura 2000 in the marine environment in Puck Bay with a brief comparison with Östergötland, we will try to illustrate some experiences and challenges in implementing some elements of the HELCOM BSAP.

Most of the coastal and marine area in Östergötland County is pointed out as an area of national interest for nature conservation and recreation. Parts are also pointed out as areas of national interest for fisheries and energy production. The archipelago is facing new challenges as tourism, boat traffic and activities such as sports fishing, kayaking and sailing increase. Puck Bay is subject to the most intensive human pressures and conflicts in the Polish marine Areas; used extensively by tourists and fisheries. The whole area is ecologically extremely vulnerable and is therefore covered by the Natura 2000 network with the areas planned for bird and habitat protection. The Puck Bay is one of the two biologically most valuable areas within the Polish Exclusive Economic Zone, but also the most degraded one. The Major conflict for space is between the conservation issue and fishery which operates in 100% of protected areas in the Puck Bay. The major obstacles for tourism are nature protection and fishery. The definition of goals and objectives will be one of the most

important goals of MESMA framework application in the Puck Bay. Since the other area, Östergötland County, is more advanced in terms of management measures, the situations will be compared and we will try to assess the reasons behind it.

Geography

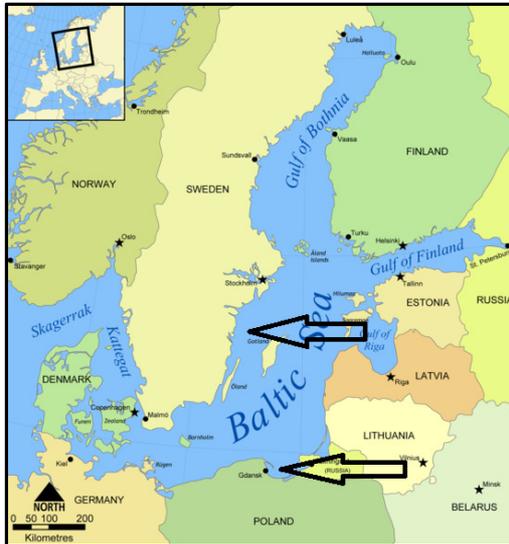


Figure 1. The Baltic Sea area with the case study areas of Puck Bay in Poland and Östergötland County in Sweden (Source: wikipedia.org)

Östergötland County

Context

Östergötland County is situated at the Swedish east coast at approximately 59° 30'N 17°E (figure 1). The total area of Östergötland County is 14,624 km², whereof 2335 km² constitutes the Baltic Sea. Östergötland County is divided into 13 municipalities, whereof three (Norrköping, Söderköping and Valdemarsvik) are situated by the coast. The human population of Östergötland is 430,000 people, whereof 151,000 live in the coastal municipalities. An important part of the physical planning is the comprehensive municipality plans. These plans regulate the development and usage of water and land within the municipalities. Municipality programmes for nature conservation are integrated parts of the comprehensive plans. Most of the coastal and marine area of Östergötland is pointed out as an area of national interest for nature conservation and recreation. Parts of the area are also pointed out as areas of national interest for fisheries and energy production.

The marine environment of Östergötland is very varied; from four great bays that extend far westwards into the country via an archipelago comprising some 6300 islands and skerries, to open sea to the east. With great variation in e.g. bathymetry, wave exposure, freshwater outflows and human activities Östergötland County encompasses several different habitat types (figure 2).

Being a typical Baltic Sea environment with brackish water of low salinity (about 0.2 – 10 psu), the diversity of marine species is low compared to areas with higher salinity. But another effect of the low salinity is that a many freshwater species thrive in the area, resulting in an ecosystem with a mixture of marine and freshwater species. Examples of important marine habitat forming species are

bladderwrack *Fucus vesiculosus*, eelgrass *Zostera marina* and blue mussels *Mytilus edulis*. A few examples of habitat forming freshwater species are the pondweeds *Potamogeton pectinatus* and *P. perfoliatus* and milfoils *Myriophyllum* spp. Both marine and freshwater fish species are present. Some species of commercial value are cod *Gadus morhua* and herring *Clupea harengus* (marine species) as well as perch *Perca fluviatilis* and pike *Esox lucius* (freshwater species). Among birds and marine mammals, the white tailed eagle *Haliaeetus albicilla* and the grey seal *Halichoerus grypus* are examples of well-known species that are recovering in the area.

Östergötland County encompass two Baltic Sea Protected Areas (BSPA), established under the Helsinki Commission (HELCOM); St. Anna-Missjö and Kvädöfjärden with Torrö. Their protection is implemented with the support of the Swedish legislation. The whole Kvädöfjärden with Torrö is now protected with the legal status as a nature reserve with existing management plans. Approximately half of the St. Anna-Missjö consists of areas with protection in the Environmental Code and largely existing management plans. There are 53 Natura 2000 areas in Östergötland that encompass marine waters, whereof nine with marine Natura 2000 habitats. There are also 47 nature reserves that encompass marine waters, but of these, only four have described marine values and management plans and regulations with the aim of conserving these values. In addition to these larger areas, there are 65 protected areas for sea birds and 1 for seals. These areas are mainly no entry areas during part of the year for protection of bird breeding areas or seal haul out sites.

The inner (eastern) parts of the coastal area of Östergötland are the most densely populated parts. The largest city in the area is Norrköping (approximately 85,000 inhabitants) which is situated at the innermost end of Bråviken, the largest bay in Östergötland. The smaller cities Söderköping and Valdemarsvik are also located in the innermost ends of two great bays, the bay Slätbaken and the bay Valdemarsviken.

The archipelago in the east is more scarcely populated. Many inhabitants still utilise the area's natural resources in a traditional way for small scale commercial fishing, grazing grounds for cattle etc., thus contributing to conservation of the area's cultural values and cultural landscape. Such activities are however decreasing in the area. The archipelago is now facing new challenges as tourism, boat traffic and activities such as sports fishing, kayaking and sailing increase. Management measures for dealing with this change are presented in a proposed management plan for the BSPA-area Missjö-St Anna which is located in the region.

A complexity map of national and regional sectoral interests in Östergötland County is shown in Figure 1.

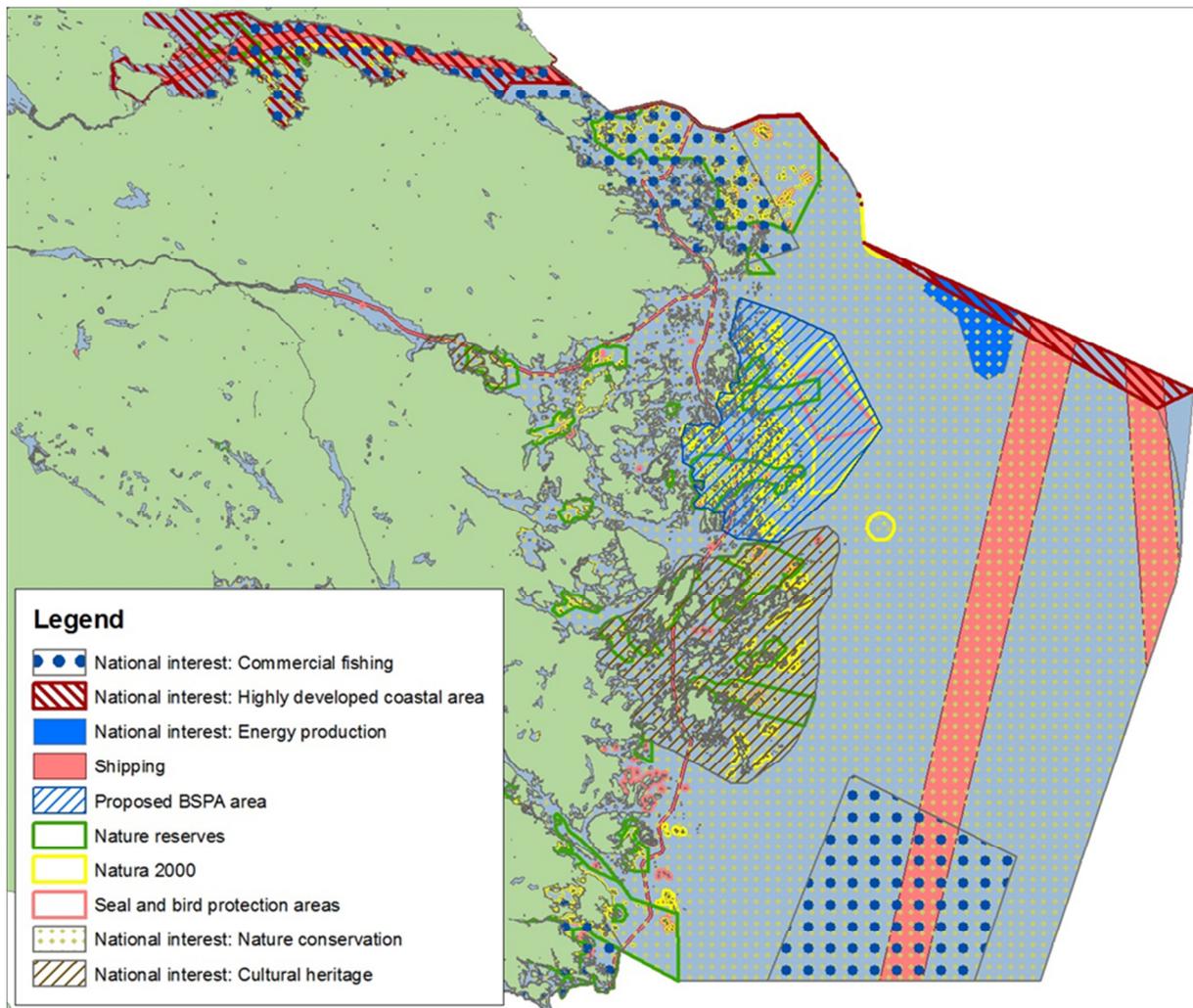


Figure 1. National and regional sectoral interests in Östergötland County.

Administrative structures

In Sweden, the major levels for administrative boundaries are national, regional (county) and local (municipal). Objectives are top-down managed. For example, the national environmental quality objectives are a national steering document that has to be regarded in the development of regional environmental quality objectives. On the local level, both the national and the regional objectives have to be taken into account in the development of municipal specific objectives. Similarly to the objectives there are several types of areas of national interest that have to be regarded at regional and local level. However, it is the municipalities that are responsible for the development of comprehensive management plans, which are to be reviewed by the County Administrative Board to secure that they fulfill the national and regional interests.

In addition to the various levels for objectives and spatial planning, there is more than one document that is relevant for MSP in each municipality. All municipalities have a comprehensive management plan supplemented by other plans, such as a nature conservation strategy, a climate strategy, and/ or a wind power supplement. Naturally these plans are of various dates and thereby do not always match in time. A comprehensive management plan and a nature conservation strategy have been

available for all three coastal municipalities (although one nature conservation strategy has not yet been adopted and two comprehensive plans are outdated), wherefore the evaluation has been based on these documents. Although the municipalities must determine if the comprehensive plan remains current have at least once during each term in office (every four years), two of the plans are outdated (from 1990).

The municipalities are responsible for the physical planning and must, according to the Planning and Building Act, have a current comprehensive plan covering the entire municipality. The County Administrative Board cooperates with the municipalities and other governmental bodies by giving guidance, providing regional basic data for the municipal spatial planning, and reviewing the municipal comprehensive plans to ensure that they regard national and regional interests. The comprehensive plan accounts for public interests as well as environmental and risk factors that should be taken into account when making decisions about the use of land or water areas. The following should be clear from the plan: the outline of the intended use of land and water areas, the municipality's view of how the built environment should be developed and be preserved and how the municipality intends to provide for the presented areas of national interest according to the Environmental Code and the environmental quality standards, if these affect the municipality. The comprehensive plan constitutes the basis for the drawing up of detailed development plans and for the examination of permit applications. At least once during each term in office, the local council must determine if the plan remains current. The comprehensive plan is not legally binding for the authorities or individuals but is to give guidance when making decisions.

Regarding objectives relevant for MSP in Östergötland, one of the most important steering documents are the 16 Swedish environmental quality objectives. In addition to these there are regional environmental quality objectives contributing to the national objectives and in some cases also municipal objectives. The municipal environmental objectives and the actions needed to reach the objectives are presented in the nature conservation strategies that complement the municipal comprehensive plans.

Key drivers

The key drivers at the municipal level are:

- The obligations to follow the national and regional objectives (for example regard areas of area of national interest for the purpose of nature conservation, conservation of the cultural environment, outdoor recreation and commercial fishing).
- The needs for local business to create job opportunities balanced by sustainable use and conservation of natural, cultural and recreational values.

Progress towards integration and sustainability

There is apparent progress towards integration of sectors and activities towards sustainability considerations. A clear example of this is the municipal comprehensive plan and the nature conservation strategy of Valdemarsvik. The comprehensive plan from 1990 is overall unspecific, without clear targets, based on limited knowledge (especially for the marine environment) and treats

all sectors separately. On the contrary, the proposed nature conservation strategy from 2012 has clear objectives and actions integrating many relevant sectors of the society.

In the nature conservation strategies of all three municipalities, there is an action within the category “Physical planning and exploitation” with the following wording (minor differences among the municipalities):

“Regard the interests of natural and recreational values in all physical planning, building permits, dispensation in shore protection areas or other exploitation. Decisions affecting these interests shall be taken on satisfactory knowledge basis. EIA methodology is applied and when needed an EIA is established.”

To be practical definitions are needed for “satisfactory knowledge basis” and “when needed an EIA is established”, but that the intention to integrate sectors and activities towards sustainability considerations is obvious.

Several more examples are to be found in the municipal nature conservation strategies. On the national level, the most important objective for the marine environment is the national environmental quality objective “A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos”. The Parliaments definition for this objective is as follows:

“The North Sea and the Baltic Sea must have a sustainable productive capacity, and biological diversity must be preserved. Coasts and archipelagos must be characterized by a high degree of biological diversity and a wealth of recreational, natural and cultural assets. Industry, recreation and other utilization of the seas, coasts and archipelagos must be compatible with the promotion of sustainable development. Particularly valuable areas must be protected against encroachment and other disturbance. This objective is intended to be achieved within one generation.”

Again, the integration of sectors and activities towards sustainability considerations is clear.

Regarding the process of the environmental quality objectives, 15 objectives were adopted in 1999, replacing a list of major environmental problems. On a number of subsequent occasions, it passed resolutions introducing a total of 71 interim targets. In 2005, a 16th environmental quality objective was adopted by the Parliament. At the same time, some interim targets were withdrawn and others set or revised. In 2009, an additional target was introduced under the objective Reduced Climate Impact, bringing the number of interim targets to 73. In 2010, the Parliament established a new goal structure for environmental efforts, a new organizational framework, and a new basis for assessing progress towards the environmental quality objectives. The process has served to integrate the environmental objectives with relevant sectors and to set clear targets.

Collaboration plan for the HELCOM established BSPA area St. Anna - Missjö

Östergötland County encompass the Baltic Sea Protected Area (BSPA) Missjö-S:t Anna, established under the Helsinki Commission (HELCOM). The County Board on behalf of the Environmental Protection Agency has developed a collaboration plan for the management, care and use of St. Anna - Missjö (Länsstyrelsen Östergötland 2011). The work has been conducted in three thematic working groups which included representatives for landowners, island organizations, municipalities,

Archipelago Council, Östsam and Östergötland County Administrative Board. The collaboration plan aims to:

- Clarify and strengthen the motives and conditions for long time sustainable management of the area's values
- Clarify and strengthen the motives, needs, and opportunities for continued dialogue and cooperation in the management process with the affected owners, users, organizations and authorities at local, regional and national level
- Be a factual basis for municipal planning, particularly comprehensive planning
- Be guidance for decision and policy makers at various administrative levels of society
- Contribute to the achievement of national and regional environmental goals
- Be a knowledge basis to start projects that utilize and strengthen the area's development, resources and values
- Being a catalog of possible / desirable measures to strengthen the long-term sustainable development in the area

The Helsinki Convention is not mentioned in Swedish law. This means e.g. that ownership in terms of the ability to use land and water beyond what still applies under Swedish law is not affected by the area being designated as BSPA area. The nature reserves and animal sanctuaries within the BSPA area have its formal status granted by the individual decisions under the Environment Act.

The plan is a strategic document. From the Östergötland county administrative side, this means that the objectives and actions worked forward in the collaboration plan for the HELCOM established BSPA area St. Anna - Missjö will guide the agency's work with nature and environmental measures in the area. The County Administrative Board naturally assume that the other operators in and around the area will see the collaboration plan as a natural and important basis for future actions and planning of their own operations as well as support the future management of resources, processes and events in the area and its vicinity.

The collaboration Plan is a conscious balance between use and conservation to achieve sustainable development in the area that benefits or is acceptable to both people and the natural values.

Obstacles to achieve integration and sustainability

The known major obstacles are:

- The knowledge and interest in nature conservation and spatial planning, and thereby also the allocation of municipal resources for this, varies among the municipalities. The proposed nature conservation strategy is however a clear improvement.
- In many areas there is distrust towards authorities and nature conservation as that is seen as a threat to the utilization of the area. For example in the HELCOM Baltic Sea Protected Area (BSPA) in Östergötland archipelago, a common interpretation among local residents is that the designation of a

BSPA area is an indirect way by the authorities to designate a marine national park in which several activities will be restricted, and thereby obstructing the living in the area. Examples of activities that residents do not want to be obstructed are; fisheries, forestry and farming, housing and development, and hunt of seals and cormorants. In addition there is often a negative view on non-residents utilizing the area, such as sports fishermen and fishing guides. This can make the situation complicated for tourist enterprises.

In summary the society in the archipelago area has been a depopulation area undergoing drastic changes during the last decades; from making their living of a combination of fishing and farming/forestry (and before the 1960's also seal hunt), to an unsecure situation where the traditional living is not sustainable and not enough new business opportunities have been found.

Offshore there are no major conflicts among any sectors. Outside the archipelago the bathymetry is fairly even and deep with no offshore banks. Shipping is of high importance, especially to Norrköping harbour. The potential conflict with commercial fisheries has decreased as the fishery has ceased due to regulations and decreasing fish stocks (due to overfishing). There is one area of national interest for the purpose of energy production, but that has not been identified as a priority area for wind power by Norrköping Municipality. All prioritised areas prioritised for wind power by the Municipality are on land. As the entire archipelago of Östergötland is an area of national interest according to the Swedish Environmental Code Chapter 4, potentially natural, cultural and recreational values may be in conflict with all other sectors if their activities are not sustainable.

Puck Bay

Puck Bay is a shallow western branch in the southern Baltic Sea, off the shores of Gdańsk Pomerania, Poland. It is part of the Gulf of Gdansk that is the system of estuaries, in which there is a mix of brackish and marine waters. Freshwater comes from terrestrial sources, mainly the Vistula River, the second largest river flowing into the Baltic Sea. The Puck Bay is the South-western part of the Gdansk Basin and the Western part of the Gulf of Gdansk. It is enclosed by the large curve of the shores. In the North it is separated from the open sea by the Hel Peninsula and its Eastern border is the line that connects the Cypel Helski with the Kamienna Góra. The Puck Bay is the part of Polish internal waters according to the international law of the sea. It is the subject to the most intensive anthropogenic pressures and conflicts in the Polish Marine Areas, used extensively by tourists and fisheries. The region is under the influence of the Tricity agglomeration, which has the population of about 760,000 inhabitants. The Tricity metropolitan area is even larger – it has the population of over 1 million people. The Tricity comprises of the two large harbour cities – Gdynia (cargo passengers) and Gdansk (cargo, LPG) and a sea resort of Sopot. The whole area is ecologically extremely vulnerable and is therefore covered by the NATURA 2000 network with the areas planned for bird (OSO) and habitat (SOO) protection. The part of the Puck Bay is also covered by the Coastal Landscape Park recommended together with the Kepa Redłowska Reserve as the Baltic Sea Protected Areas (HELCOM BSPA).

1 Context

1.1 About the existing initiative you are evaluating, which can be an integrated marine spatial plan or part of the plan, or an initiative with spatial elements if there is no integrated marine spatial plan in place

Name of the existing initiative: marine NATURA 2000 sites¹

PLH220032 Zatoka Pucka i Polwysep Helski

PLB220005 Zatoka Pucka

Geographical boundary of the existing initiative

PLH220032: Zatoka Pucka i Polwysep Helski

Area (ha): 26,484.8

Ownership structure: private, communal and State.

The site comprises the Hel Peninsula with Inner Puck Bay and the part of the coast between the town of Wladyslawowo and the town of Mechelinki (Kepa Oksywska).

This area is also a subject to other forms of nature protection. Part of this site is in the Coastal Landscape Park (established in 1979) and designated as the HELCOM Baltic Sea Protected Area (BSPA) in 1992. There are also three terrestrial nature reserves and two sites of ecological interest. Designation of two underwater nature reserves is projected.

PLB220005: Zatoka Pucka

Area (ha): 62,045.5

Ownership structure: mainly by State, but also by private owners.

The area includes waters of the Eastern part of the Gulf of Gdansk, between the coast of the Hel Peninsula in the North, the coastline from the town of Wladyslawowo to the mouth of the Wisla Smiala in the West and in the South. A line between the Wisla Smiala mouth and the end of the Hel Peninsula constitutes its Eastern border.

Part of this site is also protected through other legal forms: two nature reserves and the Coastal Landscape Park/BSPA.

¹ Information in this section retrieved from <http://www.gdos.gov.pl/>

Location

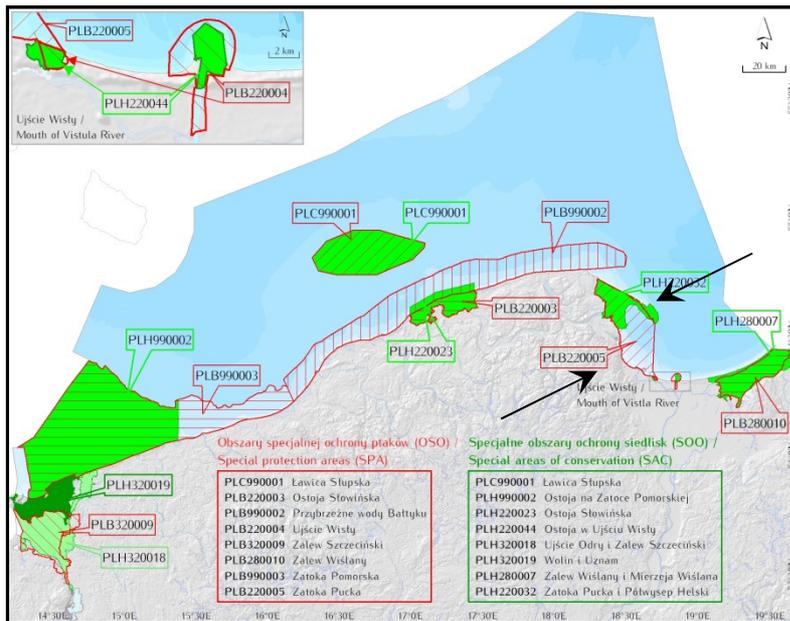


Figure 2. Location of the marine NATURA 2000 sites in Poland (after Gic-Grusza et al. 2009 (eds))

History of the existing initiative (how and why it was established)

PLH220032 Zatoka Pucka i Półwysep Helski

Date the site was proposed as SCI: April 2004

Date the site was confirmed as SCI: November 2007

PLB220005 Zatoka Pucka

Date the site was classified as SPA: April 2004

Competent authority/authorities (e.g., which government authority is in charge of the existing initiative, and collaborating national/local authorities)

Ministry of the Environment is responsible for NATURA 2000 network at the central level. The General Directorate for Environmental Protection is an institution responsible for implementation of environmental protection policy and management of NATURA 2000 sites. The General Directorate acts through the Regional Directorates for Environmental Protection, which directly supervise the majority of NATURA 2000 sites in Poland. However, NATURA 2000 sites situated within national parks or marine areas are excluded from this jurisdiction. Management activities are performed by the directors of the national parks or relevant maritime offices².

Marine NATURA 2000 areas (the Puck Bay) are covered with different legal regimes and managed by competing state/local authorities. The waters of the Inner Puck Bay are for example located within the borders of the Coastal Landscape Park, but its director has no legal tools for implementing any

² Ustawa o ochronie przyrody 2004 (Nature Conservation Act, Dz.U. 2004 nr 92 poz. 880)

protection instruments on the sea³. The authority over the territory is granted to maritime administration (Maritime Office in Gdynia; Zaucha 2009a).

The Puck Bay area is also a subject to national and international legislation concerning the species protection. Active protection is required for seals and common porpoises⁴, there are also legal acts for commercial and rare fish species. Fishing with drag tools is forbidden at the depths smaller than 20 meters and within 3 nautical miles from the coast. The same rules apply to the vessels longer than 15 meters⁵.

Main sectors and stakeholder groups involved in the initiative

NATURA 2000 sites were established at the central level (Ministry of Environment), but stakeholders were engaged through limited consultation process. Since NATURA 2000 is a spatial initiative, all sectors and stakeholders active in the region are at least indirectly affected. Conflicts and tensions in the region will be described in section 3.

1.2 The socio-economic and political context of the case study (if the local context is significantly different from the national context, you may focus on the local context and briefly mention the difference between local and national contexts where this information is available)

All data are the country level⁶:

- Per capita GDP: \$ 18,800 (2010 est.) in 2010 US dollars;
- Population density per km²: 123 (July 2011 est.);
- GDP growth rate, and the main driver(s) of economic growth: 3.8% (2010 est.);
- Economic structure (e.g., GDP composition by sector, main economic sectors, main source of employment etc.): services: 63.5%; industry: 33%; agriculture: 3.4%; (2010 est.);
- Contribution of maritime sectors to the national economy:

³ Ustawa o ochronie przyrody 2004 (Nature Conservation Act, Dz.U. 2004 nr 92 poz. 880)

⁴ Rozporządzenie Ministra Środowiska w sprawie ochrony gatunkowej zwierząt 2011 (Order of the Minister of the Environment on protection of wild animal species, Dz.U. 2011 nr 237 poz. 1419)

⁵ Ustawa o rybołówstwie 2004 (Fisheries Act, Dz.U. 2004 nr 62 poz. 574), Rozporządzenie Ministerstwa Rolnictwa i Rozwoju Wsi w sprawie wymiarów i okresów ochronnych organizmów morskich oraz szczegółowych warunków wykonywania rybołówstwa morskiego 2008 (Order of the Ministry of Agriculture and Rural Development on the size and seasons of protection of marine organisms and the specific conditions for sea fisheries, Dz.U. 2008 nr 43 poz. 260)

⁶ www.govindicators.org.

Table 1. Contribution of maritime sectors into national economy (Central Statistical Office 2011).

Specification		National economy	Of which maritime economy	
			Total	Poland = 100
Numbered of registered companies [in thousands]	2009	3 742.7	11.0	0.3
	2010	3 909.8	10.9	0.3
Employed persons [in thousands]	2009	13 449.1	78.7	0.6
	2010	13 778.2	82.9	0.6
Revenues from overall activities [in millions PLN]	2009	2 385 923.8	21 736.6	0.9
	2010	2 556 151.1	22 554.3	0.9
Gross financial income [in millions PLN]	2009	117 808.5	892.7	0.8
	2010	133 761.8	1 157.5	0.9

Note: these numbers are not particularly relevant to the case study due to the issue of scale (see location)

- Unemployment rate: 12.1% (2010 est.);
- Administrative structure (e.g., degree of autonomy of local/sub-national government);

The present administrative structure in Poland is based on three levels: “voivodeships” (provinces), which are further divided into “powiats” (counties), and these in turn are divided into “gminas” (communes or municipalities). Major (larger) cities have the status of both “gmina” and “powiat”.

- Governance capacity index: 0.81 (2010);
- Gini index of income disparity: 34.2 (2008).

1.3 The regional policy framework within which your specific WP6 focus is ‘nested’, e.g., regional sea action plans

History of the existing initiative

The Baltic Sea Region is of special interest for research because it is widely regarded as a pioneer in the introduction of new modes of governance (Joas et al. 2008). This shallow brackish water reserve is highly vulnerable to stress from modern industrialized countries. This problem was acknowledged at an early stage by the countries surrounding the Baltic Sea. Even during the Cold War period, cooperation across the Baltic Sea was comparatively strong, particularly in the area of environmental policy. International efforts were conducted, for example through the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area (HELCOM), which was signed by all countries surrounding the Baltic Sea in 1974. It became the first international regime on the protection of a regional sea and served as a model for many other regions in the world. Joas et al. (2008) describe that some positive changes are visible in the Baltic Sea, while other indicators suggest deterioration. Thus, a need for additional efforts is clear including new instruments and actors.

The rapid development of various new forms of international, intergovernmental and transnational governance in the Baltic Sea Region was triggered mainly by three events (Joas et al. (2008)):

1. The end of the Cold War and the transition of the former state socialist countries to market economies;
2. The United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro where Agenda 21 was signed in 1992;
3. The enlargement of the European Union, with a first wave in 1995 (Sweden and Finland) and a second wave in 2004 (Poland, Lithuania, Latvia and Estonia.)

The region experienced a major political change just a decade ago, introducing new elements into the environmental political arena. When the Cold War ended, the Baltic Sea Region developed a dynamic area of cross-border cooperation. New transnational networks, such as the Union of Baltic Cities, emerged. Transnational networks are a new governance type that are based on networks of civil society and sub-national actors in contrast to multi-stakeholder approaches such as Baltic 21, which include governmental actors as one of the major actor groups. In the Baltic Sea Region, the dynamics towards the emergence of transnational networks seem to be stronger than in other European regions (Joas et al. 2008). This process started immediately after the fall of the Iron Curtain, and many transnational networks emerged from the `bottom up` and independently from nation states.

Further, the Rio conference in 1992 influenced developments towards sustainability. In Rio, new forms of citizen and multi-stakeholder participation were discussed and adopted. These developments affected the region as a whole. As a result of the Rio conference, numerous Agenda 21 processes were launched at the national and regional level. In addition, an integrated Agenda 21 process for the Baltic Sea Region, Baltic 21, was initiated by the Council of Baltic Sea States in 1996. It became the world's first regional Agenda 21 process.

Governance in the Baltic Sea Region is now embedded within European governance and will lead to the Europeanization of the Baltic Sea Area (Joas et al. 2008). The Baltic Sea is no surrounded only by EU member states, with the sole exception of Russia. Therefore, European integration appears to offer a real chance to clean up the Baltic Sea. After EU enlargement, governance of the Baltic Sea Region becomes increasingly embedded in the supranational multilevel structure of the EU. State-centered governance is replaced by multilevel governance that causes political actors to interact across different levels of government. It is already evident that many governmental and non-governmental actors in the Baltic Sea Region orientate themselves towards the EU instead of only acting within their own country.

During the last three or four decades, voices were raised claiming that economic development has to include environmental aspects in order to be sustainable. Joas et al. (2008) describes that to achieve true environmental sustainability in the Baltic Sea Region, it is essential to reconcile economic imperatives with environmental needs. One of the key questions for the future of sustainable development in the Baltic Sea Region, is whether the newly democratized riparian countries will achieve similar levels of economic development without abusing the environment in process. It is therefore essential that environmental governance of the Baltic Sea Region combines the goals of economic growth and environmental protection.

Joas et al. (2008) also observe a slight trend towards prosperity pollution, especially in Poland and Lithuania, where the agricultural sector is larger than in Estonia and Latvia. However, the level of fertilizer consumption is much lower in Eastern Europe than it originally was and currently is in the Western Baltic Sea Region states. Regarding fertilizer consumption, it is stated that one cannot make any clear-cut statement on the relationship between economic growth and environmental pollution for the Eastern riparian countries of the Baltic Sea at the moment.

Socio-economic and political context

The land area of the Baltic Sea region (BSR) is approximately 2.4 million km² and is composed of whole or parts of territories of 11 countries. The population size of about 110 million inhabitants gives an average population density of some 46 inhabitants/km. More than a third of the BSR inhabitants live in Poland and nearly a quarter in Norway, Denmark, Sweden and Finland. Another quarter of the population of the Baltic Sea region lives in seven German Länder. Although the land area of the Baltic Sea region equals a little less than half of the area of the EU, the share of its population is 23 percent and the aggregated GDP about 16 percent of the total EU value. This is largely on account of substantially low levels of economic production per capita in the eastern part of the area. (Baltic Sea Region Programme 2007-2013)

Nevertheless, economies of the BSR countries are growing faster than the EU average. In addition, regional co-operation is shifting from the provision of support by Western countries to their Eastern neighbours - to a more balanced exchange. In 2005 nine of eleven countries had a higher growth rate than the EU average of 2.1 percent. On account of the substantial growth potential in the new Member States, Russia and Belarus, the BSR is forecast to be among the fastest growing regions of Europe in the near future or even to take the leading position (Baltic Sea Region Programme 2007-2013).

Between the years 1995 and 2004, the aggregated GDP of the BSR (excluding Russia and Belarus) grew by 42 %. One of its main reasons is constantly increasing trade within the BSR, driven by deregulation and removal of a number of customs administrative procedures in the new EU member states and especially high inflow of foreign direct investments to these countries. Further, the Region has over recent years retained its world export market position and strong export orientation.

In terms of shares at the global market, the Region is positioned even higher with regard to knowledge creation. Compared to other European and world regions, the BSR features a fundamental asset with regard to high levels of education, further education, and R&D personnel and expenditure, which provided excellent ground for formation of several leading scientific and technologic clusters in many fields of expertise. This potential is coupled with high degrees of organization, public participation and communication as well as with broad awareness in the countries around the Baltic Sea of the role the social factors play in sustainable economic development (Baltic Sea Region Programme 2007-2013).

The engine for social and economic development in the BSR is small and medium sized companies (SMEs). SMEs make up 99% of all companies and provide around 70% of all jobs in the Baltic Sea region, with a high level of innovative ability. More than two thirds of new patents do not come from universities, research laboratories and major companies, but from the very smallest and small companies. (Baltic Sea Region Programme 2007-2013).

Table 2. Key social and economic statistics of Sweden, Denmark, Finland, Russia, Lithuania, Germany, Poland, Latvia and Estonia (Source); GDP: Gross Domestic Product

	Sweden	Finland	Denmark	Russia	Lithuania	Germany	Poland	Latvia	Estonia
Per capita GDP (2011)	40,6 \$	38,3 \$	40,2 \$	16,7 \$	18,7 \$	37,9 \$	20,1 \$	15,4 \$	20,2 \$
GDP real growth rate (%) (2011)	4,4	2,7	1,5	4,3	6,0	2,7	3,8	4,0	6,5
Population (2012 est.)	910378	526293	554345	138082	352576	813058	384152	219158	1274709
Area (km²)	450295	338145	43094	170982	65300	357022	312685	64589	45228
Population density (hab/km²)	20,22	15,56	128,64	8,08	53,99	227,73	122,86	33,93	28,18
Economic structure (GDP composition by sector (%) (2011))									
Agriculture	1,8	2,8	1,3	4,2	3,2	0,8	3,4	4,1	2,6
Industry	26,9	29,2	22,1	37,0	28,0	28,1	33,6	21	29,2
Services	71,3	68,0	76,7	58,9	68,8	71	63	74,9	68,2
Unemployment rate (%) (2011)	7,60	7,70	6,20	6,80	16,20	6,00	12,00	13,00	13,00
GINI Index of income disparity	23,0 (2005)	26,8 (2008)	29,0 (2007)	42,0 (2010)	37,6 (2008)	27,0 (2006)	34,2 (2008)	35,7 (2008)	31,4 (2009)
Governance capacity index (2010)	1,77	1,85	1,82	-0,75	0,72	1,44	0,81	0,66	1,08

Administrative structure for the case study countries:

Poland: The present administrative structure in Poland is based on three levels: “voivodeships” (provinces), which are further divided into “powiats” (counties), and these in turn are divided into “gminas” (communes or municipalities). Major (larger) cities have the status of both “gmina” and “powiat”.

Sweden: Sweden is a unitary state, currently divided into twenty-one counties (län). Each county has a County Administrative Board or “länsstyrelse”, which is a Government appointed board. The main responsibility of the County Administrative Board is to coordinate the development of the county in line with goals set in national politics. Each county further divides into a number of municipalities or “kommuner”. Municipal government in

Sweden is similar to city commission government and cabinet-style council government.

Examples of economic values

The most important economic values provided by the Baltic Sea is commercial fishery, aquaculture, processing industry, tourism, cruise tourism, recreation, coastal cities and carbon and nutrient recycling (HELCOM & NEFCO 2007).

Fish stocks are the main biological raw material provided by the Baltic Sea. In addition, commercial fishery removes about 25,000 tons of N and 3,600 tons of P annually. Employment in the fisheries sector plays a significant role in regions where other economic alternatives are scarce. The number of people employed in the fishery sector is not limited to the number of fishermen at sea. The aquaculture and processing sectors, as well as ancillary industries such as marketing, distribution and shipbuilding are also important sources of employment.

In the countries of the EU-15, both the total volume and the total value of landings have stayed relatively stable since 2002 (European Commission 2006). The landings represent the value and weight of fisheries products landed in ports of EU Member States by all vessels, without distinction of origin. The volume and value of landings in the Western Baltic Sea countries (EU-15) are shown in Table 3.

Table 3. Volume and value of landings in the Western Baltic Sea countries (2004)

	Volume of landings (tonnes)	Value of landings (million EUR)	Value of landings (EUR per kg)
Germany	103,020	81	0.78
Denmark	1,043,012	364	0.35
Finland	84,560	16	0.18
Sweden	245,675	306	1.25
Total	1,476,267	766	0.52

Source: European Commission (2006).

Notice that the landings in each country do not necessarily coincide with the landings derived from the Baltic Sea, due to the existing definition of the Northeast Atlantic as a major fishing area that includes the Baltic Sea.

The landings in the Eastern part of the Baltic Sea are shown below in Table 4. The total value of landings in the Eastern Baltic Sea countries is about 1,7 billion EUR. As indicated in the table, the major part of this value derives from Russia. There is little information available about the extent to which this value is actually derived from fishery in the Baltic Sea or from other areas (e.g., the North Sea, the Atlantic Ocean or the Arctic Ocean).

Table 4. Volume and value of landings in the Eastern Baltic Sea countries (2004)

	Volume of landings (tonnes)	Value of landings (million EUR)	Value of landings (EUR per kg)
Estonia	86,252	45	0.52
Lithuania	160,222	83	0.52
Latvia	125,031	65	0.52
Poland	171,778	89	0.52
Russia	2,821,216	1,465	0.52
Total	3,364,499	1,747	0.52

Source: FAO Fisheries and Aquaculture Department

The value of aquaculture production in the Baltic Sea countries is shown in the table below. The total value in 2003 was about 348 million EUR.

Table 5. Aquaculture production in the Baltic Sea countries (2003)

	Volume (tonnes)	Value (million EUR)	Value (EUR per kg)
Germany	74,280	143	1.92
Denmark	32,187	75	2.32
Estonia	372	1	3.31
Finland	13,335	41	3.06
Lithuania	2,356	3	1.46
Latvia	637	1	1.16
Poland	34,526	68	1.97
Sweden	6,334	17	2.63
Russia	108,759	212	2.63
Total	164,027	348	2.12

Source: European Commission (2006) and FAO Fisheries Statistics.

The value of fisheries products produced by the processing industry is roughly double the combined value of landings and aquaculture production. Firms in the sector tend to be small, the majority having 20 employees or less. The main categories of processed fisheries products include preparations and canned fish, crustaceans and molluscs. The output value of processing is shown below.

Table 6. Value of processing in fishery and aquaculture in the Baltic Sea countries (2003)

	Value of output (million EUR)	Employed	Output per worker (1,000 EUR)
Germany	1,769	9,849	180
Denmark	1,328	6,343	209
Estonia	96	3,901	25
Finland	105	692	152
Lithuania	127	4,527	28
Latvia	113	7,244	16
Poland	575	14,565	39
Sweden	384	2,265	169
Total	4,497	49,386	91

Source: European Commission (2006).

Employment in the fisheries sector plays a significant role in regions where other economic alternatives are scarce. The number of people employed in the fishery sector is not limited to the number of fishermen at sea. The aquaculture and processing sectors, as well as ancillary industries such as marketing, distribution and shipbuilding are also important sources of employment.

The total number of employed in the fishery sector (fishery, aquaculture and processing) are shown in Table 4. The table shows large differences in the value of output per worker. However, even if the value per worker appears to be largest in Germany, Denmark, Finland and Sweden, the value of fisheries in economic backward communities of the other Baltic Sea countries could be significant as a means of sustaining these communities.

The tourism and travel industries in the Baltic Sea region accounted for about 2.9 % of regional GDP in 2004. Furthermore, the sector is estimated to provide jobs for nearly 2 million people, equal to 3 % of the total amount of people employed (HELCOM & NEFCO 2007). Forecasts by the World Tourism Organization indicate that the Baltic Sea region will experience higher growth rates in tourism compared with other regions. Coastal and marine areas are popular destinations for tourists. Therefore, it is important to keep these areas attractive, by protecting the nature and the ecosystems upon which many tourist-based activities depend. Within the tourist industry, sea cruises are one of the fastest growing types of tourism. From 2004 to 2006, the number of passengers on sea cruises to cities in the Baltic Sea region grew about 28 %. The growth rates in the region of this kind of tourism are higher than the growth rates of other cruise markets.

Coastal and marine ecosystems provide society with a variety of recreational values. Among these are sailing, surfing, non-commercial fishing, bathing, scenic beauty, bird watching etc. There is little knowledge of recreational patterns in the coastal areas of the Baltic Sea. But research on recreation in other countries concludes that the coast is one of the most popular destinations for recreation.

For example, some eight million tourists visit the beaches of the Polish coastline every year. In Sweden, studies have shown the economic value for some recreational uses of the coastal zone. In the study on improved bathing water, the crucial economic question is whether the benefits of

reduced eutrophication effects are large enough to outweigh the cost associated with the reduction measures. The goal was an increase of water transparency by one meter during summer. The total benefits of the study were estimated at EUR 5.4 - 6.5 million (HELCOM & NEFCO 2007).

It should also be emphasized that presently, 25 million people live along the coast line of the Baltic Sea and immediately behind this line, another 250 million people are living. This leads to a growing pressure towards the big coastal cities.

The HELCOM Baltic Sea Action Plan (BSAP)

The BSAP has been agreed by all countries around the Baltic Sea (including Russia) and aims to be fully in line with the Marine Strategy Framework Directive (MSFD). The common vision of the healthy Baltic Sea has been defined together with all participating stakeholders – from governments, through industry and NGOs, right down to individual citizens and organizations in both the private and the public sectors. In this way the plan promotes employment and other aspects of sustainable socio-economic development, as well as ecological sustainability and a healthy environment. Further, all countries (but Russia that is on its way) have developed national implementation plans (NIPs) in which they apply national instruments, such as Natura 2000, to implement the non-binding BSAP. The countries NIPs are very different in all aspects, e.g. level of detail, what instruments that are used and what sectors and what authorities that are involved.

The Helsinki Commission, or HELCOM (The Helsinki Commission) is the governing body of the "Convention on the Protection of the Marine Environment of the Baltic Sea Area" - more usually known as the Helsinki Convention. HELCOM, works to protect the marine environment of the Baltic Sea from all sources of pollution through intergovernmental co-operation between the European Community, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. HELCOM's vision for the future is a healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities. The HELCOM Baltic Sea Action Plan is an ambitious programme to restore the good ecological status of the Baltic marine environment by 2021.

The Baltic Sea Action Plan addresses all the major environmental problems affecting the Baltic marine environment. The environmental situation in the Baltic Sea has drastically changed over recent decades. Human activities both on the sea and throughout its catchment area are placing rapidly increasing pressure on marine ecosystems. Of the many environmental challenges, the most serious and difficult to tackle with conventional approaches is the continuing eutrophication of the Baltic Sea. Reductions in nutrient inputs have so far mainly been achieved through improvements at major point sources, such as sewage treatment plants and industrial wastewater outlets. Achieving further reductions will be a tougher task, requiring actions to address diffuse sources of nutrients such as run-off from over-fertilized agricultural lands. The biodiversity segment of the action plan aims to restore and maintain natural marine landscapes, thriving and balanced communities of animals and plants, as well as viable populations of species. Actions are focused on three cross-cutting issues to be addressed together with the relevant international authorities: marine spatial planning, long-term management plans for threatened species and habitats; and the promotion of research needed to fill in the information gaps that currently hamper the planning of further actions. Inputs of hazardous substances also affect the biodiversity of the Baltic Sea and the potential for its sustainable use. Clear indicators of this situation include problems with algal blooms, dead sea-beds,

and depletion of fish stocks. Such problems call for immediate wide-scale action to put an end to the further destruction of the Baltic Sea environment and to avoid an irreversible disaster. Failure to react now would undermine both the prospects for the future recovery of the sea and its capability to react to the projected stress by the climate change. Furthermore, inaction will affect vital resources for the future economic prosperity of the whole region and would cost tenfold more than the cost of action.

The Baltic Sea Action Plan was adopted on 15 November 2007 as part of the actions under the Convention on the Protection of the marine Environment of the Baltic Sea Area (adopted in 1974 and updated in 1992) and it establishes the goal of solving all major problems of the marine environment by 2021. The action plan is considered a joint regional policy, with common objectives, actions, and obligations. The future success of the plan largely depends on how all the coastal countries can co-operate to achieve the goal of a healthy Baltic marine environment.

The four main segments of the HELCOM Baltic Sea Action Plan, detailing goals, objectives, and actions:

- **Eutrophication – towards a Baltic Sea unaffected by additional eutrophication from human activities**
 - HELCOM has adopted the following ecological objectives to describe the characteristics of a Baltic Sea, which is unaffected by eutrophication:
 - concentrations of nutrients close to natural levels;
 - clear water;
 - natural level of algal blooms;
 - natural distribution and occurrence of plants and animals;
 - natural oxygen levels.

In order for the ecological objectives to be made operational, indicators with target values, reflecting good ecological and environmental status of the Baltic marine environment, have been agreed upon. Clear water was chosen as the primary ecological objective with water transparency as the indicator.

- **Hazardous substances – towards a Baltic Sea with life undisturbed by hazardous substances**
 - Ecological objectives established by HELCOM:
 - concentrations of hazardous substances close to natural levels;
 - all fish safe to eat;
 - healthy wildlife;
 - radioactivity at pre-Chernobyl level.
- **Biodiversity and nature conservation – towards favorable conservation status of Baltic Sea biodiversity**
 - In order to reach favorable conservation status of Sea biodiversity, HELCOM has adopted ecological objectives covering topics referring to:

- restoring and maintaining sea floor integrity at a level that safeguards the functions of the ecosystems;
 - that habitats, including associated species, show a distribution, abundance and quality in line with prevailing physiographic, geographic and climatic conditions;
 - a water quality that enables the integrity, structure and functioning of the ecosystem to be maintained or recovered.
- **Maritime activities – towards a Baltic Sea with maritime activities carried out in an environmentally friendly way.**
 - In order to reach the goal, HELCOM has agreed upon the following eight management objectives, indicating areas of major importance:
 - enforcement of international regulations – no illegal discharges;
 - safe maritime traffic without accidental pollution;
 - efficient emergency and response capability;
 - minimum sewage pollution from ships;
 - no introductions of alien species from ships;
 - minimum air pollution from ships;
 - zero discharges from offshore platforms;
 - minimum threats from offshore installations.

The Baltic Sea Action Plan aims at aligning the goal “favorable conservation status of marine biodiversity” with corresponding goals and objectives of already existing regulations which also address biodiversity and nature conservation. The BSAP are stressing the need to co-ordinate and harmonize the work within the HELCOM Baltic Sea Action Plan to various on-going initiatives at the international and national level, including the proposed EU Marine Strategy Directive, the EU Maritime Policy and the Maritime Doctrine of the Russian Federation. The Maritime Doctrine of Russian Federation is the fundamental document defining the public policy of the Russian Federation in the field of maritime activities.

Specific measures employed in National Implementation Plans (NIPs) of all BSAP contracting parties can be found in appendix 1.

Effectiveness of measures in promoting the achievement of the operational objective

Previous HELCOM efforts to reduce pollution and repair the damage to the marine environment have led to noticeable improvements in many areas, enabling people to bathe on beaches that were once polluted, and helping endangered wildlife populations to recover. But there is still a lot left to do, as many of the Baltic’s environmental problems are proving difficult to solve, and it could take several decades for the marine environment to recover. For example, concerning inputs of nutrients which are responsible for eutrophication, HELCOM has already achieved a 40% reduction in nitrogen and phosphorus discharges (from sources in the catchment area) and likewise a 40% decrease as regards emissions of nitrogen to the air, as well as halved the total discharges of about 50 hazardous substances. But in order to achieve “clear water”, which is one of the main objectives of the Baltic

Sea Action Plan, phosphorous and nitrogen inputs to the Baltic Sea must be further cut by about 42% and 18%, respectively (HELCOM 2007b).

However, further progress cannot be achieved using only the old administrative measures of equal reductions in pollution loads. A completely different approach and new tailor-made, regional actions are required to reach the goal of good ecological status. Tailor-made measures in National Implementation Programs within each country are an attempt to approach this. Countries need to show their determination to decide on real actions that will improve - not only - the status of the Baltic Sea – but also the socio-economic well-being of the people living on its shores. Different seas often require tailor made solutions and it is very important that global, European and regional policies complement each other. It is important to realize that integrated management of human activities in the Baltic Sea area requires due consideration of environmental aspects when developing and implementing various policies and programs in the region.

There is a need for a more accurately evaluation of the relationships between sources and impacts, in order to facilitate the preparation of more cost-effective measures, some of which can be tailor-made to deal with regional problems or problems in each country. The tailor-made approach could also take into account the competitiveness of the region's countries by facilitating the reduction of economic and social differences between western and eastern coasts of the Baltic Sea.

Moreover, the remaining challenges are more difficult than earlier obstacles. Reductions in nutrient inputs have so far mainly been achieved through improvements at major point sources, such as sewage treatment plants and industrial wastewater outlets. Achieving further reductions will be a tougher task, requiring actions to address diffuse sources of nutrients such as run-off from over-fertilized agricultural lands.

In order to reach the above country-wise environmental objectives, the BSAP states an agreement to develop and to submit for HELCOM's assessment national programmes by 2010 with a view to evaluate the effectiveness of the programmes at a HELCOM Ministerial Meeting in 2013 and whether additional measures are needed. This approach would leave flexibility for the countries to choose the cost-effective measures to be implemented to reach the reduction targets in order to achieve a good ecological and environmental status of the Baltic Sea with regard to eutrophication.

2 Objectives and management measures

2.1 What is the priority objective in your case study?

The main objective of this case study is defined through the stipulations of the Brds (2009/147/EC) and the Habitats (92/43/EEC) Directives, and their transposition to the Polish legal system. Therefore, the overall objectives are to maintain or to restore, at a favourable conservation status, natural habitats and species of wild fauna and flora, and to maintain the populations of wild birds, at the level, which corresponds to ecological, scientific and cultural requirements, and regional and local characteristics.

Neither marine NATURA 2000 areas nor the Puck Bay itself are currently spatially managed. Therefore, there are no operational objectives or plans that would practically implement these provisions.

According to the “Nature Conservation Act” (2004), a protection plan should be prepared for marine NATURA 2000 sites. The protection plan is to be proposed and prepared by the maritime administration. Maritime offices are managing and supervising bodies for marine NATURA 2000 areas. However, it is the Minister of the Environment that has the authority to formally establish the protection plan for the period of 20 years. Whenever required, the plan can be revised and updated within that period. At the moment there are no protection plans for the marine NATURA 2000 areas in Poland. Relevant public tenders have been announced in spring 2011. It is an ongoing process and public consultations are foreseen to take place in spring and autumn 2013⁷.

2.2 Key policies, legislation, regulation and or plans that enable/facilitate the achievement of the above priority objectives

The Birds and Habitats Directives are transposed to the Polish legal system through the stipulations of the “Nature Conservation Act” (2004). Apart from “Nature Conservation Act”, the protection measures for NATURA 2000 sites are regulated by relevant bylaws and other implementing regulations. The most important include:

- Order of the Minister of the Environment on preparation the protection plans for NATURA 2000 sites (2010);
- Order of the Minister of the Environment on Special Protection Areas (2011);
- Order of the Minister of the Environment on natural habitats and species of Community importance, and on criteria for NATURA 2000 sites designation (2010).

Other relevant environmental legal acts include:

- Environmental Law (2001);
- Legal act on public access to information about the environment and its protection, public participation in environmental protection and environmental impact assessment (2008);
- Legal act on preventing damages to the environment and on compensations for these damages (2007);
- Order of the Minister of the Environment on preparation the protection plans for national parks, nature reserves and landscape parks, revising these plans, and on protection of natural resources and elements (2005);
- Order of the Minister of the Environment on protection of wild plant species (2004);
- Order of the Minister of the Environment on bird ringing (2006);
- Order of the Minister of the Environment on protection of wild animal species (2004);
- Order of the Minister of the Environment on groups, types and subtypes of nature reserves (protected areas; 2005);

⁷ The first introductory meeting was held in March, further meetings were held in May, June and September.

- Order of the Minister of the Environment on methods and forms of submitting information on environmental compensations (2010).

There are other regulations of national and international importance, and other planning documents that can be linked to protection and management of NATURA 2000 sites. The most important are summarized in Table 7.

Table 7. Summary of most important policies and legal acts related to the protection and management of NATURA 2000 sites (after Kruk-Dowgiałło et al. 2011, in Polish)

Spatial reference	Name of the regulation	Related objectives and remarks
European	Water Framework Directive (2000/60/EC)	Protection of water resources and prevention of their degradation, to be achieved by 2016;
European	Marine Framework Strategy Directive (2008/56/EC)	Achieving Good Environmental Status (GES) of marine waters through protecting, restoring and sustainable use of natural resources; MFSD calls for “an economic and social analysis of the use of those waters and of the cost of degradation of the marine environment”;
International	Agreement of the Conservation of Small Cetaceans of the Baltic and North Seas ⁸	Reduction of bycatch and maintenance of the favourable living conditions for the small mammals;
International	United Nations Convention on the Law of the Sea (UNCLOS) ⁹	Protection and preservation of the marine environment;
International	The European Convention on the Protection of the Archaeological Heritage ¹⁰	Protection of (underwater) cultural heritage;
International (Baltic)	Convention on the Protection of the Marine Environment of the Baltic Sea Area ¹¹	Pollution prevention through the use of the “Best Environmental Practice” (BEP) and the “Best Available Techniques” (BAT); Related documents: Baltic Sea Action Plan (BSAP), National Implementation Plan (NIP) for the BSAP, Baltic Sea Protected Areas (BSPAs)
National	National Environmental Policy Act (2009-2012)	Ensuring environmental safety, conservation of biodiversity, sustainable development through the implementation of the ecosystem approach to spatial planning

⁸ Dz.U. z 1999 r. Nr 96, poz. 1108

⁹ Dz.U. z 2002 r. Nr 59, poz. 543

¹⁰ Dz.U. z 1992 r., Nr 120, poz. 564

¹¹ Dz.U. z 2000 r. Nr 28, poz. 346

National	National Strategy for the conservation and sustainable use of biodiversity (2007-2013)	Ensuring good ecological status of the environment, conservation of biodiversity and ecological processes, sustainable management of natural resources;
National	The Strategy for the protection of wetlands in Poland (2006-2013)	Protection of wetlands;
Regional	The Environmental Program for the Pomeranian province (2007-2010 with a perspective for 2011-2014)	Major objectives: (i) protection of the natural heritage, (ii) sustainable management of natural resources, (iii) inclusion of environmental objectives into strategic documents and spatial planning initiatives, and (iv) public participation in planning processes

2.3 What measures and actions have been put forward by such policies, legislations, regulations and/or plans listed above in your case study, in order to promote the achievement of the priority objective?

General comments:

There are three major legal forms of spatial protection of the environment present in the case study area:

- NATURA 2000 areas for special bird protection;
- NATURA 2000 special habitat protection areas;
- Coastal Landscape Park.

Baltic Sea Protected Area (BSAP) is another form of spatial protection designated under the HELCOM Recommendation 15/5. HELCOM initiatives are intergovernmental, but voluntary obligations. No formal measures are put forward. The stipulations are implemented through the “National Implementation Plan”, which is based on already existing legislation and other voluntary actions (e.g., research projects).

The Puck Bay / the Bay of Gdansk areas are also subjected to national and international legislation concerning species protection. Active protection is required for seals and common porpoises. There are also regulations on commercial and rare fish species¹². Fishing with drag tools is forbidden at the depths smaller than 20 meters and within 3 nautical miles from the coast. The same rules apply to vessels longer than 15 meters¹³. These fishing-related restrictions are in place, but they are not

¹² Rozporządzenie Ministra Środowiska w sprawie ochrony gatunkowej zwierząt 2011 (Order of the Minister of the Environment on protection of wild animal species, Dz.U. 2011 nr 237 poz. 1419)

¹³ Ustawa o rybołówstwie 2004 (Fisheries Act, Dz.U. 2004 nr 62 poz. 574), Rozporządzenie Ministerstwa Rolnictwa i Rozwoju Wsi w sprawie wymiarów i okresów ochronnych organizmów morskich oraz szczegółowych warunków wykonywania rybołówstwa morskiego 2008 (Order of the Ministry of Agriculture and

arising from environmental legislation and were not designated to protect NATURA 2000 sites. However, they are in line with case study objectives.

Measures and actions concerning NATURA 2000 areas:

There are no protection plans for marine NATURA 2000 sites in Poland. Although specific measures are not in place, there are limitations and restrictions arising from general environmental legislation. According to the Nature Conservation Act, it is forbidden to undertake any actions that can, solely or in combination with other activities, considerably negatively affect the state of natural habitats, have a significant negative impact on the protected species, or impair the integrity of NATURA 2000 areas. Commercial and industrial activities are not excluded from these areas, but limitations in use apply. These limitations are not clearly defined and only aim, as explained above, not to worsen the state of the environment in the NATURA 2000 areas. The EIA procedure, which is a part of the decision-making concerning NATURA 2000 areas, can also indicate investment-specific conditions and restrictions, but these regulations are introduced on case-to-case basis.

For each marine NATURA 2000 site, a protection plan should be prepared. Marine administration prepares the plan proposal, and the Minister of the Environment approves it for 20 years. The protection plan can be revised earlier, depending on conservation needs. The preparation of the protection plan must involve stakeholders in NATURA 2000 sites. Public consultation process is required according to the legal act on public access to information about the environment and its protection, public participation in environmental protection and environmental impact assessment. Protection plan for a NATURA 2000 site has to include:

- a description and a map of a site boundaries;
- identification of existing and potential threats to the protected habitats and species;
- conditions necessary to maintain or to restore the proper conservation status of the protected habitats and species, as well as site integrity; these conditions should describe:
 - other forms of nature conservation,
 - relationships between spatial plans, technical, communication, education and recreational infrastructure, and the conservation status of NATURA 2000 sites,
 - management of marine areas / marine spatial planning,
 - issues related to water management,
 - activities related to agriculture, forestry and fishing,
 - inland waterways,
- recommendations concerning revision of the existing spatial plans of municipalities and provinces, and of marine spatial plans necessary to reduce or to eliminate existing or potential threats;

Rural Development on the size and seasons of protection of marine organisms and the specific conditions for sea fisheries, Dz.U. 2008 nr 43 poz. 260)

- conservation measures to maintain or to restore a favourable conservation status, and the organizations responsible for the implementation of these measures;
- indicators for evaluation of the conservation status;
- monitoring methods for the implementation of conservation measures;
- monitoring methods for evaluation of the favourable conservation status.

Several conservation measures designed to maintain or to restore favourable conservation status are explicitly mentioned in the Nature Conservation Act. These measures include:

- active protection and restoration of protected species and habitats;
- establishing and maintenance of ecological corridors linking NATURA 2000 sites;
- facilities necessary to implement the protection measures;
- water management;
- restrictions and development directions for farming, forestry and fishery;
- stipulations concerning the use of land, i.e. identification of areas to be reserved for housing, technical, communication, educational, and recreational infrastructure.

Marine spatial plans that cover areas protected under NATURA 2000 network have to be agreed with the Regional Directorate for Environmental Protection. Every 3 (for bird protection areas) or 6 years (for special habitat protection areas) maritime administration submits evaluation reports in order to assess implementation of the conservation measures.

Projects of policies, strategies, plans, and programs, revisions of these documents, and descriptions of investments that are likely to have a negative impact on the environment need to undergo the procedure for a Strategic Environmental Assessment (SEA) or Environmental Impact Assessment (EIA), according to the legal act on public access to information about the environment and its protection, public participation in environmental protection and environmental impact assessment. Investments that might have a negative impact on the environment can be realized under certain circumstances. Such a decision can be implemented if the investment is of a high public interests and no alternative variants are available. However, environmental compensation is required.

The Habitats Directive requires “an appropriate assessment for plans and projects, which are likely to have an impact on NATURA 2000 sites, often in addition to a regular EIA. This has been applied in Poland, i.e., the EIA procedure that involves areas protected under NATURA 2000 legislation, sets additional requirements when compared with standard EIA.

Measures and actions concerning the Coastal Landscape Park¹⁴:

The Coastal Landscape Park was established in 1978 through the Resolution no. IX/49/78 of the People's Council of the Voivodeship of Gdansk. In 2006 this resolution was amended by the Ordinance of the Governor of Pomerania no. 55/06, which in 2011 was replaced by the Ordinance of the Local Parliament of the Pomeranian Province no. 142/VII/11. These documents determine (i) the area of the Coastal Landscape Park, (ii) its buffer zones, (iii) the goals for which the park was established, and (iv) the limitations in use. The major protection objectives include:

- preservation of the natural character of coastal and estuary rivers;
- protection of coastal habitats and their spatial continuity;
- conservation of rare plant communities;
- protection of the breeding, feeding, nesting and resting sites, especially for fish, marine mammals and wintering birds;
- preservation of the cultural values of the region, including local traditional activities;
- protection of natural landscapes of the coast.

To achieve these objectives, certain limitations in use are introduced. In the marine areas of the Coastal Landscape Park it is forbidden to:

- undertake any actions that can have a significant impact on the environment;
- intentionally kill wild animals, destroy breeding grounds, shelters, procreation, and spawning areas (exceptions apply);
- extract minerals for commercial use;
- permanently distort the land surface (exceptions apply concerning coastal protection and water facilities);
- change the water conditions unless alternation is related to nature conservation or sustainable fishing management;
- use motor boats outside water routes.

Measures and actions concerning BSPA:

Measures concerning BSPA are described in the segment Biodiversity and Nature Conservation, Natural Marine and Coastal Landscapes of the National Implementation Plan (NIP) for the HELCOM BSAP. Following objectives and actions are indicated:

¹⁴ Information from this section was retrieved from: www.npk.org.pl

Table 8: Objectives and actions put forward by NIP for the HELCOM BSAP

Objective	Action
Designation of HELCOM BSPA	By 2009 Poland designated four BSPAs, later this year five more were selected to be included in the network. Some of BSPAs overlap with NATURA 2000 sites boundaries. This objective is currently considered as closed and no further actions are planned.
Assessment of ecological coherence of the BSPA/MPA network (to be done by 2010)	Poland participated in the Biogeography Seminar in November 2010. The goal of this seminar was to assess the coherence of NATURA 2000 network. Two NATURA 2000 sites are postulated to be enlarged as a result of this seminar. The Puck Bay and the Hel Peninsula (PLH220032) is one of them. The establishment of one new site was suggested in order to protect the reef structures near Kepa Redłowska ¹⁵ . Standard Data Forms (SDF) should be revised in terms of habitat and species occurrence.
Management plans for BSAP	The authorities responsible for managing the first four BSPAs were obliged to prepare the protection plans. The original deadline was set for 2010, but still it is an ongoing activity.

Measures and actions concerning the Pilot Draft Plan for the West Part of Gulf of Gdansk and its relationship with NATURA 2000 sites¹⁶:

The idea of marine (or maritime) spatial planning was introduced in the Polish legislation through the “Act on Maritime Areas of Poland and Maritime Administration” (1991). Nonetheless, the bylaws for this act have only recently been introduced, so thus far it was not possible to prepare a legally binding plan.. The Pilot Draft Plan for the West Part of the Gulf of Gdansk was developed within PlanCoast project¹⁷. This project aimed to develop tools and capacities for effective integrated planning in coastal zones and maritime areas in the Baltic, Adriatic and Black Sea regions. It had 16 partners, which included representatives of spatial planning departments and regional authorities from Albania, Bosnia–Herzegovina, Bulgaria, Croatia, Germany, Italy, Montenegro, Poland, Romania, Slovenia, and the Ukraine. Preparation of the maritime plans in the selected case studies was among the project’s most important results. The West Part of the Gulf of Gdansk was the Polish case study. However, the draft plan could only be treated as a scientific exercise and a practical test of the methodology that can only now be used when the bylaws have been published. According to the representatives of the maritime administration, the plan is a synthesis of the best available knowledge and good practices, and the solutions put forward by the plan are included, whenever possible, in the daily management practices. The draft plan can be therefore considered as a good start for the evaluation of the maritime administration general opinions on protection and management of NATURA 2000 areas.

The whole area covered by the draft plan is a NATURA 2000 site protected under the Birds Directive. A great part is also protected under the Habitats Directive. The draft plan covers coastal waters, which are protected under the Water Framework Directive. The coast around the West part of the Gulf of Gdansk is highly urbanized. The marine waters are under the influence of the Tricity

¹⁵ This the area postulated to become the first marine reserve in Poland – Greenpeace initiative.

¹⁶ Information in this section, if not specified otherwise, was retrieved from Zaucha 2009a

¹⁷ <http://www.plancoast.eu/>

agglomeration (with 1 million inhabitants), and under intensive pressures related to tourism and recreation (mainly on land).

The overall objectives are defined in a rather general way , perhaps due to the strategic character of the plan, and they include:

- the sustainable development of the coastal communities;
- good ecological status of the marine and coastal (land-sea) ecosystems;
- safe and sustainable use of the sea;
- the most efficient use of the marine realm that will also protect space for future, now unknown, uses;
- conservation of the cultural heritage;
- solutions to ensure that any arrangements will consider constraints resulting from both time and space.

The authors of the draft plan used the priorities from the National Spatial Development Concept 2030” in order to mitigate existing or potential conflicts in the area. The highest priority was given to transport and related infrastructure, including development of harbours. The same level of importance was assigned to national defence, which in addition was regarded as the use that cannot be changed or adjusted. . Protection of habitats and species comes second. However, the authors of the plan note that the present knowledge on species and habitat distribution allows for gradations in restrictions in use in different parts of Gulf of Gdansk. Lower priority, is given, in order, to cultural heritage (including protection of coastal fishing villages) is given a the lowest priority, tourism , and linear infrastructure.

The area covered by the draft plan was divided into 30 basins defined by the coordinates of their corners. These basins are of different size and are marked by a number and a letter code, which defines major function(s) of each basin. Complementary functions and so called “additionally allowed activities” are also described. Major and complementary functions are defined for each basin, but additional functions are not always in place. Nature conservation was indicated as a lead function in 12 basins, covering 174 out of 405 km². In addition, the plan defines limitations in use for each basin.. These limitations include:

- temporary ban on use of nets in the areas where water birds are common;
- ban of fishing in the selected areas;
- limited or no access for unauthorized persons;
- protection measures for the seabed integrity with the exception for coastal protection;
- prohibition to use of motorboats outside water routes;
- ban on sewage discharge;
- limitations in establishing bathing areas near reeds;
- prohibition of noise-generating activities.

No areas are designated for breeding and mariculture, but reintroduction of species and renaturalization is allowed. Sewage discharge and waste dumping is forbidden (with a few exceptions). Sand extraction is permitted in designated places. Rain- and meltwater can be discharged to the sea after pre-treatment.

No restrictions are put on investments related to storm, flood and landslide protection on all locations listed in the programme for long-term coastal protection (i.e., Coastal Defence Program¹⁸). Beach nourishment is allowed in general. However, EIA is required for these activities, so additional limitations apply. Temporary mooring jetties are also allowed in the existing bathing areas. Infrastructure for conservation and scientific purposes is not limited.

Measures and actions concerning the voluntary protection plans of NATURA 2000 sites: Puck Bay (PLB22005) & Puck Bay and Hel Peninsula (PLH2200032):

There are no protection plans for NATURA 2000 sites in the Puck Bay. However, in 2007 two draft protection plans were prepared within international project. These plans focus on both terrestrial and marine parts of NATURA 2000 sites, but have never been put into practice. They indicate general objectives and a range of actions (specific tasks) in order to put these objectives into practice. Selected general objectives are summarized in Table 9 (Blaszkowska 2007a, Blaszkowska 2007b).

Table 9. Objectives and tasks defined for the Puck Bay and the Hel Peninsula (PLH2200032) and for the Puck Bay (PLB22005)

General objectives: PLH2200032	General objectives: PLB22005
<ul style="list-style-type: none"> • Effective management of the PLH2200031 site • Put up to date the knowledge on species, habitats, and existing and potential threats • Identification of factors affecting the favourable conservation status of this site • Promotion of knowledge on NATURA 2000 network among residents and visitors • Support of the local community participation in the site protection • Providing access to the reserves for general public • Renaturalization and active conservation of habitats in the grassland reserves • Preparation of such a tourism development strategy that would incorporate the objectives of the protection plan • Changes in transportation system on the Hel Peninsula in order to limit its negative influence 	<ul style="list-style-type: none"> • Effective management of the PLB22005 site • Put up to date the knowledge on birds, their habitats, and threats to the refuge • Promotion of knowledge on NATURA 2000 network among residents and visitors • Support of the local community participation in the site protection • Providing access to the reserves for general public • Conservation and protection of nesting places (habitats) • Maintaining, and where necessary restoring, conditions for feeding and resting • Reduction and control of predation • Reduction of the impact of existing wind farms on migrating and wintering birds • Determinations of wind farms locations

¹⁸ Dz.U. 2003 nr 67 poz. 621

on NATURA 2000 sites

- Limitation of birds mortality in fishing nets
 - Preparation of procedures concerning the contaminated birds in a case of major oil spill
-

2.4 Are there other specific and particularly important sectoral priorities, objectives, obligations etc that are conflicting, could potentially conflict or be perceived as conflicting with the fulfilment of the priority objective? What measures or initiatives are in place to address such conflicts¹⁹?

Fishery: the “National Strategy for Fisheries Development for years 2007-2013²⁰”:

The objectives of the National Strategy for Fisheries Development are fully compatible with CFP, The most important objectives include:

- increasing the profitability of the sector;
- balancing fishing efforts and available natural resources;
- ensuring social safety of the communities that depend on fisheries and aquaculture;
- support of the coastal fisheries;
- improving the quality of the fish products;
- development of aquaculture;
- modernization of the fishing fleet;
- reducing the influence of the fishing seasonality on fish processing industry.

It is not exactly clear how this strategy will influence NATURA 2000 areas. Its implementation could perhaps increase the fishing capacity of the Polish fleet. Moreover, mariculture and development of the harbours will require more space. Fishery sector is active in the NATURA 2000 areas investigated within the governance analysis, but various restrictions are already in place (see chapter 2.3). It should also be mentioned that fishing boats in Puck Bay are predominantly small and as a result--- more sustainable. Larger vessels fish outside the bay, or at least in its outer part. Development of aquaculture and harbours in Gdynia and Gdansk will contribute to the stronger anthropogenic pressures. These investments require SEAs and EIAs.

Tourism: the Directions for Tourism Development until 2015²¹:

This strategy is not targeted at coastal and marine tourism, but aims to support development of the leisure sector in general. The following objectives are important for the protection of NATURA 2000 sites:

- development of tourism infrastructure, i.e. inland and marine waterways;

¹⁹ Selection and some descriptions of sectoral policies based on: BaltSeaPlan–Report 5 – Strategies with relevance for Polish maritime space

²⁰ Strategia Rozwoju Rybołówstwa na lata 2007-2013 (<http://www.funduszeuropejskie.gov.pl/>)

²¹ Kierunki Rozwoju Turystyki do 2015 (<http://www.msport.gov.pl/>)

- development of tourism in the border areas, in particular, development of marine waterways and new recreational services on the Baltic Sea coast ;
- modernization of inland and marine passengers ports.

Tourism is one of the most important anthropogenic pressures in the case study area. The demand for recreational services in some places exceeds the coastal zone capacity to deliver them. As a result a number of spatial conflicts already exist. Some camping sites operators enlarge the beaches by bringing in sand, but such activities destroy coastal reed fields and elevate the ground level. Wind- and kitesurfing, sea angling, scuba diving, and bird watching are quickly developing. They all contribute to more intensive use of this area (Węśławski et al. 2011).

There are no regulations on tourism arising directly from NATURA 2000 areas. However, it is forbidden to undertake any actions that may worsen the state of natural habitats. The site specific restrictions should be included in the protection plans, which are currently under preparation.

Development of ports and shipyards: the Strategy for harbour development until 2015²²:

This strategy supports development of the maritime sector in Poland, and focuses on transportation. It aims to increase harbours' contribution to the national economy and the international transportation network. The priorities of the strategy include (i) improvement of the harbours accessibility and modernization of their infrastructure, (ii) increasing the range and quality of the services offered, (iii) improving the cooperation between (maritime) administration, managers and end-users, and finally (iv) increasing the role of harbours in the sustainable development of the coastal communities.

Two out of three biggest ports in Poland are situated within NATURA 2000 sites investigated here.

Transport and telecommunication: the National Transport Policy 2006-2025²³:

The "National Transport Policy" underlines the importance of marine harbours. Among ten priorities put forward by this policy, two objectives directly support the development of the maritime economy: (i) strengthening the role of ports and sea in the national economy, and (ii) enhancing their role in international passenger and cargo transport. The latter objective is not limited to ports and ship owners, but also supports other forms of transportation. The National Transport Policy recommends that the quality of maritime transport can be improved through:

- development of short sea shipping;
- development of new and existing ferry routes;
- increasing the role of Polish ports as transport nodes;
- increasing the ports' accessibility from the sea and land (road and rail access);
- modernization of harbours infrastructure.

²² Strategia Rozwoju Portów Morskich do 2015 r. (<http://bip.msp.gov.pl/>)

²³ Polityka Transportowa Państwa na lata 2006–2025 (<http://www.transport.gov.pl/>)

Energy: the National Energy Policy until 2030²⁴:

This is a guiding policy for long-term development of energy sector in Poland. It also includes measures for renewable energy, and the offshore wind farms. This document calls for identification of legal barriers hindering the construction of offshore wind farms, preparation of required changes in current regulations, and implementation of strategic solutions for the efficient development of offshore wind parks.

However, this policy is not directly relevant for the case study as the potential areas for offshore wind farms are located far outside Puck Bay (Fig. 3).

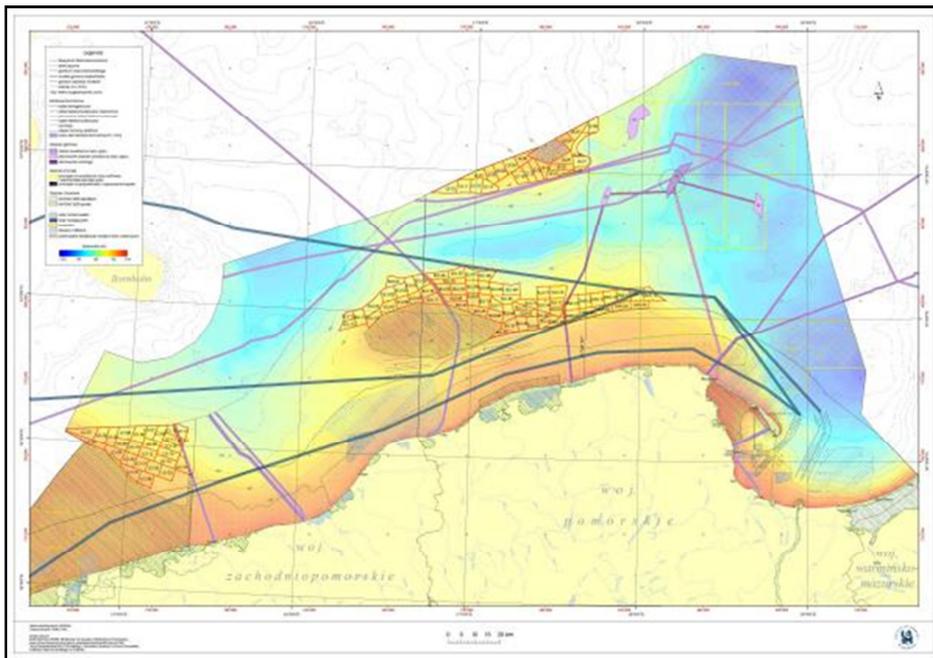


Figure 3. The potential offshore areas for wind farm construction in Poland (retrieved from <http://www.transport.gov.pl/>)

Coastal defence: the Coastal Defence Programme²⁵:

This policy is a long term governmental programme developed to protect the Polish coast against erosion. It aims to:

- develop and maintain the anti-floods protection system;
- prevent the loss of beaches;
- implement coastal monitoring programme to support decision-making on coastal management.

The Polish coastal defence system uses hard industrial measures of sea shore protection too often. These measures go against the natural coastal dynamics. For example, the Pilot Draft Plan for the

²⁴ Polityka energetyczna Polski do 2030 roku (<http://www.mg.gov.pl/>)

²⁵ Ustawa z dnia 28 marca 2003 r. o ustanowieniu programu wieloletniego "Program ochrony brzegów morskich" (Legal act on establishing a long-term program coastal protection program, Dz.U. 2003 nr 67 poz. 621)

West Part of Gulf of Gdansk ” will keep natural only a small part of the coast . This is against HELCOM Recommendations for the protection of natural processes on the sea shore.

Measure and initiatives to address the conflicts

The case study areas are not spatially managed, but the development of the maritime policy is a step in the good direction. The “Principles of the Maritime Policy of Poland till 2020²⁶ create a foundation for integrated and cross-sectoral approach to marine issues. The policy seeks synergies between economic, environmental and social needs. Its priorities include:

- development of marine education and research;
- development of harbours;
- enhancing the maritime transport;
- improvement of the energy security of the state;
- sustainable development of marine fisheries;
- sustainable use of marine natural resources;
- improving the state of the marine environment and protection of the coast;
- improving maritime safety;
- improving marine management and functioning of the maritime administration.

Another tool that could be used to resolve or limit spatial conflicts on the sea is marine (or maritime) spatial planning. It is introduced in the Polish legislation through the Act on Maritime Areas of Poland and Maritime Administration. The legal act decides that the spatial plan should determine (i) uses of the marine areas, (ii) limitations in these uses, (iii) distribution of public investments, (iv) directions for the development of transport and technical infrastructure, and (v) protection measures for environment and cultural heritage. Director of the territorially competent maritime office is responsible for maritime spatial planning. The plan becomes effective when formally accepted by the minister responsible for maritime economy (now the Minister of Transport, Construction and Maritime Economy) and the minister responsible for regional development (now the Minister of Regional Development). This acceptance has to be done through the relevant legal act (order) and need to be agreed with the ministers responsible for environment, water management, culture and national heritage, agriculture, fishery, transport, internal affairs and with the Minister of National Defence.

The Act on Maritime Areas of Poland and Maritime Administration decides on various uses of the sea space. However, there is still a sectoral approach to the management of Polish marine areas.

In case when no maritime plans are available (and this is the current situation in Poland at the moment), there is a procedure for approval of various projects located in the Polish marine areas, i.e., issuing construction permits (so called ‘Permits for Erecting and Use’). The permit is issued exclusively by the minister responsible for maritime economy, with the exception of cables and pipelines, which are approved by the director of the relevant maritime office.. The Minister of

²⁶ Polityka morska Rzeczypospolitej Polskiej do roku 2020 (<http://www.transport.gov.pl/>)

Transport, Construction and Maritime Economy is obliged to consult the decisions with other ministers, but the consultation process does not involve coastal municipalities, NGOs or the general public.

3. Conflicts

Polish Exclusive Economic Zone (EEZ) and especially the case study area are intensively used by many stakeholders (Fig. 4).

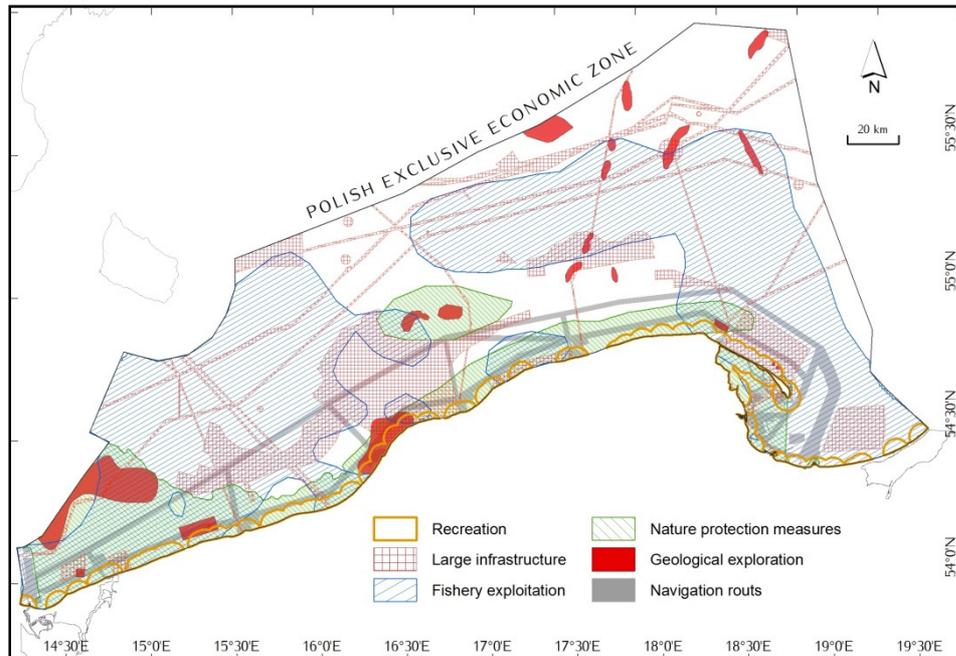


Fig. 4: Uses of the PMA (after Węśławski et al. 2010).

The major conflicts for space in Puck Bay are between conservation, tourism, and fishery (which operates in 100% of the protected areas). There is also a less prominent conflict between navigation and infrastructure (which can be linked to tourism for marinas, piers, etc.; Węśławski et al. 2010).

Internal conflicts arise within conservation. The protection of some species, primarily large carnivores, is often in conflict with the protection of other valuable species (e.g. seals vs. salmon or reintroduced sturgeon; Węśławski et al. 2010). Although marine NATURA 2000 sites have been erected in Poland without sufficient information on what is protected, where, when and why (Zaucha 2009a), this issue is less relevant for Puck Bay because it is one of the most valuable areas. Fishery is the main competitor with conservation in the Polish part of the Baltic Sea. It is also considered to be one of the major threats to sea birds and mammals. It is estimated that around 17,000 birds die in fishing nets every year in Gulf of Gdansk alone. Although sea mammals occur only sporadically in Puck Bay, they rise a great interest of the general public. This interest causes difficulties to fishing activities. Strict conservation measures (such as bans or limitation on gear, and requirements for instrumentation to detect marine animals) have been introduced without sufficient scientific evidence, based on the precautionary principle. Recreational fishery can be identified as new important competitor. Over-fishing resulting from commercial and recreational fishing not only causes serious problems for the sustainable population growth, but in the long run will also deprive fishermen of their economic bases (Węśławski et al. 2010).

Puck Bay is the largest water recreation centre in the southern Baltic. It is the key Polish site for windsurfing. Nature protection is in intensive competition with recreation in terms of space, but also in terms of time. There are indications that the public wants free access to places that are regarded attractive. These sites are usually important for animal protection. An example is Ryf Mew, a complex of offshore sandbars in Puck Bay. Another issue is that the value of any environmental system is affected by individual preferences and the so called social experience. The ecosystem in a pristine state might thus be given less value than a changed or transformed system simply because it might better meet personal imaginations and needs, be they economical, spiritual, cultural, religious, or aesthetic. This is the case in Puck Bay, where underwater vegetation is viewed as a nuisance. . The most important period for sea bird protection is winter. During winter there is no direct conflict with the leisure activities. Conversely, during the summer there are strong pressures from tourism and recreation not only on sandy beaches, but also on the nearby coastal land. Traffic jams and road congestions are typical problems for the land areas around the case study site. Parking space is insufficient (especially on Hel Peninsula), and the lack of an alternative public transportation makes the situation even more difficult. Constant demand for development of the transport infrastructure is followed by the need to build new marinas, hotels and other tourists facilities, often in ecologically valuable locations. There is also a demand for more bars and restaurants on the beach or in the immediate vicinity of the coast. The visitors would like widened beaches and improved beach access. Both require sand exploitation, which threatens bottom habitats, especially underwater meadows. However, at the moment sand is widely used for stabilisation and renovation of camping beaches, and for the beach nourishment (Węśławski et al. 2010, Węśławski et al. 2011 & own unpublished data).

Conservation in some areas may require that natural coastal processes are left unchanged, free of human intervention. Coastal protection can not only disrupt the coastal dynamics (currents and sediment transports), but also change the coastal landscape and the cultural values associated with it. Hel Peninsula is threatened with flooding. It overflows during storm surges. When it happens, there is a demand for coastal protection.. As identified above, the need for beach replenishment is one of the major reasons for sand extraction, but this extraction can increase water turbidity. In the near future this conflict may be strengthened due to climate change phenomena and related sea level rise (Andrulewicz et al. 2010, Węśławski et al 2010).

The development of technical installations introduces new factors of environmental stress. Mechanical pressures, thermal barriers, acoustic pollution (noise), magnetic and electrical fields directly affect various species and their spawning grounds, and can lead to habitat fragmentation. They can obstruct the migrations of fish, birds and mammals. But no precise data is available on the effect of technical installations on the Polish marine areas at the moment. New threats come from terrestrial activities, e.g., pharmaceutical wastes from discharge waters, extensive salt discharge from the ongoing construction of salt caverns or emissions of contaminants to atmosphere and waters (Andrulewicz et al. 2010).

Aquaculture is not an issue in the Polish marine areas. There are no operating installations ---only a few experimental research activities.. Polish coastal waters are characterized by low salinity, seasonality and large exposed areas, so it is unlikely that sea farming becomes an important competitor for sea space..

Underwater cultural heritage (wrecks, settlement structures) has not been sufficiently evidenced yet. Presence of historical heritage will have to be examined when preparing the investment plans and EIA for the new constructions (Zauchka 2009a).

4. Governance approaches

Polish approach to management of marine areas is top-down with an important role of maritime administration. The Maritime Office in Gdynia is responsible for the case study area. Good recognition of the marine related problems in Puck Bay is a key driver for the spatial initiatives here. The maritime administration has supervised the preparation of the draft maritime spatial plan (initiated within the PlanCoast project, see chapter 2.3), the Strategic Environmental Assessment (SEA) for this plan (within BaltSeaPlan project²⁷), and it is commissioning and supervising preparation of NATURA 2000 protection plans for Puck Bay (PLB22005) & Puck Bay and Hel Peninsula (PLH220032), and Vistula Mouth (PLB 220004) & Refuge in the Vistula Mouth (PLH 220044). Maritime offices are responsible for these tasks by law, but activities in Puck Bay are pioneering in comparison to other parts of the Polish coast.

There are also some bottom-up initiatives predominantly raised by environmental NGOs, e.g., on marine reserves, protection plans for harbour porpoises and grey seals, but also ideas of local communities (coastal municipalities) are to be taken into consideration (e.g., limitations for offshore wind farms). This increased awareness will definitely facilitate implementation of protection measures, although of course local governments will also put economic objectives forward.

The legal obligation to ensure public participation in the proceedings concerning the protection of the environment stems from the Act on Public Access to Information about the Environment and its Protection, Public Participation on Environmental Protection and Environmental Impact Assessment²⁸. According to this legal act, everyone has the right to participate, under the conditions specified in the act, in the proceedings that require public participation. The public has to be informed about the activities in protected areas, and can submit comments and suggestions. Public participation is required before issuing:

- any decision, which involves environmental impact assessments (compulsory for the projects that may significantly affect the environment), or before changing such a decision;
- any decision, which involves the impact assessment on the NATURA 2000 sites, other than indicated above; this includes projects that are not directly related to the conservation of the area.

Environmental NGOs (ENGO) have been given special rights. They can participate in any consultation process²⁹. Even if a particular ENGO has not participated in a proceeding, it is entitled to appeal against the decision (appeal is therefore synonymous with willingness to participate), and to issue a complaint (appeal) to the administrative court. The ENGOs have a right to appeal if they are refused the right to participate in any environment-related proceeding.

²⁷ <http://www.baltseaplan.eu/>

²⁸ Dz.U. 2008 nr 199 poz. 1227

²⁹ As defined in the Administrative Procedure Code, they represent public interest;

In contrast, individual citizens cannot appeal against a decision if they do not demonstrate an actual legal interest³⁰.

Before any decision that requires public participation is undertaken, a competent authority, that is to issue this decision, needs to inform:

- that the EIA procedure has been initiated;
- that public proceedings have started;
- what is the subject of the decision to be issued;
- who is competent to issue a decision or an opinion and to undertake agreements;
- how to get access to relevant case documentation;
- that comments and remarks can be submitted;
- how and where to submit comments and proposals; a 21-day period for submission the remarks must be clearly indicated;
- who has the authority to examine comments and suggestions;
- if and when the public hearing, is to be held;
- if a transboundary EIA is carried out.

Comments and remarks can be submitted in writing, orally, or electronically. The competent body is obliged to consider comments and remarks received. It also informs if and how the comments were taken into account.

5. Incentives

5.1 A summary of the key incentives that have been applied to promote the achievement of the priority operational objective and to address related conflicts in the existing initiative you are evaluating, including how you think particular individual or combinations of incentives have been particularly effective or ineffective

List of discussed economic incentives:

E1 Promoting and protecting the rights and entitlements of local 'customary' users, e.g. through assigning fishing rights to certain marine areas and fish stocks

E2 Providing certainty to potential industries and their investors, e.g. through licensing and granting concessions to renewable energy developers in certain marine areas

E3 Seeking and promoting economic development opportunities and alternative livelihoods that are compatible with the priority operational objective and can generate sustainable income for local people

E4 Providing fair economic compensation for those users who carry costs as a result of restrictions on their activities that cannot reasonably be offset through compatible alternative livelihoods

E5 Providing sufficient government funding to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives

³⁰ As defined in the Administrative Procedure Code;

E6 Seeking NGO and corporate funding through endowments to support the development and implementation of the initiative to achieve the priority operational objective, including surveillance and enforcement activities and the use of other economic incentives, whilst ensuring that such funders cannot 'capture' governance through an inappropriate degree and type of influence

Establishing marine NATURA 2000 sites does not exclude economic activities in the given area. Therefore, economic incentives are limited. Incentive E6 is most commonly used, and the priorities related to the protection of the environment in general, and NATURA 2000 areas in particular, are almost always present in the EC funded programs (such as LIFE, EU Regional Programs) or Norwegian and EEA grants. The funding opportunities are not limited to (environmental) NGOs or other social partners, but various types of governmental agencies can also become beneficiaries. The prime examples for such actions or priorities related to the protection of marine environment include:

1. the following marine topics are set among national priorities designed for the LIFE program: (i) preparation of the protection plans for the marine and coastal NATURA 2000 sites, and (ii) protection and restitution of coastal and marine habitats;
2. protection plans as per the Nature Conservation Act for both investigated NATURA 2000 areas in Puck Bay are currently being prepared under the EU Regional Programme; the Maritime Office in Gdynia is the direct beneficiary, but the public tender was announced and the consortium under the lead of the Maritime Institute in Gdansk is responsible for the preparation of the plan;
3. the protection plans for the grey seals and harbour porpoises are also financed through the EU Regional Programme; WWF Poland is the direct beneficiary, but the project was subcontracted to the professional consultation company; the core text of these plans was prepared by the group of experts and the preparation process included participatory component; the plans will have to be accepted according to the relevant administrative procedure in order to become formally recognized and implemented.

Similar initiatives were also supported in the past years, e.g., in 2007 the voluntary protection plans for the Puck Bay NATURA 2000 sites were prepared under the British-Dutch-Polish twinning project (see section 2.3).

Marine NATURA 2000 sites are influenced by various human activities on the sea. The effective protection and management of these sites is closely related to marine spatial planning (MSP). Maritime administration participates in MSP initiatives, which also supports the conservation goals in Puck Bay, at least indirectly. Within EC funded projects BaltSeaPlan and PlanCoast, the Pilot Draft Plan for the West Part of Gulf of Gdansk, and the Strategic Environmental Assessment for this plan have been developed (see section 2.3). Such documents aim at reconciling environmental protection with the economic use of NATURA 2000 areas. Although at the moment they cannot become formally binding, they are being used as guidelines or a set of best practices in the daily management by the Maritime Office in Gdynia.

Various funding opportunities are available for promoting knowledge on the NATURA 200 sites, e.g., through information and/or educational campaigns. These campaigns are rather interpretative or knowledge incentives and will be further elaborated in the next paragraphs.

Regular government funding (incentive E5) is provided for the relevant governmental agencies, e.g., maritime offices, General and Regional Directorates for Environmental Protection, and Chief and

Provincial Inspectorates of Environmental Protection. These agencies are responsible for daily management and monitoring of NATURA 2000 sites. It is also their responsibility to ensure that the state of the environment in the protected areas is not worsened. For example the State Environmental Monitoring includes components covering (i) the Baltic Sea, and (ii) monitoring of species and natural habitats, with special emphasis given to NATURA 2000 sites (including Baltic Sea as a biogeographical region). However, it is questionable if these actions (and the funding available for them) can be considered sufficient.

Economic incentives other than government funding are not currently used to support the operational objectives in the case study area. However, they are present in the Polish legal and administrative frameworks. They could potentially be employed, if their use is recognized necessary. Providing financial compensation for damages caused by wild animals (E4) is allowed according to the stipulations of the Nature Conservation Act, but currently is limited to damages caused by bisons, wolves, lynx, bears, and beavers. There are proposals to append seals to this list, but only the Parliament can change the Act. There are also some other legal issues concerning the fishermen's property rights to the caught fish, or the proper procedure to document these damages. Financial compensation for down-sizing the fishing vessels can also be considered as E4 incentives. However, large fishing vessels are of almost no importance in Puck Bay, where smaller boats dominate.

The remaining incentives (E1, E2 & E3) are less important for achieving the objectives in the NATURA 2000 sites investigated here. Fishing quota allocation is being consulted with fishing communities. Perhaps it can be used to stimulate coastal fishing in the area (E1). Tourism, including recreational fishery and marine mammals watching, is promoted among fishermen as an alternative source of income (E3), but the real applicability and sustainability of these solutions in the Puck Bay is questionable. The promotion of alternative ways of life (and income) is usually done by the environmental NGOs. National, regional and local authorities are less involved. Licensing is required for all investments in the sea space. The Ministry of Transport, Construction and Maritime Economy has issued a map of the potential offshore wind farms locations (which can be considered as incentive E2), but the future locations are not formally limited to the sites proposed by the Ministry. At the same time, there is also no formal guarantee that a license will be granted for any of the proposed locations. Some of the locations are likely to be in conflict with fishery. However, these issues are not relevant for Puck Bay, where offshore wind farms cannot be built due to legal restrictions (according to the Act on Maritime Areas of Poland and Maritime Administration, it is forbidden to establish offshore wind farms in the internal and territorial waters).

List of discussed interpretative incentives:

I1 Using maps (paper or digital) for displaying boundaries, zones for different activities and related regulatory restrictions to support awareness and implementation of management measures related to the priority operational objective

I2 Promoting recognition of the potential resource development benefits resulting from the achievement of the priority operational objective, whilst being realistic about such potential benefits and not 'over-selling' them, eg displaying development zones to potential developers and investors, potential internal and spillover/export benefits of MPAs

I3 Promoting recognition of the biodiversity and ecosystem conservation-restoration benefits of spatial restrictions

Supporting awareness on NATURA 2000 sites and on protection of environment is an important component of many nationally or internationally funded projects and programmes. National funding sources include for example funds managed by National and Provincial Funds for Environmental

Protection and Water Management, international funding includes LIFE, EU Regional Programs or Norwegian and EEA grants.

Moreover, the General Directorate for Environmental Protection maintains a web page dedicated to NATURA 2000 sites. This portal includes an e-learning component (I1, I2 and I3) and a geoportal (<http://geoserwis.gdos.gov.pl/mapy/>) service (I1). However, the information provided at the web page is rather general, and includes an outline of the concept of NATURA 2000 network, its history, and the possibilities to undertake economic activities in the protected areas. On this web page, there are also SDFs and maps for all NATURA 2000 sites designated in Poland, with some information on marine NATURA 2000 areas (I3). The web site presents the benefits arising from NATURA 2000 sites, but no specific information on the Puck Bay can be found.

The agency responsible for the Puck Bay area, the Maritime Office in Gdynia, does not run any educational and/or information programs at the moment. However, its web site presents progress reports on the preparation of the protection plans for both NATURA 2000 sites investigated in the governance analysis. Some scientific data concerning these sites is also available there.

Many environmental NGOs run programs that aim to promote NATURA 2000 sites. These programs very rarely are dedicated specifically to marine areas. One exception is the project "4 seasons with NATURA 2000". This project covers the whole Polish coast but also delivers only general information about the network. The project web site includes maps (also in an interactive GIS system), learning modules, games, information on protected marine habitats and species, tourism guides, and presentation of benefits arising from the protection of environment and from sustainable use of coastal resources.

List of discussed knowledge incentives:

K1 Explicitly recognizing the challenges raised by scientific uncertainty and the importance of developing approaches to help reduce and address such challenges, *eg* establishing ground rules for the interpretation and application of the precautionary principle, decision-making under uncertainty, and adaptation in the light of emerging knowledge

K2 Developing mechanisms for independent advice and/or arbitration in the face of conflicting information and/or uncertainty, including transparency in the use of such mechanisms

K3 Promoting mutual respect amongst local resource users and scientists for the validity of each other's knowledge and promoting collective learning through partnership research, research/advisory groups, participative workshops, *etc*, *eg* conducting studies in collaboration with users on the patterns of biodiversity and resource use in the existing initiative, including trends

K4 Using interactive maps (paper or digital) for gathering information from users on spatial and temporal distribution of different activities, environmental impacts of activities, distribution of conservation features, *etc* to support the achievement of the priority operational objective while reducing conflicts

K5 Maximizing scientific knowledge to guide/inform decision-making and monitoring/evaluation in relation to the priority operational objective

K6 Reducing the barriers in access to information and data held by different agencies, user groups and countries, and promoting the exchange, sharing and integrated use of such information and data in the existing initiative, *e.g.*, geo-spatial data, ecological trends, fisheries data

There is no strong evidence that knowledge incentives are being regularly used in the management of NATURA 2000 sites. However, there are some general solutions that can be considered as knowledge incentives.

Science is recognized as an important part of planning and management processes (K5), but it informs decision-making predominantly through research projects or public tendering. In addition, research projects are often used to demonstrate that the international obligations, e.g., those arising from HELCOM Baltic Sea Action Plan (BSAP), are being realized. In the National Implementation Plan (NIP) for BSAP, it is stated that Poland participates in a number of international projects (e.g., BEAST or Habitat Mapping) and in international reintroduction programs for various marine species and habitats. However, these projects are rarely commissioned by the ministries or governmental agencies and are received on competitive basis. Therefore, the implementation of international regulations is often an added value and these projects should rather be considered as bottom-up initiatives.

During the Biogeographical seminar for the Baltic Sea, it was decided that PLH220032 area (Puck Bay and Hel Peninsula) should be enlarged. A proposal was put forward to establish a special refuge near Kepa Redłowska, which is the part of the Puck Bay shoreline. Such postulates are often not popular among other users, but they prove that there are at least some attempts to give the priority to the conservation goals (K5).

Environmental impact assessment councils have been established at national and regional levels (K2). These bodies comprise the representatives of science, practitioners and NGOs. However, it seems that local and traditional knowledge is underrepresented, or perhaps even completely ignored. The same tendency was clear during the public consultation process for the protection plans for grey seals and harbour porpoises. Local communities (especially fishers) was not considered trustworthy as a source of knowledge. Instead, scientific literature was preferred. However, at the same time it was also discussed what is the definition of “scientific literature” between competing groups of scientists.

Public consultation processes are promoted and required by the stipulations of Act on Public Access to Information about the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment (see paragraph 4). The consultation processes are often performed even if not directly required. The public consultation was also undertaken during the preparation of the Pilot Draft Plan for the West Part of the Gulf of Gdansk and the SEA for this plan (K3). Neither of this documents can be actually used in the governance practice, and they were prepared with only limited stakeholder participation. Public consultations for the protection plans for the NATURA 2000 sites in Puck Bay (currently under preparation) occurred in spring and autumn 2013. In general public consultations in Poland often have poor quality. They are performed only in order to meet legal and formal requirements. They tend to simply inform the social partners about the activities undertaken by the authorities, rather than to include the social partners in co-deciding.

Lack of biological and physical data, data availability and barriers to access environmental information are well recognized drawbacks of the management of the marine realm in Poland. These issues are acknowledged at the national level, and a number of projects have been funded to facilitate data collecting and data management, e.g., “Integrated information platform for the Southern Baltic Sea environment” (Baltic Bottom Base) or “Integrated oceanographic data center” (ZSPDO). There are also other bottom up initiatives to overcome these issues. The most prominent initiative aims at creating the national oceanographic data center (K6). This need was recognized at the national level, but so far no practical actions followed.

List of discussed legal incentives:

- L1** Performance standards/conditions/criteria/requirements attached to licenses, concessions and user/property rights, *etc* in order to ensure the achievement of the priority operational objective, such as achieving environmental criteria and providing access rights for particular uses
- L2** International-regional-national-local legal obligations that require the fulfilment of the priority operational objective, including the potential for top-down interventions
- L3** Adopting a sensitive but effective approach to legal interventions to address conflicts that would otherwise undermine the fulfilment of the priority operational objective, whilst avoiding a complete 'command-and-control' approach
- L4** Ensuring that sufficient national-local state capacity, political will, surveillance technologies and financial resources are available to ensure the equitable and effective enforcement of all restrictions on all local and incoming users
- L5** Effective system for enforcing restrictions and penalising transgressors in a way that provides an appropriate level of deterrence *eg* at national, EU or international level
- L6** Clarity and consistency in defining the legal objectives of the existing initiative, general and zonal use restrictions, and the roles and responsibilities of different authorities and organizations, including the relationship between the initiative to achieve the priority operational objective and existing plans/regulations for the management of individual sectoral activities
- L7** Employing legal appeal and adjudication platforms to address injustices and regulate conflicts at national, EU or international levels
- L8** Scope for legal flexibility –subsidiarity, adaptive management and local discretionary action – maintaining, reinforcing, building on and working through lower level institutions, provided that this does not undermine the fulfilment of the priority operational objective
- L9** Legal or other official basis for coordination between different sectoral agencies and their related sectoral policies, aimed at addressing cross-sectoral conflicts in order to support the achievement of the priority operational objective.
- L10** Legal or policy basis for promoting cross-jurisdictional coordination between member states.
- L11** Establishing legal provisions to ensure the transparency in policy processes, *eg* statutory requirements for public access to information, appeals, public hearings, *etc*

The management of Puck Bay is shaped primarily by legal incentives. However, there are no protection plans for the Puck Bay marine NATURA 2000 areas. There is a number of scientific initiatives that aim to help in their future formulation.

The process to obtain a permit for an investment in the marine areas is formalized. An investor is required to receive more than one permit (L1). Evaluation of environmental components and assessment of potential negative effects of the proposed investment are important parts of two major permits, i.e., location decision and decision on the environmental conditions. The latter includes an Environmental Impact Assessment (EIA).. The content of EIA report is described in the Act on "Public Access to Information about the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment".

The objectives of the case study area are mandated by two pieces of EC legislation: the Birds and the Habitats Directives. Their transposition to the Polish legal system and the establishment of marine NATURA 2000 sites are both in fact the implementation of the L2 incentive (see section 2.1). This incentive is also implemented through international agreements such as ASCOBANS or the Helsinki Convention. Helsinki Convention defines, Baltic Sea Protected Areas (BSPAs). The NATURA 2000 site in Puck Bay (PLB22005) was granted such a status. The preparation of the protection plans for two marine national parks, coastal landscape parks and marine NATURA 2000 areas were included in the NIP for BSAP. Nonetheless, these objectives are still not realized. Poland participates in the joint

HELCOM-VASAB Maritime Spatial Planning Working Group that has developed ten broad-scale maritime spatial planning principles for the Baltic Sea region.

The need to prepare protection plans was also acknowledged in the Environmental Protection Plan for the Pomeranian region” However, the protection plans were limited to the areas in region ;: Coastal Landscape Park and both NATURA 2000 areas investigated in this case study.

Public participation in environmental decision-making and the right to obtain information about environment are mandated by the Act on “Public Access to Information about the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment” (L11). This legal act gives special right to environmental NGOs, which represent public interests. These issues are further elaborated in section 4.

Puck Bay is a part of Polish internal waters according to the international law of the sea, so cross-jurisdictional coordination between member states (L10) does not apply.. However, there are stipulations that enable international cooperation for the EIA procedure, i.e., when a project can have a cross border impact.

Clarity and consistency in defining legal objectives (L6) and coordination between sectoral agencies (L9) can be addressed through:

1. maritime spatial planning (L6 and L9);
2. Principles of the Maritime policy of Poland till 2020 (L 9, see chapter 2.4);
3. National Spatial Development Concept 2030 (L9);
4. the protection plans for the NATURA 2000 sites, at least to a limited extent (L6).

However, these tools have not been put into practice. The maritime policy is a step in the good direction, but its implementation requires time and money, and its results are still to be seen. National Spatial Development Concept 2030 defines several problems related to marine areas and/or integrated coastal zone management. However, these problems remain mostly unsolved. MSP is present in the Polish legal framework, but it thus far it was not possible to implement a legally binding plan because there relevant bylaws have only recently been published..

There is a well-defined procedure to prepare protection plans for NATURA 2000 sites, but it has not been used so far for marine areas. Therefore, the evaluation of the effectiveness of the procedure and the stakeholder consultations cannot be undertaken in this study.

Legal interventions (L3) most commonly adopt “command-and-control” approach, but public consultations and special rights granted to environmental NGOs (see section 4) can be considered as a form of legal support for conservation.

Since maritime administration is responsible for managing marine areas, including NATURA 2000 sites, the authority is partially delegated downwards (L8). However, this delegation does not involve regional (provincial) governments sufficiently, because the management is still performed by the central administration. The Maritime Office in Gdynia cooperates relatively well with the Regional Directorate for Environmental Protection in the Pomeranian region and with local communities. This cooperation is voluntary and would benefit from formal regulations.

The Act on Preventing Damages to the Environment and on Compensations for these Damages³¹ sets the rules concerning the responsibility for prevention of damages to the environment and compensation for damages done (L5). (Environmental administration is responsible for implementation of this legal act, but the prevention measures for marine areas have to be consulted with the director of the territorially competent maritime office.

Incentives L4 (availability of technologies and resources) and L7 (legal appeal and adjudication platforms) are not directly designated for NATURA 2000 areas, but such mechanisms exist, at least at the basic level. Environmental agencies, maritime administration, and the courts of law are all funded by the national government.

List of discussed participative incentives:

P1 Developing participative governance structures and processes that support collaborative planning and decision-making, *eg* user committees, participative GIS, postal consultations on proposals that provide for detailed feedback, participative planning workshops, *etc*, including training to support such approaches

P2 Decentralising some roles, responsibilities and powers to local people and their constituencies, including local government, through a clear management structure, whilst maintaining an appropriate balance of power between local people and the state in relation to the priority operational objective. Managing expectations in this respect can be particularly important by being realistic about the degree of autonomy and influence that local people and governments/agencies can expect

P3 Clear rules on the means and degree of participation from different sectoral groups and the unbiased representation of all sectors in participation processes

P4 Building trust/social capital between different actors through transparency, face-to-face discussions, equity promotion, *etc*, recognising that this can lead to an 'upward spiral' of cooperation and confidence that cooperation will be reciprocated amongst different actors, whilst erosion of trust through lack of transparency, equity, enforcement, *etc* can lead to a 'downward spiral'

P5 Transparent participation and decision-making processes, including about how user participation has affected decisions and why it may or may not have done, and being very clear and honest, once decisions are made, about the potential benefits and costs, as well as the restrictions imposed on certain users

P6 Providing for participative enforcement amongst users, *eg* peer enforcement, community rangers/wardens, and promoting the potential for cooperation and peer enforcement of restrictions

P7 Promoting consistency with and respect for local traditions, customs, norms and practices, in so far as they are compatible with and contribute towards the fulfilment of the priority operational objective

P8 Promoting recognition & realisation of the potential for a the participative governance of the existing initiative to influence the higher-wider statutory framework, processes and obligations, *ie* that local users can have an influence on higher level institutions as well as being influenced by them - co-evolution

P9 Bringing in 'neutral' facilitators to support governance processes and negotiations or training state employees to do so

P10 Employing 'neutral' and widely respected panels to arbitrate on issues, conflicts, options, *etc* and recommend decisions

All the participative incentives are related to various forms of public engagement mechanisms. These mechanisms are defined in the Act on Public Access to Information about the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment.

The quality of public consultation is rather poor in Poland. Nevertheless, three recent initiatives related to NATURA 2000 areas in the Puck Bay attempted to involve the general public in decision-

³¹ Dz.U. 2007 nr 75 poz. 493

making. Although the Pilot Draft Plan for the West Part of the Gulf of Gdansk and SEA for this plan do not have legal binding, stakeholder consultations were conducted at the time both were prepared. In the case of the pilot draft plan, stakeholders were invited to submit suggestions for improvement of the plan. 54 participants attended the meeting, and 9 stakeholder organizations submitted 46 remarks. Two rounds of stakeholder consultations were organized during the SEA preparation. Altogether 135 people participated in these two meetings and 185 remarks were submitted.

WWF Poland used a different approach when it was granted a EU-funded project to prepare protection plans for grey seals and harbour porpoises. A professional negotiating company was hired to run this project. There was a core group of experts who were responsible for writing the final plans. Working groups of stakeholders were established already at the beginning of the process. In addition, there were two rounds of stakeholder consultations, when both draft plans were ready. However, it is doubtful if this participatory approach was successful. Many controversies between stakeholders and between scientists remained unsolved. The level of consensus should be investigated further.

5.2 A discussion on how you think governance could be improved to better meet the priority operational objective and to address related conflicts through improved individual or combinations of incentives

The Puck Bay case study is based on the analysis of the existing legal and organizational frameworks. Almost no practical management action has been undertaken so far. It seems that most tools necessary to manage NATURA 2000 sites are in place, although there is a space for improvement in some fields, e.g., in the areas of MSP, public participation, and cooperation between different agencies and authorities. The major questions that remain unanswered are (i) how these tools can be practically implemented, and (ii) what will be the level of support and acceptance for the specific solutions in future protection plans.

Legal incentives are likely to be satisfactory, but financial barriers are perhaps more important. Most activities concerning Puck Bay were financed from external sources (EU funded projects) and they did not involve funds budgeted for the statutory activities. This raises the question of long-term sustainability of these actions.

Similar problems apply to soft instruments (knowledge, interpretative and especially participative incentives). Many initiatives are undertaken in these fields, but they are funded from external sources, they are rarely coordinated, and usually undertaken by the organizations representing the third sector.

6 Cross-cutting themes

6.1 Combining top-down role of state and bottom-up participative approaches

Management of marine areas in Poland is based on a top-down approach with the leading role of maritime administration. The Maritime Office in Gdynia is responsible for managing NATURA 2000 sites in Puck Bay. It recognizes well the most pressing issues in the area and recent scientific

developments. The Maritime Office has undertaken a few pioneering initiatives (pilot projects), which due to legal constraints cannot be adopted formally. However, they are used, whenever possible, in day-to-day management. In all these initiatives, public consultation were conducted even though they were not required.

The Act on “Public Access to Information about the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment” regulates the procedure of public participation (see section 4). The Act applies to public consultations for the protection plans for the NATURA 2000 sites in Puck Bay conducted in 2013. Public participation in EIA procedure is also well-established. The Supreme Administrative Court in its decisions clearly indicates that the absence of public consultations in the EIA procedure results in invalidity of any issued decisions.

Although public consultations in Poland are often undertaken just to fulfil legal requirements, it seems that maritime administration is actually interested to engage a wide spectrum of stakeholders in the planning process for Puck Bay. Based on the available documents, it is impossible to assess the level of cooperation between different agencies and ministries, which sometimes have overlapping competences. However, the Maritime Office in Gdynia at least attempts to build a wide consensus for the management objectives. The efforts of maritime administration are complemented by bottom-up initiatives, usually initiated by environmental NGOs. The most prominent examples include the preparation of protection plans for harbour porpoises and grey seals (currently under review by the Ministry of the Environment) and the proposal to revise the environmental law in order to introduce the idea of marine reserves.

It is rather difficult to assess most of the sub-themes included in this section. The management measures for NATURA 2000 sites in Puck Bay will be implemented in the coming years. The overall objectives were enforced by the EC Birds and Habitats Directives. Because these regulations have been imposed externally, some stakeholders believe that NATURA 2000 sites hinder economic development and increase the cost of investments. It is also a shared opinion that marine NATURA 2000 sites are too large, were selected without reaching societal consensus, especially with coastal municipalities, and set up without scientific basis (Zauchka 2012).. From this perspective the general objectives are accepted only to a limited extent. On the other hand, NATURA 2000 sites do not put forward any site-specific arrangements or limitations to support efficient protection of marine environment. The obligation to carry out EIA is perhaps the only exception. The site-specific regulations for Puck Bay are still being developed .They have not been presented yet to all stakeholders. The future MSP will probably contribute to further development of site-specific conservation measures. Marine spatial plans could not be prepared yet due to legal constraints (see section 2.4), but now that the Pilot Draft Plan for the West Part of the Gulf of Gdansk” has been prepared, and because the protection plans are prepared and supervised by the same agency, it is likely that most important solutions from the draft plan will be included in the protection plans.

6.2 Inter-sectoral integration and related power issues including compensation (in emerging MSP framework)

NATURA 2000 sites and other conservation measures are often considered to be one of many competing uses of the sea space. According to the precautionary principle, conservation should be

given priority over other uses. However, regulations concerning NATURA 2000 network do not ban economic activities in the area. Therefore, it will be possible to assess the level of compromise between nature conservation goals, and economic and social objectives only once the protection plans for Puck Bay are ready. Maritime offices are responsible for protection of the environment in marine areas, but this is one of many tasks that are assigned to them.

The Pilot Draft Plan for the West Part of the Gulf of Gdansk can be used, albeit with difficulty, as a proxy to assess the future balance of competing objectives. The operational objectives of the draft plan are rather general, so it is hard to distinguish between purely ecological and economic objectives. On the other hand, these objectives allow to adopt solutions that do not support the protection of the environment. Such solutions include hard coastal protection and special industrial zone located in the middle of the Bay. The draft plan has made it possible to test certain approaches that will be used during actual planning. MSP is a tool that has a potential to promote integrated management. However, well-defined environmental objectives should first be put in place, because the whole Bay is protected in the NATURA 2000 framework, so any spatial plan should clearly acknowledge that. Nonetheless, the authors of the draft plan underline that they were not able to answer some basic questions on the overall strategy of the protection of the marine environment (Zaucha 2009a). These questions include:

1. what are the most probable directions for the future protection of the marine environment?
2. what types of conservation measures enable long-term protection of the marine environment?
3. which environmental systems and functions should be fully protected, and excluded from other uses, and which can spatially co-exist?
4. what is the relationship between climate change, socio-economic factors, protected areas and development of the coastal municipalities?

The authors of the draft plan noticed that it was not possible to define what should be the optimal percentage of the marine areas covered by various conservation measures to fully implement the ecosystem approach principles. The authors were also unable to assess how this percentage will be affected by future requirements, especially these enforced by EC and HELCOM. It was also impossible to define how the plan should address defragmentation of natural systems, or new forms of marine protection that could appear in the future. The authors concluded that it was not possible to define short- and medium-term management objectives. Moreover, MSP in Poland is detached from land planning, which will most likely cause conflicts in the future. However, this problem is already widely recognized, also in the National Spatial Development 2030, which is one of the most important planning documents for the whole country. This document is dedicated mainly to terrestrial planning, but it also defines several issues that can affect the implementation of MSP and/or integrated coastal zone management (Zaucha 2009b), including:

1. deteriorating quality of land around the coast, i.e., seasonal urbanization, increasing anthropogenic pressures and spatial conflicts;
2. lack or poor cooperation between local and regional governments and the private sector;
3. poor spatial policy at the local level, including problems with law enforcement;
4. coastal erosion (70% of the Polish coast is subject to erosion);

5. lack of coordination between development in terrestrial and marine areas;
6. seasonality of economic activities, changes in traditional way of life, e.g., in fisheries;
7. lack of modern approach to maritime economy (it is considered to be a sector that focuses on shipping, fisheries, shipbuilding industry, and coastal tourism, but not on conservation);
8. lack of strategies concerning development of ports, offshore renewable energy sector and aquaculture;
9. no systematic approach to exploration and exploitation of natural resources;
10. sectoral approach and lack of integration between marine and terrestrial planning;
11. incomplete legislation, especially on planning in marine areas;
12. lack of national maritime policy that would integrate sectoral policies and strategies;
13. uncertainty in decision making.

Dialogue with stakeholders was discovered to be another important problem. The dialogue was assessed as intense, but many stakeholders (e.g., local municipalities) were not able to translate their interests and policy objectives into demand for space. In the future this can result in opposition against the adopted solutions. For example, city/town planners plan for mooring jetties, yacht havens, or new beaches without specifying where they should be located. It was also not possible to engage the Polish Navy in the planning process and there was no clear vision concerning ports' development (Zaucha 2009a). On the other hand, environmental NGOs seem to be very well organized and active in promoting bottom-up conservation actions.

6.3 Cross-border issues between countries

The case study area does not involve cross-border issues. However, in the Polish legal framework, there are regulations for cross-border EIA. In addition, Poland is a contracting party to many international conventions, e.g., HELCOM or ASCOBANS, and stipulations arising from these documents influence solutions at the national level. There are many HELCOM recommendations that are relevant for marine spatial planning and/or marine conservation measures. These recommendations can support the solutions put forward by the currently prepared protection plans.

6.4 Justice issues

Justice issues do not attract much attention at the moment, but there are some mechanisms that promote them. At the national level, these mechanisms include:

1. the right to receive information on the environment and its protection; there is a formal list of documents and information that must be publicly available electronically, and many of them are related to NATURA 2000 sites; however, there are also formally defined exceptions, which according to some environmental organizations are often misused in order to limit access to information (Juchnik et al. 2010); these exceptions are mostly related to intellectual property for expert opinions;

2. the right to participate in the decision-making concerning the environment (see details in section 4).
3. the right to report damages to the environment; the environmental NGOs are given special rights in this field as they are assumed to represent public interest.

At the international level, instruments supporting environmental justice include the right to issue (i) a petition to the European Parliament, (ii) a complaint to the European Commission, (iii) a notification of breach of the Aarhus Convention, and (iv) a complaint of violation of the Bern Convention.

The concept of ecosystem services is still mainly used for research purposes in Poland. Therefore, this term is either unknown or relatively new to Polish decision-makers. It is hardly ever used in official documents and strategies, both at the national and local/regional levels. Ecosystem based management is gaining popularity and there are several initiatives to promote this approach in space management.

6.5 Influence of different knowledges and of uncertainty in decision-making. eg different claims to knowledge, and how uncertainty plays out in decision-making, establishing cause-effect relationships

Decision-making in Poland is still centralized and based on expert knowledge. Local and traditional knowledges are most often ignored and public consultation processes have poor quality. The consultation processes are undertaken because of formal and legal requirements, and concentrate on informing the public about the actions already taken rather than involving it in decision-making. In addition, Polish institutions are still underdeveloped and local/regional authorities are still learning how to manage their own affairs independently from the central government (Celinski et al. 2011, Piwowarczyk et al. 2013). There is little use of social research, expertise and professional assistance in carrying out consultation processes. Passive forms of communications prevail and these forms do not meet the needs of the stakeholders both in terms of language and communication channels. The information provided is often limited to announcements posted in the office or put in an electronic bulletin (Celinski et al. 2011). The use of proposals or suggestions developed during the consultation process is rather low, what results in even greater passivity of the Polish society and disillusionment with the public institutions functioning.

In addition, decisions concerning the environment are often undertaken based on insufficient and outdated information, and access to data and data availability is far from satisfactory. Problems with data are generally well recognized, but only limited actions were undertaken to overcome this issue (see paragraph on knowledge incentives). These problems are also discussed in the draft spatial plan for Puck Bay (Zauchka 2009a) and a dire need for further research was identified. Further actions should include:

1. further habitat mapping;
2. better monitoring of fish species and sea mammals;
3. detailed information on mineral deposits under the sea bottom;
4. socio-economic research including the strategic evaluation of the development plans and strategies of the most important stakeholders (e.g., local municipalities and industry);

5. information on already existing or planned investments (e.g., already issued licences and permits).

The issues of uncertainty have neither been sufficiently discussed in the draft plan nor in the in SEA for the plan.

7 Conclusion

Puck Bay

The governance analysis for Puck Bay is based mainly on the evaluation of legal instruments. The design of formal and site-specific restrictions and management tools in an ongoing process. Therefore, we are only able to assess, if the proper tools are in place, and what is the readiness (and/or political will) to use them.

The maritime administration responsible for the Puck Bay area is well aware of the most recent developments in the MSP field and brings forward important initiatives that can support better management of the Bay. However, these initiatives are fragmented and need coordinated support. They are targeted at MSP initiatives. The protection of the environment is considered as one of the uses, not necessarily the most important. The division between maritime and environmental administration poses a threat that may prevail over social and economic goals. The obligations for closer and regular cooperation should be formally strengthened. There is a need for cross-sectoral planning, but MSP creates some possibilities to overcome this problem. However, it seems that although maritime administration is committed to this idea, there is not enough political will to enhance this process. Formal and informal education of the general public should go beyond NGOs, data gathering and data sharing need to be improved, stakeholders should be engaged in decision-making. However, these issues are not characteristic for the case study, but are the part of the wider landscape of institutional and environmental management in Poland.

A brief comparison between Puck Bay and Östergötland

Puck Bay and Östergötland share some characteristics; both being marine areas with brackish water, having quite similar climates and largely the same species. Located in the Baltic Sea, both areas form a part of the Helsinki Commission (HELCOM) area and are being managed under the HELCOM Baltic Sea Action Plan (BSAP). However, there are also great differences between the two areas. Östergötland County has a relatively well developed spatial management, existing plans for nature conservation and relatively few stakeholder conflicts. In Puck Bay there is no spatial management plan and strong conflicts between fisheries, nature conservation and tourism. A pilot plan has been developed for the area but it has not been implemented.

An important part of the physical planning in Östergötland is the comprehensive municipality plans. These plans regulate the development and usage of water and land within the municipalities. Municipality programmes for nature conservation are integrated parts of the comprehensive plans. Most of the coastal and marine area of Östergötland is pointed out as an area of national interest for nature conservation and recreation. Parts of the area are also pointed out as areas of national interest for fisheries and energy production. The archipelago is facing new challenges as tourism, boat traffic and activities such as sports fishing, kayaking and sailing increase. Puck Bay is subject to

the most intensive human pressures and conflicts in the Polish marine Areas; used extensively by tourists and fisheries. The whole area is ecologically extremely vulnerable and is therefore covered by the Natura 2000 network with the areas planned for bird and habitat protection. The Puck Bay is one of the two biologically most valuable areas within the Polish Exclusive Economic Zone, but also the most degraded one. The Major conflict for space is between the conservation issue and fishery which operates in 100% of protected areas in the Puck Bay. The major obstacles for tourism are nature protection and fishery.

Östergötland county has a relatively well developed spatial management, existing plans for nature conservation and relatively few stakeholder conflicts. One reason for this could be the comprehensive municipality plans on the local level, where stakeholders are invited to submit written submissions and the “distance” to the decision makers are shorter than on the national level. Östergötland County encompass the Baltic Sea Protected Area (BSPA) Missjö-S:t Anna, established under the Helsinki Commission (HELCOM). The County Board on behalf of the Environmental Protection Agency has developed a collaboration plan for the management, care and use of St. Anna - Missjö. The work has been conducted in three thematic working groups which included representatives for landowners, island organizations, municipalities, Archipelago Council, Östsam and Östergötland County Administrative Board. The collaboration plan aims among other things to clarify and strengthen the motives and conditions for long time sustainable management of the area's values and clarify and strengthen the motives, needs, and opportunities for continued dialogue and cooperation in the management process with the affected owners, users, organizations and authorities at local, regional and national level. In Puck Bay there is no spatial management plan and strong conflicts between fisheries, nature conservation and tourism.

The maritime administration responsible for Puck Bay area is well aware of the most recent developments in the MSP field and brings forward important initiatives that can support better management of the bay. However, these initiatives are fragmented and need coordinated support. There is a need for cross-sectoral planning, but MSP creates some possibilities to overcome this problem. However, it seems that although maritime administration is committed to this idea, there is not enough political will to enhance this process. Formal and informal education should not only be the responsibility of NGOs, data gathering and data sharing need to be improved, stakeholders should be engaged into decision-making. However, these issues are not characteristic for the case study, but are the part of the wider landscape of institutional and environmental management in Poland. In Östergötland, they have a higher degree of cross sectorial management. Much of the reasons for this are the institutional structure and tradition for comprehensive cross sectorial municipal plans where municipal plans for nature conservation also are included. In this work, they also have a tradition for gathering consultative statements from stakeholders through hearing rounds. Including different stakeholders in developing a collaboration plan for management of the Baltic Sea Protected Area (BSPA) Missjö-S:t Anna, is therefore institutionally not that unfamiliar. The term cooperation plan is however not embedded in the legislation. The goal has instead been to develop a new form of management which do not need to be legally binding, but which can complement other forms of management that are often found in larger valuable coastal and marine areas.

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Appendix 1:

Review of Baltic Sea management measures³²

The key plan that facilitates the achievement of the operational objective is the Baltic Sea Action Plan (BSAP) which aims to be fully in line with the Marine Strategy Framework Directive (MSFD). Further, all countries (but Russia that is on its way) have developed national implementation plans (NIPs) in which they apply national instruments, such as Natura 2000, to implement the non-binding BSAP. The countries NIPs are very different in all aspects, e.g. level of detail, what instruments that are used and what sectors and what authorities that are involved. In addition to this, national environmental laws and regulations as well as international agreements and arrangements and EC legislation will support the achievement of the operational objective.

The elaboration of the Baltic Sea Action Plan has been done with the active participation of all major stakeholder groups in the region. Such participation has been important to ensure that the plan is truly relevant and can be effectively implemented in practice. The common vision of the healthy Baltic Sea has been defined together with all participating stakeholders – from governments, through industry and NGOs, right down to individual citizens and organizations in both the private and the public sectors. In this way the plan promotes employment and other aspects of sustainable socio-economic development, as well as ecological sustainability and a healthy environment.

The HELCOM action plan is considered a joint regional policy, with common objectives, actions, and obligations. The future success of the plan largely depends on how all the coastal countries can cooperate to achieve the goal of a healthy Baltic marine environment.

1. Measures and actions put forward by such policies, legislations, regulations and/or plans

All countries (but Russia) have developed national implementation plans (NIPs) in which they apply national instruments, such as Natura 2000, to implement the non-binding BSAP. The countries NIPs are very different in all aspects, e.g. level of detail, what instruments that are used and what sectors and what authorities that are involved.

DENMARK

A list of actions has been compiled in order to meet the goals of biodiversity and conservation of nature, and associated ecological objectives. These include:

- designation of marine Natura 2000 sites as Baltic Sea Protected Areas (BSPA) no later than 2009, and designation of further BSPA no later than 2010, particularly in the exclusive eco-nomic zone, so that there is a continuous network of protected ecological areas;
- to have drawn up management plans for BSPA areas by 2010;
- River Basin Management Plans drawn up in compliance with the provisions of the Water Framework Directive.

³² This section is based on the analysis of the National Implementation Plans for Baltic Sea Action Plan (BSAP)

In addition to this, the measures contained in the remaining sections of the Baltic Sea Action Plan on eutrophication, environmental pollutants and maritime activities must be fully implemented if the plan's goal of biodiversity and conservation of nature is to be met.

In June 2009, the Danish government signed the agreement on Green Growth. One of the main concerns of Green Growth is a Denmark 2020 Environment and Nature Plan, which also aims to implement the provisions of the Baltic Sea Action Plan. The outcomes of the Environment and Nature Plan include:

- a 19,000 tonnes reduction in nitrogen discharge between 2010 and 2015, the equivalent of one third of present levels;
- a 210 tonnes reduction in phosphorus from 2010 to 2015;
- a market-oriented system with tradable nitrogen quotas;
- a substantial reduction in the harmful effects of pesticides on human beings, animals and plants;
- a reorganization of pesticide tax to take environmental concerns into account;
- improved countryside stewardship and management of approx. 145,000 ha private and public Natura 2000 sites;
- 75,000 ha hectares of new-designated nature areas by 2015.

Means of achieving the environment and nature targets in the Green Growth agreement include the coming River Basin Management Plans and Natura 2000 plans. The plans will meet the obligations pursuant to the European Water Framework Directive and the Natura 2000 Directives.

Eutrophication

The River Basin Management Plans provide a number of tools (measures) for ensuring that the quality of our water meets EU standards.

The main measures for achieving the 9,000 tonnes reduction in nitrogen from agriculture are:

- the establishment of 10,000 ha wetlands;
- 10-metre spraying-, fertiliser- and cultivation-free buffer zones along watercourses and lakes (equivalent to 50,000 ha);
- neutralisation of the nitrogen effect due to urban development;
- new regulations for soil cultivation in the autumn;
- the requirement that catch crops cannot be replaced by less effective winter green fields (in total 140,000 ha);
- a ban on ploughing grass fields during certain periods.

For sources other than agriculture, the most important measures for reducing nitrogen discharge are:

- improved treatment of wastewater discharge from scattered population areas;
- a reduction in stormwater overflow from shared sewage systems;
- improvements in older, smaller municipal sewage treatment plants;

- measures directed at fish farms;
- a reduction in industrial discharges.

Measures for achieving the environmental targets for lakes and watercourses are:

- a reduction in phosphorus discharge of 210 tonnes – primarily by setting up 3,000 ha phosphorus river valleys;
- a reduction in management, or rehabilitation of watercourses, in order to improve plant and animal life;
- the incorporation of waste water in the sewage system or improved treatment, thereby reducing the discharge of organic compounds that cause oxygen depletion in watercourses.

Measures relating to groundwater:

- The water plans identify areas where water extraction must be reduced so that water is secured for watercourses. This includes both water extraction for general water supply and water extraction for watering fields. Reduction of water extraction will be implemented when water extraction licenses come up for renewal.

Hazardous substances

According to the agreement on Green Growth, the outcomes of the Environment and Nature Plan include:

- a substantial reduction in the harmful effects of pesticides on human beings, animals and plants;
- a reorganization of pesticide tax to take environmental concerns into account.

Biodiversity and nature conservation

Denmark has designated international marine nature conservation areas in order to comply with the provisions in the European Natura 2000 Directives and other international obligations, including the Baltic Sea Action Plan. In Denmark, the central legislation governing designation and management of international nature conservation areas is the Environmental Objectives Act and the Habitat Order. The international nature conservation areas include bird conservation areas, habitats, and Ramsar areas. Bird conservation areas (SPA areas⁴) and habitats (SCI areas⁵) are incorporated in the continuous, European ecological network called Natura 2000. Internationally designated marine nature conservation areas coincide with some Danish Natura 2000 sites. In 2004, the Danish marine habitats that were designated at that time were included on the European Commission's SCI list (Sites of Community Importance). In the autumn of 2009, Denmark submitted a proposal to the European Commission for additional marine habitats. In nominating additional marine habitats, Denmark has designated new marine habitats and expanded existing marine habitats. Denmark has now designated almost 23% of the Danish Baltic Sea waters as Natura 2000 sites.

Eight completely new marine habitats have been designated in Danish territorial waters, of which four are completely new areas in the Baltic Sea. The four new areas in the Baltic Sea are Mejl Flak, Gilleleje Flak and Tragten; Fehmarn Belt; Adler Ground; and Rønne Banke. Of the existing habitats, 13 have been expanded to a greater or lesser extent. Twelve of these areas lie in the Baltic Sea.

Maritime activities

There are no further specifications about objectives concerning maritime activities than that the measures contained in the Baltic Sea Action Plan on maritime activities must be fully implemented in the management plans for each of the Baltic Sea Protected Areas if the plan's goal of biodiversity and conservation of nature is to be met.

ESTONIA

As a first step in the implementation of the 'Baltic Sea Action Plan', Estonia has prepared the 'Baltic Sea Action Plan Implementation Programme 2008-2011' (BSAPIP). This programme merges various activities within different areas originally covered by several ministries. Its general goal is to improve the marine environment conditions and in particular to achieve good water quality status in the Baltic Sea by the year 2021.

Eutrophication

The measures for achieving the targets described in the eutrophication segment of the HELCOM Baltic Sea Action Plan should enable suppressing and/or stopping eutrophication from nutrients of human origin (mainly phosphates and nitrates). The corresponding methods require treatment of municipal wastewater and modernisation of agricultural methods to such an extent that the discharge of such substances into the marine environment would be minimised.

Hazardous substances

The measures for achieving the targets described in the hazardous substances segment of the HELCOM Baltic Sea Action Plan include development of national implementation programmes for reducing the use of hazardous substances; identification, assessment and reduction of the impact of sectors with a potential threat of pollution; and continued identification of new candidate substances and their inclusion in the 2001 Stockholm Convention on Persistent Organic Pollutants and the 1998 Aarhus Protocol on Persistent Organic Pollutants to the UNECE Convention on Long-Range Transboundary Air Pollution, taking into account adequate assessment, in particular, of their impact on the marine environment.

Biodiversity and nature conservation

The measures for achieving the objectives described in the biodiversity and nature conservation segment of the HELCOM Baltic Sea Action Plan include:

- development, testing, application and evaluation, in cooperation with other relevant international bodies, of broad-scale and cross-sectoral principles for marine spatial planning, based on the Ecosystem Approach;
- assessment of the need to designate the marine Natura 2000 and Emerald sites, already established by 2009, as Baltic Sea Protected Areas;
- assessment of the need to establish new protected areas in the offshore areas beyond territorial waters;

- systematising existing research and, if necessary, initiating new research to collect additional information in order to increase knowledge on Baltic Sea marine habitats, communities and species;
- mapping of commercially exploited fish stocks and developing a long-term management plan for such fish stocks;
- regulating the principles of ecosystem-based management of coastal fisheries and developing long-term plans.

Maritime activities

The measures for achieving the objectives described in the maritime activities segment of the HELCOM Baltic Sea Action Plan include:

- enforcing international requirements to stop illegal discharges into the sea;
- organising vessel traffic in Estonia's area of responsibility in a manner as to minimise the number of shipping accidents and environmental risks associated with shipping accidents;
- organising and improving general capacity for pollution control at sea, coastal areas and ports to enable timely and adequate response to oil and chemical pollution;
- organising reception of sewage from ships in ports;
- implementing measures to minimise air pollution from ships according to the requirements of the International Maritime Organisation (IMO) and the European Union (EU) and the HELCOM Recommendations.

GERMANY

The federal government has set itself the target of preserving – or if necessary achieving - by 2020 good environmental status for German waters in the North Sea and the Baltic Sea up to the limit of the German Exclusive Economic Zone (EEZ). This is also a requirement of the European Marine Strategy Framework Directive (MSFD). Initially, appropriate measures will be put in place by 2012 to ensure that by 2015 Good Ecological Status is achieved in the 1-nautical-mile zone and Good Chemical Status in the coastal waters of the 12-nautical-mile zone. The measures are based on national and international legislation, the provisions of which have a direct or indirect effect on the state of the marine environment. More far-reaching measures that extend into the EEZ (200-nautical-mile zone) will arise from the regulations of the MSFD.

The federal government will use the National Marine Strategy as basis of its national programme of measures, which will be developed over the next few years in line with the requirements set out in the MSFD. Germany's federal and state governments are working together to maintain a healthy marine environment. The states are responsible for their particular section of Germany's territorial waters, whereas the federal government is responsible for the EEZ. This federal structure has to be taken into account when it comes to concrete implementation. The sometimes differing interests and areas of responsibility of the states have to be reconciled with those of the federal government. Overall, it is important to continue to improve collaboration between the federal and state governments on matters relating to use and protection of the seas including marine nature

conservation. As well as state authorities, the public, manufacturers and consumers, industry and trade unions, the scientific community and industrial and environmental associations are important actors in sustainable development. The aim of the endeavours of all concerned is to achieve a common understanding of the need for a healthy marine environment, an understanding that accepts the different responsibilities for protecting our seas, optimises ways of proceeding and leads to tangible measures to facilitate sustainable use and protection of the seas. The National Marine Strategy is structured in a way that reflects the need to protect and the need to use the seas, although existing problems are being made more acute due to the effects of climate change. Marine research will help to better understand the interconnections and thus master the challenges of the future.

Eutrophication

The federal government's aim is to develop an integrated concept of sustainable agriculture, of which the principal characteristics will be optimisation of intensity and improvement of efficiency in land management, combined with reduced stocking densities for livestock. Pollutant inputs to the environment via all routes should be reduced to a level at which no unacceptable levels of pollutants occur in the soil, air or water bodies. With regard to the minimisation of nutrient input, the federal government is working towards a goal of reducing nitrogen surpluses to 80 kilograms per hectare nationally by 2010.

Hazardous substances

The targets to achieve this, which have been adopted at international, regional, and EU level, are outlined in detail, but there are not national specifications beyond this. Programme of measures are, however, defined in relation to:

- measures to implement the European Water Framework Directive (WFD);
- measures to reduce pollutants in wastewater;
- plant-related measures to implement the European Directive on Integrated Pollution Prevention and Control (IPPC Directive);
- measures in the field of chemicals policy.

Biodiversity and nature conservation

Conservation of biodiversity is a high priority for the federal government. The typical character of marine habitats with their characteristic species should be preserved or, if necessary, developed with a view to achieving at least a "good status of the marine environment" by 2015 as defined in the WFD or by 2020 as required under the MSFD.

A network of well managed Coastal and Marine Protected Areas, in international as well as national waters, that include core zones of natural development of an adequate size should be set up. Their integration into international networks should be completed by 2012.

The federal government aims to preserve, develop, and - where necessary – restore the marine environment, in order to permanently safeguard:

- marine wildlife, its habitats and interactions and genetic resources;
- the regeneration and sustainable use of natural marine assets;

- the diversity, uniqueness, and beauty of marine nature and landscapes.

The federal government also calls for greater integration of matters of environmental protection and nature conservation into other policy areas, looking for approaches that pay more attention to the environment and nature.

This includes:

- agriculture reducing its input of fertilizers and pesticides into the sea;
- fisheries as part of the EU's Common Fisheries Policy;
- shipping traffic;
- tourism and sport;
- industry and private consumption becoming more climate-conscious.

It is found particularly important that:

- the ecosystem approach (as required under CBD, HELCOM and OSPAR) are further developed and applied, observing precautionary principle and the polluter-pays-principle;
- any further loss of biodiversity, i.e. of species and their habitats, are halted by 2010;
- fisheries are geared to sustainability and respect for ecosystems, i.e. stocks should be managed in such a way that the danger to fish and shellfish populations is minimized and maximum sustainable yields are guaranteed in the long term;
- damage to habitats and other species must be significantly reduced by avoiding by-catch and using more environmentally sound fishing practices;
- the regeneration of overexploited natural resources are safeguarded;
- near natural coastal and marine areas are conserved or restored where necessary by using measures to protect species and biotopes and by designating and carefully managing a network of protected areas;
- a representative network of Marine Protected Areas on the high seas are designated, taking into account international law, in particular UNCLOS;
- the introduction of non-native species be avoided and the release and commercial use of transgenic organisms are practised only if no threat to marine and coastal ecosystems is posed, special attention being paid to the specific conditions of these ecosystems.

Maritime activities

Shipping:

To ensure that shipping remains a particularly clean mode of transport, the federal government is working on all political levels towards improving the safety of marine shipping traffic and shipping's environmental record. To enhance the safety of shipping and shipping traffic, the federal government is aiming to achieve further improvements, particularly in the areas of port state control, marine accident investigations and surveillance of maritime traffic.

Fishing:

The federal government has a deep-felt commitment to the target of the World Summit on Sustainable Development (WSSD) 2002 in Johannesburg of maintaining or returning fish stocks to a level that allows the maximum sustainable yield by 2015 at the latest. The refinement and implementation of the concept of maximum sustainable yield (MSY) is therefore one of fishery policy's highest priorities. Particular importance is attached in this context to refining existing management and recovery plans for demersal stocks and developing new ones. The federal government vigorously supports the European Commission's goal of achieving a pioneering role for the EU in the global battle against IUU fishing. For that reason it advocates the Community's new strategy for preventing and combating IUU fishing and is working towards its prompt implementation. In particular, the federal government welcomes the idea of tackling the problem of IUU fishing from the market side as well. The aim is to prevent any kind of access to European waters, ports and the internal market for IUU fishing and its products. In parallel with that the federal government also backs the FAO's Action Plan on IUU fishing and all the measures being taken by regional fishing organisations that aim to achieve global cooperation between countries in preventing the products of IUU catches from reaching the market.

Furthermore, the federal government is pursuing the goal of increasing the market share of fisheries produce with eco-labels. To prevent abuse and distortion of competition, the federal government expressly advocates the adoption of EU legislation on minimum criteria for eco-labelling for fisheries products.

Marine mining:

The aim is to ensure that economic, social and ecological interests are taken into account in marine mining. This sustainability principle must also be upheld in the resolution of possible conflicts in cases where areas of the sea are subject to multiple uses or have been designated, for example, as a protected area or National Park, for marine mining activities, generation of energy from wind power, maritime traffic and fishing.

Tourism:

The federal government's policy in the field of environmental protection and tourism primarily aims to manage tourism in a way that is sustainable for nature and the environment and to boost domestic tourism. Back in April 2002, a report on the environment and tourism was approved, in which the following goals were set out:

- promotion of tourism in Germany in a way that is sustainable for nature and the environment;
- increase the proportion of tourist products that are sustainable for nature and the environment;
- boost demand for environmentally sound tourist products;
- boost domestic tourism;
- ensure that nature and the environment remain intact as the very basis for successful tourism;

- influence the development of tourism that is sustainable for nature and the environment in destinations abroad that are popular with German tourists.

FINLAND

Finland plans to implement BSAP using the government-approved targets and action plans, as well as current legislative measures. These national programmes set marine protection targets and present the measures required for achieving them. Finland's most important national protection programmes and targets include:

- a. ***Finland's Programme for the Protection of the Baltic Sea***, targets: reducing the Baltic Sea's eutrophication, improving the status of its nature and water areas, minimizing the risks and damages related to the transportation of oil, chemicals, and hazardous substances, preservation of the biodiversity of sea and coastal nature;
- b. ***Water protection policy outlines up to 2015*** define measures aimed at achieving good water status and preventing further deterioration. The policy applies to inland, coastal and ground waters and supports the creation of regional river basin management plans. The measures required for completing these targets are divided into six main areas:
 - reduction of nutrient loads causing eutrophication;
 - reduction of risks caused by hazardous substances;
 - reduction of damage caused by water resource and water level management;
 - protection of groundwater;
 - protection of the biodiversity of water ecosystems;
 - water restoration.
- c. ***The government report on the Baltic Sea policy, 2009*** outlines the government's measures aimed at improving the marine environment of the Baltic Sea, increasing the maritime traffic safety and intensifying economic co-operation in the region. It also focuses on these key measures for protecting the Baltic Sea, which are most urgent from Finland's point of view.
- d. ***River basin management plans*** – there are seven approved regional river basin management plans, they aim at achieving a good status for surface and ground waters by 2015 and at preventing these waters' further deterioration. The plans cover various activities that alter waterways, such as industrial and communal waste waters, loads on waterways due to agriculture and forestry and water resource management. They have however prepared for coastal and not for open seas waters.
- e. ***The national strategy and action plan for the conservation and sustainable use of biodiversity***, strategic targets:

- “promoting conservation of biodiversity by developing the nature conservation area network, boosting the protection of species, and forming an integrated part of the operations and planning of various industries;
 - generating and distributing research-based information for use in operations policies related to cost-efficient and adjustable biodiversity conservation and sustainable development;
 - promoting the conservation and sustainable use of biodiversity as an integrated part of the operations and planning of various industries;
 - ensuring extensive co-operation between the relevant ministries and other players;
 - promoting the conservation and sustainable use of biodiversity globally, through international co-operation.”
- f. **Coastal strategy** aims at securing the vitality and biodiversity of coastal areas, mainly by applying existing steering tools in line with recommended principles. Among others the most important outcomes include:
- restoration and treatment of nature types typical for the Baltic Sea;
 - mitigation of damages caused by invasive species;
 - restoration of threatened species populations.

Key measures for preserving biodiversity consist of:

- reducing the loads discharged into the Baltic, especially into the Gulf of Finland and the Archipelago Sea,
- minimizing environmental risks related to marine traffic and near-coast operations.

Apart from these national programmes Finland is also implementing EU’s Marine Strategy: its draft introduction to the national legislation is already in the final phase.

A section of the EU’s marine policy is dedicated to maritime spatial planning. In Finland the regional territory of municipalities and regions extends to the territorial waters so the ‘Land Use and Building Act’ constitutes the legal basis for the spatial planning on the sea.

Eutrophication

- a. **Emissions via community wastewater**, target: to improve the efficiency of nutrient removal from wastewater, tasks: application of the best technologies available at the time;
- b. **Organic matter**: in 2006 organic matter was removed from Finland’s waste waters with total effectiveness of 96.6%, which already exceeds HELCOM recommendations set at 80%;

- c. **Phosphorus:** in 2006 phosphorus was removed from Finland's wastewater with 95.4% effectiveness which already exceeds HELCOM recommendations set the rate between 70–90%;
- d. **Nitrogen** – targets: removal efficiency of 70% or 50% (in nitrogen-sensitive areas) will be met by 2015. Waterworks have set targets for the reduction of leakage water by 2010 and 2020;
- e. **Wastewater management in sparsely populated areas:** 85% of the phosphorus, 40% of the nitrogen and 90% of all organic matter found in wastewater from Finland's sparsely populated areas must be removed. However municipal environmental authority can decide to depart from the target schedules, or define lower-than-normal treatment requirements for a certain area due to the economical reasons and under the condition that these deviations do not have negative influence on the environment;
- f. **Replacing phosphate in detergents and dishwashing agents:** Finland voluntarily removed most of the phosphates from dishwashing agents and detergents in 1990. At present about 90% of all detergents are phosphate-free and this rate is expected to reach 100% no later than in 2012;
- g. **Reductions in agricultural emissions:**
 - target: to halve the load from agriculture when compared to the levels of the early 1990s by 2015; if however, the social and economic impact is considered, achieving this target will require measures that go beyond 2015. Reducing the nutrient loads from agriculture by at least a third from the average levels of 2001- 2005 seems to be more feasible in a given conditions.
 - methods: environmental protection decrees and regulations at municipalities level, river basins management plans, and agri-environmental subsidies.

Hazardous substances

Management of the hazardous substances in Finland is based on the national programme on dangerous chemicals, EU regulations and international treaties. The majority of the hazardous substances listed in BSAP has either been banned or are strictly controlled. In the latter case reduction targets and limits for emission sources are settled. The detailed tasks of the completed or ongoing projects include:

- a. developing the environmental monitoring standards;
- b. identifying the most important emission sources, total emissions and the distribution of POP compounds;
- c. monitoring the industrial sources of harmful substances;
- d. evaluation of the need for sludge or urban wastewater monitoring.

Biodiversity and nature conservation

The overall objective of the nature protection measures in Finland is to develop coherent and ecologically representative global conservation areas network, both on the land and on the sea. This network will link national and regional conservation areas and its marine part will be established by 2012. The BSAP priorities are already represented in the Finnish national programme:

a. ***Sea and Coastal Landscapes in their Natural State:***

- conservation area network and its efficiency, targets: identifying habitats and species in already existing marine NATURA 2000 areas, developing new offshore protected areas, preparing management plans for these areas;
- marine landscape, targets: developing marine landscape maps of the NATURA 2000 areas by 2012, improvement of modelling methods.

b. ***Thriving and Stable Plant and Animal Populations,*** targets: inventory of the underwater marine nature habitat types, distribution maps for threatened species and selected NATURA 2000 areas;

c. ***Viable species populations***

- non-commercial fish: 66 fish were included in the national assessment of threatened species, the methodology for monitoring low commercial value fish is being developed;
- the harbor porpoises and the impact of fishing on biodiversity: targets: continuous monitoring in the territorial waters, ban on the drift netting (implemented already in 2008);
- seals: seven grey seals protected areas have been established, some of them are also part of the NATURA 2000 network, additional regions significant for seals are protected under different instruments (Perämeri National Park and sections of the Archipelago Sea national park), protection measures include: maintaining and managing the seals population in a sustainable way, reducing damages caused by seals, preventing by-catch (limitation in usage of certain fishing nets).

Maritime activities

The BSAP recommendations are implemented mainly through marine and environmental legislation, in particular the following international conventions:

- a. ***Annex VI of the MARPOL Convention:*** addresses air pollution from ships, has been ratified, latest amendments require changes in the national legislation;
- b. ***AFS Convention,*** considers ships' antifouling systems, will be ratified in the near future, amendments in national legislations are required;
- c. ***Ballast Water Convention*** is also under the ratification process.

Finland is also undertaking further actions, enhancing international collaboration aimed at promoting readiness to combat spills all across the Baltic Sea, further development of oil-spill detection equipment and new oil-combating technologies, including air and satellite surveillance.

LATVIA

Eutrophication

The primary objective is to reduce the nitrogen load by 2,560 tons and the phosphorus load by 300 tons until 2021. The phosphorus reduction concerns both the Gulf of Riga and the Baltic Proper, while nitrogen decline is only required in the latter area. Since the significant fraction of nutrients that enters the Baltic Proper from Latvia originates from outside the country, the above nutrient reduction targets should only be considered as preliminary and require detailed revision.

The proposed adjustment call for science-based data and development of the effectiveness measures. The following assessment studies and research projects have been implemented in order to obtain the missing information on distribution and pollution levels as well as on the dangerous substances in the Latvian waters:

- a. evaluating compliance with the requirements of the Directive 91/271/EEK on urban wastewater treatment;
- b. screening of nitrates, priority and dangerous substances in surface and ground waters aiming at the development of consistent and cost effective activities within the framework of national monitoring programme;
- c. compilation of the results on the implementation of the Urban Waste Water Treatment Directive (UWWTD);
- d. investigating the influence of climate change on the Latvian surface and coastal waters and on the Baltic Sea coastline; this study will also propose adaptation and mitigation strategies.

Proposed measures **to cut the nutrient load from waterborne inputs** comprise:

- a. 4 river basin management plans including (i) basic measures for surface water quality (construction and/or reconstruction of UWWTP, assessment of the level of compliance with the requirements for protective belts around water bodies, issuing permits for water polluting activities) and (ii) secondary measures aiming to diffuse the source pollution (increase of the UWWTP efficiency, evaluation and remediation of polluted sites, creation of the buffer zones and so on);
- b. addressing the trans-boundary pollution through joint activities like international agreements, bilateral and/or multilateral projects and other existing funding mechanisms.

Implementation of the two HELCOM recommendations: 28E/5 and 28E/6 is proposed in order to **reduce emissions from wastewater treatment plants**. In addition and as per the Annex VIII of the EU Accession Treaty, Latvia was granted transitional periods to ensure full compliance with the UWWTD requirements. These targets will be achieved gradually till 2015 following the 'National

Environmental Investment Strategy' and the 'Operational Programme for the planning period 2007-2013'.

To improve on-site wastewater treatment and eliminate direct and untreated waste waters, Latvia plans to ensure that 95% households and small businesses are connected to a centralized sewage system. This goal is set by the EU ERDF under the priority „Development of water management infrastructure in populated areas, where number of residents is up to 2000 persons”.

Laundry detergents for households use with phosphates content higher than 0.5 % are expected to be prohibited in June 2010. The decision to **ban phosphates in all detergents** will be considered in the future basing on the ongoing studies initiated by the European Commission.

In order to **deal with nutrient inputs from agriculture**, Latvia designated the vulnerable to nitrates pollution zones according to the requirements of the 'Nitrates Directive' (91/676/EEC) followed by the 'Cabinet Regulations No. 531' on 'Protection of Water and Soil from Pollution with Nitrates Caused by Agricultural Sources". Latvia is also introducing 'Annex III of the Helsinki Convention' into national legislation system. Integrated pollution prevention and control system is also implemented in accordance with the 'Law on Pollution' and the Part II of the Annex III of the Helsinki Convention.

There are no special actions undertaken in order to **reduce emissions of nitrogen oxides to the Baltic Sea** apart from the regular reporting on the selected measures introduced under the '1979 UNECE Convention for Long-Range Transboundary Air Pollution' and 'EU National Emissions Ceilings Directive'.

Hazardous substances

The objectives and actions of the BSAP have been included into the 'Environmental Policy Strategy of Latvia for 2009 – 2015'. They are also in line with the EC REACH regulations. Latvia is also implementing the Globally Harmonized System (GHS) on classification and labeling of chemicals, Stockholm Convention on Persistent Organic Pollutants (POPs) and the 'Rotterdam Convention' together with the associated Regulation 304/2003 concerning the export and import of dangerous chemicals.

However, the calculations of the use and emissions of the hazardous substances prioritized in the BSAP are highly uncertain and their concentration in the Latvian marine waters and biota is either low or below detection levels. Therefore most of the ongoing actions are targeted at enhancing knowledge on the sources of hazardous substances and their distribution in the Baltic sea.

LITHUANIA

Eutrophication

The primary objective is to reduce the nutrient inputs into Baltic Sea by the year 2016 (compared with the years 1997-2003). This decrease should equal 11,750 tons for nitrogen and up to 880 tons for phosphorus.

The planned performance measures include:

- a. decrease of the nutrient inputs into the Baltic Sea:

- present value (in 1997-2008): nitrogen – 45,627 tons, phosphorus – 2,198 tons;
- target value (in 2015): nitrogen – 35,456.2 tons, phosphorus – 1,492.4 tons;
- b. increase in the level of removal of the nitrogen and phosphorus from the sewage discharged directly or indirectly into the Baltic Sea:
 - present value (in 2007): total nitrogen removal- 73.2%, total phosphorus removal – 86.4%;
 - target value (in 2015): total nitrogen removal – no less than 75%, total phosphorus removal – no less than 90%;
- c. availability of wastewater management services for inhabitants:
 - present value (in 2008) – 63% of country population,
 - target value (in 2015) – no less than 95% of country population.

The tasks undertaken should:

- a. ensure that wastewater treatment plants that directly or indirectly discharge sewage into the marine environment would remove no less than 75% of total nitrogen and no less than 90% of total phosphorus;
- b. increase the accessibility and quality of wastewater treatment services;
- c. reduce the agriculture-related pollution;
- d. introduce restrictions of phosphates in detergents.

Hazardous substances

The major objective is to ensure that the hazardous substances concentration in the Baltic Sea will induce no negative changes in the marine ecosystem. Lithuania plans to limit the concentration of these chemicals to well established environmental standards by 2015. In 2001-2008 the concentration of hazardous substances exceeded the maximum allowed level by 17%. It will be necessary (i) to identify these substances and their sources in the marine environment and (ii) to decrease, limit or forbid their discharge into the Baltic Sea.

Biodiversity and nature conservation

The first objective is to preserve the biodiversity of the Baltic Sea. In 2009 only 4.5% of the Lithuanian marine areas were protected within EC NATURA 2000 network. It is planned that by 2015 this indicator will reach 9%. Complementary tasks include:

- a. ensuring sustainable functioning of the marine ecosystems, habitats and species, considering the prevailing hydrological, geographical and climate conditions;
- b. protecting natural marine and coastal landscapes;
- c. sustainable fishery management: the populations of commercially used fish are maintained within safe biological limits, generating no threats to marine biodiversity.

The second overall goal is to establish such management measures that will ensure good status of the marine environment and at the same time will provide the sustainable use of marine resources for current and future generations. Therefore ecosystem-based approach should be applied. In this respect performance criteria include preparation and implementation of the legal acts on marine environment protection and management, which should incorporate the principles of the ecosystems-based approach. There were no such acts in 2009 in legal system in Lithuania, but 7 are to be erected by 2015. The planned tasks to achieve the overall goal are (i) to improve management of marine environmental protection in compliance with ecosystem-based approach and (ii) to strengthen the cooperation with other Baltic Sea Region countries in the field of marine environment protection measures.

Maritime activities

Navigation and other economic activities in the Baltic Sea are to be executed in the environment-friendly way. Two performance measures are planned for this objective:

- a. decreasing number of the violations of the International Convention for the Prevention of Pollution from Ships preceded by the increasing monitoring intensity:
 - present value (in 2009) – 25% of ships underwent the relevant control in the Klaipeda harbour, 25 violations were identified;
 - target value (in 2015) – control is going to be implemented for the same % of ships, but the number of violations should be reduced to 15;
- b. decreasing number of pollution accidents:
 - present value (in 2000-2009) – 391;
 - target value (in 2015) – 125.

The following tasks are planned to reach the above target values:

- a. to ensure by implementing marine spatial planning that any economic activities will be executed in the environment-friendly manner;
- b. to ensure the proper implementation of international requirements to reduce and eliminate illegal pollution from the ships;
- c. to improve maritime safety which will minimize the risk of pollution accidents;
- d. to develop a prevention system to reduce the number of pollution accidents in the Baltic Sea;
- e. to establish legal preconditions to avoid the introduction of the invasive species through the ship ballast waters;
- f. to reduce air pollution from the ships;
- g. to minimize the negative impacts from the offshore platforms and other similar installations.

POLAND

Eutrophication

I. Identifying the acceptable inflows of nutrients and development of the control measures:

Development of the national programme and the effectiveness assessment:

Timeframe:

- 2010 - development of initial national programme;
- 2013 - assessment of the effectiveness of the reduction targets;
- 2016 - implementation;
- 2021 - achieving the overall and operational objectives.

Planned measures: developing the methodology for cost efficient monitoring and national programmes assessments and reviews;

Identification and incorporation the relevant measures into River Basin Management Plans in compliance with the EU Water Framework Directive

Timeframe : by 2009

Planned measures: EU Water Framework Directive (2000/60/EC) is implemented through the 'National Water-Environmental Programme'. This document includes river basin management plans and indicates the measures for the monitoring programmes. It also considers the stipulations resulting from the 'Sewage Sludge Directive' (86/278/EEC) and the 'Nitrates Directive' (91/676/EEC).

II. Reduction of nutrient load from waterborne input

Improvement of the municipal wastewater treatment according to HELCOM recommendations 28E/5

for PE: > 200000; > 100000; 10000 - 100000; 2000 - 10000; 300-2000

Timeframe: 2010 – 2018 (depending on PE)

Planned measures: The 'Urban Wastewater Treatment Programme' and its planned revisions aim to increase the quality of the sewage system services in agglomerations and to increase the % of nitrogen and phosphorus removed from wastewater.

The first goals depend on the size of the agglomerations and will be reached by 2015:

<i>Size of the agglomeration (PE)</i>	<i>Target</i> <i>(% households connected to centralized sewage systems)</i>
≥100 000	95.4
≥15 000 <100 000	93.1

≥10 000 <15 000	84.0
≥2 000 <10 000	90.2

Poland also plans to:

- a. build 30,641 km and modernize 2,883 km of sewage network;
- b. build 177 and modernize 569 wastewater treatment plants.

Reduction of discharges of untreated wastewaters

Timeframe: 2017 - for the temporary recommendation;
2021 - for the final recommendation.

Planned measures: Poland has developed the recommendations on the good practices for the on-site wastewater treatment. They are included in the 'National Programme for Municipal Wastewater Treatment' and contain guidelines for individual family houses, small businesses and localities up to 300 inhabitants. These outlines will be revised on the regular basis.

Replacing phosphate in detergents and dishwashing agents

Timeframe: by 2015

Planned measures: Poland limited the maximum concentration (6%) of phosphorus in washing powder in January 1995. The legal requirements for phosphate-free detergents will be introduced in 2015. The five year transition period was crucial for the small companies that are the major detergents producers. They require relatively longer time for any changes in their production technologies. There are no plans for limitations concerning the dishwashing agents.

Designation of vulnerable to nitrogen zones

Timeframe: not defined

Planned measures: Poland designated the vulnerable to agriculture nitrates pollution zones and the list of the specific risk areas according to the requirements of the 'Nitrates Directive' (91/676/EEC). These areas are monitored on the regular basis in terms of the nitrogen outflows. Social campaigns, educational activities and public consultations aim at promoting application of good agricultural practices.

Prevention of pollution from land-based sources (agriculture)

Timeframe: not defined

Planned measures:

- a. to implement the legislation enforcing the waste management in slaughterhouses;
- b. to provide financial support for construction and modernization of the livestock facilities;
- c. to develop new technologies for biogas production from animal wastes;
- d. to modernize water infrastructure on the farms;
- e. to promote cultivation of the 'catch plants';

- f. to promote modern techniques for soil cultivations.

Designation of the hot spots for intensive breeding of cattle, poultry and pigs

Timeframe: 2009

Planned measures: the idea of integrated permits was introduced to the Polish legal system under the 'Ordinance of the Minister of Environment' in 2003. Under the 'Nitrates Directive' (91/676/EEC), the individual farm storage capacity for animals wastes is required to be self-sufficient for at least six months.

III. Reduction of nutrients loads from airborne inputs

Strengthening the emission targets for nitrogen reductions (the 'Ceiling Directive' and the 'Göteborg Protocol')

Timeframe: continuous review

Planned measures:

- a. to implement the integrated permits systems covering all the industry-related emission sources;
- b. to minimize the emissions from plants combustions;
- c. to apply emission standards for the technological installations;
- d. to limit the emissions from low-emission burners in the power plants;
- e. to reduce the emissions of nitric oxides from agriculture, small businesses and municipal heating facilities.

Hazardous substances

Development of the national programme and its effectiveness assessment

Timeframe: 2010 – initial national programme

2013 – effectiveness assessment

Planned measures: developing the methodology for cost efficient monitoring and national programmes assessments and reviews.

Reduction of dioxins and other hazardous substances from small-scale combustion

Timeframe: 2008

Planned measures: further development of the recommendation for emission limits in small-scale combustion installations.

Recommendations for proper handling of waste/landfilling

Timeframe: not defined

Planned measures:

- a. to decrease the number of landfills in Poland;
- b. to promote recycling and no-waste production technologies;

- c. to monitor the emission levels of operating and closed landfills and their impact on the environment;
- d. to introduce appropriate legal regulations that would support achieving the goals identified.

Assessment of the current needs to develop requirements for reduction of emission of the heavy metals and other hazardous substances from energy production and industrial installations

Timeframe: 2008

Planned measures: further development of clear coal technologies.

Screening the occurrence and sources of selected hazardous substances

Timeframe: 2008 - 2009

Planned measures: estimation of toxicity of dioxin mixtures, identification of hazardous substances in sea water

Application of strict restrictions on the use of mercury

Timeframe: 2010 and in continuous review

Planned measures: minimizing the use of hazardous substances in motor vehicles. The measures indicated above do not include all HELCOM objectives described in the Polish NIP. The goals which were omitted are either already fully implemented, no future measures are planned or the execution is suspended or depends on the future EC regulations.

Biodiversity and nature conservation

There are three major ecological objectives within this sector: marine and coastal landscape, thriving and balanced communities of plants and animals and viable populations of species. The first objective will be covered in the analysis of the governance in the Puck Bay (the second document for the Baltic Sea) and is not included here. Some objectives described in the Polish NIP were excluded (some objectives were fully implemented; some have no future measures).

I. Thriving and balanced communities of plants and animals

Updating the classification system for Baltic habitats/biotopes

Timeframe: 2011

Planned measures: the classification system of marine habitats according to the Habitat Directive will be prepared.

Updating the HELCOM Red lists of Baltic habitats/biotopes and biotope complexes

Timeframe: 2013

Planned measures: Polish experts will actively participate in the HELCOM working groups in order to develop the Red Lists of habitats and species for the Baltic Sea.

Identification and mapping the habitats available/suitable for the habitat-builder species (such as bladder wrack, eelgrass, blue mussel, metzgeria and charophyceae) and development of common approach for negative effects mitigation

Timeframe: 2013

Planned measures: within the Habitat Mapping Project, 'Atlas of Polish marine area bottom habitats' was published. Project mapping of specific habitats and species in the marine protected areas was performed. No future measures are planned.

II. Viable populations of species

Assessment of the conservation status of non-commercial fish

Timeframe: 2011

Planned measures: Poland participates in HELCOM FISH project and the FISH/ENV Forum.

Further development of the reporting system and a database on harbor porpoises

Timeframe: 2011

Planned measures: Poland has established a national centre for studying sea mammals (Hel Marine Station) that is responsible for research and monitoring of harbor porpoises. It also operates a relevant database and represents Poland in the ASCOBANS Contract.

Promoting the research on assessment methods for evaluation the impact of fishing on biodiversity

Timeframe: permanent task

Planned measures: Poland implements the Operational Programme 'Sustainable Development of the Fisheries Sector and Coastal Fishing Areas 2007-2013' One of the programme's major objectives is to maintain the sustainable exploitation of fish resources, which is consistent with this HELCOM ecological objective. In addition, the Hel Marine Station acts as the national centre for studying sea mammals and evaluates the effects of fishing on seals and harbor porpoises.

Development and implementation of the effective monitoring and reporting systems for by-catch of birds and mammals

Timeframe: not defined

Planned measures: data collection on incidental catches of vertebrates (especially grey seals & harbor porpoises) and sea birds.

Supporting the increasing of the survival rate of the Baltic seals and promoting co-existence of seals and fisheries

Timeframe: 2012

Planned measures: implementation of the relevant tools in order to reduce the by-catch and damage to fishing gear, development of the efficient mitigation measures.

Baltic Sea shall become a model of good management of the human activities; this models should be based on the ecosystem approach in order to enhance the balance between the sustainable use and protection of marine resources

Timeframe: not defined

Planned measures: Poland participates in the EU project 'Introduction to marine planning for the Baltic Sea' (BaltSeaPlan) that will significantly contribute to reaching the above goal.

Ensuring that all commercially exploited fish species are within safe biological limits and distributed through their natural size range

Timeframe: 2021

Planned measures: the relevant Polish authorities will ensure that the Polish fishing fleet meets the defined fishing capacities. The cod limit was reduced in 2009 and management system for fishery is currently under development. It is planned that it will be introduced in 2011.

Development of long-term management plans for commercially exploited fish species

Timeframe: 2010

Planned measures: long-term management plans for the Atlantic salmon and eel are developed. The plan for the eel was approved by the European Commission in 2010. Similar regulations will also be prepared for the Atlantic sturgeon and brown trout.

Introduction of additional fisheries management measures

Timeframe: 2012

Planned measures: Poland will opt for the reform of the 'Common Fishery Policies' in 2012 and will support the solutions aiming at better selectivity of the fishing tools and at the introduction of an ecosystem approach to the management of the commercially exploited fish species.

Elimination of illegal, unregulated and not reported (IUU) fisheries

Timeframe: 2012

Planned measures include:

- a. implementation of the monitoring system;
- b. strengthening the control of fish landing;
- c. introduction of electronic fishing logs;
- d. comparative control of the fishing catch reports, fishing logs, first-sale documents and Vessel monitoring systems (VMS);
- e. strengthening the international cooperation among marine fisheries inspection services.

Additional fisheries measures: National programme for the eel stock

Timeframe: 2008

Planned measures: in 2008 Poland developed the 'National Programme for the European eel population management' which was accepted by the EC in January 2010. The implementation of the programme will be monitored and the plan itself will be revised every three years.

Additional fisheries measures: classification and inventory of rivers; development of restorations and reintroduction plans for the migratory species

Timeframe: 2012

Planned measures include:

- a. development of regional programmes for the migratory species restoration;
- b. designation of the rivers of significant importance for the bi-environmental fishes;
- c. active participation in FISH HELCOM/ENV Forum.

Reintroduction of the Baltic Sturgeon through Polish-German cooperation

Timeframe: not defined

Planned measures include:

- a. developing and implementing additional measures in order to strengthen the protection of the sturgeon migrations;
- b. collecting additional data on by-catch.

Development of long-term management plans and indicators for coastal fish species

Timeframe: 2012

Planned measures: consultations with neighboring countries.

Maritime activities

The BSAP recommendations are implemented through a set of actions which includes:

- a. ratification of the AFS Convention;
- b. development of measures for reduction of maritime environment pollutions;
- c. development of oil-spill detection technologies (air and satellite surveillance);
- d. supporting local initiatives related to the clean environment (e.g. beach cleaning actions);
- e. implementation of 'no special fee' system for ships wastes collections;
- f. development and implementation for the action plan to control and prevent coastal pollution;
- g. development of 'black' and 'red' lists as defined by HELCOM 31/2010 meeting;
- h. improvement of the navigation safety in winter through the implementation of the Baltic Icebreaking Management (BIM);
- i. further development of twelve Polish coastal stations within AIS-PL system network;
- j. decision support system for the use of surface active chemicals.

SWEDEN

Eutrophication

The Swedish Government considers it necessary to implement a wide range of new measures to reduce the eutrophication of the surrounding seas, in particular the Baltic Sea. Since long Sweden has had a National programme to achieve nutrient reductions. One of the 16 national environmental quality objectives introduced in the 1990s is zero eutrophication. The four interim targets set by the Parliament have been regularly evaluated and relate to reduced load of nitrogen and phosphorous to water and the emission of ammonium and nitrogen oxides to air by 2010. The BSAP nutrient reduction targets could be the basis when setting new targets for the environmentally quality objectives.

Since the 1960s, Sweden has gradually been improving phosphorous removal in municipal wastewater treatment plants and the load from the plants today is more than 90 per cent lower. Also the phosphorous load from other point sources has been significantly reduced. The load from diffuse sources such as the agriculture and forestry sector is more difficult to assess, but here too, a significant decrease in leakage has been shown: there was a 25 per cent reduction in the leakage of nitrogen from arable land between 1985 and 1995.

For Sweden, the BSAP preliminary reduction targets for each sub-basin are as follows:

- a. Baltic Proper: 8 100 tonnes nitrogen and 290 tonnes phosphorous;
- b. Danish Straits: 1 700 tonnes nitrogen;
- c. Kattegatt: 11 100 tonnes nitrogen.

As no further nutrient reduction is needed in the Gulf of Bothnia and the Bay of Bothnia, the preliminary nutrient reduction quota for Sweden is a total of 20 800 tonnes N and 290 tonnes P. Measures should be in place in 2016 aimed at reaching good environmental status by 2021. The preliminary nutrient reduction targets will be periodically revised to match best available knowledge which is of utmost importance for designing matching programmes of measures.

The river basin management plans have considered and made reference to the BSAP but further work is needed to increase synergies and mainstreaming. The programme has been estimated to reduce the nutrient load to the Baltic Sea with 2150 tonnes of Nitrogen and 110 tonnes of Phosphorous per year.

Hazardous substances

One of the 16 national environmental objectives a non-toxic environment states that the environment should be free from substances and metals which have been created or produced in society and which may constitute a threat to human health or biological diversity. Although considerable progress has been made, it has proven difficult to achieve the objective. The Government Bill 2009/10:155 on Environmental Quality Objectives in 2010 further describes measures to reduce the use, emission, and spreading of hazardous substances. In the Bill 2008/09:170 on A coherent Swedish maritime policy, the Government proposed several measures to reduce the impact of hazardous chemicals in the marine environment i.a. financial support to boat washing facilities to remove fouling. Today a large part of the work to phase out hazardous substances is done at international level and within the EU. Sweden is taking an active part in this

work. The implementation and development of REACH and in particular linking this work to the MSFD and the BSAP is crucial to reducing the load of hazardous substances to the marine environment. Dioxins and heavy metals are still a problem in the marine environment and additional measures are required here. The Swedish EPA has studied the vector for dioxin emission to the Baltic Sea and continues to further identify the sources. To live up to the commitments in the BSAP, Sweden will need to improve knowledge and capacity in industries and authorities to work with heavy metals and dioxins, to use BEP and BAT, and to continue its efforts concerning the environmental risks associated with closed landfills.

Biodiversity and nature conservation

The use and protection of marine biodiversity is regulated in national regulations, EU legislation and global agreements. The national environmental quality objectives a balanced marine environment, flourishing coastal areas, and archipelagos and flourishing lakes and streams, the species and habitat directives, WFD, MSFD and the CFP and CBD are of particular relevance. The use of marine resources must be based on the ecosystem approach, the precautionary principle and best available data. The goal is that the ecosystem structure and function should reflect the natural conditions of species and habitats.

Planning of marine areas is currently unsatisfactory and causes problems for the business sector, the public and the environment. The Government will protect and improve the marine environment but also promote business and public interest in marine areas. A coherent view of the wide range and increasing number of activities in the exclusive economic zone is needed for the sustainable use of marine resources and areas. Planning at state level is therefore needed complemented by a strong role for coastal municipalities. An inquiry into planning in Swedish waters (ToR 2009:109) has been appointed to propose new legislation and will report to the Government by December

2010. Responsibility for planning the territorial sea will probably be shared by the state and municipalities, while a new agency will be given the responsibility for planning the exclusive economic zone. Increased cooperation at Nordic, European and global level is desirable regarding marine spatial planning. The environment ministers of the Nordic Council of Ministers decided on 4 September 2008 to deepen their cooperation and established an ad hoc working group under Swedish chairmanship to develop proposals for the development and coordination of initiatives for the planning, protection and management of their marine areas covering the Baltic Sea, The group proposed continued work on, among other things, the following areas:

- a. contribute to a coherent ecosystem-based marine management system;
- b. work actively to develop maritime planning;
- c. work towards pilot- and collaboration projects on management and planning of the sea.

The long-term goal for the national plan for restoration is to achieve marine landscapes as close as possible to their natural conditions by 2021. A new agency will be tasked with developing an overall national restoration plan for coastal areas taking into account the special conditions for each drainage area. Potential measures to be considered are to reinstate migratory waterways, restoration of physical environments, oxygenisation, dredging and restocking. The Board of Fisheries will carry out a classification and inventory of suitable rivers and streams for salmon, trout and eel during 2009-2011.

Maritime activities

Sweden has one of the longest coastlines in Europe and has a broad port network. Shipping accounts for the great bulk of transport for foreign trade. In the future, shipping will have to continue to maintain a high quality and high standard with regard to the environment and safety, while being an attractive option for different kinds of transport. While a range of measures have been taken to reduce the environmental impact from commercial shipping, little has been done to address the environmental impact of recreational boating. Although the impact most of the time is marginal, there are areas where recreational boating can contribute to reaching the environmental objectives. The government will task relevant agencies with developing an action plan to reduce the environmental impact from recreational boating focusing on innovation, a cleaner marine environment and the impact on biodiversity.

Within the environmental quality objective a balanced marine environment, flourishing coastal areas, and archipelagos, the Government has worked within two interim targets namely reducing noise and other nuisances from recreational boating and reducing discharges of oil and chemical substances. Thanks to improved legislation and enforcement, the number of illegal discharges has been reduced significantly and it seems that the goal will be accomplished by the target year 2010.

2. Effectiveness of measures in promoting the achievement of the operational objective.

Previous HELCOM efforts to reduce pollution and repair the damage to the marine environment have led to noticeable improvements in many areas, enabling people to bathe on beaches that were once polluted, and helping endangered wildlife populations to recover. But there is still a lot left to do, as many of the Baltic's environmental problems are proving difficult to solve, and it could take several decades for the marine environment to recover. For example, concerning inputs of nutrients which are responsible for eutrophication, HELCOM has already achieved a 40% reduction in nitrogen and phosphorus discharges (from sources in the catchment area) and likewise a 40% decrease as regards emissions of nitrogen to the air, as well as halved the total discharges of about 50 hazardous substances. But in order to achieve "clear water", which is one of the main objectives of the Baltic Sea Action Plan, phosphorous and nitrogen inputs to the Baltic Sea must be further cut by about 42% and 18%, respectively.

However, further progress cannot be achieved using only the old administrative measures of equal reductions in pollution loads. A completely different approach and new tailor-made actions are required to reach the goal of good ecological status. Moreover, the remaining challenges are more difficult than earlier obstacles. Reductions in nutrient inputs have so far mainly been achieved through improvements at major point sources, such as sewage treatment plants and industrial wastewater outlets. Achieving further reductions will be a tougher task, requiring actions to address diffuse sources of nutrients such as run-off from over-fertilised agricultural lands.

In order to reach the above country-wise provisional reduction targets the BSAP states an agreement to develop and to submit for HELCOM's assessment national programmes by 2010 with a view to evaluate the effectiveness of the programmes at a HELCOM Ministerial Meeting in 2013 and whether additional measures are needed. This approach would leave flexibility for the countries to choose the

cost-effective measures to be implemented to reach the reduction targets in order to achieve a good ecological and environmental status of the Baltic Sea with regard to eutrophication.

3. Interactions between the policies, legislations, regulations and/or plans and other key policy drivers

The Baltic Sea Action Plan is presently the most complete, internationally agreed rescue plan for the Baltic Sea. The plan is also timely as it has become a substantial pillar of several other international initiatives of relevance for the marine environment that have recently been launched such as the EU Marine Strategy Framework Directive, the EU Strategy for the Baltic Sea Region, and the Baltic Sea Action Summit. Potential synergies between these initiatives are creating an unprecedented momentum for action. As countries prepare to shift gear from the development phase of the BSAP to the implementation phase by preparing their National Implementation Plans, new opportunities and new challenges will arise. While it is the responsibility of each and every HELCOM party to implement the action plan, the efforts required to restore and protect the marine environment goes beyond the capacity of any individual country. Enhanced and continuous international cooperation is a condition for success.

In developing the action plan, HELCOM has taken into account the environmental provisions of the Maritime Doctrine of the Russian Federation. Close co-operation with Russia, which is the only HELCOM country outside the EU in the Baltic Sea region, is crucial for any further progress to be made in rescuing the troubled Baltic marine environment. HELCOM's innovative strategy is also instrumental to the implementation of the renewed Northern Dimension policy, the Baltic Sea regional aspects of the EU-Russian Environmental Dialogue, the Nordic Environmental Action Plan, and the European Maritime Policy.

The Baltic Sea Action Plan aims at aligning the goal "favorable conservation status of marine biodiversity" with corresponding goals and objectives of already existing regulations which also address biodiversity and nature conservation. This section of the Baltic Sea Action Plan contributes to the implementation of commitments made through global agreements related to the protection of biodiversity such as the 2002 World Summit on Sustainable Development (WSSD), the 1992 Convention on Biological Diversity, the 1971 Ramsar Convention on Wetlands, the 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats, the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals, and the EU Habitats Directive (Directive 92/43/EEC), Birds Directive (Directive 79/409/EEC), EU Water Framework Directive, the proposed Marine Strategy Directive, and national legislation.

The BSAP are stressing the need to co-ordinate and harmonize the work within the HELCOM Baltic Sea Action Plan to various on-going initiatives at the international and national level, including the proposed EU Marine Strategy Directive, the EU Maritime Policy and the Maritime Doctrine of the Russian Federation. The Maritime Doctrine of Russian Federation is the fundamental document defining the public policy of the Russian Federation in the field of maritime activities.

As a pioneer in the application of the ecosystem approach, the innovative HELCOM action plan will also serve as a model example to be followed by the Regional Seas Conventions and Action Plans under the auspices of the United Nations Environmental Programme Regional Seas Programme.

4. Are there any tensions or conflicts with other sectoral policies and have there been any efforts to address or reduce them?

The major preliminary conflicts between activities are identified to be (1); conservation and commercial fisheries (2); commercial and recreational fishing; (3) conservation and gravel extraction; and (6); conservation and sand mining.

Table 10. Preliminary identified conflicts in the Baltic Sea

Activity	Recreational fisheries	Commercial fisheries	Oil/gas	Shipping	Wind farms	Sand mining	Gravel extraction	Tourism	Aquaculture	Pipelines	Cables	Dumping sites	Conservation/env. Protection
Recreational fisheries	■												
Commercial fisheries	XX	■											
Oil/gas			■										
Shipping		X		■									
Wind farms		X		X	■								
Sand mining		X			X	■							
Gravel extraction		X			X		■						
Tourism		X						■					
Aquaculture	X	X		X					■				
Pipelines		X								■			
Cables		X									■		
Dumping sites		X										■	
Conservation/env. Protection	X	XXX		X	X	XX	XX	X		X	X	X	■

The goal of achieving a favourable conservation status for the biodiversity of the Baltic Sea cannot be reached without comprehensively considering human activities and carrying out decisive action in other segments of the plan. Eutrophication and hazardous substances have strong impacts on biodiversity. Some species are directly threatened by overfishing or the destruction of their habitats by human activities such as dredging and construction along shores. Intensified shipping adds to existing environmental stress by potentially introducing invasive non-native species, minor oil spills, and the increasing probability of major oil spills that could be highly destructive for many species and habitats. All of these pressures increasingly threaten the biodiversity of the Baltic Sea.

The Baltic Sea is one of the most intensively trafficked areas in the world. Both the number and the size of the ships, especially oil tankers, have been growing during the last years, and this trend is expected to continue. This heavy traffic is being carried out within narrow straits and in shallow water, covered with ice for a long period, which makes the Baltic a difficult area to navigate and leads to traffic junctions and an increased risk of shipping incidents. The main negative environmental effects of shipping and other activities at sea include pollution to the air, illegal and accidental discharge of oil, hazardous substances and other wastes, and introduction of alien organisms via ships' ballast water and hulls.

To reach the goal the following eight management objectives, indicating areas of major importance, have been agreed upon:

- a. Enforcement of international regulations - No illegal discharges;
- b. Safe maritime traffic without accidental pollution;
- c. Efficient emergency and response capability;
- d. Minimum sewage pollution from ships;
- e. No introductions of alien species from ships;
- f. Minimum air pollution from ships;
- g. Zero discharges from offshore platforms;
- h. Minimum threats from offshore installations.

These management objectives do not directly describe the good ecological and environmental state of the Baltic Sea, but they rather indicate the main areas of concern as to the human activity at sea and its possible negative impact.

In order to secure the sustainable use of marine resources by reducing conflicts and the adverse impacts of human activities, HELCOM will devise a set of principles for cross-sectoral marine spatial planning as well as test and apply tools to be further developed jointly with other international organizations. These principles and tools should be ready by 2012. One particularly important issue is the further development of an ecologically coherent network of marine protected areas around the Baltic Sea, including fisheries management measures to be applied in marine protected areas by 2010. In order to enhance the balance between the sustainable use of marine natural resources and their protection, HELCOM will develop a model of good management of human activities for the Baltic Sea area. This will involve:

- a. developing, by 2012, long-term plans for protecting and sustainably managing the most threatened and declining species and habitats defined by HELCOM;
- b. further developing and implementing long-term management plans for commercially exploited fish stocks so that they remain within safe biological limits; preventing catches of non-target species and under-sized fish; and devising long-term plans for the monitoring, protection and sustainable management of coastal fish species. These actions will be carried out by the competent fisheries authorities in co-operation with the Baltic Sea Regional Advisory Council (RAC) and HELCOM, mainly by 2012.

A7.14 Case study report: The Bulgaria / Black Sea case study

Basic details of the case study:

Initiative	Marine nature protection in the Black Sea region
Description	Designation and implementation of a marine <i>Natura 2000</i> network in Bulgaria
Objectives	Nature conservation / MPAs: Maintenance or restoration of favourable conservation status of conservation features in the <i>Natura 2000</i> sites
Scale	Bulgarian part of the Black Sea (27 294 km ²)
Period covered	1-1-2011 to 1-1-2013
Researchers	Dr. Cor Schipper, MSc. Patricia Schouten, MSc Ruben Vogel (Deltares); MSc Adriaan Slob (TNO Netherlands)
Researchers' background	Marine policy, marine scientist
Researchers' role in initiative	Independent observers

The next 73 pages reproduce the case study report in full, in the format presented by the authors (including original page numbering!).

The report should be cited as:

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The governance of the Black Sea

Case Study in the MESMA-project

**(Mesma, Monitoring and Evaluation of Spatially Managed Areas,
WP6 Governance)**

Draft 23-10-2012

Authors: Patricia Schouten, Ruben Vogel, Cor Schipper, Adriaan Slob

Content

- 1. Introduction**
- 2. Methodology**
- 3. Results on governance in the Black Sea region**
- 4. Results on nature protection in the Black Sea region**
- 5. Results on actor perspectives on governance in the Black Sea region**
- 6. Discussion**
- 7. Conclusions**
- 8. References**
- 9. Appendixes**

1 Introduction

1.1 Context of research

The goal of MESMA is to create a framework for the monitoring and evaluation of spatially managed areas. Within MESMA, the work package Governance focuses on two objectives.

- Study the governance structure in the Black Sea region and the use of Marine Spatial Planning (MSP) as a means of marine nature protection.
- Describe the strengths, limitations, flaws and possibilities of the current governance structure in the Black Sea region in relation to MSP and marine nature protection.

Within MESMA nine Case Study areas are selected. This report describes the results of the governance research of the case study ‘Black Sea’.

The focus of this case study is the analysis of the governance structure of the Black Sea and the role of marine spatial planning in it. The study consists of different elements. A brief overview of the case study and the objectives of the research are provided first. Next, the key policies and institutions are described and an analysis of governance issues specific on the designation marine protected areas is conducted. This is followed by an analysis and synthesis of overarching cross cutting issues and themes in the Black Sea region.

1.2 Black Sea back ground information

Geology

The Black Sea is very isolated from the world oceans. It is connected to the oceans via the Mediterranean Sea through the Bosphorus Strait, the Sea of Marmara and the Dardanelles strait. The large European rivers, the Danube, Dnieper and Don flow into the Black Sea (Figure 1.1). For this reason, the Black Sea is very vulnerable to pressures from land based human activity and its health is dependent from the coastal and non-coastal states of its basin. Six countries have a Black Sea shoreline: Bulgaria, Romania, Ukraine, Russian Federation, Georgia, and Turkey (Table 1.1) (BSC, 2012). In this study, the Black Sea or the Black Sea region refers to these countries and the Black Sea itself.

Table 1.1: Black Sea in figures

The Black Sea in Figures:	
Geographical Coordinates:	46°33' - 40°56N and 27°27' - 41°42' E
Drainage area	2 000 000 km ²
Total shoreline (without Sea of Azov shoreline)	4 340 km
Bulgaria	300 km
Georgia	310 km
Romania	225 km
The Russian Federation	475 km
Turkey	1 400 km
Ukraine	1 628 km
Area of Water Surface	432 000 km ²
River inflow	340,6 km ³
Water volume	547 000 km ³
Maximal depth	2 212 m
Salinity	18 - 22 pro mil
Average fresh water balance	3.7 - 441 km ³

(BSC,2012)

Figure 1.1: Geographical context Black Sea



(Worldatlas, 2012)

Economy

The Black Sea has a strategic position, because it is situated between the hydrocarbon reserves of the Caspian basin and Europe that needs energy. From 2000 until the onset of the world economic crisis, the region had one of the fastest rates of economic growth in the world. Since the end of the Cold War the region has undergone a fundamental change in terms of economic development and has secured a place on the global economic agenda. However, the differences with other European countries such as France are substantial. (Table 1.2). The Black Sea region has changed in terms of political perspective. Globalization had an impact on the region and the former communist societies underwent a transformation. The interest from the United States and the NATO in this fast growing economy grew, and the EU has enlarged along its shores. The opportunity to transfer Caspian oil and gas to European markets raises hope for regional economic development, but competition to control pipelines, shipping lanes, and transport routes to secure increased political and economic influence causes delicate relations between several countries. In the last decades repeated Russian-Ukrainian crises over gas occurred and in August 2008 a short war broke out between the Russian Federation and Georgia (Bertelsmann Stiftung, 2010).

Table 1.2: GDP per capita in 2011 (CIA, 2012).

Country	GDP per capita (2011 est.)
Bulgaria:	\$13.800
Romania:	\$12.600
Ukraine:	\$7.300
Russian Federation:	\$17.000
Georgia:	\$5.600
Turkey:	\$14.700
France	\$35.600

The interest from the United States and the NATO in this fast growing economy grew, and the EU has enlarged along its shores. The opportunity to transfer Caspian oil and gas to European markets raises hope for regional economic development, but competition to control pipelines, shipping lanes, and transport routes to secure increased political and economic influence causes delicate relations between several countries. In the last decades repeated Russian-Ukrainian crises over gas occurred and in August 2008 a short war broke out between the Russian Federation and Georgia (Bertelsmann Stiftung, 2010).

Environmental pressures

Coastal development, river diversion, over-exploitation of resources, introduction of alien species, pollution and other activities have a measurable human impact and lead to a degradation in the quality of the marine environment. The main environmental problems in the Black Sea are twofold: 1) Pollution coming from the rivers Danube, Dnieper and Don leading to a high level of eutrophication and loss of visibility, and 2) Disrupted international fishing quotas regulation. The disrupted fishing quota regulation amplifies illegal fishing and overfishing, leading to declining stocks. Another risk is the introduction of the predatory comb-jelly, because it appears to have no known predators in the Black Sea and it feeds on plankton and fish eggs. Next to the above mentioned activities and problems there are additional influences as a result of human activities such as increasing coastal development, upcoming beach tourism, aquaculture, sand extraction, oil pollution and offshore cable installation.

Political situation in the Black Sea region

Bulgaria and Romania are members of the European Union and Turkey is an accession state. The relations between the EU and the Russian Federation, Georgia and Ukraine are less intensive, although all countries have a 'partnership and cooperation agreement' with the EU. The EU also started a cooperation initiative that proposes a new dynamic for the region called Black Sea Synergy. Regional cooperation could provide additional value to initiatives in areas of common interest and serves as a bridge to help strengthen relations with neighbouring countries and regions. In this context, Black Sea Synergy could reinforce the impact of existing cooperation instruments, such as the pre-accession process in the case of Turkey, the Strategic Partnership with Russia and regional initiatives, like the Danube Cooperation Process (EU, 2012).

There is a constant political tension in the area where in addition to the differences between EU and non- EU countries also tension exist between EU and Turkey and tension between Russian Federation, Ukraine and Georgia (CIA, 2012).

1.2 Marine Spatial Planning defined

The MESMA research project defines a Spatially Managed Area as a geographical area within which Marine Spatial Planning (MSP) initiatives exist in the real world. In this definition, MSP provides a framework for arbitrating between competing human activities and managing their impact on the marine environment. Its objective is to balance sectoral interests and achieve sustainable use of marine resources (EC, 2008). MSP does not lead to a one-time plan. It is a continuing, iterative process that learns and adapts over time (Ehler & Douvère, 2009).

1.3 Objectives and research questions

In this case study the governance structures which influence the process of engagement in MSP present in the Black Sea region are studied. It furthermore focuses on MSP as a vehicle for nature protection in the Black Sea region as a whole and specifically in the EU member state Bulgaria. With this respect the linkage between MSP and integrated management plans as the Black Sea Strategy Action Plan, Natura 2000 and the Marine Strategy Framework Directive is relevant.

Research questions

Several questions guide the research throughout this study:

- 1 Which relevant agreements, treaties, legislation, policies or strategies are in place for marine spatial planning as a means of marine nature protection in the Black Sea region and in Bulgaria?
- 2 Which governance structures and mechanisms exist to implement these agreements, treaties, etcetera in the Black Sea region and how do they interact?
- 3 What are the flaws and strengths in these governance structures, and what are the impacts for marine nature protection?
- 4 How are the policies, governance structures and marine spatial planning for marine nature protection related with each other?

2 Methodology

2.1 Used methods in the case study

This study to the governance structures and the use of MSP in the Black Sea and its strengths and limitations has been conducted using four methods (1.) scientific literature study, (2.) questionnaires, (3.) semi-structured interviews and (4.) specific open questionnaires.

The general order of the methods is both chronological and funneling from methods used to gather broad information to methods used to reveal specific information.

- 1) The study of relevant literature and scientific publications is aimed to give a broad overview of the available information on general topics, such as the past and present policies, the existing policy-making institutes, and the activities of the non-governmental research institutes. Primary method is conducting desk study of online sources. Main aim is gathering general information about the topic.
- 2) The general information about the Black Sea and its governance structures based on desk research and scientific articles reveals a lot about the theoretical structure, but still leaves knowledge gaps about how the theory is put into practice. During the 3rd Biannual Black Sea Scientific Conference (BSSC) in Odessa, Ukraine on 1-4th November 2011, 67 questionnaires were filled in and returned. These questionnaires are used to gather information about the background of the stakeholders present at the conference and some general insight in their opinion on the main environmental issues in the Black Sea region (appendix 1, 2).
- 3) The results from the questionnaires give a general overview of the perspectives of stakeholders on Black Sea issues, but they don't provide answers about the reasons and potential solutions on these issues. Both at the conference and later semi-structured interviews have been conducted with a range of different player in the Black Sea region:

-representative of science

*Prof. Ruben Kosyan, Head of Department of the Coastal Zone of the P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences

-representatives of Non Governmental Organizations (NGOs)

*Anastasiya Snigireva (twice), representative of Black Sea Ukraine environmental access of Science

*Emma Gileva, representative of the Black Sea NGO Network)

-representatives of the permanent secretariat of the Black Sea Commission

* Prof. Halil Ibrahim Sur, executive director,

* Irina Makarenko, secretariat

* Valeria Abaza , Pollution monitoring and assessment officer.

All but two of the interviews are conducted with two researchers present in order to gather information and record the information at the same time. One of the interviews done by one researcher was recorded to prevent loss of information. All written reports of the interviews are checked by the specific key actors. The aim of the interviews is to reveal how the policies of the Black Sea Commission actually work in practice and to hear key actor's opinions on several issues such as monitoring, the organization of the Black Sea Commission, the role of NGO participation and the role of the European Union.

The interview reports can be found in (appendix 3, 4).

3 Results on governance in the Black Sea region

3.1 The Commission on the Protection of the Black Sea Against Pollution

Literature study resulted in a broad base of information about The Commission on the Protection of the Black Sea Against Pollution (The Black Sea Commission or BSC also referred to as The Istanbul Commission). This commission and its permanent secretariat is first mentioned in the Convention on the Protection of the Black Sea Against Pollution, which was signed in 1992 in Bucharest and ratified by all six legislative assemblies of the Black Sea countries end 1993 (Appendix 5). The entry into force for all countries was between January and April 1994. However, the permanent secretariat wasn't established until the year 2000.

Basic objective of the Convention on the Protection of the Black Sea Against Pollution is to substantiate the general obligation of the Contracting Parties to prevent, reduce and control the pollution in the Black Sea in order to protect and preserve the marine environment and to provide legal framework for co-operation and concerted actions to fulfill this obligation.

Objectives of the Convention in particular:

- *To prevent pollution by hazardous substances or matter*
- *To prevent, reduce and control the pollution from land-based sources*
- *To prevent, reduce and control the pollution of the marine environment from vessels in accordance with the generally accepted rules and standards;*
- *To prevent, reduce and control the pollution of the marine environment resulting from emergency situations*
- *To prevent, reduce and control the pollution by dumping*
- *To prevent, reduce and control the pollution caused by or connected with activities on the continental shelf, including exploration and exploitation of natural resources;*
- *To prevent, reduce and control the pollution from or through the atmosphere;*
- *To protect the biodiversity and the marine living resources*
- *To prevent the pollution from hazardous wastes in trans boundary movement and the illegal traffic thereof*
- *To provide framework for scientific and technical co-operation and monitoring activities*

(BSC, 2012a)

The term convention, used in international law, refers to certain formal statements of principle. Conventions are adopted by international bodies and usually apply only to countries that ratify them, and do not automatically apply to member states of such bodies. These conventions are generally seen as having the force of international treaties for the ratifying countries. A treaty is an official, express written agreement that states use to legally bind themselves (Shaw, 1977).

The members of the Black Sea Commission have the following responsibilities and liabilities according to the convention.

- *The Contracting Parties are responsible for the fulfillment of their international obligations concerning the protection and the preservation of the marine environment of the Black Sea.*

- *Each Contracting Party shall adopt rules and regulations on the liability for damaged caused by natural or juridical persons to the marine environment of the Black Sea in areas where it exercises, in accordance with international law, its sovereignty, sovereign rights or jurisdiction.*
- *The Contracting Parties shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief for damage caused by pollution of the marine environment of the Black Sea by natural or juridical persons under their jurisdiction.*
- *The Contracting Parties shall cooperate in developing and harmonizing their laws, regulations and procedures relating to liability, assessment of and compensation for damage caused by pollution of the marine environment of the Black Sea, in order to ensure the highest degree of deterrence and protection for the Black Sea as a whole.*

(BSC, 2012a)

Despite the goal of the convention to stimulate international cooperation, the sovereignty of all member states is maintained as well.

- *Nothing in this Convention shall affect in any way the sovereignty of States over their territorial sea, established in accordance with international law, and the sovereign rights and the jurisdiction which States have in their exclusive economic zones and their continental shelf in accordance with international law, and the exercise by ships and aircraft of navigational rights and freedoms, as provided for in international law, and as reflected in relevant international instruments.*

(BSC, 2012a).

The convention mainly addresses intentions and expectations, but stays clear of hard agreements. Sovereignty of the member states is highly valued and there are no sanctions or ways to appeal if agreements are not met. This means that there is little juridical support in the convention and it is mainly based on a mutual will to cooperate inter-governmentally in order to reach its objectives.

The Black Sea Commission acts on the mandate of the Black Sea countries (Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine) and consists of six representatives from those countries and a chairman who is also from one of the Black Sea countries (Figure 3.2). The Black Sea Commission is chaired on a rotation principle. The Commission meets at least once a year and at request of any one of the contracting parties at any time. The Black Sea Commission has the final word in approving documents such as the Black Sea Strategic Action Plan and the Annual Working Plans. The Permanent Secretariat does all the preparatory work.

Nine independent institutes, such as the United Nations Environment Programme and the Black Sea NGO Network, function as observers and check the enactment of the plans and programmes by the Black Sea Commission. They participate regularly in meetings of the BSC, and are allowed to present written recommendations to the secretariat. They are not allowed to actively participate in the decision making process of the BSC (BSC, 2012b).

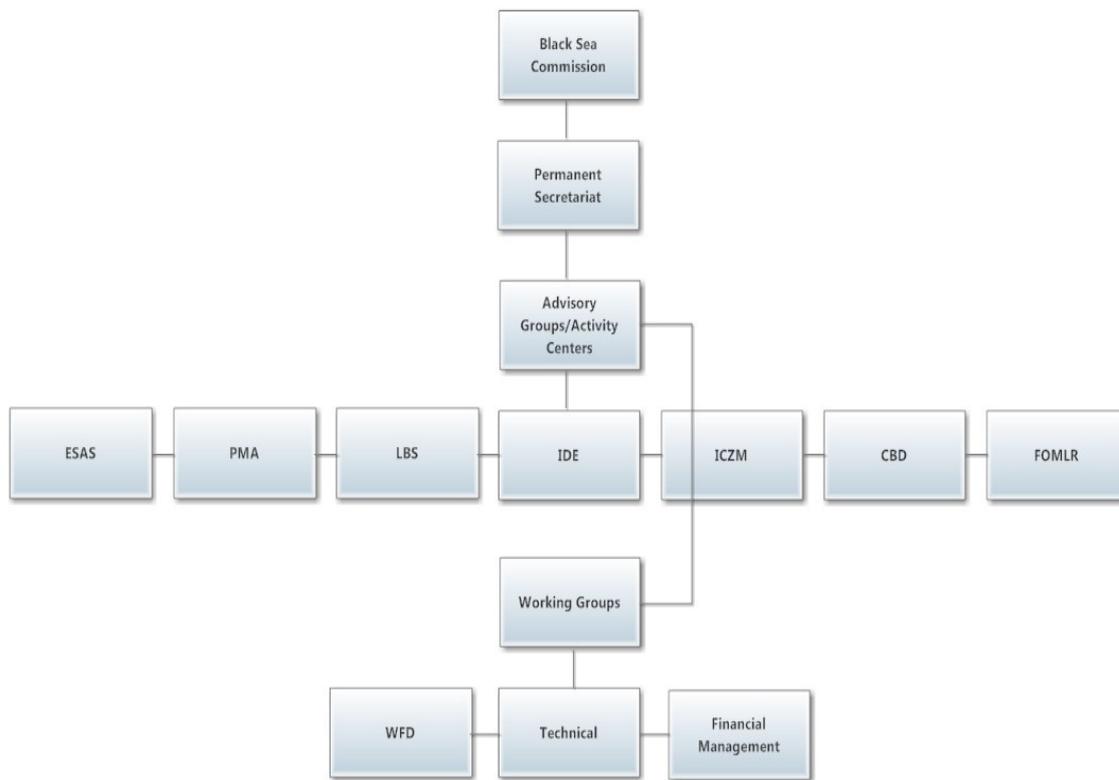
Figure 3.1: Map of the countries directly connected to the Black Sea



(Worldatlas, 2012)

The Black Sea Commission has a strict organizational structure (Figure 3.2). A Permanent Secretariat, located in Istanbul, assists the Black Sea Commission on a daily basis. The BSC appoints its executive director and the other officials of the permanent secretariat. Concrete activities and work of the permanent secretariat are based on the Annual Work Programs of the BSC and Strategic Action Plan for the Rehabilitation and Protection of the Black Sea (BSSAP), which will be elaborated in the next section. The permanent secretary's responsibility is to coordinate the actions mentioned in these plans. The secretariat works under the responsibility of the BSC and has no mandate to enforce any actions. Next to this the secretariat has an agenda setting function to organize BSC meetings.

Figure 3.2: Organogram of the Black Sea Commission



(BSC, 2012b).

The Advisory Groups are the main source of information and scientific knowledge to the permanent secretariat and the BSC. There is a advisory group for the implementation of each of the strategic sectors mentioned in the Convention and the Black Sea Strategic Action Plan (see next alinea). Each advisory group is directly subordinated to the Black Sea Commission and its permanent secretariat. However, the advisory groups do not report directly to the BSC, instead they inform national focal points who prepare aggregated and harmonized country reports that are formally presented to the Black Sea Commission on annual basis. Their activities have to be within their Work plan which is approved annually by the BSC. The latest annual working programme published online is the programme of the year 2009/2010. The groups exist of experts and/or policy makers from all Black Sea states and they will closely work together with other experts, institutions and NGO's if necessary. In addition to the advisory groups there have been established several ad hoc Working Groups with specific goals, such as 'the Water Framework Directive' and 'financial management'.

The general coordination is assigned to the permanent secretariat. The practical coordination of advisory groups is officially maintained by Activity Centers. The Activity Centers support the Advisory Groups with the necessary programmatic and technical support. The activity centers are defined in seven strategic sectors based on the BSSAP and are located in all six Black Sea countries.

- ESAS: Advisory Group on the Environmental Safety Aspects of Shipping (Bulgaria)
- PMA: Advisory Group on the Pollution Monitoring and Assessment (Ukraine)
- LBS: Advisory Group on Control of Pollution from Land Based Sources (Turkey)
- IDE: Advisory Group on Information and Data Exchange (Commission Secretariat)
- ICZM: Advisory Group on the Development of Common Methodologies for Integrated

Coastal Zone Management (Russian Federation)

- CBD: Advisory Group on the Conservation of Biological Diversity (Georgia)
- FOMLR: Advisory Group on the Environmental Aspects of the Management of Fisheries and other Marine Living Resources (Romania)

(BSC, 1996)

The activity centers were established and financed by UN projects till 2007. Since then countries have to cover the expenses themselves. As a result several of the centers only exist on paper, but are not active in real life anymore. For instance the centers in Bulgaria and Georgia (pers comm V. Abaza). However, all advisory groups are still in existence and organize their work without the help of the activity center.

3.2 Key policies for Black Sea environmental and nature protection

The Black Sea region is considered a complex, valuable and vulnerable area, therefore there is a multitude of policies to influence and guide the development of the region (Figure 3.3). Such policies can be initiated by the local and national governments of the countries directly or indirectly connected to the Black Sea, the European Union, the European Council, or independent research institutes (BSC, 2012b).

As explained in 3.1 the Convention on the protection of the Black Sea against pollution has the basic objective to substantiate the general obligation of the contracting parties to prevent, reduce and control the pollution in the Black Sea in order to protect and preserve the marine environment and to provide a legal framework for co-operation and joint actions to fulfill this obligation. The convention consists of three main protocols to reach this objective:

- The control of land-based sources of pollution
- Against pollution by dumping of waste
- Joint action in case of accidents (such as oil spills)

The Ministers responsible for the protection of the marine environment of the Black Sea coastal states assembled in Odessa in April 1993 to reaffirm the provisions of the convention on the protection of the Black Sea against pollution, its protocols and the resolutions adopted in Bucharest 1992. This meeting resulted in what is called 'The Odessa Declaration'. The first 'Strategic Action Plan for the Rehabilitation and Protection of the Black Sea' followed on The Odessa Declaration and was accepted in 1996. In short this plan is called 'Black Sea Strategic Action Plan' or 'BSSAP'. Goal of the BSSAP was the rehabilitation and protection of the Black Sea ecosystem and the sustainable development of its resources as expressed, in particular, in the Bucharest Convention and the Odessa Declaration. In 2002, the 'Sofia Declaration' was accepted. In this declaration, the ministers of the contracting parties of the Bucharest convention reaffirm the importance of the Black Sea and its ecosystem as a valuable natural endowment of the region. They also reaffirm the principles of the earlier conventions and declarations. The ministers, high officials and the members of the European Commission responsible for the implementation of the Danube River Protection Convention and the Black Sea Protection Convention, commit to strengthen the 'water and aquatic environment protection activities' undertaken in the Danube region and to increase the cooperation and efforts for protection of the 'marine waters and marine environment' of the Black Sea. This is noted in 'The Bucharest Declaration' of 2007. In 2009 the second 'Sofia Declaration' is accepted recognizing the need to preserve the Black Sea ecosystem as a valuable natural endowment of the region, whilst ensuring the protection of its marine and coastal living resources as a condition for sustainable development of the Black Sea coastal states, well-being, health and security of their population. The second 'Strategic Action Plan for the environment Protection and Rehabilitation of the Black Sea' is accepted in 2009. This plan recalls the principles of the Bucharest Convention and its protocols.

It also declares the wish to continue in the spirit of shared responsibility and strong cooperation with other Black Sea basin countries. There is no explicit mention of Marine Spatial Planning in the BSSAP. However, the protection of specific marine areas is mentioned as a measure of nature conservation (BSC, 2009b).

Figure 3.3: Timeline of declarations initiated by the Black Sea Commission



The mentioned Black Sea Strategic Action Plan (BSSAP) is more than a general policy; it contains concrete steps to solve four trans-boundary problems concerning eutrophication, commercial marine living resources, chemical pollution and biodiversity. These themes have been selected in 1996, after a Trans-boundary Diagnostic Analysis (TDA), a methodology for assessing the conditions in a body of water that spans political borders. The themes have been reconfirmed after a TDA update in 2007 based on the opinions of 60 Black Sea regional experts. National legislation to address these concern areas is the responsibility of individual states. However, cooperation from both Black Sea coastal states and international partners can contribute to regional level intervention. But the division of responsibilities between ministries and intra ministerial organizations can be complex. Public involvement at all levels can help to successfully implement the Bucharest Convention. The Black Sea Commission thinks that effective engagement of civil society in planning, management and decision-making can only be accomplished by on-going encouragement, strengthened capacities, and financial commitment by donors and countries (BSC, 2009a). An example of such an engagement activity is the International Black Sea Action day, which raises attention for the Black Sea every 31st October of the year (BSNN, 2012).

3.3 NGO scan

In the wider Black Sea region, 'the six shoreline countries and surrounding countries involved with the Black Sea due to rivers etcetera', there are numerous NGO initiatives. In international NGO networks they meet and support each other. Since elaborating on every NGO in the region will consume a lot of time and since the objective of this research is to study the international governance structure we focus on three of these international NGO networks and forums. The three international NGO initiatives are the Black Sea NGO Network, the Black Sea NGO Forum and the Commission on the Black Sea. They all have their own focus, but their common goal is to improve the quality of the wider Black Sea region. The NGOs actively try to stimulate the communication and knowledge exchange between science and policy and try to connect to the policies and decision making processes of the BSC. The NGO's support projects such as, Environmental Collaboration For The Black Sea (European Commission and NGO's in 2007-2009 (ENPI, 2012) and Regional Exchange of Best Practices in Influencing the Public Sector (BSNN 2012b).

Black Sea NGO Network (BSNN)

The BSNN is established in 1998 as an independent, non-political, non-governmental, non-profit voluntary association of NGO's in all six Black Sea countries. Their goal is to facilitate the free flow of information to contribute to the protection of the Black Sea. Some projects associated with the network are 'The Black sea trust for governance in the Black Sea region', the project 'public support on Natura 2000 sites' and they support the 'International Black Sea Day' (BSNN, 2012).

The Black Sea NGO network was invited in 2001 by the Black Sea Commission to function as an observer on the implementation of the convention on the protection of the Black Sea against pollution. In this position the network wrote a statement of recommendations to amend the convention to present at the conference of the parties to the Bucharest Convention in 2009. Key issues in these recommendations were to improve access to information, public participation and the procedure of selecting observers.

From 2007 till 2010 an EU project called 'Environmental Collaboration for the Black Sea (ECBSea)' has also worked on improving the implementation of the Convention at regional and national level. This project added the Black Sea Commission as a project beneficiary and supported the NGO meeting to discuss and review the Bucharest Convention (ENPI, 2012). The Black Sea Commission has taken notice of the recommendations.

Black Sea NGO Forum

Since 2008 the Annual Black Sea forum is organised, funded by the Romanian Ministry of foreign affairs and the representation of the European Commission in Romania. The forum aims at increasing the level of dialogue and cooperation among NGOs in the wider Black Sea Region, strengthening the NGO's capacity to influence regional and national policies and to increase the number and quality of regional partnerships and projects. Hundreds of participating NGOs from over the wider Black Sea region and other European member states get together during the forum to contribute to this goal (BS NGO Forum, 2010).

Commission on the Black Sea

In 2009, four non-governmental organizations started the Commission on the Black Sea with the aim to contribute to a joint vision for the Black Sea region by developing new knowledge on areas of key concern. These four organizations are:

- Bertelsmann Stiftung based in Germany
- Black Sea trust of regional cooperation of the German Marshall fund of the US
- Economic policy research foundation of Turkey (TEPAV)
- International Centre for Black Sea studies (ICBSS)

The Commission on the Black Sea gathered experts as well as policy makers from the Black Sea region and other parts of Europe, the Russian Federation and the United States with the aim to encourage new thinking on areas of key concern considering the Black Sea region. The governmental institutes are not actively involved to participate in the study for a new vision, in order to stimulate new and unconventional ideas. In 2010 the report is published named 'A 2020 vision for the Black Sea'. The report consists of policy recommendations for the governments of the six Black sea countries. In the 2020 vision it is recommended that the Black Sea states should be encouraged to seek regional solutions for regional problems. The stakeholders must face up to the need to tackle tasks together and allow for non-state actors such as the business sector, NGO's and civil society to play a real role in shaping solutions. The commission on the Black Sea states in the report that the contributing researchers serve in a personal capacity and that documents published by the commission should in no way be construed as reflecting the views of the states, governments, organizations or institutions with which the authors are associated. There are no concrete indications that the policy recommendations from the report are actively encouraged to be implemented by the decision making parties (Bertelsmann Stiftung, 2010). The Commission on the Black Sea has no direct link with the Black Sea Commission. From the BSC point of view The Commission on the Black Sea is not seen as a relevant stakeholder.

3.4 Inter governmental cooperation in the Black Sea

Organization of the Black Sea Economic Cooperation (BSEC)

The most prominent inter governmental cooperation is the BSEC, it came into existence in 1994 as a model of multilateral political and economic initiative. The BSEC aimed at fostering interaction and harmony among its member states, as well as to ensure peace, stability, and prosperity, encouraging friendly and good-neighbourly relations in the Black Sea region. The cooperation is active in many more themes besides economy, such as security and environment. The organization has twelve members. All six countries with a Black Sea shoreline are member, but also countries from the wider Black Sea region, such as Greece and Albania (BSEC, 2012).

The cooperation between the BSC and the BSEC is not yet very intense (per comm V. Abaza).

However there is a wish to intensify the relation in order to improve this regional cooperation (BSC, 2012b).

On the other hand the Commission on the Black Sea (paragraph 3.1) describes the BSEC as having a number of deficiencies, such as slow decision-making, a shortage of funds, a lack of qualified expert staff and the limited participation of private sector and civil society actors. They do have permanent structures such as a secretariat, a development bank, a parliamentary assembly, a business council, a think tank and thematic working groups. Next to this BSEC has a broad membership of nation states and it doesn't lack political support.

4 Results on nature protection in the Black Sea region

4.1 Marine Nature Conservation in the European Union

Natura 2000

The European Union has a long history in nature conservation. In 1979 the Bird Directive came into place (amended in 2009, 2009/147/EC). This directive aims to protect breeding and migrating bird throughout Europe. In addition the Habitat Directive was adopted in 1992 (92/43/EEC). All in all this directive protects over 1.000 animals (no birds) and plant species and over 200 so called "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), that are of European importance. The nature protection based on these two directives is built around two pillars: the Natura 2000 (N2000) network of protected sites and a strict system of species protection.

In 2007 Romania and Bulgaria became EU member states. This enlargement of the EU has brought amendments of the EU nature conservation legislation. The exercise of negotiating amendments to the lists of habitat types and species of the above directives originally started simultaneously for all twelve candidate countries, and has now also been completed for the two most recent Member States. The European Union has nine biogeographical regions, each with its own characteristic blend of vegetation, climate and geology. With Bulgaria and Romania becoming member states the EU added the Black Sea region as one of its biogeographical regions (Figure 4.1).

Marine Strategy Framework Directive

The Marine Strategy Framework Directive (MSFD) pursues an integrated policy focused on the protection of the European marine environment. The MSFD applies to all marine waters, seabed and subsoil where an EU Member State has and/or exercises jurisdictional rights, in accordance with the United Nations Convention on the Law of the Sea (UNCLOS). All EU member states pursue to implement the MSFD by 2015 at the latest, but Bulgaria and Romania may implement their national Marine Strategy by the year 2020 (EU, 2008, Directive 2008/56/EC of the European parliament and council). There are strong links between the MSFD and the Water Framework Directive (WFD). WFD relates to improving and protecting the chemical and biological status of surface waters throughout a river basin catchment from rivers, lakes and groundwaters through to estuaries (transitional) and coastal waters to one nautical mile out to sea (three nautical miles in Bulgaria and Romania) and overlaps with MSFD in coastal waters (see Figure 4.0).

Figure 4.0 shows the map of overlap WFD coastal/marine waters and MSFD marine waters for the Bulgarian and Romania territorial waters

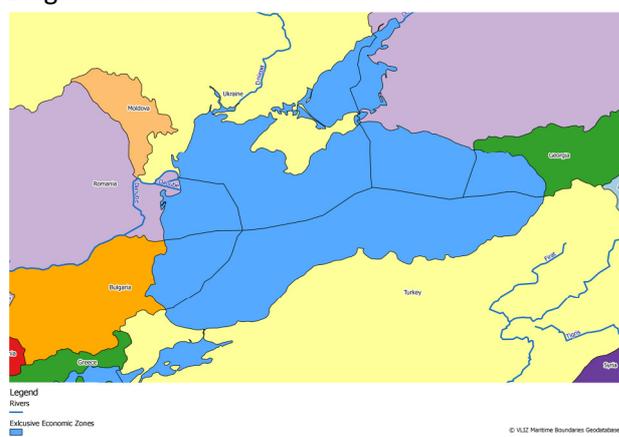
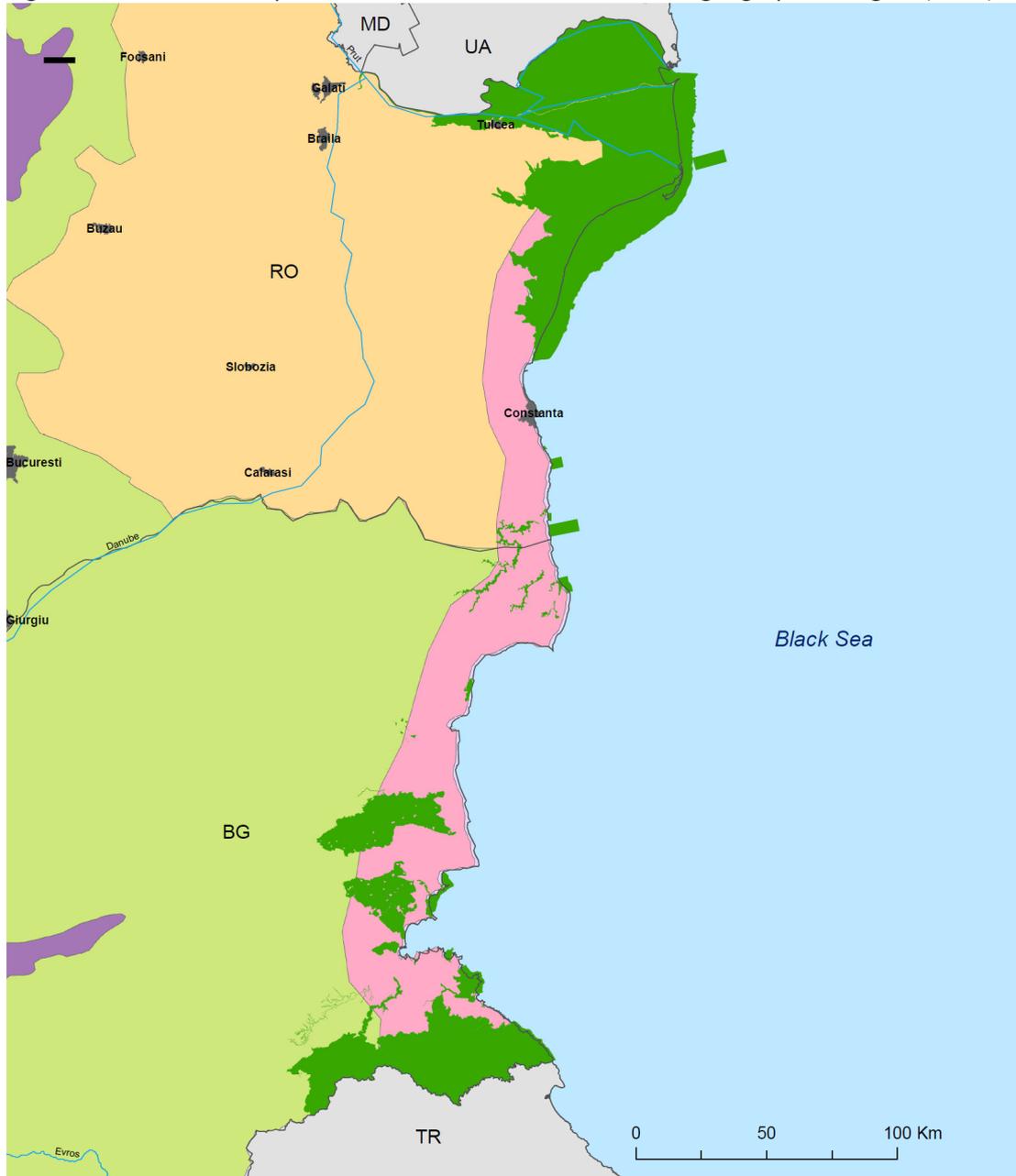


Figure 4.1 shows the map of Natura 2000 and the Black Sea biogeographical region (2008)



Natura 2000 - Black Sea biogeographical region

-  Large river
-  Black Sea Natura 2000 Sites
-  Black Sea biogeographical region
-  Alpine biogeographical region
-  Continental biogeographical region
-  Steppic biogeographical region



Data as of July 2008

4.2 Goals and procedures for nature conservation by the Black Sea Commission

Measures on nature conservation are elaborated in the Black Sea Strategic Action Plan (BSSAP).

The purpose of the BSSAP is:

'The environmental protection and rehabilitation of the Black Sea.'

The BSSAP is based on the principle of sustainability. The following rules are therefore applied throughout the process of making the BSSAP:

- precautionary rule
- polluter pays
- anticipatory action
- environmental & health considerations
- clean technology
- sustainable agricultures
- economic instruments to back up measures
- public participation and transparency
- long term vision

Biodiversity is addressed as one of the main environmental challenges in the Black Sea .

Based on this challenge the following 'Ecological Quality Objectives' (EcoQO's) were defined:

EcoQO 1a sustainable use of fish stocks

EcoQO 1b sustainable use of marine resources

EcoQO 2 conservation of biodiversity and habitats

EcoQO 3 reduce eutrophication

EcoQO 4 ensure water quality for health, recreation and aquatic biota

Cross-cutting issues with governance in the Black Sea

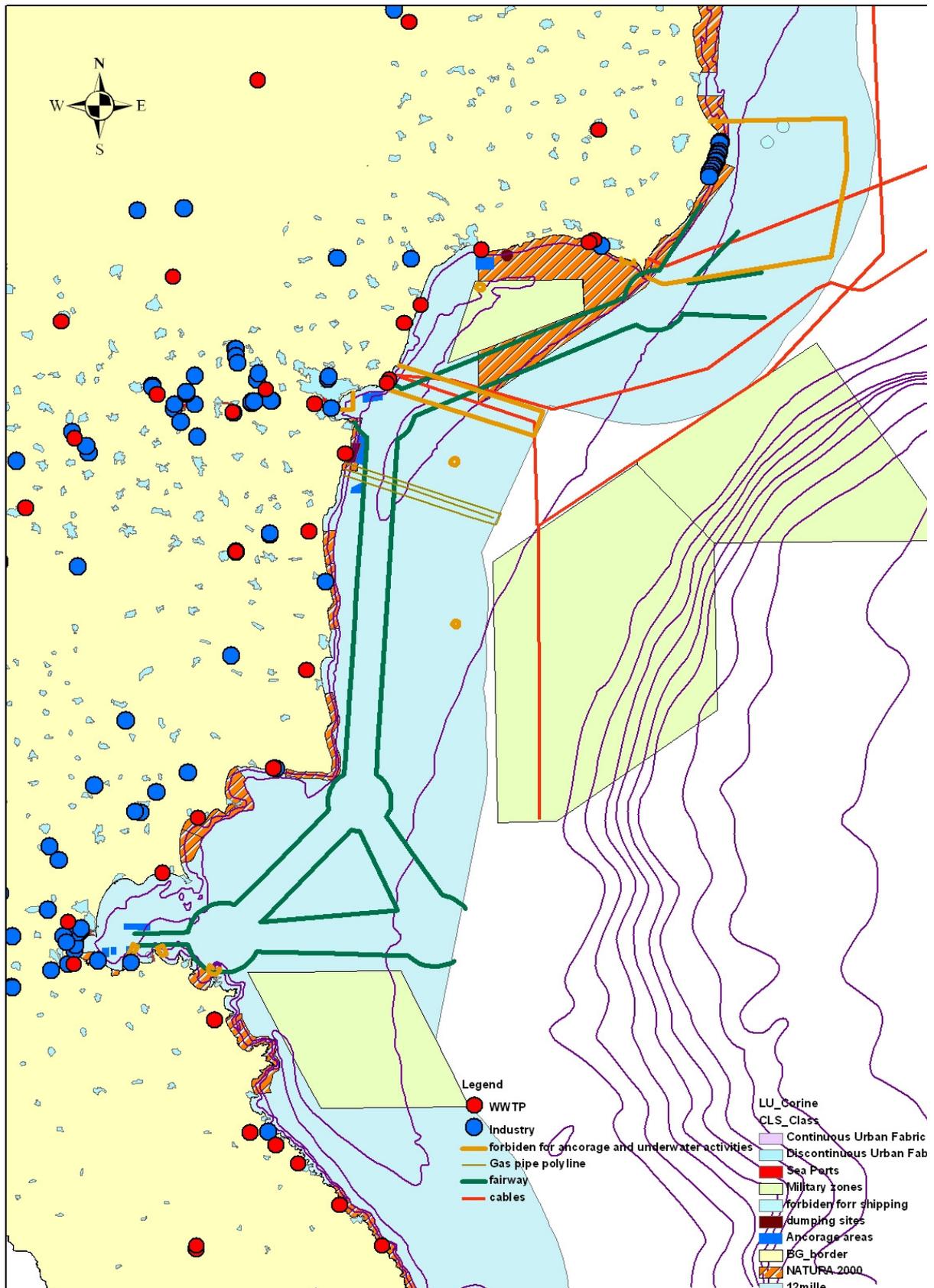
Measures are defined to help meet the EcoQO's. These measures are prioritized and ranked according to the time span they should be implemented in. The measures do not meet the "SMART"-criteria: Specific-Measurable-Achievable-Realistic-Time, which makes evaluation of the measures complicated. Besides the EcoQO's, a number of cross-cutting issues in the Black Sea are addressed in the State of the Environment Report 2001-2006/7 in order for the EcoQOs to be successfully achieved. However, there are no measures connected to these cross-cutting issues. The cross-cutting issues mentioned are:

- Capacity strengthening for enforcement (pollution, alien species, fisheries management)
- Improved public engagement
- Strengthen the regional coordinating role of the Commission on the Protection of the Black Sea against Pollution
- Climate change

4.3 N2000 in coastal and marine waters of Bulgaria

In order to gain more insight on the possible links or contradictions between the conventions of the Black sea commission and nature conservation based on EU legislation this paragraph focuses on the N2000 in Bulgaria. Figure 4.2 shows a map of the coastal activities of Bulgaria, including the proposed N2000 sites.

Figure 4.2 Coastal activities of Bulgaria. N2000 sites are shown with orange lines (Valentina *et al.*, 2012)



At present the Bulgaria marine Natura 2000 network encompasses 14 coastal sites with marine area included within their boundaries. The sites are designated due to the presence of valuable habitat types or marine mammals.

The marine area covered by the network of sites is currently limited to the 20m depth line. The protected areas are for the most part contained within the coastal marine waters, with only one site extending towards the territorial waters. Due to fact that the sites were evaluated as insufficient by DG Environment of EC, the marine Natura 2000 in Bulgaria is currently under revision and will be extended towards open sea to cover larger portions of reefs (1170), sandbanks (1110), and the habitats of *Alosa spp.* and small cetaceans. However, no definite management plans exists yet for the marine Natura 2000 sites in Bulgaria.

National implementation of the Habitat and Bird Directive in Bulgaria: The Black Sea River Basin Management Plan

At present the planning, management and ecological evaluation of the Black Sea waters in Bulgaria are executed by the Black Sea River Basin Directorate (BSBD), which is subordinate to the Ministry of Environment and Waters. The existing Black Sea River Basin Management Plan is meant to implement mainly the Water Framework Directive at the national level. The requirements of other European Directives are also taken into consideration, among which those concerning the marine waters including the Shellfish Water Directive 79/923/EEC, the Bathing Water Directive 2006/7/EC, the Bird and Habitats Directive 92/43/EEC. The main goal of the plan is achieving “Good ecological status” of all waters, including coastal marine waters by 2015.

The conservation of the marine habitats and species under the Habitats Directive is not adequately addressed in the existing national management plan. The objectives formulated are not specific and measurable, and the measures are not targeted but practically copy the objective “conservation and maintenance of species and habitats of European importance”. There are no definite N2000 management plans yet and the overall national plan is lacking adequate response to the N2000 objectives. Monitoring and evaluation of the Habitat and Bird Directives in Bulgaria is therefore not in place yet.

4.4 Marine Spatial Planning in EU directives and BSSAP

Marine spatial planning in N2000 and BSSAP

The Bulgarian and Romania coastal area is under strong pressures for development or expansion of sectors which are not always compatible. The EU adopted principles of integrated coastal zone management (ICZM). These principles stipulate that ICZM should accommodate natural systems as well as human activities. Only Romania has implemented ICZM having a specific law, however the strategy which was not approved yet by the Ministry. The problem of the present spatial planning in Romania, that maritime spatial planning has not been introduced in the existing BSSAP spatial planning system. The BSSAP responsible for spatial planning activity has to promote, together with the EU development for N2000 environmental protection. Most of the data collection and design of monitoring systems is done in EU funded projects. Each country is obliged under the Bucharest Convention to provide the ICZM related data to the BSC Secretariat in their annual report to the Commission (interview V. Abaza). Table 4.1 shows the difference in nature conservation between the BSSAP and N2000. Although the BSSAP and N2000 have the same overall goal, protection of nature values, the level of abstraction and implementation is very different.

The BSSAP defined an EcoQO to protect and enhance biodiversity. Were as N2000 legislation obliges EU countries to protect specific species and habitats

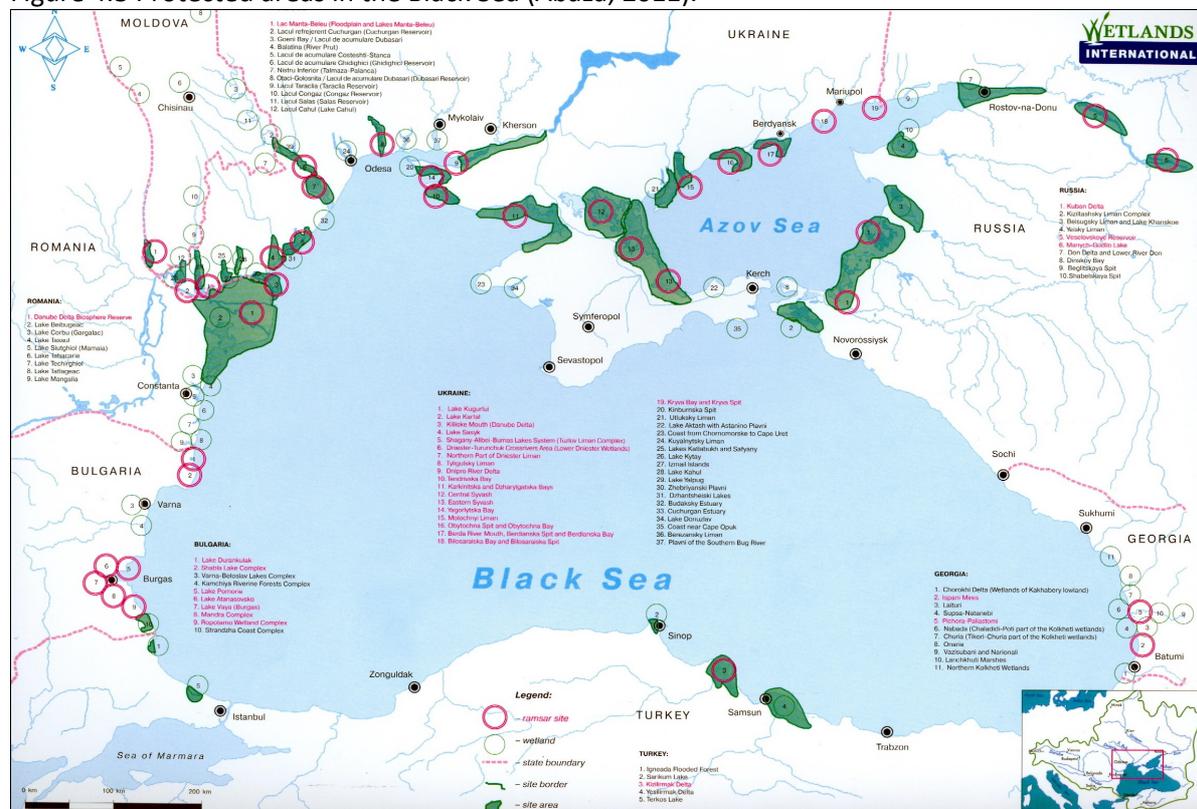
Table 4.1 shows the difference in nature conservation between the BSSAP and Natura 2000

	BSSAP	N2000 Bulgaria
Aim	EcoQO: protect and enhance biodiversity	Protect N2000 sites and specific species and habitat types.
Measures defined	Yes, but not SMART. One of the measures is defining a protected area in areas of importance for conserving biodiversity.	No management plans for sites yet.
Monitoring and evaluation	Yes, but link between national monitoring and Black Sea Commission level is limited.	No management plans yet. Limited monitoring takes place, but goals for monitoring do not always comply with N2000 targets.
Spatial component	Marine Protected Areas as possible measure for EccoQO conservation of Biodiversity. There is no mention of integrated spatial planning.	Yes, N2000 sites as a measure for nature conservation. There is no mention of integrated spatial planning.

Both the EU legislation and the BSSAP state protection of areas as a means of nature conservation.

Figure 4.3 shows the current protected sites in the whole Black Sea.

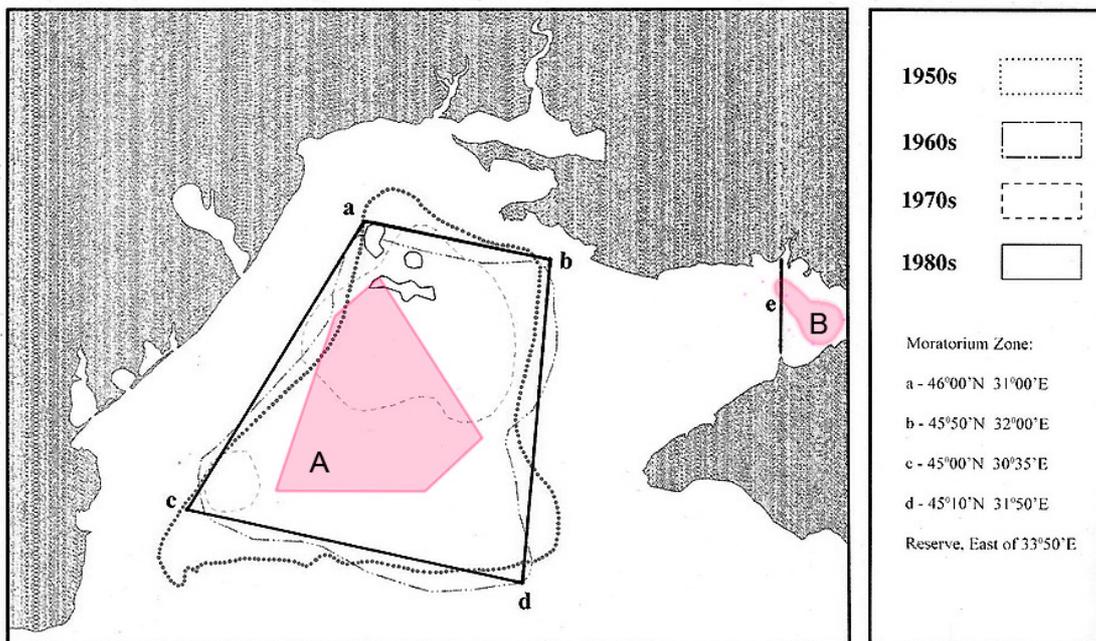
Figure 4.3 Protected areas in the Black Sea (Abaza, 2011).



Except for one, all sites are coastal water sites. Only the Ukraine site Zernov (figure 4.4), appointed for the protection of a *Phyllophora* field, is an off shore site (Abaza, 2011).

Figure 4.4 Ukraine offshore site Zernov (Abaza, 2011).

Progressive reduction of the Zernov's "Phyllophora field" on the NWS and proposed protection areas



Section B.3.1 - Fig 1. Catastrophic loss of the "Zernov" phyllophora field in the NW Black Sea. Phyllophora represented a keystone species for the entire NW shelf ecosystem (see text for details). The proposed protection areas are those referred to in Table 3.2.1. Source: BSEP Biodiversity Technical Series Publication.

Marine spatial planning in MSFD and BSSAP

Marine spatial planning as a measure for integrated planning of different functionalities (thus not only nature conservation) is only mentioned as such in the EU Marine Strategy Framework Directive.

In spring 2012, the European Commission and the Black Sea Commission met to compare the MSFD and the BSSAP. The main purpose of this comparison was: 'to find out what main differences in objectives targets, and approaches are between the Convention on Protection of the Black Sea and its related agreements and EU Marine Strategy Framework Directive in order to ensure coherent efforts to protect and rehabilitate the Black Sea ecosystem for the benefits of all Black Sea coastal states'.

The meeting resulted in a (draft) document with an extensive overview of comparing MSFD articles with related issues mentioned in the BSSAP (Anonymous, 2012). The overall conclusion in this document is that: 'The Bucharest Convention, BSSAP and related documents and MSFD are fully consistent in their objectives, principles, and approaches.'

Table 4.2 shows the results of the comparison of nature conservation definitions and targets. Table 4.3 shows the results on the comparison of spatial planning as a measure for nature conservation. The complete overview of the comparative analyses can be found in Annex 6.

Table 4.2 Comparison of nature conservation definition and targets of MSFD and BSSAP

MSFD	BSSAP, Bucharest Convention
<p>Reach a Good environmental status</p> <p><i>"good environmental status"</i> means the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations,</p> <p>Good environmental status shall be determined at the level of the marine region or subregion as referred to in Article 4, on the basis of the qualitative descriptors in Annex I (the "environmental targets"). Adaptive management on the basis of the ecosystem approach shall be applied with the aim of attaining good environmental status;</p> <p>7. <i>"environmental target"</i> means a qualitative or quantitative statement on the desired condition of the different components of, and pressures and impacts on, marine waters in respect of each marine region or subregion. Environmental targets will be established in accordance with Article 10;</p>	<p>"good environmental status" not defined in the BSSAP</p> <p>7. "environmental target" is not defined in the BSSAP. Instead BSSAP defines environmental quality objective (EcoQO) as a desired level of ecological quality relative to predetermined reference levels. There are four EcoQO's:</p> <p>EcoQO 1: Preserve commercial marine living resources EcoQO 1a: Sustainable use of commercial fish stocks and other marine living resources. EcoQO 1b: Restore/rehabilitate stocks of commercial marine living resources.</p> <p>EcoQO 2: Conservation of Black Sea Biodiversity and Habitats</p> <p>EcoQO 2a: Reduce the risk of extinction of threatened species. EcoQO 2b: Conserve coastal and marine habitats and landscapes. EcoQO 2c: Reduce and manage human mediated species introductions</p> <p>EcoQO 3: Reduce eutrophication</p> <p>EcoQO 4: Ensure Good Water Quality for Human Health, Recreational Use and Aquatic Biota EcoQO 4a: Reduce pollutants originating from land based sources, including atmospheric emissions.</p> <p>EcoQO 4b: Reduce pollutants originating from shipping activities and offshore installations</p>

Table 4.3 Comparison of Spatial Planning as a measure for nature conservation in MSFD and BSSAP

MSFD	BSSAP, Bucharest Convention
<p>4. Programmes of measures established pursuant to this Article shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems, such as special areas of conservation pursuant to the Habitats Directive, special protection areas pursuant to the Birds Directive, and marine protected areas as agreed by the Community or Member States concerned in the framework of international or regional agreements to which they are parties.</p>	<p>BSSAP overall target on biodiversity conservation considers the necessity of creation of new and/or expansion of existing protected areas, including transboundary areas in consultation with the relevant Black Sea countries with particular attention to marine protected areas. Establish or extend these areas where necessary. To prepare a regional program for expansion of the marine and coastal protected areas in the Black Sea is of utmost importance and cooperation in this context with MSFD is mutually beneficial taking into account the special features of the Black Sea ecosystems.</p>
<p>7. Member States shall indicate in their programmes of measures how the measures are to be implemented and how they will contribute to the achievement of the environmental targets established pursuant to Article 10(1).</p>	<p>The Black Sea coastal states, signatories of BS SAP, make national arrangements to implement BSSAP management targets.</p>

4.4 Summary nature protection in the Black Sea

Nature protection in the Black Sea is organized on the level of the Black Sea commission. On EU level Natura 2000 and MSFD are legally binding instruments for the protection of the marine areas of the EU countries Romania and Bulgaria.

All three instruments mention the protection of specific areas as a measure of nature protection. Only the MSFD mentions marine spatial planning and its' integral sectoral planning .

EU directives are not legally binding in non-EU countries. However, both on the implementation of N2000 and the MSFD tools have been developed that can be of use for the Black Sea as a whole. Cooperation between the EU and the BSC is therefore seen as a way to help development of the BSSAP.

There is no real integrated Marine Spatial Planning in the Black Sea region. Only the MSFD mentions integrated MSP as a measure for sustainable development, which would benefit nature conservation.

5 Actor perspectives on governance in the Black Sea region

Decisions from the BSC are mainly taken without formal consultation of NGO's or other stakeholders. Stakeholders, nevertheless, try to influence the BSC in an informal way. In this chapter the stakeholders' views are described from different perspectives on the protection of the Black Sea region. This description is based on the interview results and the results of the questionnaire. Three topics seem to be the trend in BSC governance:

Science-policy interface

The BSC organizational structure does not specifically stimulate the scientific knowledge stream to reach the policy makers or politicians. Research is often financed through (EU) projects. Although the results of these projects are communicated with the advisory groups and the BSC secretariat, the results are not by default included in the annual national update reports. When project results are not included this disturbs the cooperation and knowledge accumulation of all Black Sea countries. This obstacle is recognized by the separate countries and a new policy should be implemented to improve the communication (BSC, 2010). A more direct link in the science policy interface could lead to more scientific input during the decision making process. From a NGO perspective there is a network of stakeholders linked with the Black Sea. Those are not only scientists, but also others with specific stake Black Sea nature conservation. They started collaborating informally and now form research projects that function as a motor of the network. These projects are often funded by the EU, the Russian Academy of Science (RAS) and several national institutes. Also the NGO network states there should be more communication between the scientist and policy makers and politicians. During the Conference on the protection of the Black Sea in Odessa in 2011, attendees were asked to fill in questionnaires. Most of the respondents were scientists. Problems in data availability and (cross border) data access were considered by more than half of the respondents as one of the limitations of the BSSAP efficiency.

Country sovereignty

Another aspect that can contribute to the complexity and vulnerability of the decision making process is the fact that all countries remain their sovereignty and can veto proposals. Both from NGO and BSC perspective, actors tell that for instance the Russian Federation uses its veto relatively often. Key actors connected with the BSC describe the monitoring process as a national and sector related concept. Every country does its own monitoring and reports to a national focal point. Monitoring is limited to natural resources and human uses. There is no direct monitoring of implementation or effectiveness of BSSAP measures. The BSC has no mandate when countries do not live up to the agreed deliverables, such as data, reports and measurements. These are national matters and need to be solved at a national level. This lack of BSC influence can lead to delays in implementation of the BSSAP. Respondents of the questionnaire did not specifically indicate the lack of monitoring of measures as a problem. Most respondents did not express their opinion on the matter.

EU countries on Black Sea

Despite the fact that there are only two EU countries with both a relatively short shoreline on the Black Sea, the EU is financing a lot of research, such as FP7 programs on the Black Sea in which the countries contribute. The BSC representatives inform that the EU research results in knowledge that could benefit the protection of the Black Sea.

In addition to the current research investments the EU has indicated that it wants to be a member of the Black Sea commission. At this point only national states can be a member of the Commission. Amendments should be made to make EU-membership possible, however this is not easy as there are different opinions about the EU joining and every country can use its veto to refuse EU partnership. A key actor from the BSC states in an interview that some countries are very sensitive for suspected EU influence. However issues between the BSSAP and the EU are considered minor compared to other challenges the Black Sea countries are facing, such as the communication between Black Sea governments and between governments and other stakeholders. The key actors from the NGOs do not know the EU and its legislation in detail, but they too emphasize the fact that the financial contribution to research projects from the EU is good for the development of science and for scientific networks in the Black Sea region. Almost ten percent of the respondents do not see any specific issues between EU and non-EU countries. Sixty percent of the respondents chose not to answer this question. Leaving one third to state that there are specific issues regarding EU and non-EU countries.

6 Discussion

The MESMA project discusses every case study in the research to governance structures and the use of marine spatial planning with five cross cutting themes. These wider scale structural themes discuss the effectiveness of the Black Sea governance structure.

Cross border issues between countries

There is a history of political tension in the area where, in addition to the differences between EU and non- EU countries, tension exist between EU and Turkey and between Russian Federation, Ukraine and Georgia. These tensions can influence the decision making process. The Black Sea Commission members have the right to veto, so every country can stop a potential new policy. The fact that all countries highly value their sovereignty results in a lack of enforcement on the agreements that are made.

Nature conservation is almost by definition a cross border issue. The distribution of species, for instance, is not influenced by the borders of countries. In general, one can say that Bulgaria and Romania are by EU law obliged to protect 'cross boundary' species, like dolphins. However, despite national efforts, the existence of these species is strongly depended of pressures from outside national borders. Therefore cross border cooperation is necessary, but has proven difficult. A declining population as a result of a lack of nature conservation measures on the level of the whole Black Sea region effects the situation in Bulgaria and Romania who because of that cannot live up to their EU obligations.

The BSEC might be a valuable institute to improve the cooperation in the Black Sea region. Economic growth is an important driver, so all members of the BSEC have an active attitude towards the BSEC and there is no lack of political will. The BSEC policy of environmental protection in order to protect fisheries finds common ground with the BSC objectives. At the moment the cooperation between BSEC and the BSC is not very intense, but there is a mutual will to strengthen the relationship between the two commissions.

Inter sectoral integration and related power issues (in an emerging MSP framework)

At the moment there is no (emerging) intersectoral Marine Spatial Planning framework yet. All current spatial planning initiatives are driven by nature conservation targets. The Black Sea Commission set several Eco Quality Objectives (EcoQO's) for the conservation of biodiversity. The advisory group on the conservation of biological diversity advises on setting protected areas in order to meet the EcoQO's. In addition, the EU countries have the obligation under EU Habitat and Bird Directive to appoint marine protected areas for specific species or habitat types. In these areas, uses will be banded or regulated depending to their community importance and the effect they have on ecosystem values. Enforcement of uses regulation is limited due to lack funding or lack of information and knowledge in the area. This results in less effective marine protected areas, since uses in areas are sometimes only regulated on paper not in practice.

The EU Marine Strategy Frameworks Directive (MSFD) is upcoming in Romania and Bulgaria. Unlike the BSSAP and the Habitat and Bird Directive, the MSFD does mention integrated spatial planning as a means of nature conservation.

The BSSAP, MSFD and the N2000 are separate initiatives, but their nature conservation goals have a lot in common. Synchronization between these initiatives could improve efficiency of nature conservation and cooperation between the Black Sea region and the European Union. First steps towards synchronization of the MSDF and BSSAP have been taken in 2012.

Combining top-down role of the state and bottom-up participative approaches

Since 1992, the Black Sea Commission is a governance mechanism framework with as main aim to counteract pollution of the Black Sea. The cooperation in the Black Sea Commission resulted in

(amongst others) the BSSAP. This document was ratified by all member states. All Black Sea governments support the BSSAP goals together, however in practice the countries take measures individually and there is no common monitoring mechanism yet. National sovereignty is of big importance, making enforcement of appointments impossible. The countries want to improve their cooperation, however the existence of the veto vote, makes it hard to be decisive on cross-boundary issues. This type of decision making mechanism makes implementing policy changes challenging.

Bulgaria and Romania have to live up to the EU legislation. In addition the EU supports a lot of research projects in the region and the EU has indicated their wish to become a member of the Black Sea Commission. The EU has become a force of influence in the Black Sea region. Although the presence of the EU does not always influence developments in a positive way (see theme 'Cross boarder issues between countries').

The BSSAP states 'participation' as one of its' key principles. By this, NGO involvement in national implementation of the BSSAP is meant. However, NGOs have no formal role in the decision making process on BSC level. The Black Sea overarching NGO Network is invited to sit in BSC meeting, reflex their opinion and inform on their project results. The BSC does not actively integrate perceptions from NGOs in their decisions. There is little formal stakeholder participation in the overall process.

All in all decision making on Black Sea level has a very top down approach. The 'top' however is crowded with the BSC, national governments and the EU. Actively involving stakeholders in the BSC decision making process can help to reach a better supported decision, but might lead to an even more complex and time consuming process.

Influence of different knowledge and uncertainty in decision-making.

All advisory groups of the BSC provide scientific reports in order to generate a solid base for the implementation and monitoring of the BSSAP. Information and data is gathered in all countries, but because of a lack of communication and poor transparency this knowledge stays fragmented. This separation of knowledge can lead to less coherence in the implementation of the BSSAP. More direct contact of scientists and politicians within and between countries could have a positive effect on the communication and knowledge dissemination and therefore on the decision making process. Next to this the scientific advisory group on Information and Data Exchange puts a lot of effort in building an overall excepted monitoring program by advising on monitoring methodology and database development.

Justice issues

As mentioned before enforcement of BSSAP statements is impossible due to the nature of the convention agreement. This makes progress slow and difficult.

At this moment the EU only has legal influence in Bulgaria and Romania. The EU has indicated that it wants to be a member of the Commission on the Protection of the Black Sea Against Pollution. However, this is not yet possible as only nation states can be a member of the commission. Amendments should be made in order for the EU to join. This is not easy as there are different opinions about the EU joining and every country can use its mandate to veto EU partnership. The EU joining the BSC can lead to more monitoring and stimulation to reach the common objectives, however when certain countries are not pleased with the EU joining, it can also lead to a disturbance of the cooperation process so far.

7 Conclusions

From the Black Sea case study we can draw the following conclusions by answering the research questions proposed in paragraph 2.3.

1 Which relevant agreements, treaties, legislation, policies or strategies are in place for marine spatial planning as a way of nature protection in the Black Sea region and in Bulgaria?

There are nature conservation agreements initiated by both the six cooperating Black Sea countries and by the EU. The agreements started by the EU officially apply to Bulgaria and Romania, but can also influence the policy of the other states when those countries have the desire to become an EU member state.

There is no real integrated Marine Spatial Planning in place in the Black Sea region. BSSAP and the Habitat and Bird Directive make use of marine protected areas. Uses are regulated in such spatial plans, but by no means are they an integrated plan. The MSFD mentions integrated MSP as a measure for nature conservation and efficient and sustainable use of marine space. The MSFD, together with the EU MSP principles provides guidelines on how to use MSP. Bulgaria and Romania need to implement their national Marine Strategy by the year 2020. The non EU countries have no legal obligation towards implementing the MSFD. However, the BSC and the EU met in 2012 in order to compare the BSSAP and the MSFD. The results were promising and both parties have expressed the will to further streamline cooperation on the implementation of these policy documents.

2 Which governance structures and mechanisms exist to implement these agreements, treaties, etcetera in the Black Sea region and how do they interact?

The Black Sea Commission is the driving force behind the Convention and the BSSAP. However, its influence is mostly on initiating them and less on implementing them. Due to the sovereignty of the member states there are no sanctions when agreements are not met. Also the fragmentation of knowledge over the states does not contribute to strong guidance to implement the plans. The appointed observer parties have a very limited role in the decision making mechanism.

The European Union is the driving force behind the MSFD and the N2000. Next to initiating the directives, the EU also stimulates implementing these plans. There are deadlines set to make sure the policies are acted out. Penalties can be given to nations who do not live up to their obligations. However, exceptions can be made if implementing the policies on time is not realistic in a specific situation.

In general NGOs mostly try to influence the policymakers by participating in decision making processes. However the role and influence that the NGOs have in this process is often very limited. There are some initiatives of NGOs creating their own reports with policy recommendations, but these are not implemented in the existing decision making mechanisms.

The interaction between the national governments, the Black Sea Commission, the EU and the NGO's is quite a paradox. All of them see it in their best interest to cooperate, but this cooperation preferably has to take place within their own game rules. This enforced way of cooperation frustrates the process towards jointly supported policies. For instance both the EU and the BSC see positive effects of their cooperation, but on the other hand there is a constant awareness for too much EU influence in the Black Sea region. This lack of international cooperation, is partly caused by

limited funding, different cultural backgrounds, different economic interest and no standard common research language.

3 What are the flaws and strengths in these governance structures, and what are the impacts for marine nature protection?

The Black Sea knows a lot of political tensions, both in the past and in the current situation. Tension between EU and non-EU countries, between Turkey and the EU and economic conflicts between neighbouring nations. Often in history and even in recent years these tensions have led to violence. Despite these tensions the insight of the value of the Black Sea ecosystem has led to the political will to initiate the 'Commission on the Protection of the Black Sea Against Pollution' also referred to as the 'Black Sea Commission'. This organ of international cooperation resulted in the Convention on the Protection of the Black Sea Against Pollution.

Having said that, the implementation of the Convention faces many difficulties. The member states have their own political agendas and therefore have their own objectives to pursue. Even if there is a common goal, then there often is not a common way to get there. A change in the institutes' mindset would improve progress of implementation. Instead of only a common objective they could also create a common approach to reach the objectives. At the moment there is a force field between cooperation and sovereignty, this results in scientific knowledge being created, but staying fragmented, and policies being initiated, but not strictly monitored and enforced on implementation.

A common approach can be improved by increasing the communication between the institutes. The science-policy interface is weak, since there is often no direct communication between scientists and policymakers. The policies of the parties include the ambition for a participatory approach, however due to the top-down structure and the lack of communication this is hard to realize.

4 How are the policies, governance structures and marine spatial planning for marine nature protection related with each other?

The policies, governance structure and marine spatial planning for marine nature protection are interrelated and have to be adapted to each other in order to improve the situation in the Black Sea region. Due to the diverse contexts this is a complex process. However commitment from the BSC is present.

Common ground can be found by working together on a subject such as Marine Spatial Planning (MSP). Benefits are that since MSP is a relatively new concept, all countries have more or less the same starting point and that the broad spectrum of topics considering MSP fits the wish to widen the scope beyond nature protection alone.

First steps have been taken in comparing the EU MSFD with the BSSAP. The overall conclusion is that both documents have aim for the same goals and have the same basic principles. There have been discussions about a common definition of 'Good Ecological Status' and MSP is mentioned as a means to reach the 'Good Environmental Status'.

To bring Black Sea nature conservation to a higher level the Black Sea Commission has a prominent role, together with the BSEC. MSP may be a driver for improving policy cooperation between BSC and BSEC, since all members have an active role in environmental protection and objectives for economical growth. The EU contributes through funding of research and facilitating an open dialogue. More cooperation between governments and NGOs could lead to more local understanding which, in turn, could lead to more effective measures and even more cooperation.

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9 Appendixes

Appendix 1: Questionnaire

MESMA

Monitoring and Evaluation of Spatially Managed Areas

The **MESMA** project focuses on contributing to a sustainable development of EU seas and coastal areas. **MESMA** will produce integrated management tools (concepts, models and guidelines) for monitoring, evaluation and implementation of Spatially Managed Areas (SMAs).

The Black Sea is one of the nine MESMA case studies. To help us collect data for the Black Sea case study we would like to ask a few minutes of your time to answer a few questions for us.

Thank you in advance.

=====

Questionnaire

Please mark your answers below

What country do you represent?

- Ukraine
- Bulgaria
- Rumania
- Russia
- Georgia
- Turkey
- Other: _____

What is your background?

- Company
- University / Research institute
- Administration / public body
- Stakeholder
- Other: _____

Do you have an active role in BSSAP?

- yes
- no

What are the biggest challenges for the Black Sea Committee?

- Nature conservation
- Fisheries management
- Tourism / Recreation
- Pollution
- Pipelines
- Other: _____

Are sufficient information/data available to implement the BSSAP actions?

No 1 - 2 - 3 - 4 - 5 Yes

If you score is 1 or 2, please suggest what can be done to improve the information/data?

Are the data/information sufficiently harmonized between the Black Sea countries?

No 1 - 2 - 3 - 4 - 5 Yes

If you score is 1 or 2, please suggest what can be done to improve the harmonization?

Are the agreements between Black Sea countries sufficiently monitored?

No 1 - 2 - 3 - 4 - 5 Yes

If you score is 1 or 2, please suggest what can be done to improve the monitoring?

Are there any specific issues regarding EU and non-EU countries?

Thank you for your time and effort. Please return this questionnaire to the distributor

Appendix 2: Questionnaire results

Figure 1: Represented countries

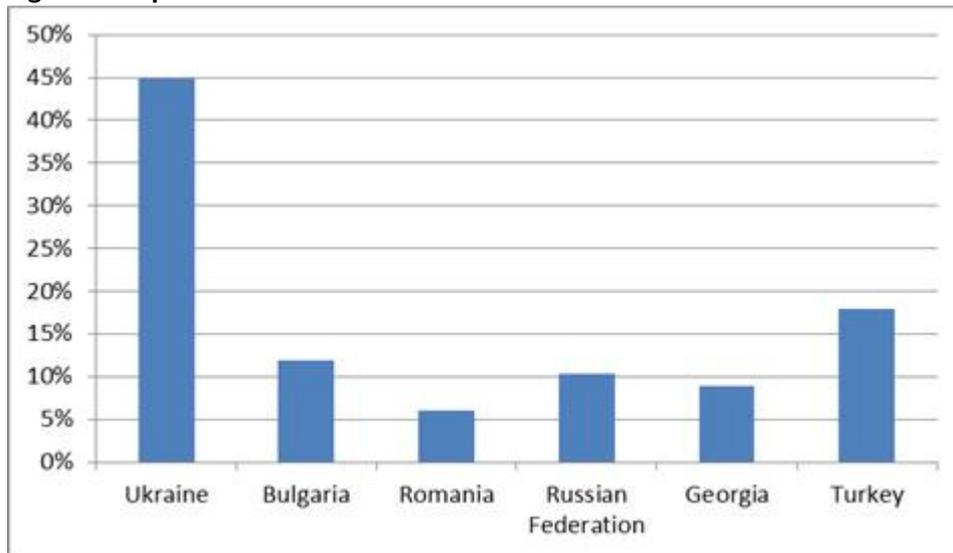


Figure 2: Biggest challenges for the Black Sea Commission

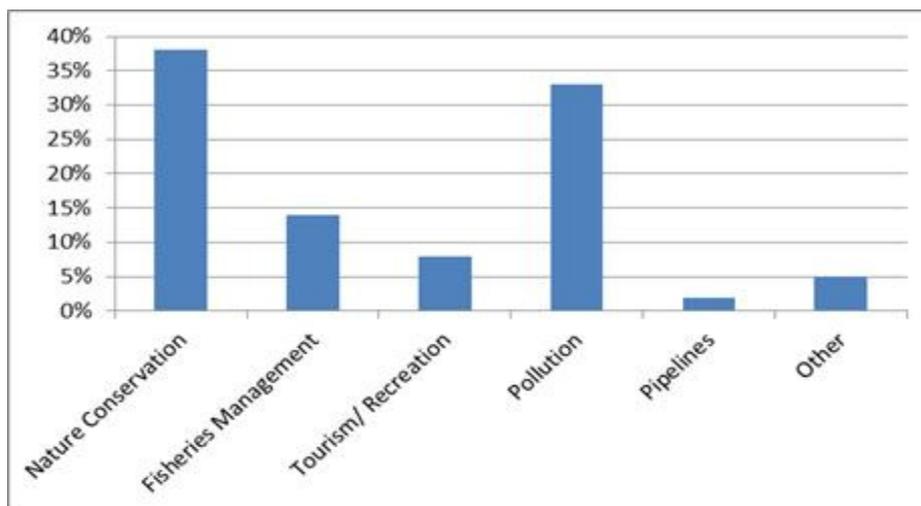


Figure 3: Is sufficient information/data available to implement the BSSAP actions?

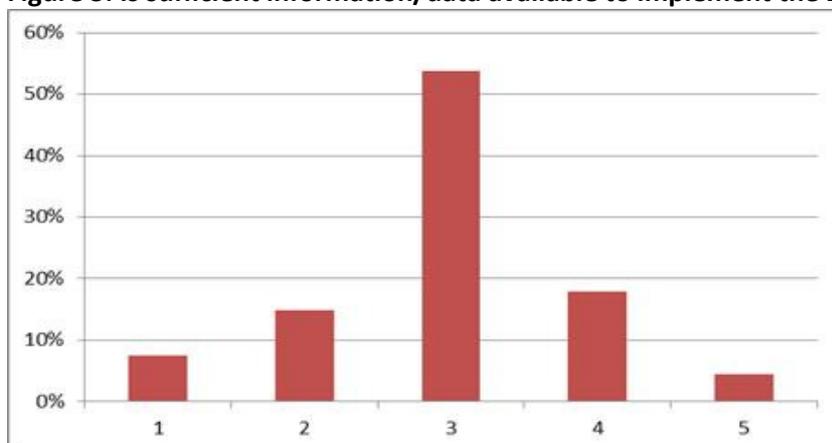


Figure 4 Is the information/data sufficiently harmonized between the Black Sea countries?

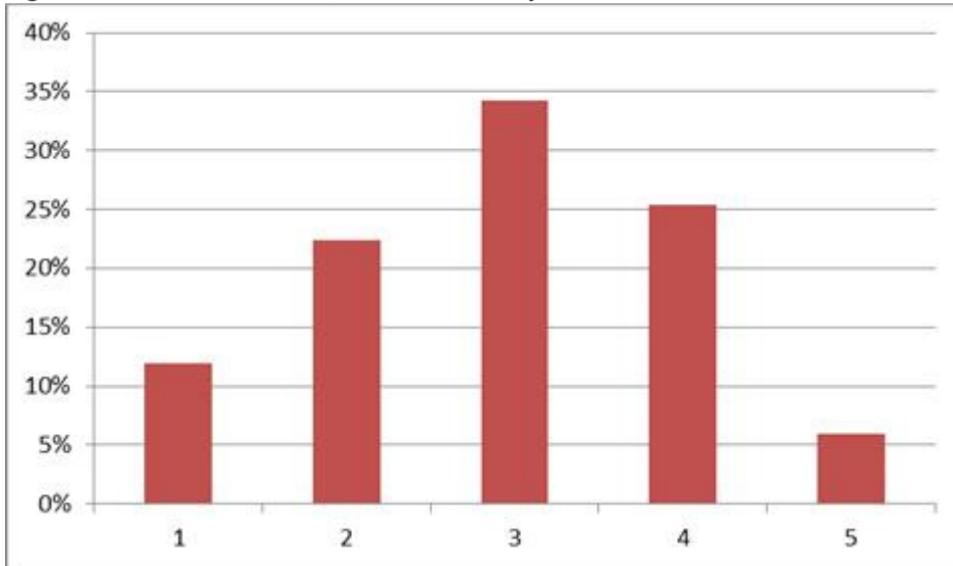


Figure 5 Are the agreements between Black Sea countries sufficiently monitored?

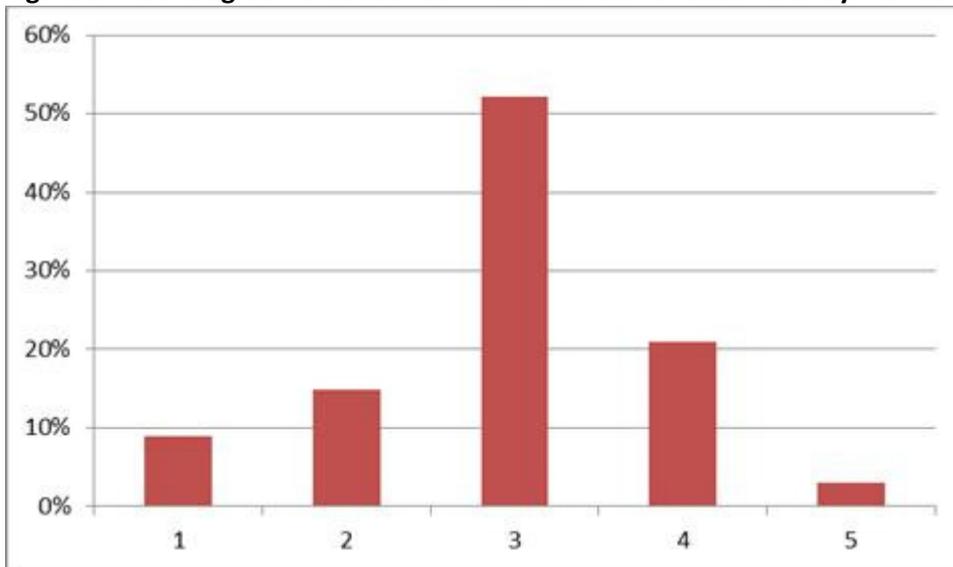
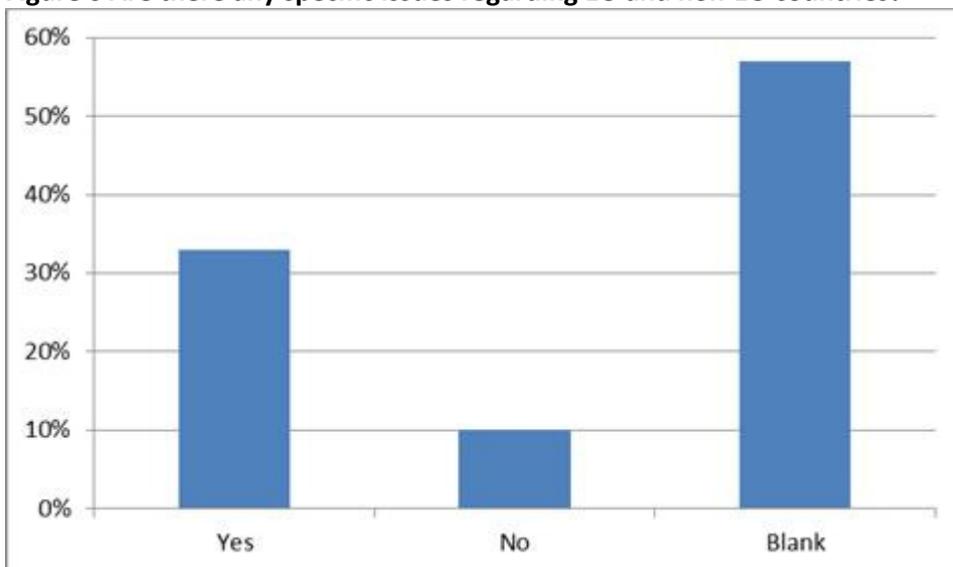


Figure 6 Are there any specific issues regarding EU and non-EU countries?



Appendix 3: MESMA Key actors for interviews

Prof. Ruben Kosyan; Head of Department of the Coastal Zone of the P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences

Anastasiya Snigireva; Representative of Black Sea Ukraine environmental access of Science

Emma Gileva; Representative of the Black Sea NGO Network

Prof. Halil Ibrahim Sur; Executive Director of the permanent secretariat of the Black Sea Commission

Irina Makarenko; Secretary of the permanent secretariat of the Black Sea Commission

Valeria Abaza ; Pollution monitoring and assessment officer of the permanent secretariat of the Black Sea Commission

Appendix 4: MESMA Interviews reports

MESMA Black Sea – Governance Interview. 3/11/2011

Prof. Ruben Kosyan, Head of Department of the Coastal Zone of the P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences

“The P.P. Shirshov Institute of Oceanology is the oldest and the largest Russian research center in the field of oceanology. The main objectives of the Institute lie in a complex study of the World Ocean and the Russian seas based on the idea of entirety of physical, chemical, biological and geological processes observed in them, laying scientific foundations for forecasting the Earth’s climate variability, rational use of marine resources and safeguarding ecological security in the interests of stable development of mankind.”

What is the assignment of the BSC?

I don’t know and I don’t see any results from this Commission. They work maybe for themselves (...) and not for the coastal zone of the Black Sea.

Until 90s there was hardly any cooperation between the Black Sea countries. In 1991 cooperation in research started, funded by the US government. The first project “Comesblack” aimed at studying physical irregularities. In the years that followed, the (EU) NATO started to fund research in various programs. Most of these projects were just aiming at data collection. The monitoring data stops in 1997 when NATO funding was not available anymore.

How is data and information used to monitor the black Sea?

There is a network of active people from different Marine Institutions around the Black Sea, who know what is necessary. Those are not only researchers, but also specialists and organizers. They started to collaborate informally and then form research projects that function as a motor of the network. These projects are funded by the EU, and different national institutes. Russian specialists receive also support from Russian Academy of Science (RAS) and Russian Foundation for Basic Research (RFBR).

Data is not every time really used for decision making in Russia, unless things go wrong.

What role does EU legislation play?

I have no idea, but the EU creates good funding possibility that is good for scientific networks.

How is the cooperation between BS countries?

I consider that we have good enough cooperation. The relationship between Russia and Georgia was not very well after August 2008, but is improving,.

How do you see the future of the BS?

In 1993 the sea was almost dead. There was overfishing, a lot of aliens invasions, bad visibility and low quality water. The situation has improved by national and international legislations. The water is clearer and the quantities of fish have increased. One of the main reasons is probably the regulation of industry. The “wild capitalism” of the 90s really asked for enforcement.

The BSC should be a strong body with good national focal points. In the case of Russia that is now just a politically appointed manager with no interest in scientific data at all.

Anastasiya Snigireva

November 2 2011

NGO representative: Black Sea branch of Ukraine Environmental Academy of Science

- Also working as algologist at Odessa National Mechnikov University- Marine research station

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Back ground info

Involved in project: Environmental Collaboration for the Black Sea (2008-2010)

A regional meeting of Black Sea NGO's was organized. The result: several experts from NGOs prepared and presented the amendments for Bucharest Convention, comments and recommendations on the BSSAP.

On behalf of the Black Sea NGO network Emma Gileva represented this document at the ministerial meeting in Sofia, Bulgaria, 2010. Updated Black Sea Strategic action plan was accepted. The meeting was behind closed doors, but it was said that Russia voted veto, that is why the amendments to Bucharest Convention were not accepted.

Consulting NGO's is not obligatory for the BSC. In some projects NGO consultation is integrated. In many there is no consultation.

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Role of NGO during BSSAP process

NGO's have no formal role in the BSC process. The Black Sea NGO network presented a vision on the BSSAP. There was no formal consultation.

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What is the assignment of the BSC

The main assignment of the BSC is to protect the Black Sea from pollution.

Second goal is nature conservation.

Cross boarder cooperation is the main challenge. Especially to create an integrated monitoring programme.

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How are decisions taken?

All countries are represented at ministerial level. There is no stakeholder participation.

Anastasiya was not involved in stakeholder workshops that were organized by Black Sea Commission.

Some NGO-stakeholder workshops are organized at own initiative.

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What do you think of the EU legislation?

All countries should have good Nature conservation legislation.

Does not know the EU legislation in detail. Ukraine can't adopt the EU-legislation since they are not an EU-member state.

Anastasiya has no detailed insight in the decision process of the BSC herself. She recommends, if this insight needed to contact Oleg Rubel: BS branch of Ukrainian Environmental Academy of Science: rubeloleg@gmail.com

Emma Gileva, mail response to questions. September 2012.

1) Is the Black Sea NGO Network still operational? If so, how is this network coordinated? Is there a formal get together, with who and in what frequency? How is the network funded?

The Black Sea NGO Network has been operational ever since its establishment and registration. At www.bsnn.org you can find the contacts, statute, documents and projects of BSNN. Its decision making bodies are general assembly and national assemblies. In the statute you can find more details. The network is funded on project basis. Most recent project trails.bsnn.org. Below is a brief presentation.

The Black Sea NGO Network (BSNN) is a regional independent, non-political, non-profit public benefit association of environmental NGOs from the 6 Black Sea coastal countries working on Black Sea and sustainability issues. It was registered in 1999 in Varna, Bulgaria and has 18 formally registered members over 45 associates and citizen group members. The BSNN has a regional plan and communication tools - at www.bsnn.org. In 2001 BSNN was granted the status of permanent observer at the Black Sea Commission (BSC). The association maintains contacts with the Danube Environmental Forum (DEF) and other NGO networks and associations like the European Seas Environmental Cooperation (ESEC) and the Ocean 2012 coalition. BSNN has partner among scientific institutions and academia in the region. The BSNN goal is to facilitate the free flow and exchange of information, resources and experience for the accomplishment of its mission that is: to contribute to the protection and rehabilitation of the Black Sea and to the sustainable development of the Black Sea countries through increased participation of NGOs, governments, businesses and other institutions, as well as the general public.

The BSNN has been implementing activities on regional and EU environmental policies, Black Sea issues, international water management issues, international and EU legislation, Black Sea and international biodiversity protection, integrated coastal zone management, data collection and dissemination, public awareness, environmental education, campaigning, development of capacity for lobbying and advocacy, national legislation and EU policies and practices, involvement of youth in the decision making process on national regional and EU level, civil society development and exchange of good practices. The membership of Bulgaria and Romania in the EU and the ensuing obligations of both countries toward the EU environmental, maritime and agricultural policy have focused a lot of attention within the organization on issues related to Natura 2000, the Marine Strategy Framework Directive, the Integrated Maritime Policy and the Common Fisheries Policy

2) What is the relationship between the NGO network and the Black Sea International NGO forum? Is there any cooperation or are this separate networks?

Perhaps you refer to a brief initiative of the Black Sea Environmental Programme in the early 90-ies. The BSNN was not established and registered then, some of its activists were involved in the forum. This forum to the best of my knowledge wound up with the Programme.

I don't think you mean the Romanian and EU initiative Black Sea NGO Forum.

An NGO network, entitled exactly like BSNN - Black Sea NGO Network, registered in Armenia in 2008, seems to work on regional development issues in the wider Black Sea region.

3) How is the communication between the Black Sea NGO Network and the Black Sea Commission organized?

You may be aware that the Convention on the Protection of the Black Sea against Pollution has no formal provisions for observers, although in the course of time some observers have been admitted. The Black Sea Commission provides invitation to a BSNN representative to attend the commission meeting but that is not regular, 2-3 times funding was provided for that within environmental projects.

BSNN was invited to attend the Ministerial Conference for the revision of the Black Sea Convention in Sofia in April 2009 and present an NGO statement for the regional community. The preparation of the statement was part of a regional EU project for the Tacis countries. The commission did not provide funding for that trip either.

4) Does the Black Sea NGO Network advise the Black Sea Commission on projects. Could you give some examples?

The Black Sea Commission has not sought advice from BSNN on projects and other issues. Regional projects like the GEF-UNDP Black Sea Ecosystem Recovery Project I and II, which existed kind of parallel to the Commission and provided plenty of support to its activities - have involved the BSNN in regional NGO training, capacity building and awareness raising projects and some technical assistance issues.

MESMA Black Sea – Governance Interview. 3/11/2011

Prof. Halil Ibrahim Sur, Executive Director of the Permanent Secretariat of the Commission on the Protection of the Black Sea Against Pollution

Irina Makarenko, secretary of the Permanent Secretariat of the Commission on the Protection of the Black Sea Against Pollution

What is the assignment of the BSC?

- The main aim of the Commission is to protect the Black Sea against pollution caused by e.g. shipping or land based sources by implementing the Black Sea Strategic Action Plan (BSSAP) and the implementation of the protocols of Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)
- The secretariat is assisting the Commission on a daily basis to perform activities of the Commission and organize the work of the so-called BSC Advisory Groups and Regional Activity Centers which provide their expertise and information support to the Commission.
- A new emerging issue for the Black Sea are the consequences of climate change.

How is the BSC organized?

- The BSC has a permanent secretariat that assist in implementation of decisions of the Commission.
- The commissioners are representatives from the national environmental protection ministries.
- There are six Advisory Groups that assist the Commission to implement the BSSAP.
 - Environmental Safety Aspects of Shipping
 - Pollution Monitoring and Assessment
 - Control of Pollution from Land Based Sources
 - Development of Common Methodologies for Integrated Coastal Zone Management
 - Conservation of Biological Diversity
 - Environmental Aspects of the Management of Fisheries and other Marine Living Resources
- The Advisory Groups act within the mandate of the BSC and provide technical reports about the above mentioned subjects. The word “technical” is emphasized as the advisory groups have no political mandate. Their approach is science and expertise oriented as to provide a solid base for the implementation and monitoring of the BSSAP actions. “Technical” can also be understood as sectoral (environment and maritime).
- The Chairs of Advisory Groups report directly to the BSC during their Regular Meetings, these reports are based on national focal points reports (they prepare aggregated and harmonized country reports) and discussions during the meetings of relevant Advisory Group.
- Spatial planning is not part of the mandate of the BSC. There are some small national initiatives though, to appoint small protected sea areas as nature reserves. The importance of MSP for the Black Sea countries was not addressed in projects.

How are decisions taken?

- The BSC acts on the mandate of the Black Sea countries (Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine) which in 1992 ratified the Convention on the Protection of the Black Sea Against Pollution. The Commission on the Protection of the Black Sea Against Pollution (the Black Sea Commission) implements the provisions of the Convention and the Black Sea Strategic Action Plan.
- In practice, the Bucharest Convention is more of a framework which impedes strict enforcement.
- Ten observer organizations function as stakeholder to the BSC and participate regularly in meetings. Among them are EU/DG ENV, HELCOM, OSPAR, ICPDR, UNEP, GEF/UNDP, BSEC, ACCOBAMS, IMO and BS NGO. The stakeholders to the BSC don't take part in decision making.
- Decisions by the BSC are taken only in full consent of all members. This makes it hard to be decisive on cross-boundary issues as every member can use his or her veto.
- Participating states maintain their sovereignty on all issues.

How are BBSAP actions monitored?

- Monitoring is a sectoral activity of the advisory groups. The advisory groups (often the autonomic countries) report to the national focal points.
- Monitoring is being done cross-country on each theme of the autonomous advisory groups.

What do you think of EU legislation?

- The EU offers very comprehensive tools for the protection of the Black Sea. The EU has indicated that it wants to be a member of the Convention on the Protection of the Black Sea Against Pollution. That is not yet possible, as only national states can be a member of the convention. Amendments to the Convention text should be made according to the special procedure, yet that is not easy as there are different opinions about the EU joining and every country can use its mandate to veto EU partnership.

What is the role of data and information in decision making?

- Decisions in the BSC are taken in accordance with reports, which are based on data provided by the advisory groups. The reports contain aggregated and nationally accepted information.
- Data and information is easily accessible for commission members but not always publicly available.

Black Sea Commission, Permanent Secretariat.

Pollution Monitoring and Assessment Officer –overall coordinator of the advisory groups' activities and activities included in the Work Programme of the Commission

There are 6 advisory groups (AGs) AG on the Environmental Safety Aspects of Shipping (AG ESAS), AG on Pollution Monitoring and Assessment (AG PMA), AG on Control of Pollution from Land-Based Sources (AG LBS), AG on Conservation of Biological Diversity (AG CBD), AG on Environmental Aspects of Fisheries and Other Marine Living Resources Management (AG FOMLR) and AG on Integrated Coastal Zone Management (AG ICZM).

Each group has 1 focal point and 1 national representative. In some countries, both focal point and national representative are from the Ministry. In other countries, the focal points are experts from different research institutions and only the national representative is from the Ministry of Environment. This complicates discussions due to lack of knowledge.

Each country has its' own vision on the role and process of the advisory groups. The role of the Secretariat's activity is to help the decision making process in the Black Sea countries.

Only Romania has implemented ICZM, having a specific law and a draft Strategy which was not approved yet by the Ministry.

Most of the data collection and design of monitoring systems is done in (EU funded) projects. Each country is obliged under the Bucharest Convention to provide the ICZM related data to the Secretariat in their annual report to the Commission. There is no insurance of continuity in obtaining the data at national level.

How is the BSC organized?

The Commission is constituted from 12 members, two per Black Sea country: one is the commissioner and one national representative. These are political persons. In order to be able to take a decision related to the protection of the marine environment, they are helped by the advisory groups, which undertake different activities according to the Black Sea Strategic Action Plan (the new one was approved and signed in Sofia in 2009) and the annual Work Programme of the Commission.

Decisions taken by the Commission are made unanimous. In reality it is very difficult to decide anything. Often Russia has a veto.

The BSC meets once every year in regular meetings. When important and urgent issues should be solved, the extraordinary meetings are organized.

Together with the Convention, other three protocols were signed in Bucharest, Romania in 1992:

1. Protocol on the Protection of the Black Sea Marine Environment Against Pollution from Land Based Sources
2. Protocol on Cooperation in Combating Oil Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations
3. Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping

The Convention together with the three protocols mentioned above was enforced in 1994.

In 2002, in the Ministerial Conference in Sofia, the Black Sea Biodiversity and Landscape Conservation Protocol was signed by four of the Black Sea countries except for Georgia and Russia. Later on Georgia signed this Protocol. It took long time till this Protocol to be enforced, through its ratification by four countries. In 2011, following the notification of the depositary by Ukraine, the Protocol was officially enforced. In 2011, Romania ratified the Biodiversity Protocol as well.

In 2009, in the Ministerial Conference in Sofia, the new Black Sea Strategic Action Plan (BSSAP) and the new and updated Protocol on the Protection of Marine Environment of the Black Sea Against Pollution from Land Based Sources and Activities (LBSA) were signed. In two years, these two documents were not enforced yet. Still, the Commission's annual Work Programme is elaborated according to this new SAP.

Monitoring

The monitoring of the marine environment is not organized in a integrated and holistic manner. This is a national responsibility and it is undertaken with national experts, institutions and funds. The results are provided to the Ministries, which should send it to the BSC Permanent Secretariat in a commonly agreed format and following agreed parameters. The members of the advisory groups rely especially on this data. Data obtained in different EU funded projects are often not sent to the Secretariat, situation which should be rectified, especially when the projects are supported by the Commission or the Black Sea Commission was identified as end-user of the projects outputs. The link between the monitoring national programmes and the data obtained within different project should be further attended.

In order to make the monitoring more efficient and appropriate for the BSSAP implementation, a "Diagnostic Report" to guide improvements to the regular reporting process on the state of the Black Sea environment (available on the BSC website - <http://www.blacksea-commission.org/publ-BSDiagnosticReport2010.asp>) was drafted in 2010 with the support of the European Environment Agency. In this report some gaps in the national monitoring programmes have been identified and some recommendations for the improvements have been made.

The BSC has no mandate when countries don't live up to the agreed deliverables (data, up date reports, measures etc), those are national matter, which should be solved at national level.

EU

There are only 2 EU countries, with a relative short shore line. EU spends a lot of money (more than half of the projects presented on Wednesday was EU funded) and want to see some results.

The BSC and tits AGs, as subsidiary bodies work according to the Work Programme approved annually by the Commission in the regular meeting. Only the projects the Secretariat is partner in, are discussed within the Commission's meetings and decisions are taken unanimously.

Some countries are very sensitive for suspected EU influence. This could hinder the decision making process.

Issues between BSSAP and EU legislation are considered minor compared to all the other challenges.

The official language of the BSC is English. Usually this is not a problem. Only sometimes expert scientists have difficulty with the English language.

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Link between science and policy

DEVOTES - DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status (you couldn't find the webpage because it was not launched at that time; try this webpage: <http://www.devotes-project.eu>)

In November the BSC PS participates in 'Devotes' (kick-off meeting and Advisory Board meeting). The main goal of the project is to develop indicators for biodiversity in relation to MSFD objectives. It has 5 key objectives:

- (i) Improve our understanding of the impact of human activities (cumulative, synergistic, antagonistic) and climate change on marine biodiversity.
- (ii) Test the relevant indicators listed in EC (2010) and currently being compiled by the RSCs, and develop new, innovative ones to assess biodiversity at several ecological scales (species, habitats, ecosystems).
- (iii) Develop, test and validate innovative integrative modelling (e.g. statistical, conceptual) and monitoring tools to further improve our understanding of ecosystem and biodiversity changes in space and time, applying both traditional sampling and autonomous data acquisition devices.
- (iv) Implement cost-effective indicators, monitoring and assessment strategies
- (v) Propose and disseminate strategies and measures for ecosystems' adaptive management (related to EA), with consultation of Member States.

From the Black Sea countries, only IO-BAS (Bulgaria) and IBSS (Ukraine) are partners. It is mainly a technical research about data collection and what kind of tools can be developed. Out of the EU Member States Bulgaria is involved, Romania is not.

Start October 2012. Project duration is 48 months (September 2016). BSC PS is end-user of the project results and member of the Advisory Board.

Coconet biodiversity “Towards Coast to Coast NETworks of marine protected areas (from the shore to the high and deep sea) coupled with the sea based wind energy potential” (<http://www.coconet-fp7.eu/>)

The project has two main themes:

1 - identify prospective networks of existing or potential MPAs in the Mediterranean and the Black Seas, shifting from a local perspective (centred on single MPAs) to the regional level (network of MPAs) and finally the basin scale (network of networks). The identification of the physical and biological connections among MPAs will elucidate the patterns and processes of biodiversity distribution. Measures to improve protection schemes will be suggested based on maintaining effective exchanges (biological and hydrological) between protected areas. The national coastal focus of existing MPAs will be widened to both off shore and deep sea habitats, incorporating them into the networks through examination of current legislation, to find legal solutions to set up trans boundary MPAs.

2 - explore where OWF might be established, producing an enriched wind atlas both for the Mediterranean and the Black Seas. OWF locations will avoid too sensitive habitats but the possibility for them to act as stepping-stones through MPAs, without interfering much with human activities, will be evaluated. Socioeconomic studies employing ecosystem services valuation methods to develop sustainable approaches for both MPA and OWF development will also be carried out, to complement the ecological and technological parts of the project, so as to provide guidelines to design, manage and monitor networks of MPAs and OWF.

Two pilot projects (one in the Mediterranean Sea and one in the Black Sea) will test in the field the assumptions of theoretical approaches, based on previous knowledge, to find emerging properties in what we already know, in the light of the needs of the project. The project covers many countries and involves researchers across a vast array of subjects, in order to achieve a much-needed holistic approach to environmental protection. It will help to integrate the Mediterranean and Black Sea’s scientific communities through intense collective activities, combined with strong communications with stakeholders and the public at large. Consequently, the project will create a permanent network of excellent researchers (with cross fertilization and further capacity building) that will also work together also in the future, making their expertise available to their countries and to the European Union.

Perseus, MSDF as a whole. PERSEUS aims to design and create an effective and innovative research governance framework able to engage scientists, policy makers and the public, so as to achieve shared understanding and informed decision-making based on sound-scientific knowledge with particular reference not only to MSFD, but also to the relevant features of the Maritime Integrated Policy, the Common Fishery Policy, the Global Monitoring for Environment and Security and the SES regional sea conventions, the UNEP/Mediterranean Action Plan and the Black Sea Commission.

In all above mentioned projects, BSC is end-user and member of the Advisory Board.

All projects are looking what data is available. A lot/most of data is collected through projects.

Most research partners have a scientific background. They want to offer their results to policy makers but this step is usually not included in the project. The project ends with making recommendations to include the project results in (national) legislation.

Somebody should do the translation from science to policy. This is always challenging.

There are no examples of policymakers in the projects. BSC tries to be the connection.

BSC can give recommendations to the scientist and to the commission. This is the route taken. Usually there is not direct interaction on national level.

Stakeholder involvement

Project **ODEMM** was about stakeholder involvement. The overall aim of the ODEMM project is to develop a set of fully-costed ecosystem management options that would deliver the objectives of the Marine Strategy Framework Directive, the Habitats Directive, the European Commission Blue Book and the Guidelines for the Integrated Approach to Maritime Policy. The key objective is to produce scientifically-based operational procedures that allow for a step transition from the current fragmented system to fully integrated management.

BSC was asked to advice on whom to invite. The project was about a socio-economic analyses and therefore they needed stakeholders involved. The policy makers from the BSC advisory groups are considered to be stakeholders in this case.

BSC has some limited cooperation with NGO's. BSC uses the ACCOBAMS NGO connections for this. ACCOBAMS is cooperating with national NGO's in their own areas, offering small funds for projects. Not all BS countries are member of ACCOBAMS.

When fisheries advisory group (FOMLR AG) meets, the NGOs involved in the ACCOBAMS projects implementation (or funded from other sources) are asked to give an update on their progress.

BSC cannot give NGOs funds (BSC need to find funds itself). Sometimes NGO's are hired as scientific experts.

NGOs often have no formal role in BSC procedures, they are only present to be informed or give information.

Patricia: Participatory approach is a key principle in the BSSAP. How to you define participatory?

Valeria: In order to implement BSSAP nations should adjust their legislation and report on national monitoring. Of course on national level NGOs play a role in these processes. BSC does not directly work with NGO's (sometimes works with NGOs for specific activities of the BSC annual work programme)

There is an overarching the super NGO, the NGO Network. Each country or NGO sends a representative to this super NGO. They are invited to attend the BSC meetings to ask questions, inform on their projects and to express their opinion on implementation of BSSAP.

DG Environment lanced a Bird project in which only NGOs from the Black Sea region participate – Black Sea Seabirds Project (Birds observations and conservation NGO's). They would like to participate in the updating of the Annex 2 of the Black Sea Biodiversity and Landscape Conservation Protocol (Species of the Black Sea Importance). Main aim of the project is to propose areas for protection of seabirds in the Black Sea area.

There is no such thing: The Black Sea Commission is not an NGO, but an inter-governmental organization. It's full name is: The Commission on the Protection of the Black Sea Against Pollution.

There is however another organization called: BSEC: Black Sea Economic Cooperation. BSEC has a small environmental group. There is a limited collaboration with the BSC.

BSC has only six members: Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine.

BSEC has 12, (BSC members + Greece, Albania, Armenia, Azerbaijan, Moldova, Serbia); all countries that have an interest in the economic development of the Black Sea.

MSP protected areas: N2000 – MSDF

Romania and Bulgaria have to follow N2000. All current N2000 sites are coastal. Ukraine also has some MPA's (see appendix). One of which is off shore (habitat type of community importance). Ukraine started to develop Management plans but Valeria has not seen them yet. There are no protected areas in Turkey.

Georgia has some protected areas, but they are wetlands. Georgia has no marine sites.

As for Russia, no one knows. Valeria guesses there are no MPA's in the BS. Russia has 13 seas.

Enforcement?

There should be enforcement on the management plans. This should be organized on national level, usually out sourced to a local organization.

MSFD

MSFD is used as a vehicle for further development of BS conservation and monitoring

However Russia is sensitive to MSDF- EU involvement. The EU countries shoreline is short.

Ukraine is generally positive. Georgia does not hold a solid position regarding the EU. Depending on the subject Georgia sometimes cooperates and sometimes they don't.

Example on cooperation: BSC has HELCOM as partner.

HELCOM will develop some tools to measure pollution and eutrophication. There was a BS meeting and all were asked to provide BS case studies to HELCOME. Romania, Ukraine and Bulgaria provided.

Georgia was really interested. As a result HELCOME will also develop some BS tools for pollution and eutrophication.

EU spends a lot of money to make things happen.

There was a meeting with the EU to discuss progress on the implementation of MSFD. The non EU countries are asked to harmonize the approach. A table was made to compare the MSFD and BSSAP (see appendix!! This is a draft report!) This table was considered a very useful. A definition on good environmental status of BS still needs to be done. Maybe EU methodology can be used for this.

BSSAP: activity centres, advisory groups and the secretariat.

BSSAP 1992- BSC was also established

Treaty was ratified in 1994

Secretariat was established 2000

Activity centres/ advisory groups:

The activity centers were established during an UN project BESEP (1993-2007). The project provided equipment and facilitated actions for the activity centers. Each country has one activity center. Each activity center is responsible for the facilitation of one of the advisory groups (ICZM, monitoring and data, fisheries, etc).

The countries should have taken over the funding when the project ended. This did not always happen. Some activity centers do not exist anymore, or only on paper. Activity centers should serve all the countries and facilitated the advisory centers on their subject. They do not have their own monitoring program.

The activity centers that are still up and running are sometimes supported through funds from the BSC. Ukraine for example, facilitates the data advisory group. They can not pay for everything themselves. Support is organized on the bases of projects. As a result the Black Sea monitoring database was build. It will be finalized by the end of this year. 10-11 years of available data was already put in there. All of this will be available next year.

Project **MESIE** aims to update monitoring program of the BS, with the focus on biodiversity and some chemicals. It is meant for Bulgaria, Roemenia and Turkey.

At the same time a mirror project is lanced for the other 3 countries.

The final outcome should be the revision of the current monitoring program.

Monitoring is organized on national level. Some parameters and methodologies are obligatory by the BSSAP. However, not all countries follow these 'rules' and there is not much the BSC can do about it.

Appendix 5 Marine Strategy Framework Directive versus Bucharest Convention and Black Sea Strategic Action Plan for Environmental Protection and Rehabilitation of the Black Sea

Comparative Analysis DRAFT (Anonymous, 2012)

MSFD	BSSAP, Bucharest Convention
<p>Article 1</p> <p>Subject matter</p> <p>1. This Directive establishes a framework within which Member States shall take the necessary measures to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest.</p> <p>2. For that purpose, marine strategies shall be developed and implemented in order to</p> <p>(a) protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where they have been adversely affected;</p> <p>(b) prevent and reduce inputs in the marine environment, with a view to phasing out pollution as defined in Article 3(8), so as to ensure that there are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.</p> <p>3. Marine strategies shall apply an ecosystem-based approach to the management of human activities, ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations.</p>	<p>1. The Black Sea SAP establish the framework for the implementation of the Bucharest Convention by the six Black Sea coastal states (Bg, Ge, Ro, Ru, Tr, Ua) that the Contracting Parties shall take individually or jointly, as appropriate, all necessary measures consistent with international law and in accordance with the provisions of this Convention to prevent, reduce and control pollution thereof in order to protect and preserve the marine environment of the Black Sea. BSSAP does not contain a definition for the good environmental status but a holistic approach undertaken for its development implies this notion. Timeframe for achieving good environmental status is not defined</p> <p>For this purpose the national measures shall be developed and implemented by the Black Sea coastal states</p> <p>a) to preserve its ecosystem as a valuable natural endowment of the region, whilst ensuring the protection of its marine and coastal living resources as a condition for sustainable development of the Black Sea coastal states, well-being, health and security of their population. (BSSAP)</p> <p>b) to prevent, reduce and control pollution</p> <p>2. BSSAP 3.1. The 2009 Black Sea SAP will adhere to 3 key environmental management approaches. These are:</p> <ul style="list-style-type: none"> • Integrated Coastal Zone Management (ICZM); • The Ecosystem Approach; and • Integrated River Basin Management (IRBM) <p>3. BSSAP 1.5 The basis for cooperative action. Para. 1.5.6. Environmental and health considerations shall be included into all relevant policies and sectoral plans and programmes, including, <i>inter alia</i>, urban planning, industrial development, fisheries, aquaculture and tourism</p>

<p>4. This Directive shall contribute to coherence between, and aim to ensure the integration of environmental concerns into, the different policies, agreements and legislative measures which have an impact on the marine environment.</p>	
<p>Article 2</p> <p>Scope</p> <p>1. This Directive shall apply to all marine waters as defined in Article 3(1), and shall take account of the transboundary effects on the quality of the marine environment of third States in the same marine region or subregion.</p> <p>2. This Directive shall not apply to activities the sole purpose of which is defence or national security. Member States shall, however, endeavour to ensure that such activities are conducted in a manner that is compatible, so far as reasonable and practicable, with the objectives of this Directive.</p>	<p>1.4 The geographical scope of the SAP</p> <p>The geographical scope of the Convention on the Protection of the Black Sea against Pollution is applied to the Black Sea proper, with the Southern boundary constituted, for the purposes of this Convention, by a line running between Capes Kelagra and Dalyan. In addition the SAP will cover pollution sources from coastal area. In addition, Black Sea coastal states shall make effort to implement relevant provisions of the SAP at the Black Sea basin level.</p> <p>Sovereign immunity. This Convention does not apply to any warship, naval auxiliary or other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service.</p> <p>However, each Contracting Party shall ensure, by the adoption of appropriate measures not impairing operations of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is practicable, with this Convention.</p>
<p>Article 3</p> <p>Definitions</p> <p>For the purposes of this Directive the following definitions shall apply:</p> <p>1. "marine waters" means:</p> <p>(a) waters, the seabed and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured extending to the outmost reach of the area where a Member State has and/or exercises jurisdictional rights, in accordance with the Unclos, with the exception of waters adjacent to the countries and territories mentioned in Annex II to the Treaty and the French Overseas Departments and Collectivities; and</p> <p>(b) coastal waters as defined by Directive 2000/60/EC, their seabed and their subsoil, in so far as particular</p>	<p>For the purpose of the Bucharest Convention and Black Sea SAP the applied definitions:</p> <p>1. a) A definition of marine waters is absent in the Bucharest Convention and related documents, instead classification IMO Law of Sea as internal, territorial sea and exclusive economic zone is used. Black Sea does not have high sea waters</p> <p>b) BSSAP gives a definition of coastal area as the part of the land affected by its proximity to the sea, and that part of the sea affected by its proximity to the land as to</p>

<p>aspects of the environmental status of the marine environment are not already addressed through that Directive or other Community legislation;</p> <p>2. "marine region" means a sea region which is identified under Article 4. Marine regions and their subregions are designated for the purpose of facilitating implementation of this Directive and are determined taking into account hydrological, oceanographic and biogeographic features;</p> <p>3. "marine strategy" means the strategy to be developed and implemented in respect of each marine region or subregion concerned as laid down in Article 5;</p> <p>4. "environmental status" means the overall state of the environment in marine waters, taking into account the structure, function and processes of the constituent marine ecosystems together with natural physiographic, geographic, biological, geological and climatic factors, as well as physical, acoustic and chemical conditions, including those resulting from human activities inside or outside the area concerned;</p> <p>5. "good environmental status" means the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations, i.e.:</p> <p>(a) the structure, functions and processes of the constituent marine ecosystems, together with the associated physiographic, geographic, geological and climatic factors, allow those ecosystems to function fully and to maintain their resilience to human-induced environmental change. Marine species and habitats are protected, human-induced decline of biodiversity is prevented and diverse biological components function in balance;</p> <p>(b) hydro-morphological, physical and chemical properties of the ecosystems, including those properties which result from human activities in the area concerned, support the ecosystems as described above. Anthropogenic inputs of substances and energy, including noise, into the marine environment do not cause pollution effects;</p> <p>Good environmental status shall be determined at the level of the marine region or subregion as referred to in Article 4, on the basis of the qualitative descriptors in</p>	<p>the extent to which man's land-based activities have a measurable influence on water chemistry and marine ecology.</p> <p>2. The definition of the "Marine region" is not used in the Black Sea</p> <p>3. The definition of the "marine strategy" is not used in the Black Sea, main documents are strategic action plans for environmental protection and rehabilitation of the Black Sea</p> <p>4. "environmental status" is not defined in the Bucharest Convention and related documents</p> <p>5. "good environmental status" not defined</p>
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Annex I. Adaptive management on the basis of the ecosystem approach shall be applied with the aim of attaining good environmental status;

6. "criteria" means distinctive technical features that are closely linked to qualitative descriptors;

7. "environmental target" means a qualitative or quantitative statement on the desired condition of the different components of, and pressures and impacts on, marine waters in respect of each marine region or subregion. Environmental targets are established in accordance with Article 10;

8. "pollution" means the direct or indirect introduction into the marine environment, as a result of human activity, of substances or energy, including human-induced marine underwater noise, which results or is likely to result in deleterious effects such as harm to living resources and marine ecosystems, including loss of biodiversity, hazards to human health, the hindering of marine activities, including fishing, tourism and recreation and other legitimate uses of the sea, impairment of the quality for use of sea water and reduction of amenities or, in general, impairment of the sustainable use of marine goods and services;

9. "regional cooperation" means cooperation and coordination of activities between Member States and, whenever possible, third countries sharing the same marine region or subregion, for the purpose of developing and implementing marine strategies;

10. "regional sea convention" means any of the international conventions or international agreements together with their governing bodies established for the purpose of protecting the marine environment of the marine regions referred to in Article 4, such as the Convention on the Protection of the Marine Environment of the Baltic Sea, the Convention for the Protection of the Marine Environment of the North-east Atlantic and the Convention for the Marine Environment and the Coastal Region of the Mediterranean Sea.

5. "criteria" are not defined

7. "environmental target" is not defined, instead BSSAP defines environmental quality objective as a desired level of ecological quality relative to predetermined reference levels.

8. "pollution" is defined in Bucharest Convention as "Pollution of the marine environment" that means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazard to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.

9. "regional cooperation" is not defined in the Bucharest Convention and related documents

10. "regional sea convention" is not defined in the Bucharest Convention and related documents, **In the MSFD definition the Convention on the Protection of the Black Sea Against Pollution is omitted**

<p>Article 4</p> <p>Marine regions or subregions</p> <p>1. Member States shall, when implementing their obligations under this Directive, take due account of the fact that marine waters covered by their sovereignty or jurisdiction form an integral part of the following marine regions:</p> <p>(a) the Baltic Sea;</p> <p>(b) the North-east Atlantic Ocean;</p> <p>(c) the Mediterranean Sea;</p> <p>(d) the Black Sea.</p> <p>2. Member States may, in order to take into account the specificities of a particular area, implement this Directive by reference to subdivisions at the appropriate level of the marine waters referred to in paragraph 1, provided that such subdivisions are delimited in a manner compatible with the following marine subregions:</p> <p>(a) in the North-east Atlantic Ocean:</p> <p>(i) the Greater North Sea, including the Kattegat, and the English Channel;</p> <p>(ii) the Celtic Seas;</p> <p>(iii) the Bay of Biscay and the Iberian Coast;</p> <p>(iv) in the Atlantic Ocean, the Macaronesian biogeographic region, being the waters surrounding the Azores, Madeira and the Canary Islands;</p> <p>(b) in the Mediterranean Sea:</p> <p>(i) the Western Mediterranean Sea;</p> <p>(ii) the Adriatic Sea;</p> <p>(iii) the Ionian Sea and the Central Mediterranean Sea;</p> <p>(iv) the Aegean-Levantine Sea.</p> <p>Member States shall inform the Commission of any subdivisions by the date specified in the first subparagraph of Article 26(1) but may revise these upon completion of the initial assessment referred in Article 5(2), point (a)(i).</p>	<p>Bucharest Convention is applied:</p> <p>1. to the Black Sea proper with the southern limit constituted for the purposes of this Convention by the line joining Capes Kelagra and Dalyan.</p> <p>2. For the purposes of this Convention the reference to the Black Sea shall include the territorial sea and exclusive economic zone of each Contracting Party in the Black Sea. However, any Protocol to this Convention may provide otherwise for the purposes of that Protocol.</p> <p>However based on the specific features of the different parts of the Black Sea and in particular for assessment purposes and monitoring the subdivision on the areas with specific features could be provisioned</p>
<p>Article 5</p> <p>Marine strategies</p> <p>1. Each Member State shall, in respect of each marine region or subregion concerned, develop a marine strategy for its marine waters in accordance with the plan of action set out in points (a) and (b) of paragraph 2.</p>	<p>BSSAP 4.2 Institutional framework. Following agreement at Ministerial level, national implementation of the SAP shall be the responsibility of the governments of the Black Sea Countries and coordination of the its implementation at the regional level shall be entrusted to the Commission on the Protection of the Black Sea</p>

<p>2. Member States sharing a marine region or subregion shall cooperate to ensure that, within each marine region or subregion, the measures required to achieve the objectives of this Directive, in particular the different elements of the marine strategies referred to in points (a) and (b), are coherent and coordinated across the marine region or subregion concerned, in accordance with the following plan of action for which Member States concerned endeavour to follow a common approach:</p> <p>(a) preparation:</p> <p>(i) an initial assessment, to be completed by 15 July 2012 of the current environmental status of the waters concerned and the environmental impact of human activities thereon, in accordance with Article 8;</p> <p>(ii) a determination, to be established by 15 July 2012 of good environmental status for the waters concerned, in accordance with Article 9(1);</p> <p>(iii) establishment, by 15 July 2012, of a series of environmental targets and associated indicators, in accordance with Article 10(1);</p> <p>(iv) establishment and implementation, by 15 July 2014 except where otherwise specified in the relevant Community legislation, of a monitoring programme for ongoing assessment and regular updating of targets, in accordance with Article 11(1);</p> <p>(b) programme of measures:</p> <p>(i) development, by 2015 at the latest, of a programme of measures designed to achieve or maintain good environmental status, in accordance with Article 13(1), (2) and (3);</p> <p>(ii) entry into operation of the programme provided for in point (i), by 2016 at the latest, in accordance with Article 13(10).</p> <p>3. Member States having borders on the same marine region or subregion covered by this Directive should, where the status of the sea is so critical as to necessitate urgent action, devise a plan of action in accordance with paragraph 1 which includes an earlier entry into operation of programmes of measures as well as</p>	<p>Against Pollution</p> <p>BSSAP 5.1. National financing Specific national funding arrangements for the implementation of BS SAP shall be reflected in national strategic policy documents: National BS Action Plans or National Environmental Action Plans.</p> <p>2. The Contracting parties to the Bucharest Convent committed themselves to cooperate in the environmental protection and rehabilitation of the Black Sea under the Bucharest Convention and BSSAP)</p> <p>c) Preparation</p> <p>(i) The formal assessment process under the Bucharest Convention has started in 2000 upon establishing the Permanent Secretariat of the Black Sea Commission. The 3rd assessment of the State of the Environment of the Black Sea and Implementation of the Black Sea SAP is due in 2014/2017</p> <p>(ii) Under the Bucharest Convention and BSSAP Process started but not completed, which is area of future cooperation with EU under MSFD</p> <p>(iii) process started but not completed which is area of future cooperation with EU under MSFD</p> <p>(iv) Black Sea Integrated and Monitoring Program (2006-2010) undergoes the revision and is due to further implementation which is area of future cooperation with EU under MSFD</p> <p>d) Program of measures</p> <p>(i) Strategic Action Plan for Environmental Rehabilitation and Protection of the Black Sea Against Pollution, supported by the national programs of measures</p> <p>(ii) Entered into force since signatures by the governments of the Black Sea coastal states in 2009. The Black Sea coastal states agreed to develop or incorporate into existing national plans (Black Sea National Action Plans or National Environmental Action Plans) activities in accordance with the targets agreed in the BS SAP 2009</p> <p>3. Not reflected in the Bucharest Convention and Related documents, however possible on by lateral or multilateral levels</p> <p>a) not reporting provisioned to the Bucharest</p>
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<p>possible stricter protective measures, provided that this does not prevent good environmental status from being achieved or maintained in another marine region or subregion. In these cases:</p> <p>(a) the Member States concerned shall inform the Commission of their revised timetable and proceed accordingly;</p> <p>(b) the Commission shall be invited to consider providing supportive action to Member States for their enhanced efforts to improve the marine environment by making the region in question a pilot project.</p>	<p>Convention</p> <p>b) BSC may ask for pilot project in the area of concern in line with Article V of Bucharest Convention 'The Contracting Parties will cooperate in promoting, within international organizations found to be competent by them, the elaboration of measures contributing to the protection and preservation of the marine environment of the Black Sea'.</p>
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Article 6 Regional cooperation

MSFD	Bucharest Convention, BSSAP
<p>1. In order to achieve the coordination referred to in Article 5(2), Member States shall, where practical and appropriate, use existing regional institutional cooperation structures, including those under Regional Sea Conventions, covering that marine region or subregion.</p>	<p>Bucharest Convention, Article V. The Contracting Parties will cooperate in promoting, within international organizations found to be competent by them, the elaboration of measures contributing to the protection and preservation of the marine environment of the Black Sea.</p> <p>BSSAP 5.2. International assistance. The expansion of the EU in the region has had a major impact, resulting in new opportunities for better environmental management and accessing environmental finances. The new EU Neighbourhood and Partnership instrument provides new opportunities for enhanced transboundary cooperation and access to additional finances.</p>
<p>2. For the purpose of establishing and implementing marine strategies, Member States shall, within each marine region or subregion, make every effort, using relevant international forums, including mechanisms and structures of Regional Sea Conventions, to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same marine region or subregion.</p>	<p>Commission on the Protection of the Black Sea Against Pollution (Black Sea Commission)</p>
<p>In that context, Member States shall, as far as possible, build upon relevant existing programmes and activities developed in the framework of structures stemming from international agreements such as Regional Sea Conventions.</p>	<p>Black Sea Commission, ICPDR</p>
<p>Coordination and cooperation shall be extended, where appropriate, to all Member States in the catchment area of a marine region or subregion, including land-locked</p>	

countries, in order to allow Member States within that marine region or subregion to meet their obligations under this Directive, using established cooperation structures prescribed in this Directive or in Directive 2000/60/EC.	
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Article 7 Competent authorities

1. Member States shall, by 15 July 2010, for each marine region or subregion concerned, designate the authority or authorities competent for the implementation of this Directive with respect to their marine waters.	1.The coordinating competent authorities for the Bucharest Convention in the Contracting Parties of the Black Sea coastal states are environmental authorities
By 15 January 2011, Member States shall provide the Commission with a list of the competent authorities designated, together with the items of information listed in Annex II.	The list is available in the Black Sea Commission
At the same time, Member States shall send to the Commission a list of their competent authorities as regards those international bodies in which they participate and which are relevant for the implementation of this Directive.	Such information is available in the Black Sea Commission
Member States within the catchment area of each marine region or subregion shall also designate the authority or authorities competent for cooperation and coordination as referred to in Article 6.	Not applicable, is responsibilities of the coastal states
2. Member States shall inform the Commission of any changes to the information provided pursuant to paragraph 1 within six months of such a change coming into effect.	

CHAPTER II MARINE STRATEGIES: PREPARATION

Article 8 Assessment

MSFD	Bucharest Convention; BSSAP
<p>1. In respect of each marine region or subregion, Member States shall make an initial assessment of their marine waters, taking account of existing data where available and comprising the following:</p> <p>(a) an analysis of the essential features and characteristics, and current environmental status of those waters, based on the indicative lists of elements set out in Table 1 of Annex III, and covering the physical and chemical features, the habitat types, the biological features and the hydro-morphology;</p> <p>(b) an analysis of the predominant pressures and impacts, including human activity, on the environmental status of those waters which:</p> <p>(i) is based on the indicative lists of elements set out in Table 2 of Annex III, and covers the qualitative and quantitative mix of the various pressures, as well as discernible trends;</p> <p>(ii) covers the main cumulative and synergetic effects; and</p> <p>(iii) takes account of the relevant assessments which have been made pursuant to existing Community legislation;</p> <p>(c) an economic and social analysis of the use of those waters and of the cost of degradation of the marine environment.</p>	<p>1. The 3rd assessments of State of the Black Sea Environment and Implementation of the Black Sea SAP is due in 2014-2015, will benefit from coordinated efforts with MSFD for improvement</p> <p>a) to the extent possible is addressed in the SoE reports, Supported by Transboundary Diagnostic Analysis.</p> <p>b) to the extent possible is addressed in the SoE reports, supported by Transboundary Diagnostic Analysis and BS SAP Implementation Reports</p> <p>(i) to extent possible within the data availability, needs improvement</p> <p>(ii) partially, needs improvement</p> <p>(iii) take into accounts the scientific studies, transboundary diagnostic analysis, needs streamlining,</p> <p>c) partially, needs improvement</p>
<p>2. The analyses referred to in paragraph 1 shall take into account elements regarding coastal, transitional and territorial waters covered by relevant provisions of existing Community legislation, in particular Directive 2000/60/EC. They shall also take into account, or use as their basis, other relevant assessments such as those carried out jointly in the context of Regional Sea Conventions, so as to produce a comprehensive assessment of the status of the marine environment.</p>	<p>2. The analysis is taking into account the coastal, transitional and territorial waters and exclusive economic zones of the coastal states as well as existing legislative differences. In this context, the State of the Environment Report shall be comprise in close cooperation with EU under MSFD</p>
<p>3. In preparing assessments pursuant to paragraph 1, Member States shall, by means of the coordination established pursuant to Articles 5 and 6, make every effort to ensure that:</p> <p>(a) assessment methodologies are consistent across the marine region or subregion;</p> <p>(b) transboundary impacts and transboundary features are taken into account.</p>	<p>3. Black Sea Integrated and Assessment Program created platform for</p> <p>a) compatibility of assessment methodologies on the regional level</p> <p>b) transboundary effects and transboundary feature considering the Black Sea ecosystem as a subject for assessment with holistic approach. A number of methodological have been adopted or are being developed. (Annex VII), will benefit from close cooperation with EU under MSFD</p>

Article 9 Determination of good environmental status

<p>1. By reference to the initial assessment made pursuant to Article 8(1), Member States shall, in respect of each marine region or subregion concerned, determine, for the marine waters, a set of characteristics for good environmental status, on the basis of the qualitative descriptors listed in Annex I. Member States shall take into account the indicative lists of elements set out in Table 1 of Annex III and, in particular, physical and chemical features, habitat types, biological features and hydro-morphology.</p> <p>Member States shall also take into account the pressures or impacts of human activities in each marine region or subregion, having regard to the indicative lists set out in Table 2 of Annex III.</p>	<p>1.A set of characteristics for good environmental status is being developed, shall be quantified and adopted by the Black Sea Commission, will benefit from close cooperation with EU under MSFD</p>
<p>2. Member States shall notify the Commission of the assessment made pursuant to Article 8(1) and of the determination made pursuant to paragraph 1 of this Article within three months of completion of the latter.</p>	<p>2.The Black Sea assessment reports shall be made every five years, both for the environmental state of the Black sea and implemented policies measures,</p>
<p>3. Criteria and methodological standards to be used by the Member States, which are designed to amend non-essential elements of this Directive by supplementing it, shall be laid down, on the basis of Annexes I and III, in accordance with the regulatory procedure with scrutiny referred to in Article 25(3) by 15 July 2010 in such a way as to ensure consistency and to allow for comparison between marine regions or subregions of the extent to which good environmental status is being achieved. Before proposing such criteria and standards the Commission shall consult all interested parties, including Regional Sea Conventions.</p>	<p>3.The criteria and methodological standards shall be approved by the Black Sea Commission and may be adopted as annexes to the protocols of the Bucharest Convention according to a procedure laid down in the Article XXI Annexes and amendments to Annexes of Bucharest Convention: Annexes to this Convention or to any Protocol shall Any Contracting Party may propose amendments to the Annexes to this Convention or to the Annexes of any Protocol through its Representative in the Commission. Parties.</p>

Article 10 Establishment of environmental targets

<p>1. On the basis of the initial assessment made pursuant to Article 8(1), Member States shall, in respect of each marine region or subregion, establish a comprehensive set of environmental targets and associated indicators for their marine waters so as to guide progress towards achieving good environmental status in the marine environment, taking into account the indicative lists of pressures and impacts set out in Table 2 of Annex III, and of characteristics set out in Annex IV.</p> <p>When devising those targets and indicators, Member States shall take into account the continuing application</p>	<p>BSSAP established management targets, the concept of environmental target is in initial state of development and will benefit from the close cooperation with the EU under MSFD</p>
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<p>of relevant existing environmental targets laid down at national, Community or international level in respect of the same waters, ensuring that these targets are mutually compatible and that relevant transboundary impacts and transboundary features are also taken into account, to the extent possible.</p>	
<p>2. Member States shall notify the Commission of the environmental targets within three months of their establishment.</p>	<p>The quantified environmental targets shall be adopted by the Black Sea Commission</p>

Article 11 Monitoring programmes

<p>1. On the basis of the initial assessment made pursuant to Article 8(1), Member States shall establish and implement coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters on the basis of the indicative lists of elements set out in Annex III and the list set out in Annex V, and by reference to the environmental targets established pursuant to Article 10.</p> <p>Monitoring programmes shall be compatible within marine regions or subregions and shall build upon, and be compatible with, relevant provisions for assessment and monitoring laid down by Community legislation, including the Habitats and Birds Directives, or under international agreements.</p>	<p>1. Black Sea Integrated and Assessment Program 2006-2010 was developed taking into account the affordability and available capacity of the Contracting Parties. BSIMAP is being revised and adopted by the Black Sea Commission upon completion. It is provisioned that BSIMAP will be an integral part of the national monitoring programmes, with strong focus on the biodiversity component in monitoring</p> <p>It is extremely important to develop BSIMAP fully consistent with MSFD</p>
<p>2. Member States sharing a marine region or subregion shall draw up monitoring programmes in accordance with paragraph 1 and shall, in the interest of coherence and coordination, endeavour to ensure that:</p> <p>(a) monitoring methods are consistent across the marine region or subregion so as to facilitate comparability of monitoring results;</p> <p>(b) relevant transboundary impacts and transboundary features are taken into account.</p>	<p>a) The budget of the Black Sea Commission allocates funds for carrying out the intercomparison exercise in order to ensure compatibility of the BSIMAP monitoring data. Further steps shall be done to ensure compatibility of biological monitoring data</p> <p>b) The transboundary impacts and transboundary features are taken into account by the requirements of the Bucharest Convention and BSSAP</p>
<p>3. Member States shall notify the Commission of the monitoring programmes within three months of their establishment.</p>	<p>The Black Sea Monitoring and Assessment Programme was adopted by the 13th Meeting of the Black Sea Commission in 2006.</p>
<p>4. Specifications and standardised methods for monitoring and assessment which take into account existing commitments and ensure comparability between monitoring and assessment results, and which are designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny</p>	<p>The main activities for the implementation of the BSIMAP carried will be:</p> <ol style="list-style-type: none"> 1. reaching consensus on common principles for regional monitoring and assessment programmes 2. establishment of an initial affordable program to harmonize assessment methodologies, analytical

<p>referred to in Article 25(3).</p>	<p>techniques, reporting formats, etc.</p> <p>3. harmonization of assessment methodologies on a regional level</p> <p>4. elaboration of environmental quality criteria/objectives</p> <p>5. development and establishment of mechanisms of integration scientific results into the assessment process</p> <p>6. elaboration of mechanisms and procedures for quality assurance quality control</p> <p>7. elaboration and maintenance of the Black Sea Information System for supporting decision making process of the Black Sea Commission.</p>
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Article 12 Notifications and Commission’s assessment

<p>On the basis of all the notifications made pursuant to Articles 9(2), 10(2) and 11(3) in respect of each marine region or subregion, the Commission shall assess whether, in the case of each Member State, the elements notified constitute an appropriate framework to meet the requirements of this Directive and may ask the Member State concerned to provide any additional information that is available and necessary.</p> <p>In drawing up those assessments, the Commission shall consider the coherence of frameworks within the different marine regions or subregions and across the Community.</p> <p>Within six months of receiving all those notifications, the Commission informs Member States concerned whether, in its opinion, the elements notified are consistent with this Directive and provides guidance on any modifications it considers necessary.</p>	
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CHAPTER III

MARINE STRATEGIES: PROGRAMMES OF MEASURES

Article 13 Programmes of measures

<p>1. Member States shall, in respect of each marine region or subregion concerned, identify the measures which need to be taken in order to achieve or maintain good environmental status, as determined pursuant to Article 9(1), in their marine waters.</p> <p>Those measures shall be devised on the basis of the initial assessment made pursuant to Article 8(1) and by</p>	<p>BSSAP identifies the management objective (short-, mid- and long term) for protection and conservation of the Black Sea based on the Transboundary Diagnostic Analysis,</p> <p>The measures to implement the above objectives are responsibilities of the Black Sea coastal states on which</p>
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<p>reference to the environmental targets established pursuant to Article 10(1), and taking into consideration the types of measures listed in Annex VI.</p>	<p>they shall report to BSC</p>
<p>2. Member States shall integrate the measures devised pursuant to paragraph 1 into a programme of measures, taking into account relevant measures required under Community legislation, in particular Directive 2000/60/EC, Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment [21] and Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality [22], as well as forthcoming legislation on environmental quality standards in the field of water policy, or international agreements.</p>	<p>Specific national funding arrangements for the implementation of BS SAP shall be reflected in national strategic policy documents: National BS Action Plans or National Environmental Action Plans</p>
<p>3. When drawing up the programme of measures pursuant to paragraph 2, Member States shall give due consideration to sustainable development and, in particular, to the social and economic impacts of the measures envisaged. To assist the competent authority or authorities referred to in Article 7 to pursue their objectives in an integrated manner, Member States may identify or establish administrative frameworks in order to benefit from such interaction.</p> <p>Member States shall ensure that measures are cost-effective and technically feasible, and shall carry out impact assessments, including cost-benefit analyses, prior to the introduction of any new measure.</p>	<p>The programs of measures is responsibilities of the Black Seas coastal states</p> <p>Cost benefit analysis is not provisioned at the regional level and is internal affairs of weach coastal state</p>
<p>4. Programmes of measures established pursuant to this Article shall include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems, such as special areas of conservation pursuant to the Habitats Directive, special protection areas pursuant to the Birds Directive, and marine protected areas as agreed by the Community or Member States concerned in the framework of international or regional agreements to which they are parties.</p>	<p>BSSAP overall target on biodiversity conservation considers the necessity of creation of new and/or expansion of existing protected areas, including transboundary areas in consultation with the relevant Black Sea countries with particular attention to marine protected areas. Establish or extend these areas where necessary. To prepare a regional program for expansion of the marine and coastal protected areas in the Black Sea is of utmost importance and cooperation in this context with MSFD is mutually beneficial taking into account the special features of the Black Sea ecosystems</p>
<p>5. Where Member States consider that the management of a human activity at Community or international level is likely to have a significant impact on the marine environment, particularly in the areas addressed in paragraph 4, they shall, individually or jointly, address the competent authority or international organisation concerned with a view to the consideration and possible adoption of measures that may be necessary in order to achieve the objectives of this Directive, so as to enable the integrity, structure and functioning of ecosystems to</p>	<p>Bucharest Convention , Artcle 15 “When the Contracting Parties have reasonable grounds for believing that activities under their jurisdiction or control may cause substantial pollution or significant and harmful changes to the marine environment of the Black Sea, they shall, before commencing such activities, assess their potential effects on the basis of all relevant information and monitoring data and shall communicate the results of such assessments to the Commission.</p>

be maintained or, where appropriate, restored.	
6. By 2013 at the latest, Member States shall make publicly available, in respect of each marine region or subregion, relevant information on the areas referred to in paragraphs 4 and 5.	The State of the Environment of the Black Sea Reports, Implementation of the Strategic Action Plan Reports are uploaded at the BSC web and published by the Black Sea Commission
7. Member States shall indicate in their programmes of measures how the measures are to be implemented and how they will contribute to the achievement of the environmental targets established pursuant to Article 10(1).	The Black Sea coastal states, signatories of BS SAP, make national arrangements to implement BSSAP management targets
8. Member States shall consider the implications of their programmes of measures on waters beyond their marine waters in order to minimise the risk of damage to, and if possible have a positive impact on, those waters.	Not relevant for the Black Sea
9. Member States shall notify the Commission and any other Member State concerned of their programmes of measures, within three months of their establishment. 10. Subject to Article 16, Member States shall ensure that the programmes are made operational within one year of their establishment.	Not relevant for the Black Sea

Article 14 Exceptions

1. A Member State may identify instances within its marine waters where, for any of the reasons listed under points (a) to (d), the environmental targets or good environmental status cannot be achieved in every aspect through measures taken by that Member State, or, for reasons referred to under point (e), they cannot be achieved within the time schedule concerned: (a) action or inaction for which the Member State concerned is not responsible; (b) natural causes; (c) force majeure; (d) modifications or alterations to the physical characteristics of marine waters brought about by actions taken for reasons of overriding public interest which outweigh the negative impact on the environment, including any transboundary impact; (e) natural conditions which do not allow timely improvement in the status of the marine waters concerned. The Member State concerned shall identify such instances clearly in its programme of measures and shall	Not applicable to the Bucharest Convention and BSSAP
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<p>substantiate its view to the Commission. In identifying instances a Member State shall consider the consequences for Member States in the marine region or subregion concerned.</p> <p>However, the Member State concerned shall take appropriate ad-hoc measures aiming to continue pursuing the environmental targets, to prevent further deterioration in the status of the marine waters affected for reasons identified under points (b), (c) or (d) and to mitigate the adverse impact at the level of the marine region or subregion concerned or in the marine waters of other Member States.</p> <p>2. In the situation covered by paragraph 1(d), Member States shall ensure that the modifications or alterations do not permanently preclude or compromise the achievement of good environmental status at the level of the marine region or subregion concerned or in the marine waters of other Member States.</p>	
<p>3. The ad-hoc measures referred to in the third subparagraph of paragraph 1 shall be integrated as far as practicable into the programmes of measures.</p>	<p>Not applicable to the Bucharest Convention and BSSAP</p>
<p>4. Member States shall develop and implement all the elements of marine strategies referred to in Article 5(2), but shall not be required, except in respect of the initial assessment described in Article 8, to take specific steps where there is no significant risk to the marine environment, or where the costs would be disproportionate taking account of the risks to the marine environment, and provided that there is no further deterioration.</p>	<p>Not applicable to the Bucharest Convention and BSSAP</p>
<p>Where, for either of these reasons, a Member State does not take any steps, it shall provide the Commission with the necessary justification to substantiate its decision, while avoiding that the achievement of good environmental status be permanently compromised.</p>	<p>Not applicable to the Bucharest Convention and BSSAP</p>

Article 15 Recommendations for Community action

<p>1. Where a Member State identifies an issue which has an impact on the environmental status of its marine waters and which cannot be tackled by measures adopted at national level, or which is linked to another Community policy or international agreement, it shall inform the Commission accordingly and provide a justification to substantiate its view.</p> <p>The Commission shall respond within a period of six months.</p>	<p>Not applicable for the Bucharest Convention and BSSAP</p>
<p>2. Where action by Community institutions is needed, Member States shall make appropriate</p>	<p>Not applicable to the Bucharest Convention and BSSAP</p>

<p>recommendations to the Commission and the Council for measures regarding the issues referred to in paragraph 1. Unless otherwise specified in relevant Community legislation, the Commission shall respond to any such recommendation within a period of six months and, as appropriate, reflect the recommendations when presenting related proposals to the European Parliament and to the Council.</p>	
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Article 16 Notifications and Commission’s assessment

<p>On the basis of the notifications of programmes of measures made pursuant to Article 13(9), the Commission shall assess whether, in the case of each Member State, the programmes notified constitute an appropriate framework to meet the requirements of this Directive, and may ask the Member State concerned to provide any additional information that is available and necessary.</p> <p>In drawing up those assessments, the Commission shall consider the coherence of programmes of measures within the different marine regions or subregions and across the Community.</p> <p>Within six months of receiving all those notifications, the Commission informs Member States concerned whether, in its opinion, the programmes of measures notified are consistent with this Directive and provides guidance on any modifications it considers necessary.</p>	<p>Not applicable to the Bucharest Convention and BSSAP</p>
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CHAPTER IV

UPDATING, REPORTS AND PUBLIC INFORMATION

Article 17 Updating

<p>1. Member States shall ensure that, in respect of each marine region or subregion concerned, marine strategies are kept up to date.</p>	
<p>2. For the purposes of paragraph 1, Member States shall review, in a coordinated manner as referred to in Article 5, the following elements of their marine strategies every six years after their initial establishment:</p> <p>(a) the initial assessment and the determination of good environmental status, as provided for in Articles 8(1) and 9(1) respectively;</p> <p>(b) the environmental targets established pursuant to Article 10(1);</p> <p>(c) the monitoring programmes established pursuant to Article 11(1);</p>	<p>For the purposes of the Bucharest Convention and BSSAP</p> <p>a) assessment of state of the Black Sea environment is carried out every 5 years</p> <p>b) the environmental targets to be established</p> <p>c) monitoring program to be revised every five years</p>

(d) the programmes of measures established pursuant to Article 13(2).	d) update of the BSAP as it deems necessary upon the assessments
3. Details of any updates made following the reviews provided for in paragraph 2 shall be sent to the Commission, to the Regional Sea Conventions and to any other Member States concerned within three months of their publication in accordance with Article 19(2).	Details of BSC assessment are made public on the BSC websites
4. Articles 12 and 16 shall apply mutatis mutandis to this Article.	

Article 18 Interim reports

Member States shall, within three years of the publication of each programme of measures or update thereof in accordance with Article 19(2), submit to the Commission a brief interim report describing progress in the implementation of that programme.	The Black Sea Annual Reports are provisioned under Bucharest Convention that shall include major indicators and policy measures.
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Article 19 Public consultation and information

1. In accordance with relevant existing Community legislation, Member States shall ensure that all interested parties are given early and effective opportunities to participate in the implementation of this Directive, involving, where possible, existing management bodies or structures, including Regional Sea Conventions, Scientific Advisory Bodies and Regional Advisory Councils.	
2. Member States shall publish, and make available to the public for comment, summaries of the following elements of their marine strategies, or the related updates, as follows: (a) the initial assessment and the determination of good environmental status, as provided for in Articles 8(1) and 9(1) respectively; (b) the environmental targets established pursuant to Article 10(1); (c) the monitoring programmes established pursuant to Article 11(1); (d) the programmes of measures established pursuant to Article 13(2).	According to the information policy of the Black Sea Commission all final products of assessment and reporting to the Bucharest Convention shall be made public on the BSC website
3. With regard to access to environmental information, Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information [23] shall apply. In accordance with Directive 2007/2/EC, Member States	

<p>shall provide the Commission, for the performance of its tasks in relation to this Directive, in particular the review of the status of the marine environment in the Community under Article 20(3)(b), with access and use rights in respect of data and information resulting from the initial assessments made pursuant to Article 8 and from the monitoring programmes established pursuant to Article 11.</p> <p>No later than six months after the data and information resulting from the initial assessment made pursuant to Article 8 and from the monitoring programmes established pursuant to Article 11 have become available, such information and data shall also be made available to the European Environment Agency, for the performance of its tasks.</p>	
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Article 20 Commission reports

<p>1. The Commission shall publish a first evaluation report on the implementation of this Directive within two years of receiving all programmes of measures and, in any case, by 2019 at the latest.</p> <p>The Commission shall publish further reports every six years thereafter. It shall submit the reports to the European Parliament and to the Council.</p>	
<p>2. By 15 July 2012 at the latest, the Commission shall publish a report assessing the contribution of this Directive to the implementation of existing obligations, commitments and initiatives of the Member States or the Community at Community or international level in the sphere of environmental protection in marine waters.</p> <p>That report shall be submitted to the European Parliament and to the Council.</p>	
<p>3. The reports provided for in paragraph 1 shall include the following:</p> <ul style="list-style-type: none"> (a) a review of progress in the implementation of this Directive; (b) a review of the status of the marine environment in the Community, undertaken in coordination with the European Environment Agency and the relevant regional marine and fisheries organisations and conventions; (c) a survey of the marine strategies, together with suggestions for their improvement; (d) a summary of the information received from Member States pursuant to Articles 12 and 16 and of the assessments made by the Commission, in accordance with Article 16, in relation to information received from Member States pursuant to Article 15; 	

<p>(e) a summary of the response to each of the reports submitted to the Commission by Member States pursuant to Article 18;</p> <p>(f) a summary of the responses to comments made by the European Parliament and the Council on previous marine strategies;</p> <p>(g) a summary of the contribution made by other relevant Community policies to the attainment of the objectives of this Directive.</p>	
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Article 21 Progress report on protected areas

<p>On the basis of the information provided by the Member States by 2013, the Commission shall report by 2014 on progress in the establishment of marine protected areas, having regard to existing obligations under applicable Community law and international commitments of the Community and the Member States.</p> <p>The report shall be submitted to the European Parliament and to the Council.</p>	<p>BS SAP implementation report requires reporting on the progress with marine and coastal areas</p>
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Article 22 Community financing

<p>1. Given the priority inherently attached to the establishment of marine strategies, the implementation of this Directive shall be supported by existing Community financial instruments in accordance with applicable rules and conditions.</p>	<p>Financing the SAP</p> <p>5.1. National financing</p> <p>Reliable funding is essential for the implementation of BS SAP. Specific national funding arrangements for the implementation of BS SAP shall be reflected in national strategic policy documents: National BS Action Plans or National Environmental Action Plans.</p> <p>5.2. International assistance</p> <p>There are strong reasons for continuing the international financial assistance for the protection of the Black Sea environment. International assistance still plays an important catalytic role in overall regional cooperation. The priorities and approaches of donors and IFIs in the Black Sea region have steadily evolved since bilateral donors are progressively scaling down their programmes in the area, while IFIs have increased their assistance in the form of loans.</p>
<p>2. The programmes drawn up by the Member States shall be co-financed by the EU in accordance with existing financial instruments.</p>	

Article 23 Review of this Directive

The Commission shall review this Directive by 15 July 2023 and shall, where appropriate, propose any necessary amendments.	The Black Sea SAP shall be revised as it deems necessary based on the results of assessment
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CHAPTER V FINAL PROVISIONS**Article 24** Technical adaptations

1. Annexes III, IV and V may be amended in the light of scientific and technical progress in accordance with the regulatory procedure with scrutiny referred to in Article 25(3), taking into account the periods for the review and updating of marine strategies laid down in Article 17(2).	In line with provisions of the Bucharest Convention and BSSAP and Rules of Procedures of Commission
2. In accordance with the regulatory procedure referred to in Article 25(2): (a) methodological standards may be adopted for the application of Annexes I, III, IV and V; (b) technical formats may be adopted for the purposes of transmission and processing of data, including statistical and cartographic data.	In line with provisions of the Bucharest Convention and BSSAP and Rules of Procedures of Commission

Article 25 Regulatory Committee

1. The Commission shall be assisted by a committee.	The Black Sea Commission is assisted by its Permanent Secretariat and Advisory Groups
2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof. The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.	
3. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.	

Article 26 Transposition

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 15 July 2010 at the latest. They shall forthwith communicate to the Commission the text of those provisions. When Member States adopt those measures, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.	Not applicable to Bucharest Convention and BSSAP
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2. Member States shall communicate to the Commission the texts of the main measures of national law which they adopt in the field covered by this Directive.	Not applicable to the Bucharest Convention and SAP
3. Member States without marine waters shall bring into force only those measures which are necessary to ensure compliance with requirements under Article 6 and Article 7. Where such measures are already in force in national legislation, Member States concerned shall communicate to the Commission the text of those measures.	Not applicable to the Bucharest Convention and SAP

Article 27 Entry into force

This Directive shall enter into force on the 20th day following its publication in the Official Journal of the European Union.	
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Article 28

<p>Addressees</p> <p>This Directive is addressed to the Member States.</p> <p>Done at Strasbourg, 17 June 2008.</p> <p>For the European Parliament</p>	
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