MESMA Work Package 6

Celtic Sea Case Study Governance Analysis

Finding Sanctuary and England's Marine Conservation Zone process

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Report published in January 2013

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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.

Louise Lieberknecht, December 2012

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 projects[1], 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 Nature[5] 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.

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[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 Park[6], which came into effect in 2004 (Day *et al*., 2002; Day *et al*., 2005). In California, the Marine Life Protection Act Initiative[7] 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 though 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 and 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, Defra[10] 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 93,000km^2, 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.

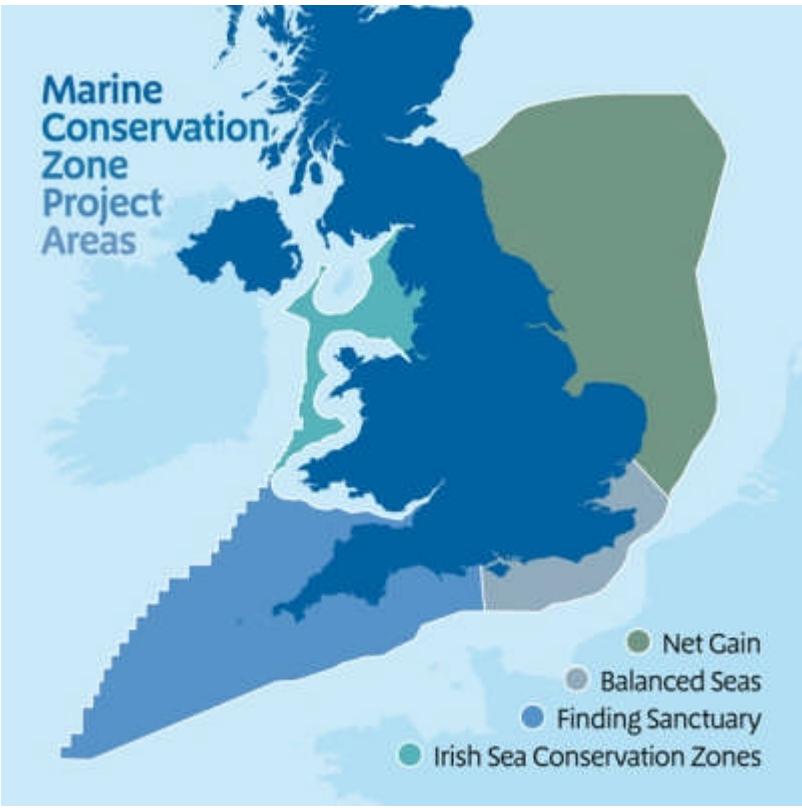

Figure 1.1 The four regional MCZ planning projects. Map created by the JNCC.

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.

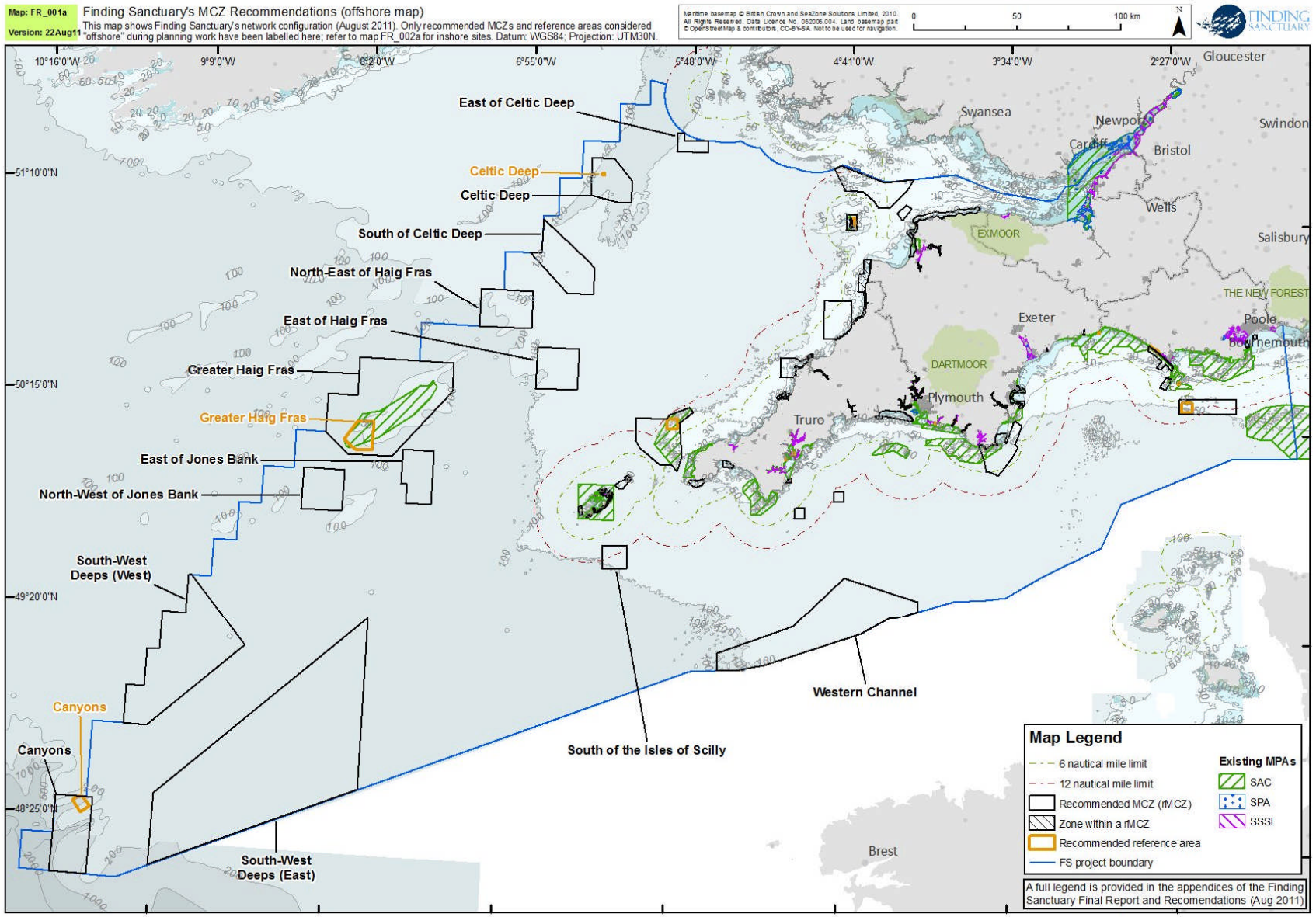

Figure 1.2 Outlines of the sites included in Finding Sanctuary's final MCZ recommendations, offshore sites labelled. For full details, see Finding Sanctuary's final report (citation and links in appendix 1).

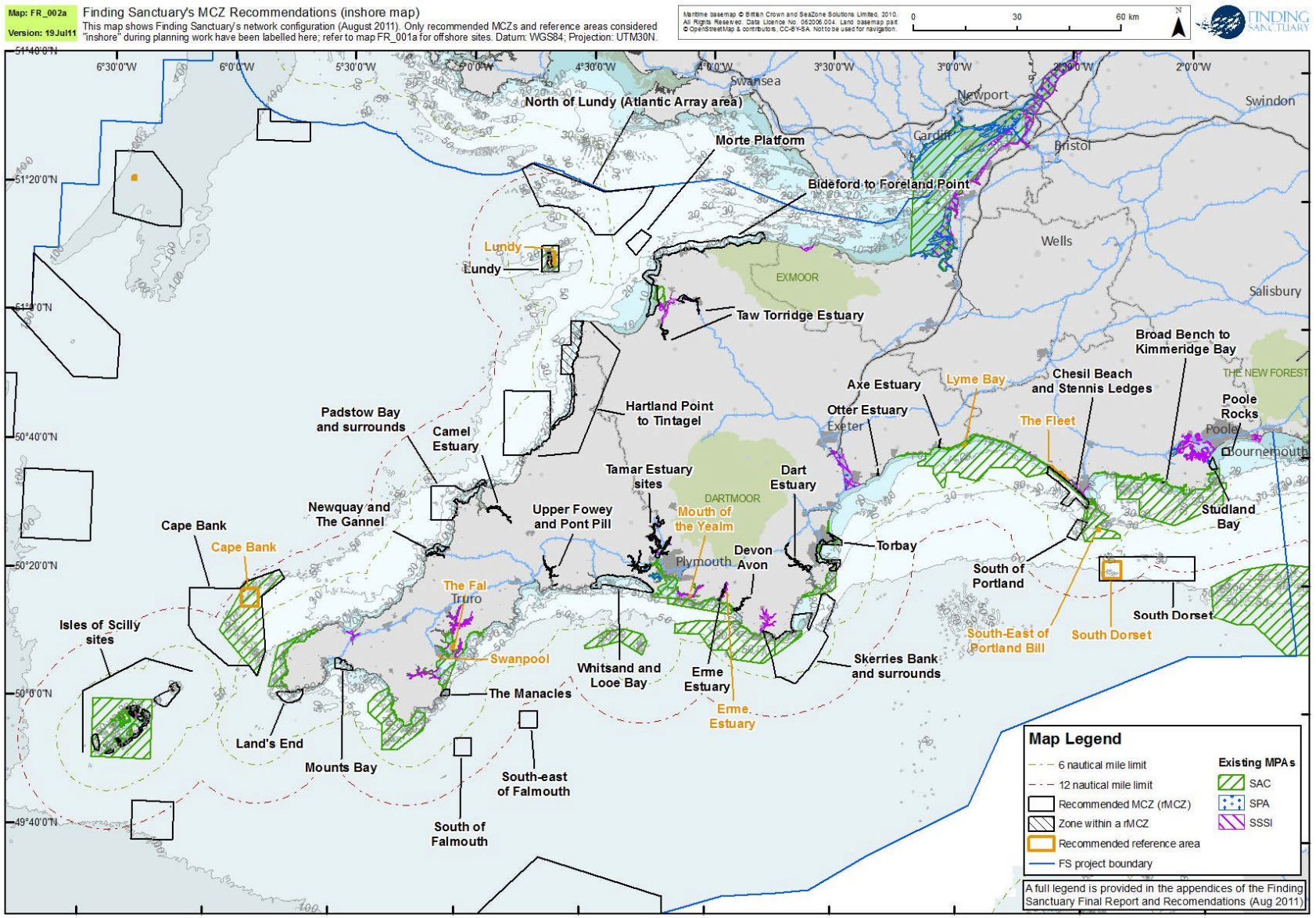

Figure 1.3 Outlines of the sites included in Finding Sanctuary's final MCZ recommendations (inshore sites). For full details, see Finding Sanctuary's final report (citation and links in appendix 1).

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[24], JNCC's MCZ pages[25], or Defra's MCZ pages[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).

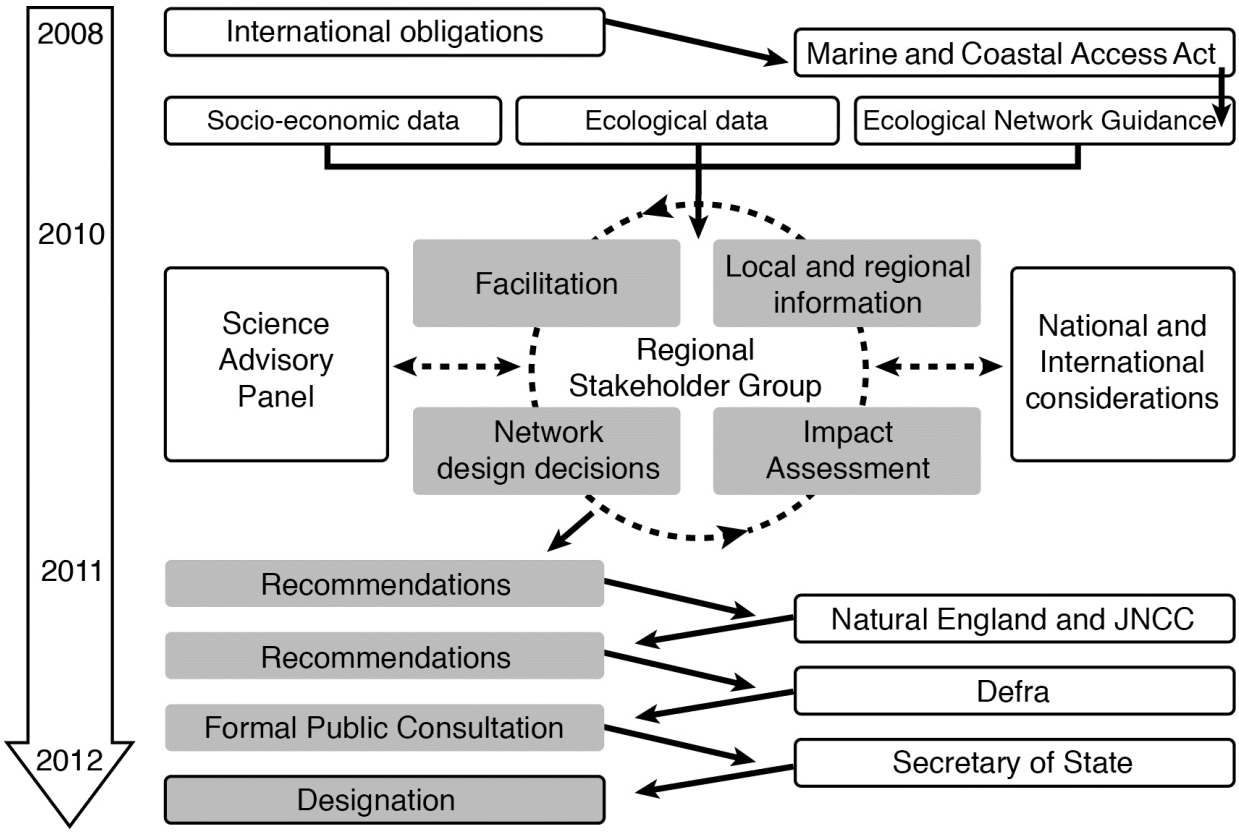

Figure 1.4 Visual representation of the MCZ planning process in England. The diagram is adapted from the first MCZ project newsletter[27], released by the JNCC and Natural England. Finding Sanctuary was one of four regional projects responsible for delivering the first set of recommendations (to Natural 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 NUTS[30] 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 has having the lowest per capita GVA in England.

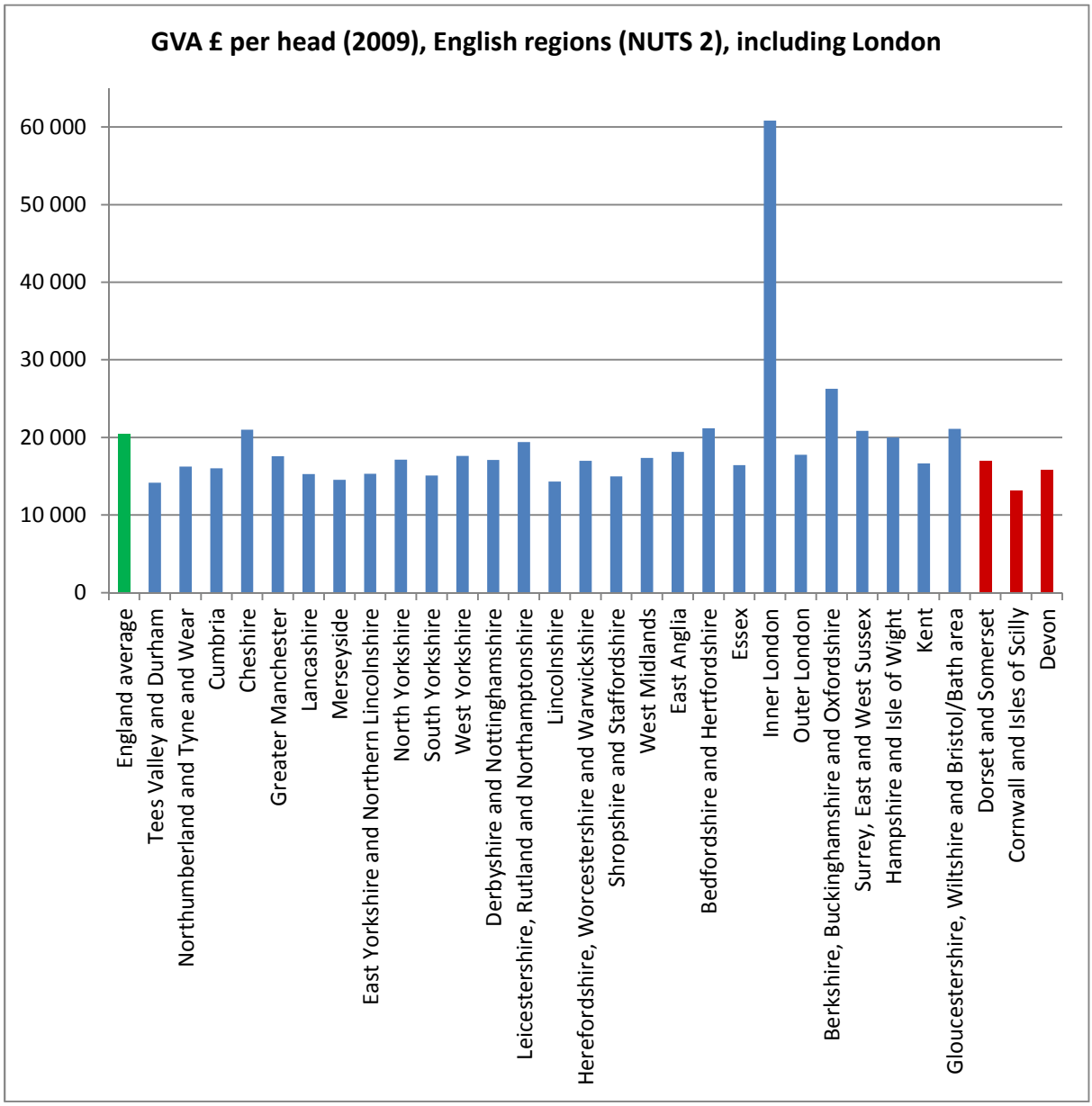

Figure 1.5 Average GVA per head for different NUTS 2 regions in England, based on 2009 figures from the ONS. The England average is shown in green, and the regions abutting the Finding Sanctuary area are shown in red. © Crown Copyright, 2011.

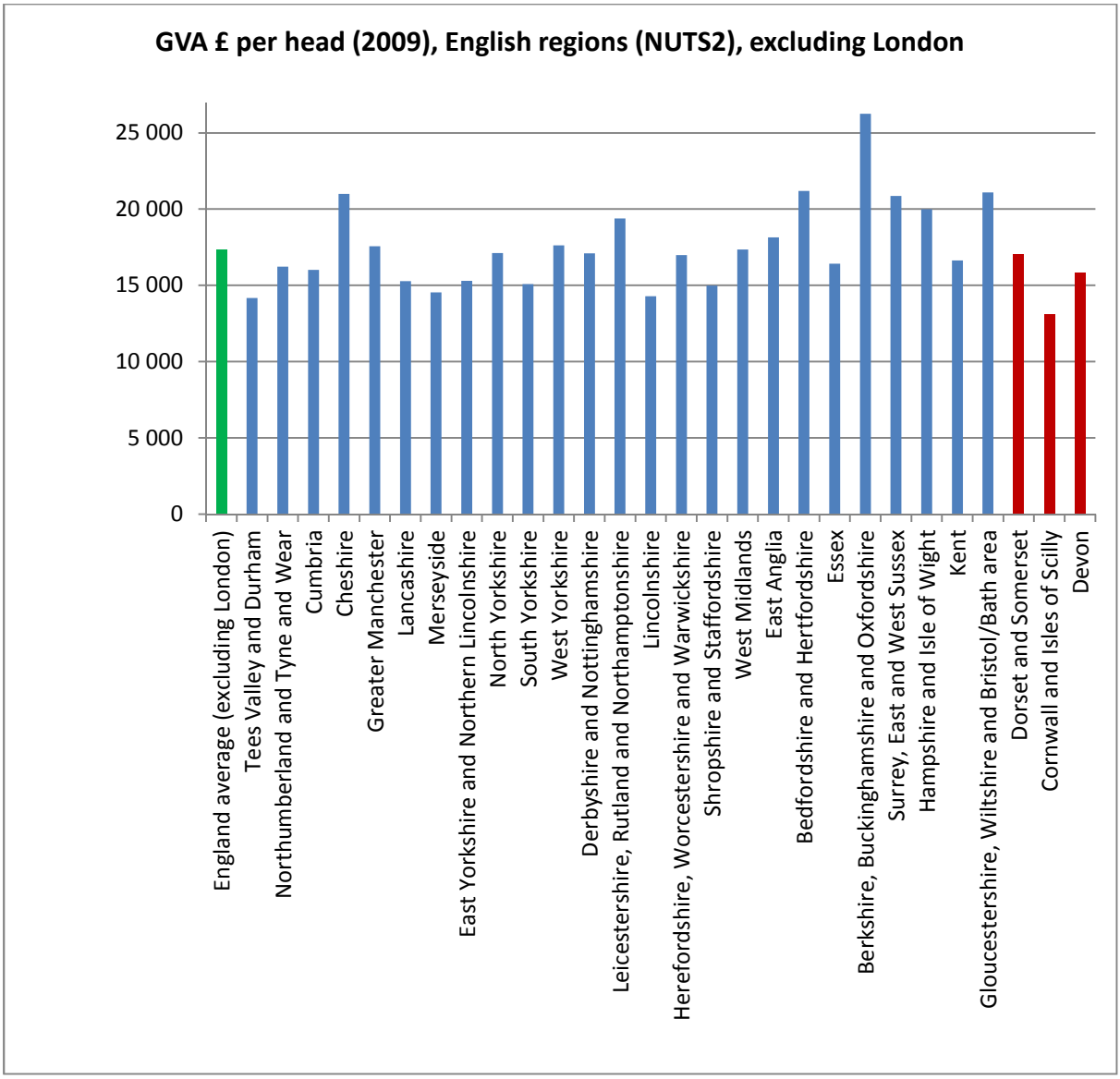

Figure 1.6 Average GVA per head for different NUTS 2 regions in England, with London removed, based on 2009 figures from the ONS. The England average (excluding London) is shown in green, and the regions abutting the Finding Sanctuary area are shown in red. © Crown Copyright, 2011.

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 show 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 km^2 (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 km^2, 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[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)[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[45] has equivalent responsibilities.

The Environment Agency[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)[47] are a new type of authority established under the 2009 Marine and Coastal Access Act[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.marinemanagement.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 IFCAs:

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 IFCAs 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.cefas.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[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[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://projectpisces.eu/
[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 England[63]. 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.marinemanagement.org.uk/marineplanning/areas/east.htm
[64] http://www.legislation.gov.uk/uksi/2007/1067/contents/made
[65] http://www.marinemanagement.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 hectares[71] (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 order[74].

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 Corwall, 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 Bay[76] and eelgrass in the Helford estuary[77].

[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.marinemanagement.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)[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 Sectary 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 deeded 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 Committee[92] 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 IFCAs 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 CFP[103], 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 IFCAs 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 IFCAs 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[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 there 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[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 to 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 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 activities[133].

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 Deeps, 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 ORRAD[134]. 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 in 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 FOCI[135] 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 Corwall 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 FOCI[142] 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 on-going 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 safety[144]. 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 rMCZs[148] 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 IFCAs 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, IFCAs, 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 re-trenchement 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 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 seguing 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[152], and the Chancellor's speech presenting it to Parliament[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 (FIFG, 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 on-going national process. However, NGOs (such as the Marine Conservation Society or MCS[159], and the Wildlife Trusts[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 LOA[164]). Fisheries data in Cornwall was collected through the CFPO[165] 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 I.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 IFCAs 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[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

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 IFCAs 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 IFCAs 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 IFCAs have responsibility for MCZ implementation, and IFCA committees include local government and stakeholder representatives. Both the MMO and the IFCAs 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 IFCAs /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 an 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[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).

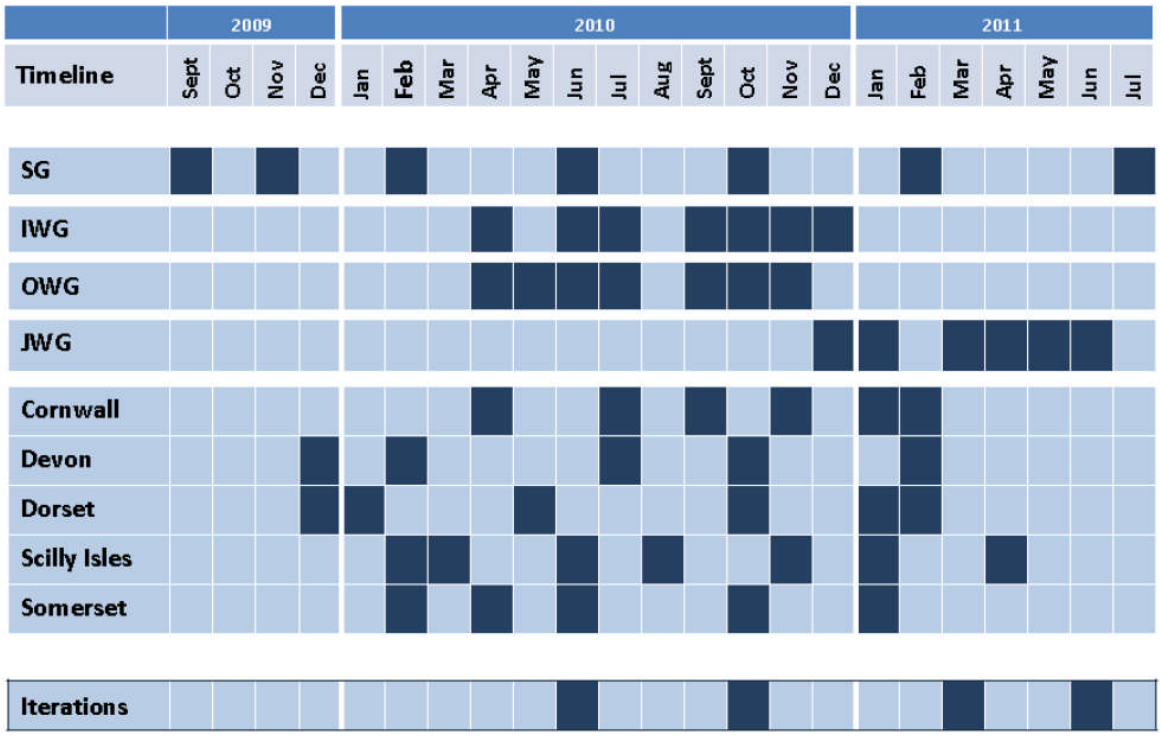

Figure 5.1 An illustration of the intensity of the participative process. Each dark coloured box represents a month where a stakeholder group meeting took place. SG = main regional Steering Group; IWG, OWG, and JWG = Inshore, Offshore, and Joint Working Groups. The bottom five rows indicate Local Group (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) VA[172] 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 IFCAs 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 UKMBSG[173] 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 where 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[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
Economic Incentives					
customary use promotion				E1	
certainty to industry				E2	
alternative livelihood promotion				E3	
compensation				E4	
sufficient funding			E5		
*NGO / corporate funding *		*E6*			
Interpretative incentives					
maps	I1				
resource benefits			I2		
ecological benefits	I3				
Knowledge incentives					
address uncertainty			K1		
independent arbitration				K2	
collective learning / diverse knowledge		*K3*			
stakeholder mapping		*K4*			
maximise scientific knowledge	K5				
information sharing				K6	
Legal incentives					
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				
Participative incentives					
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 CO s 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-town 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 I.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 I.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 section3.3.10). 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 FOCI[180] 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 notes[181] 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 OSPAR[183]:

[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 March2010, 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 it 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 Philips, 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 has 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[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

6.3.2 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

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 though 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

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.bluemarinefoundation.com/home/news-index/news-detail.aspx?newsStory=Scallop-dredgers-and-trawlers-face-expulson-from-a-quarter-of-inshore-waters

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 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 IFCAs, 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 are**a;
>
> (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 million[197].

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.

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[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 FOCI 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 2011[202]. 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[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 km^2).

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 discusse 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)	**Habitat** the • extent, • diversity, • community structure, • natural environmental quality*, and • natural environmental processes* **Species** the • natural range, • habitat extent, • population structure, • population density, • size structure, • natural environmental quality*, and • natural environmental processes* **Geological/ Geomorphological** the • 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).

4

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'. Scien*tists* 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 IFCAs (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 be 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 the 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 'unkown' 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 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 supported 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 he 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 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 where encouraged to record the narrative on that 'what-if' basis, i.e. linking the recorded the 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 that 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 reasources, 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 on-going 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 options 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 our 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 an 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 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 levels[218]:

[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 IFCAs 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 *dis*incentives 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 stared. 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**
Systematic network planning: - 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 Specifically, in the MCZ process: - The ENG were used as a benchmark for planning, grounded in the network design principles in Defra GN1.	Planning of **individual sites** to protect **specific features**: - 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. Specifically, in the MCZ process: - 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.
Broad spatial scale planning: - Systematic network planning requires the process to consider relatively large sea areas in one go. Specifically, in the MCZ process: - England's waters (and offshore waters beyond the territorial sea of Wales) were divided into four planning regions.	**Fine-scale planning:** - 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. In another sense, the planning scale can be **ad-hoc:**

- 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.	- There may be a legal requirement to protect specific features where they occur within a particular jurisdiction (e.g. in the *Natura 2000* 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 *necessitates* the consideration of broader spatial scales in planning, approach 2 does not. Specifically, in the MCZ process: - The process continues to operate at a broad (national) level, but focussing on individual features and sites within that area.
Strong **participative** incentives: - 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. Specifically, in the MCZ process: - 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.	Strong **top-down** elements: - 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. Specifically, in the MCZ process: - 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).

Proceeded based on **best available evidence**: - 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. Specifically, in the MCZ process: - 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.	Only proceed where there is **strong scientific evidence** to underpin individual sites: - 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. Specifically, in the MCZ process: - 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 that other forms of knowledge.
Upfront clarity on site management: - 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	**Management decisions left until the end**: - 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

legislation or policy, where different protection levels apply. - 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) Specifically, in the MCZ process: - 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.	determination of activity restrictions and management measures (post-designation). - 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.

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 IFCAs 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 IFCAs 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. Itlacks 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 IFCAs), 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 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 2013[220].

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 the 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 wiring, 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.

Palumbi, S. R. (2003) Population genetics, demographic connectivity, and the design of marine reserves. *Ecological Applications* **13**, S146-S158.

PMSS (2010) *Offshore Renewables Resource Assessment and Development (ORRAD) Project – Technical Report. Report prepared for South West Regional Development Agency.* http://www.wavec.org/client/files/ORRAD_Development_Report.pdf

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

Pressey, R. L., Humphries, C. J., Margules, C. R., Vane-Wright, R. I. & Williams, P. H. (1993) Beyond Opportunism: Key Principles for Systematic Reserve Selection. *Trends in Ecology & Evolution* **8**, 125-128.

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.

Rondinini, C. 2010. Meeting the MPA network design principles of representation and adequacy: developing species-area curves for habitats. JNCC Report *No. 439*
http://jncc.defra.gov.uk/pdf/jncc439_web.pdf

Sala, E., Burto-Oropeza, O., Paredes, G., Parra, I., Barrera, J. C. & Dayton, P. K. (2002) A general model for designing networks of marine reserves. *Science* **298** 1991-1993

Salomon M (2009) Recent European initiatives in marine protection policy: towards lasting protection for Europe's seas? *Environmental Science & Policy* **12**, 359-366.

Suárez de Vivero, J.L. and Rodríguez Mateos, J.C. (2012) The Spanish approach to marine spatial planning. Marine Strategy Framework Directive vs. EU Integrated Maritime Policy. *Marine Policy* **36** 18-27

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.
Wilson, J.C., Elliott, M., Cutts, N.D., Mander, L., Mendão, V. Perez-Dominguez, R. and Phelps, A. (2010) Coastal and Offshore Wind Energy Generation: Is It Environmentally Benign? *Energies* **2010**, *3*, 1383-1422. Open access article available at http://www.mdpi.com/1996-1073/3/7/1383

Symes, D (2012) Regionalising the Common Fisheries Policy: context, content and controversy *Maritime Studies* 2012, **11**:6 doi:10.1186/2212-9790-11-6
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

European Commission (2009) *The Common Fisheries Policy. A user's Guide.* Luxembourg: Office for Official Publications of the European Communities. ISBN 978-92-79-09874-1
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

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

JNCC and Natural England (2012c) *Marine Conservation Zone Project. JNCC and Natural England's advice to Defra on recommended Marine Conservation Zones* **(SNCB MCZ advice)**
http://jncc.defra.gov.uk/PDF/MCZProjectSNCBAdviceBookmarked.pdf

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. **(Finding Sanctuary's final report)**
www.finding-sanctuary.org or http://tna.europarchive.org/*/http://www.finding-sanctuary.org/ or http://findingsanctuary.marinemapping.com/

MCZ Science Advisory Panel (2011) *Science Advisory Panel Assessment of the Marine Conservation Zone Regional Projects Final Recommendations.* **(final SAP feedback)**
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

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 where 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 pocess? 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 IFCAs & 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 *nomenclature d'unités territoriales statistiques*, 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 IFCAs, 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/