# Offshore Marine Conservation in the North-East Atlantic: Opportunities and Challenges for the Developing Regime

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I, Elizabeth Maxwell De Santo, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

**ABSTRACT**

This thesis examines the development of the first offshore Marine Protected Area (MPA) on the UK Continental Shelf, the Darwin Mounds area of cold-water coral reefs discovered in 1998 off the North-West coast of Scotland. Following the 1999 Greenpeace High Court judgment and subsequent rulings by the European Court of Justice, the EC Habitats Directive is now deemed to apply throughout Member States' territories (*i.e.* out to 200 nautical mile limits of their Exclusive Economic/Fishery Zones). Damage to the Darwin Mounds area caused by deep-water trawling fishing activity has been observed and in 2003, at the UK's request, the European Commission imposed a ban on bottom trawling in the area, which became a permanent measure in 2004. This move was made possible by the revised Common Fisheries Policy (CFP) and represents the first instance of a closure for nature conservation, rather than fish stocks, under the CFP.

Through a detailed legal and policy analysis, a program of semi-structured interviews with stakeholders, regulators and specialists in the field, and participant observation at regional workshops, this thesis explores the unique circumstances and sequence of events that led to the protection of the Darwin Mounds. A subsequent attempt to use the same legal mechanism to ban pair-trawling for sea bass in the English Channel (which results in the unintentional bycatch and mortality of dolphins and porpoises), met with less success. These two cases are explored within a theoretical framework derived from the social and natural sciences. The related issues of implementing a precautionary and ecosystem-based approach to marine conservation, and the role of science in policy-making are examined with regard to European initiatives currently under development. Eventually, networks of offshore MPAs will be designated throughout European marine waters, including around the UK. This thesis aims to contribute to the knowledge concerning the rights and use of space in the offshore marine environment, tensions between different policy initiatives, and the challenges and prospects for offshore marine nature conservation.

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This thesis is dedicated to my parents, Samuel and Linda De Santo, who have ceaselessly supported, encouraged and inspired me throughout my education.

*"Happy is he who has knowledge from research and does not turn to injury of his fellows or to unjust deeds, but looks upon the ageless order of eternal nature to learn in what way and where and how it came to be"*
*(Euripides fr. 910 (Nauck))*

*"Our problems are man made—therefore they can be solved by man. And man can be as big as he wants. No problem of human destiny is beyond human beings" (John F. Kennedy)*

**TABLE OF CONTENTS**


ABSTRACT 3

ACKNOWLEDGEMENTS 4

LIST OF TABLES 11

LIST OF FIGURES 13

LIST OF ABBREVIATIONS 15

**CHAPTER 1**
**INTRODUCTION AND OVERVIEW**

1.1 INTRODUCTION 18
*1.1.1 Marine Protected Areas (MPAs)* 21
*1.1.2 International commitments to offshore MPAs* 24

1.2 AIMS OF THESIS 28
*1.2.1 Interdisciplinary synthesis* 28
*1.2.2 Research questions, analytical strands and institutions examined* 29
*1.2.3 Justification and contribution* 34

1.3 INTRODUCTION TO THE CHAPTERS 35

**CHAPTER 2**
**LEGAL FRAMEWORK**

OVERVIEW 38

2.1 GENERAL LEGAL CONTEXT 38

2.2 GLOBAL CONVENTIONS AND INITIATIVES 43
*2.2.1 CITES, 1973* 47
*2.2.2 UNCLOS, 1982/1994* 48
*2.2.3 CBD, 1992* 53
*2.2.4 WSSD, 2002 / IUCN World Parks Congress, 2003* 56

2.3 REGIONAL CONVENTIONS AND COMMISSIONS 57
*2.3.1 CMS, 1979* 58

*2.3.2 Bern Convention, 1979* 59
*2.3.3 OSPAR, 1992* 60
*2.3.4 NEAFC, 1982* 66
*2.3.5 Aarhus Convention, 1998* 70

2.4 EUROPEAN LEGISLATION 71
*2.4.1 Background on EC habitat and wildlife conservation* 72

*2.4.2 EC Directive 92/43/EEC (1992 EC Habitats Directive)* 75
*2.4.2.1 Amendments* 75
*2.4.2.2 Implementation* 76
*2.4.2.3 Development and limitations* 79
*2.4.2.4 Article 6* 83

*2.4.3 EC Common Fisheries Policy (CFP)* 85
*2.4.3.1 Evolution of legislative jurisdiction* 86
*2.4.3.2 Reform of the CFP* 88
*2.4.3.3 Emergency measures* 89

*2.4.4 EC legislation currently under development* 90
*2.4.4.1 Maritime Green Paper* 90
*2.4.4.2 Marine Thematic Strategy/Marine Strategy Directive* 91

*2.4.5 Recent ECJ cases* 93
*2.4.5.1 Wadden Sea judgment (Habitats Directive)* 93
*2.4.5.2 de Berre case (Barcelona Convention)* 94
*2.4.5.3 MOX case (UNCLOS)* 95

*2.4.6 Flexibility in EC decision-making* 96

2.5 UK NATIONAL COMMITMENTS 99
*2.5.1 UK legislation* 99
*2.5.2 Conservation (Natural Habitats, etc.) Regulations, 1994* 100
*2.5.3 Marine Nature Reserves/Marine SACs/Marine Natural Areas* 102
*2.5.4 Marine Bill* 106

CONCLUSION 108

**CHAPTER 3**
**THEORETICAL FRAMEWORK**

OVERVIEW 111

3.1 DEFINING AND EVALUATING ENVIRONMENTAL REGIMES 111
*3.1.1 Regime formation* 113
*3.1.2 Regime effectiveness and resilience* 115

*3.1.3 Regime interactions* 118

3.2 THE PRECAUTIONARY PRINCIPLE 122
*3.2.1 Precaution and MPAs* 124

3.3 COMPLEX ADAPTIVE SYSTEMS 127
*3.3.1 Ecosystem resilience and adaptive co-management* 129

3.4 TOWARDS AN ECOSYSTEM APPROACH 132
*3.4.1 Regional Advisory Councils (RACs)* 133
*3.4.2 Marine Spatial Planning (MSP)* 134

3.5 THE ROLE OF SCIENCE IN ENVIRONMENTAL DECISION-MAKING 136

CONCLUSION 139

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**CHAPTER 4**
**METHODOLOGY AND INTRODUCTION TO THE CASE STUDIES**

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OVERVIEW 140

4.1 THEORETICAL RATIONALE 140

4.2 METHODOLOGY 142
*4.2.1 Legal analysis* 142
*4.2.2 Semi-structured interviews* 143
*4.2.3 Interview question framework* 149
*4.2.4 Interview analysis* 152
*4.2.5 Participant observation* 153

4.3 INTRODUCTION TO THE CASE STUDIES 154

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**CHAPTER 5**
**THE DARWIN MOUNDS**

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OVERVIEW 155

5.1 BACKGROUND ON *LOPHELIA PERTUSA* 155
*5.1.1 Deep-sea fisheries* 156

5.2 DISCOVERY OF THE DARWIN MOUNDS 158
*5.2.1 Atlantic Frontier Environment Network (AFEN)* 158
*5.2.2 'Scotland's barrier reef'* 159

*5.2.3 Greenpeace Atlantic Frontier Campaign* 166

5.3 GREENPEACE JUDGMENT 167
*5.3.1 Territorial scope of the Habitats Directive* 168

5.4 DARWIN MOUNDS CLOSURE 173
*5.4.1 CFP emergency closure* 176
*5.4.2 Evolution of the UK's first offshore MPA* 176

5.5 WHY A SUCCESS? CAUTION AND COMPROMISE 183

CONCLUSION 186

**CHAPTER 6**
**THE PAIR-TRAWL BAN**

OVERVIEW 190

6.1 BACKGROUND ON THE PAIR-TRAWL FISHERY 190
*6.1.1 Legal context* 191

6.2 POLICY PROCESS 194
*6.2.1 Emergency closure attempt* 194
*6.2.2 Unilateral Order and second emergency closure attempt* 198
*6.2.3 Greenpeace judicial review and appeal* 199

6.3 IMPLICATIONS FOR FUTURE MANAGEMENT SCENARIOS 200
*6.3.1 'Whose science?' Improving the science/policy interface* 203
*6.3.2 Disconnect within the Commission* 210

CONCLUSION 214

**CHAPTER 7**
**DISCUSSION AND REFLECTIONS**

OVERVIEW 217

7.1 INSTITUTIONAL INTERACTION IN THE NORTH-EAST ATLANTIC 217
*7.1.1 Potential effectiveness of an offshore MPA regime* 217
*7.1.2 Conventions and interactions* 222

7.2 IMPLICATIONS FOR EUROPEAN OFFSHORE MARINE CONSERVATION 231
*7.2.1 An emerging framework* 232

*7.2.2 Evaluating RACs and MSP as the way forward* 233
*7.2.3 Unaddressed tensions* 240

CONCLUSION 244

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**CHAPTER 8**
**CONCLUSIONS**

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OVERVIEW 246

8.1 OPPORTUNITIES AND CHALLENGES 247

8.2 IMPROVING THE POLICY PROCESS: BRIDGING THE GAP BETWEEN MARINE NATURE CONSERVATION AND FISHERIES MANAGEMENT 249

8.3 A LEVEL PLAYING FIELD 254

8.4 RECOMMENDATIONS FOR FUTURE RESEARCH 256

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BIBLIOGRAPHY 260

APPENDIX I: SAMPLE LETTER OF INTRODUCTION TO INTERVIEWEES 284

APPENDIX II: UK REQUEST FOR EMERGENCY MEASURES 286

APPENDIX III: RESPONSE FROM THE COMMISSION 292

APPENDIX IV: UK REQUEST FOR EXTENSION OF DOMESTIC BAN 296

| | | |
|---|---|---|
| **Table 1.1** | Lisbon principles on sustainable ocean governance | 21 |
| **Table 1.2** | IUCN protected area categories | 22 |
| **Table 1.3** | United States' classification system for MPAs | 24 |
| **Table 1.4** | Recent international initiatives for networks of MPAs applicable in the North East Atlantic | 26 |
| **Table 2.1** | European parties to international/regional environmental conventions | 46 |
| **Table 2.2** | OSPAR MPA nominations as of 2006 | 65 |
| **Table 2.3** | Offshore marine SAC sites proposed by the JNCC | 102 |
| **Table 2.4** | UK government initiatives towards a Marine Bill | 107 |
| **Table 3.1** | Characteristics of effective regimes | 117 |
| **Table 3.2** | Characteristics of ineffective regimes | 117 |
| **Table 3.3** | Variables of institutional interaction and relevant distinctions | 120 |
| **Table 3.4** | Recent examples of closures/bans where environmental concerns have been integrated into fisheries management | 125 |
| **Table 3.5** | Conditions affecting the impact of scientific inputs | 137 |
| **Table 4.1** | Schedule of PhD | 141 |
| **Table 4.2** | Interviewee quotation codes within the thesis | 146 |
| **Table 4.3** | Interviewee affiliations | 147 |
| **Table 4.4** | Interview schedule | 148 |
| **Table 4.5** | Interview question framework | 150 |
| **Table 4.6** | Key interview codes used in the analysis | 152 |
| **Table 4.7** | Conferences attended/participant observation opportunities | 154 |
| **Table 5.1** | Timeline of Darwin Mounds MPA designation | 175 |
| **Table 6.1** | Timeline of UK ban on pair-trawling for sea-bass | 199 |

**Table 7.1** Coastal Futures conference participants' perception of the ecosystem approach 238

| | | |
|---|---|---|
| **Figure 1.1** | Map of institutions and players involved in designating MPAs | 31 |
| **Figure 2.1** | Maritime Zones Established by UNCLOS | 40 |
| **Figure 2.2** | The UK Offshore Area showing the Territorial Sea, EFZ and Continental Shelf boundaries | 41 |
| **Figure 2.3** | Map of OSPAR Area | 62 |
| **Figure 2.4** | NEAFC Regulatory Area | 68 |
| **Figure 2.5** | Development of EC Directive 92/43/EEC | 81 |
| **Figure 2.6** | Current Development of EU Maritime Policy | 92 |
| **Figure 2.7** | EC decision-making process | 98 |
| **Figure 2.8** | Marine Natural Areas around England | 105 |
| **Figure 3.1** | Steps for active and adaptive management of marine reserves for fishery purposes | 131 |
| **Figure 4.1** | Triangulation research methodology approach undertaken in the thesis | 142 |
| **Figure 5.1** | Location of the Darwin Mounds | 160 |
| **Figure 5.2** | Detailed interpretation of the west Darwin Mounds | 162 |
| **Figure 5.3** | Damage to the Darwin Mounds visible in 2000 | 163 |
| **Figure 5.4** | Untrawled *Lophelia* at Nordleska, West Norway | 165 |
| **Figure 5.5** | Trawled *Lophelia* in the Iverryggen area, West Norway | 165 |
| **Figure 5.6** | Darwin Mounds Closure as recommended by the ICES Advisory Committee on Ecosystems | 182 |
| **Figure 5.7** | Permanent Darwin Mounds closure | 182 |
| **Figure 6.1** | Illustration of pair-trawling | 191 |
| **Figure 6.2** | ASCOBANS area | 193 |
| **Figure 6.3** | ICES fishing areas | 196 |

**Figure 6.4** Disconnect within the European Commission 210

**Figure 7.1** Vertical and horizontal levels of institutional interaction 224

**Figure 7.2** Hierarchical view of international, regional and UK legislation relevant to offshore marine conservation 225

**Figure 7.3** Example of vertical institutional interactions in the North East Atlantic 227

| | |
|---|---|
| **ACFA** | Advisory Committee on Fisheries and Aquaculture (EC) |
| **ACFM** | Advisory Committee for Fishery Management (of ICES) |
| **AFEN** | Atlantic Frontier Environment Network |
| **ASCOBANS** | Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas |
| **CAS** | Complex Adaptive System |
| **CBD** | Convention on Biological Diversity (1992) |
| **CITES** | Convention on International Trade in Endangered Species |
| **CFI** | Court of First Instance |
| **CFP** | Common Fisheries Policy (of the European Union) |
| **CMS** | Convention on Migratory Species |
| **COP** | Conference of Parties |
| **CPR** | Common Pool Resource |
| **CS** | Continental Shelf |
| **DEFRA** | Department for Environment, Food and Rural Affairs (UK) |
| **DG** | European Commission Directorate General |
| **DTI** | Department for Trade and Industry |
| **EC** | European Community |
| **ECJ** | European Court of Justice |
| **EU** | European Union |
| **EEA** | Euroepan Environment Agency |
| **EEC** | European Economic Community |
| **EEZ** | Exclusive Economic Zone |
| **EFZ** | Exclusive Fishing Zone |
| **FAO** | Food and Agricultural Organisation of the United Nations |
| **FRS** | Fisheries Research Services |
| **HELCOM** | Helsinki Convention for the Environmental Protection of the Baltic Sea |
| **ICES** | International Council for the Exploration of the Sea |
| **IEEP** | Institute for European Environmental Policy |
| **IGO** | Inter-Governmental Organization |

| | |
|---|---|
| **IMMO** | International Marine Management Organisation |
| **ITLOS** | International Tribunal on the Law of the Sea |
| **ITQ** | Individual Transferable Quota |
| **IUCN** | World Conservation Union |
| **JNCC** | Joint Nature Conservation Committee |
| **LOSC** | Law of the Sea Convention (synonym of UNCLOS) |
| **MEA** | Multilateral Environmental Agreement |
| **MMO** | Marine Management Organisation |
| **MNR** | Marine Nature Reserve |
| **MPA** | Marine Protected Area |
| **MSP** | Marine Spatial Planning |
| **NFFO** | National Federation of Fishermen's Organisations |
| **NEAFC** | North-East Atlantic Fisheries Commission |
| **NGO** | Non-Governmental Organization |
| **NMR** | National Marine Reserve |
| **NOCS** | National Oceanography Centre, Southampton |
| **NTMPA** | No-Take Marine Protected Area |
| **OSPAR** | Oslo and Paris Conventions for the Protection of the NE Atlantic |
| **QMV** | Qualified Majority Voting |
| **RFMO** | Regional Fisheries Management Organization |
| **SAC** | Special Area of Conservation |
| **SAMS** | Scottish Association for Marine Science |
| **SCI** | Site of Community Importance |
| **SEERAD** | Scottish Executive Environment and Rural Affairs Department |
| **SFF** | Scottish Fishermen's Federation |
| **SFPA** | Scottish Fisheries Protection Agency |
| **SPA** | Special Protection Area |
| **SSSI** | Site of Special Scientific Interest |
| **STECF** | Scientific, Technical and Economic Committee for Fisheries (EC) |
| **TAC** | Total Allowable Catch |
| **UK** | United Kingdom of Great Britain and Northern Ireland |
| **UKCS** | UK Continental Shelf |
| **UKOOA** | UK Offshore Operators Association |

| | |
|---|---|
| **UNCED** | United Nations Conference on the Environment and Development (Rio, 1992) |
| **UNECE** | United Nations Economic Commission for Europe |
| **UNCHE** | United Nations Conference on the Human Environment (Stockholm, 1972) |
| **UNCLOS** | United Nations Convention on the Law of the Sea |
| **UNGA** | United Nations General Assembly |
| **VMS** | Vessel Monitoring System |
| **WSSD** | World Summit on Sustainable Development (Johannesburg, 2002) |
| **WWF** | World Wide Fund for Nature (known as the World Wildlife Fund in North America) |

# 1

## INTRODUCTION AND OVERVIEW

---

*"The world's oceans are fundamental to the development and sustainability of human society, the maintenance of peace, and the health of the biosphere"*
(Costanza *et al.*, 1998:198)

### 1.1 INTRODUCTION

In the spring of 1998, an area of deep-sea cold-water coral known as the Darwin Mounds was discovered 100 nautical miles (nm) northwest of Scotland, within the United Kingdom's (UK) Exclusive Fisheries Zone (EFZ).[1] Following a Greenpeace campaign to halt oil and gas industry activity in UK offshore waters, in November 1999 an English High Court ruling commonly referred to as the 'Greenpeace Judgment'[2] interpreted the EC Habitats Directive to apply out to the limit of the UK's 200nm EFZ. Consequently the UK is now required to protect species and habitats in this area, and has since been revising its national implementation legislation, the Conservation (Natural Habitats, etc.) Regulations (1994), to include not only its EFZ but the entire continental shelf over which the UK exercises sovereign rights.

The UK has put forward proposals to the European Commission for designating the Darwin Mounds and a few other offshore marine sites as candidate Special Areas of Conservation (SACs) under the Habitats Directive. However this process and the revision of the UK's Conservation (Natural Habitats, etc.) Regulations has been delayed and the European Commission recently took the UK to court for, *inter alia,* not having properly implemented its Regulations in

[1] The UK has a 200nm Exclusive Fishing Zone (EFZ), pursuant to section 1(1) of the Fishery Limits Act 1976, which serves the same function as an Exclusive Economic Zone (EEZ). See the discussion on the United Nations Convention on the Law of the Sea below in Chapter 2, section 2.2.2 regarding EFZs and EEZs.

[2] *R. v. Secretary of State for Trade and Industry, ex parte Greenpeace (No. 2)* [2000] 2 CMLR 94.

the offshore zone.[3] This is an important development as it implies that other Member States have the same obligation to ensure the Directive is implemented out to 200nm, even though the Greenpeace Judgment, being of a national rather than European court, is not binding on other Member States. The European Commission now 'contends that within their Exclusive Economic Zones the Member States have an obligation to comply with Community law in the fields where they exercise sovereign powers and that the directive therefore applies beyond territorial waters' (Case C6-04, paragraph 115).

In 2003, the Darwin Mounds area was closed to bottom-trawling fishing activity under the emergency closure provisions of the revised Common Fisheries Policy (CFP) Basic Regulation 2371/2002. This closure was extended and made permanent in 2004, and as a result the Darwin Mounds became the UK's first offshore Marine Protected Area (MPA). Through a detailed policy analysis, semi-structured interviews with involved stakeholders, and participant observation at UK and European stakeholder forums on marine environmental management, this thesis examines the legal and political ramifications of the Greenpeace Judgment and Darwin Mounds offshore MPA, and explores the tensions between different policy initiatives relating to offshore marine conservation. A subsequent attempt by the UK to use the same legal process to ban pair-trawling for sea bass in the English Channel to protect dolphins and porpoises from accidental capture in fishing nets was less successful, and this study outlines the key issues and stakeholder perspectives on the reasons for this variation in policy outcomes. In examining these two case studies, this thesis aims to provide an analysis of the challenges and prospects for the effective implementation of conservation objectives in the offshore marine environment.

The legal framework for offshore marine conservation involves commitments to designating offshore MPAs on the global, regional (*i.e.* European) and UK level, and is set out in detail in Chapter 2. Theoretical frameworks for establishing

[3] Case C-6/04, *Commission of the European Communities v. United Kingdom of Great Britain and Northern Ireland.* Opinion of Advocate General Kokott delivered on 9 June 2005. Case C-131/05, *Commission of the European Communities v. United Kingdom of Great Britain and Northern Ireland*.

effective legal regimes for environmental protection are explored in Chapter 3. These require an interdisciplinary approach when addressing the offshore marine environment, incorporating approaches from both the social and natural sciences. Compared with the experience to date of European Member States with terrestrial protected areas, MPAs pose new challenges both scientifically and legally, given the complexity of the marine environment and the European Commission's exclusive jurisdiction over managing fisheries in European waters[4] (see section 1.1.2 below).

Ten years ago, a workshop[5] on the sustainable governance of the world's oceans held in Portugal put forward six 'Lisbon Principles' (Costanza *et al.*, 1998). These principles and the threats to the marine environment they were designed to address are still valid today. Listed below in Table 1.1, the Lisbon principles provide a barometer for assessing whether the international community has made progress on addressing threats to the marine environment. In their discussion on applying the principles, the authors focused on some examples of international strategies 'that can incorporate many of the Lisbon principles simultaneously' (Costanza *et al.*, 1998:199). The last of these was the designation and enforcement of Marine Protected Areas (MPAs).[6]

[4] While Member States remain responsible for nature conservation, jurisdiction over fisheries management within European waters (*i.e.* from 12nm to 200nm) was ceded to the European Commission in the 1970s. See Chapter 2, section 2.3.4.1.

[5] This workshop was held in July 1997 and was co-sponsored by the Independent World Commission on the Oceans and the Luso-American Development Foundation. The resulting Lisbon Principles were published in a *Science* article (Costanza *et al*., 1998) co-authored by scientists from the US, Sweden, Portugal and Australia.

[6] The other suggested applications of the Lisbon principles were (i) share-based and co-managed fisheries, (ii) integrated watershed management, and (iii) environmental bonding.

**Table 1.1 Lisbon Principles on Sustainable Governance of the Oceans**

| PRINCIPLE | DEFINITION |
|---|---|
| **Principle 1** ***Responsibility*** | Access to environmental resources carries attendant responsibilities to use them in an ecologically sustainable, economically efficient, and socially fair manner. |
| **Principle 2** ***Scale-matching*** | Decision-making on environmental resources should (i) be assigned to institutional levels that maximize ecological input, (ii) ensure the flow of ecological information between institutional levels, (iii) take ownership and actors into account, and (iv) internalize costs and benefits. |
| **Principle 3** ***Precaution*** | In the face of uncertainty about potentially irreversible environmental impacts, decisions concerning their use should err on the side of caution. |
| **Principle 4** ***Adaptive management*** | Given that some level of uncertainty always exists in environmental resource management, decision-makers should continuously gather and integrate appropriate ecological, social and economic information with the goal of adaptive improvement. |
| **Principle 5** ***Full cost allocation*** | All of the internal and external costs and benefits, including social and ecological, of alternative decisions concerning the use of environmental resources should be identified and allocated. |
| **Principle 6** ***Participation*** | All stakeholders should be engaged in the formulation and implementation of decisions concerning environmental resources. |

*(From Costanza* et al.*, 1998:198)*

### *1.1.1 Marine Protected Areas*

The term *Marine Protected Area* (MPA) can be used to describe any marine area that is given some kind of special protection, usually for conservation and/or fisheries benefits. A widely-accepted, general definition of an MPA offered by the World Conservation Union (IUCN) is 'an area of land and/or sea dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other means' (IUCN, 1994). In 1994, the IUCN defined a series of seven protected area categories based on primary management objectives, listed in Table 1.2.

**Table 1.2 IUCN Protected Area Categories**

| CATEGORY | DEFINITION |
|---|---|
| **Ia – Strict Nature Reserve**<br><br>***Protected area managed mainly for science*** | Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring. |
| **Ib – Wilderness Area**<br><br>***Protected area managed mainly for wilderness protection*** | Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition. |
| **II – National Park**<br><br>***Protected area managed mainly for ecosystem protection and recreation*** | Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible. |
| **III – Natural Monument**<br><br>***Protected area managed mainly for conservation of specific natural features*** | Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance. |
| **IV – Habitat/Species Management Area**<br><br>***Protected area managed mainly for conservation through management intervention*** | Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species. |
| **V – Protected Landscape/Seascape**<br><br>***Protected area managed mainly for landscape/seascape conservation and recreation*** | Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional |

| | |
|---|---|
| | interaction is vital to the protection, maintenance and evolution of such an area. |
| **VI – Managed Resource Protected Area**<br><br>***Protected area managed mainly for the sustainable use of natural ecosystems*** | Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs. |

*(From: Kelleher and Recchia, 1998)*

Several types of management regimes can be classified as MPAs, one of the more robust being *Marine Reserves*, defined as 'areas in which the extractive use of any resources (living, fossil or mineral) is prohibited, along with any form of habitat destruction' (Palumbi, 2002). Marine Reserves, also referred to as *No-Take Marine Protected Areas* (NTMPAs), are considered to be the most restrictive type of MPA, and fit within the "Ia" and "Ib" protected area categories set out by the IUCN (above). Whether or not NTMPAs are the most effective mechanism for conservation is debatable, as some argue that modern fisheries management approaches such as quotas and technical measures may be better suited to conserving fish stocks, as NTMPAs are perhaps too site-specific to achieve this aim (Jones, 2006a).

Although this thesis addresses offshore marine conservation in Europe, a system of designating MPAs recently released by the United States is worth mentioning here, as it classifies key characteristics and related attributes to describe any potential MPA, and the IUCN has not yet published a similar scheme specific to marine designations. The United States is currently developing a network of national MPAs and held a five month public consultation on the issue, which ended in February 2007. The classification system is given in Table 1.3.

**Table 1.3 United States' Classification System for MPAs**

| CHARACTERISTIC | ATTRIBUTES |
|---|---|
| **Conservation Focus** | *One or more of the following:*<br>Natural Heritage<br>Cultural Heritage<br>Sustainable Production |
| **Level of Protection Afforded** | *One of the following:*<br>Uniform Multiple-Use<br>Zoned Multiple-Use<br>Zoned with No-Take Area(s)<br>No-Take<br>No-Impact<br>No-Access |
| **Permanence of Protection** | *One of the following:*<br>Permanent<br>Conditional<br>Temporary |
| **Constancy of Protection** | *One of the following:*<br>Year-round<br>Seasonal<br>Rotation |
| **Ecological Scale of Protection** | *One of the following:*<br>Ecosystem<br>Focal Resource |

*(From the US MPA website: mpa.gov)*

This is a useful, simplified framework for evaluating the comparative rationale and strategy behind the establishment of various types of MPAs, and may be of use to the designation of networks of MPAs that have recently been called for in the international arena, outlined below.

### *1.1.2 International commitments to offshore MPAs*

In its 25th report to Parliament in December 2004, the Royal Commission on Environmental Pollution described the impact of fishing on the marine environment as 'the greatest individual threat to the environment in the seas around the UK' (RCEP, 2004:21) and called for a network of NTMPAs amounting to 30% of the UK's EFZ. When the RCEP report was released, Ben Bradshaw (then Minister for Nature Conservation and Fisheries) stated in the press that preserving marine life was 'the second biggest environmental

challenge the world faces after climate change'.[7] In recent years, there has been growing impetus at the international level for the establishment of networks of MPAs in order to address this threat (see Table 1.4, below). The Plan of Implementation put forward by the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg called for a representative network of MPAs to be established by 2012,[8] a goal reiterated in 2003 at the IUCN World Parks Congress with a further commitment to strictly protect at least 20-30% of each habitat type, *i.e*. closed to all forms of extractive use.[9] Given that only 0.04% of the world's oceans are currently designated as MPAs and an even smaller fraction, 0.01%, are NTMPAs, such an expansion poses a substantial challenge (Jones, 2006a; Pauly *et al*., 2002).

Also in 2003, a joint Ministerial meeting of the Helsinki and OSPAR Commissions held in Bremen resulted in a work programme aimed at designating a network of inshore and offshore MPAs by 2010.[10] In 2004, the WSSD commitment was reinforced at the seventh Conference of Parties to the Convention on Biological Diversity (CBD) in Kuala Lumpur, with a target to establish by 2012 (in the marine realm, and by 2010 terrestrially) a global network of 'comprehensive, representative and effectively managed national and regional protected areas'.[11]

[7] BBC News article *Fish areas 'need drastic action'*, 7 December 2004. Available online: (//news.bbc.co.uk/1/hi/sci/tech/4072503.stm).
[8] World Summit on Sustainable Development Plan of Implementation, available online: (www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.htm) at 31.(c).
[9] Recommendations of the Vth IUCN World Parks Congress, Durban, South Africa, available online: (www.iucn.org/themes/wcpa/wpc2003/pdfs/outputs/recommendations/approved/english/pdf/r22.pdf) at point 5.22.
[10] Ministerial meeting of the OSPAR Commission, Bremen, 25 June 2003, available online: (www.ospar.org/eng/html/md/Bremen_statement_2003.htm), at point 11.
[11] CBD COP 7 Decision VII/28 on Protected Areas (Articles 8(a) to (e)), available online: (www.biodiv.org/decisions/default.aspx?dec=VII/28).

**Table 1.4 Recent international initiatives for networks of Marine Protected Areas applicable in the North East Atlantic**

| CONFERENCE | GOAL | SCOPE | YEAR |
|---|---|---|---|
| World Summit on Sustainable Development (Rio +10), Johannesburg | Network by 2012 | Global | 2002 |
| IUCN World Parks Congress, Durban | Network by 2012, 20-30% strictly protected | Global | 2003 |
| OSPAR/HELCOM Bremen Statement | Network by 2010 | Regional | 2003 |
| CBD 7th Conference of Parties, Kuala Lumpur | Network by 2012 | Global | 2004 |

*(From De Santo and Jones, 2007a:2)*

Although it has yet to pass a moratorium on deep-sea trawling, the United Nations General Assembly (UNGA) issued Oceans and the Law of the Sea Resolutions[12] in 2003 and 2004 urging the international community to take immediate action towards the conservation and sustainable use of marine resources in areas beyond national jurisdiction. At the November 2004 World Conservation Congress in Bangkok, the IUCN called on the UNGA to place an interim ban on bottom trawling on the high seas in 2005 until a legally binding management regime is established to conserve deep-sea biodiversity from fishing impacts. The IUCN also recommended that the UN call for a similar interim ban in 2006 in areas covered by Regional Fisheries Management Organizations (RFMOs) until management frameworks are in place. These efforts have been undermined by nations with strong fishing interests and unwilling to place restrictions on high seas activities, such as Iceland, and the UN trawling moratorium is at present considered to be 'dead in the water'.[13]

In the European Community (EC)[14], following three years of consultation, a draft Marine Strategy Directive[15] was released in 2005, aimed at achieving a 'good

[12] UNGA Resolutions A/RES/58/240, A/RES/59/24 and A/RES/59/25 available online: (www.un.org/Depts/dhl/resguide/gares1.htm).

[13] 'Trawling moratorium dead in the water' Inter Press Service article by S. Leahy, 23 November 2006, available online: (ipsnews.net/news.asp?idnews=35585).

[14] This thesis refers to the European Community (EC) rather than European Union (EU), as fisheries are exclusively within the jurisdiction of the EC while the EU comprises the three

environmental status' for European marine waters by 2021. The EC also recently adopted a Green Paper on Maritime Policy in June 2006, which is open to consultation for one year and aims to launch a debate about a future maritime policy for the European Union. However, a coalition of non-governmental organizations (NGOs) has already pointed out that the proposed Marine Strategy Directive falls short of the ambitious targets set out in earlier drafts and the definition of 'good environmental status' remains unclear. If the proposed Directive is to serve as a pillar for the developing maritime policy, this definition needs to be uniform across Member States to prevent duplication and promote synergy between the two European initiatives.[16]

The primary legal instruments available to the EC to address fisheries management and marine nature conservation are, respectively, the Common Fisheries Policy (CFP) and the Habitats Directive.[17] While the CFP is managed under the Directorate General for Fisheries and Maritime Affairs (DG Fish), the Habitats Directive is under the responsibility of the Directorate General for the Environment (DG Environment). This bifurcation has its roots in the Treaty on European Union, where fisheries management is addressed under the Agriculture Title (Articles 32-38, formerly 38-46), and environmental management lies within the Environment Title (Articles 174-5). Both the CFP and the Habitats Directive impose binding obligations on Member States, the CFP in the form of Regulations and Decisions, and the Habitats Directive via its requirement of Member States to transpose the Directive into their national legislation.

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'pillars' of (i) the EC, (ii) justice and home affairs and (iii) a common Foreign and Security policy.

[15] Proposal for a Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy [SEC (2005) 1290], available online: (europa.eu.int/comm/environment/water/marine/dir_505_en.pdf).

[16] This coalition includes Greenpeace, Birdlife International, Oceana, the International Fund for Animal Welfare (IFAW), the World Wide Fund for Nature (WWF), Seas at Risk, the Fisheries Secretariat, the European Coastal Union, the European Environment Bureau (EEB) and the Coastal Union. Their position statements can be found at: (eu.greenpeace.org/issues/oceans_coalition.htm).

[17] Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, OJ L 206, 22.07.92, p.7.

From a legal standpoint, a key issue arises from this situation: given the jurisdictional separation between fisheries management issues controlled by DG Fish on the one hand and nature conservation under the auspices of DG Environment on the other, how can a Member State of the EC address overlapping nature conservation issues that occur as a result of the activities of EC fishing vessels? As will become evident later in the discussions on the Darwin Mounds MPA and the attempted ban on pair-trawling for sea bass, the role of precaution and degree of threat is at the interface of this tension.

## 1.2 AIMS OF THESIS

### *1.2.1 Interdisciplinary synthesis*

This thesis aims to address the challenges, issues and opportunities associated with the development of a regulatory framework for offshore MPAs through a detailed legal and policy analysis, a programme of semi-structured interviews with stakeholders and regulators, and observations at regional workshops and conferences relevant to marine conservation in order to gain an understanding of different issues from different perspectives. The rationale behind this methodology is to provide an interdisciplinary synthesis, combining a legal framework with empirical results from interviews and framing the analysis within theories from both the social sciences on environmental regime effectiveness, and the natural sciences on complex adaptive systems and ecosystem management. Theoretical approaches to assessing environmental regime effectiveness are questioned later in the thesis, given the outcomes of the case studies examined and the results of the interview process.

Methodologically, this thesis takes an approach termed by Dryzek (2005:75) as 'administrative rationalism', *i.e.* it examines the discourse of the expert rather than the citizen or producer/consumer in environmental problem solving. The issues explored in this analysis are more 'top-down' rather than 'bottom-up', that is they involve legal obligations and targets set by governments and the international community, and how these can be achieved through national

initiatives. Consequently, the interview process concentrated on representatives from different stakeholder groups, rather than the stakeholders themselves.

The methodological approach of this thesis is discussed in further detail in Chapter 4. In combining a legal analysis with semi-structured interviews and participant observation at workshops and conferences, this thesis aimed to provide a detailed picture of the challenges and opportunities for offshore marine conservation in the North-East Atlantic. The next section lays out the research questions and analytical strands that run through the thesis, and the institutions examined during the empirical analysis.

### *1.2.2 Research questions, analytical strands and institutions examined*

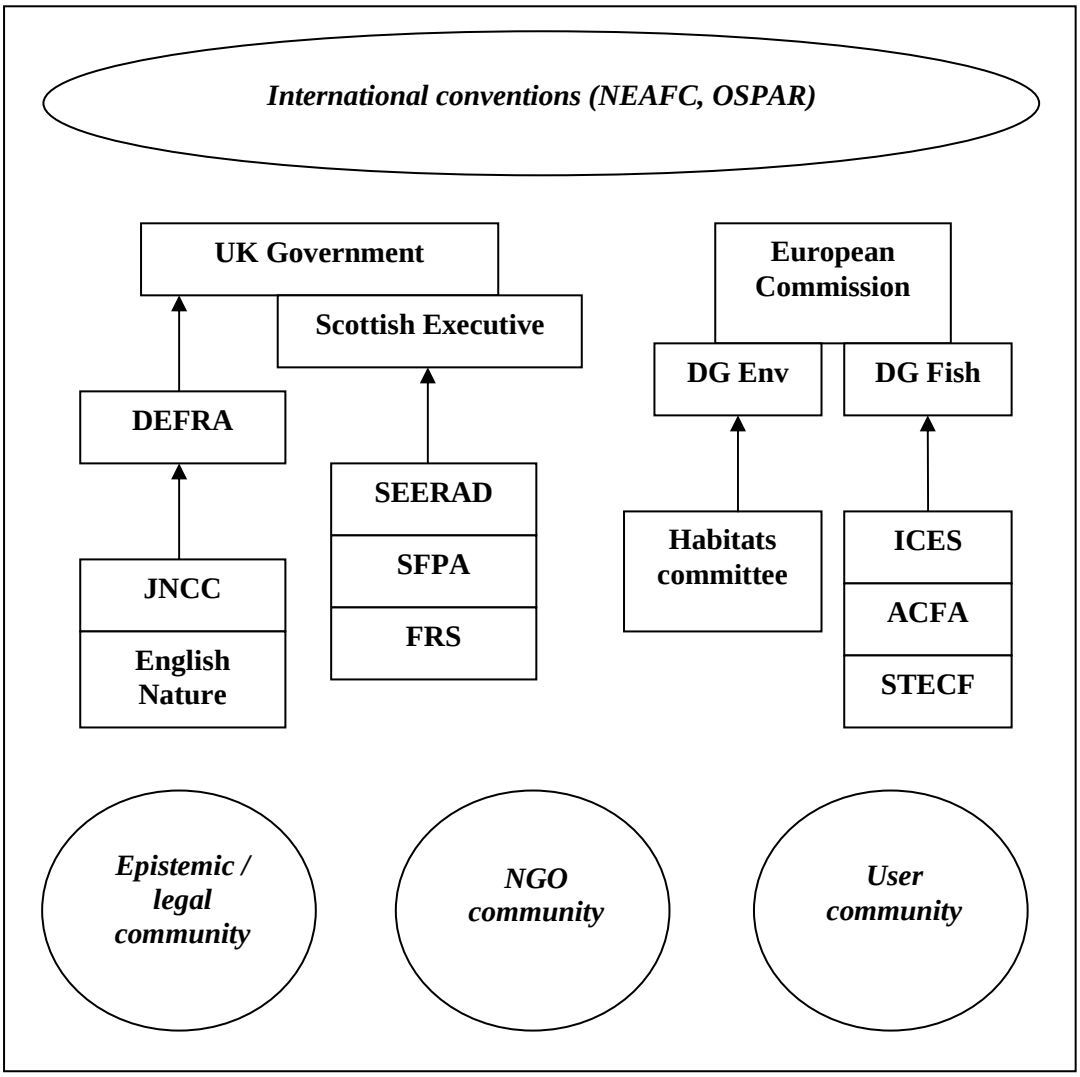
When the PhD commenced in the fall of 2003, the Darwin Mounds MPA had just been established a few months earlier and the concept of offshore MPAs in European waters was quite new. Over the past three and a half years, research on the topic has grown in the regulatory arena, but progress on developing and implementing nature conservation measures in offshore waters has been slow. Therefore the questions this thesis aimed to address remain pertinent, and are as follows:

- What are the challenges to the developing regime of offshore Marine Protected Areas?
- What are the problems, gaps and issues with the current regime?
- What role is played by the relevant actors and their regulators and what are their perspectives?
- What is the potential impact of legislative reform currently underway?
- How does the UK's situation differ from that of other EU states under the same legal obligations?
- What lessons are to be learned for offshore MPAs as a whole? Recommendations?

It is hoped that this thesis will contribute to the understanding of approaches to offshore marine conservation in the North-East Atlantic and elucidate answers to the above questions. Key analytical strands running throughout the thesis which emerged during the interview process include the role of science and precaution in environmental decision-making, the impact of the bifurcation between fisheries management and nature conservation, and the implementation of an ecosystem-based approach to managing the complex marine environment.

Figure 1.1 below gives a general overview of the institutions and players involved in designating and managing MPAs in UK offshore waters and the North-East Atlantic. In order to address the research questions given above, this thesis included analyzing perspectives from as many of the most relevant bodies as possible.

***Figure 1.1 Map of institutions and players involved in designating MPAs***




This map shows the overarching international conventions directly applicable in the region, the North East Atlantic Fisheries Commission (NEAFC) and the OSPAR Convention for the Protection of the Marine Environment of the North East Atlantic, whose MPA designation capacities are discussed in more detail in Chapter 2. The UK and EC are both parties to OSPAR, and the EC is a party to NEAFC on behalf of its member states, including the UK. The secretariats of both of these institutions are located in London. With respect to the UK government, decisions taken to designate domestic MPAs are undertaken based on advice from DEFRA, the Department for the Environment, Food and Rural

Affairs. DEFRA in turn receives advice and information from executive agencies and executive non-departmental public bodies, including English Nature[18] and the Joint Nature Conservation Committee (JNCC). JNCC delivers the UK and international responsibilities of the four country nature conservation agencies: Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage.

Following the process of devolution within the UK which occurred in the late 1990s (discussed below at the end of Chapter 2 and in Chapter 7 at section 7.2.3), there now exist devolved parliaments or assemblies in Scotland, Wales and Northern Ireland. Figure 1.1 includes Scottish institutions as these were directly involved in the designation of the Darwin Mounds offshore MPA. The Scottish Executive Environment and Rural Affairs Department (SEERAD)[19] is responsible for advising the UK government on environmental issues within Scottish territory, including fisheries. The Scottish Fisheries Protection Agency (SFPA) of the Scottish Executive monitors compliance of the fishing industry with UK, EC and international fisheries laws and regulations in ports and at sea (within the Scottish component of the UK's EFZ, and beyond under monitoring agreements with NEAFC). Fisheries Research Services (FRS) is an agency of the Scottish Government Marine Directorate and provides scientific support and advice on several marine and aquatic issues, including fisheries. SEERAD and SFPA are headquartered in Edinburgh, and FRS is split between Aberdeen and Perthshire.

Decision-making on the European level with regard to MPAs is centered in the European Commission in Brussels. The Directorate General for Fisheries and Maritime Affairs (DG Fish) and the Directorate General for the Environment (DG Environment) are responsible for fisheries and nature conservation,

[18] During the period in which this thesis was undertaken, this body was known as English Nature. It has subsequently been combined with the environment activities of the Rural Development Service and the Countryside Agency's Landscape, Access and Recreation division, and renamed Natural England.

[19] As in the previous note, this body has changed since the research for this thesis was undertaken. Since 2007, many of SEERAD's functions are now undertaken by the new Scottish Executive Environment Directorate.

respectively. As discussed later in the thesis (see Chapter 2, section 2.4.6 and Figure 2.7) the DGs are each advised by subsidiary bodies, the Habitats Committee on the part of DG Environment, and for DG Fisheries, the Advisory Committee on Fisheries and Aquaculture (ACFA, a stakeholder forum), the Scientific, Technical and Economic Committee for Fisheries (STECF) and the International Council for the Exploration of the Sea (ICES). ACFA and STECF are comprised of stakeholders and experts, respectively, who meet regularly to provide recommendations. The secretariats of both groups are provided by the European Commission in Brussels. ICES, which provides independent scientific advice (discussed in more detail later in the thesis in the context of the Darwin Mounds closure) is headquartered in Copenhagen.

In addition to these institutions, there are other, external, players involved in the designation and monitoring of MPAs in UK offshore waters and the North-East Atlantic. Representatives from the epistemic and legal communities were included in this analysis, as well as representatives from Non-Governmental Organizations (NGOs) involved in promoting marine conservation. Particular NGOs involved in the case studies discussed in this thesis include Greenpeace, the World Wide Fund for Nature (WWF), the Institute for European Environmental Policy (IEEP), Oceana, and the Royal Society for the Protection of Birds (RSPB). Representatives from the user community were also included in this analysis. The National Federation of Fishermen's Organisations (NFFO), located in York, represents fishermen from England, Wales and Northern Ireland on the UK and international level. The Scottish Fishermen's Federation (SFF) does the same for Scottish fishermen and is located in Aberdeen. In terms of the oil and gas side of the user community, the Department for Trade and Industry (DTI, located in Aberdeen) the UK Offshore Operators Association (UKOOA, based in London) and for historical purposes, the Atlantic Environment Frontier Network (AFEN). While not directly responsible for the designation of MPAs, these outside interests do play influential roles in the decision-making processes of both the UK and EC, as evidenced by the case studies examined in this thesis.

### *1.2.3 Justification and contribution*

This thesis represents the first attempt to elucidate the policy process that took place during the designation of the Darwin Mounds MPA, from the perspective of players in the process and within the context of offshore marine conservation initiatives in the North-East Atlantic. Previous peer-reviewed work published on the Darwin Mounds has focused on their discovery, geological origin, biogeochemistry, and observations of damage to the corals caused by bottom-trawling fishing methods (Bett, 2001; Gage, 2001; Hall-Spencer *et al*., 2002; Masson *et al*., 2003, Roberts *et al*., 2003 and 2006**;** Hughes and Gooday, 2004; Kiriakoulakis *et al*., 2004; le Goff-Vitry *et al*., 2004; Waller and Tyler, 2005; Wheeler *et al*., 2005; Roberts *et al*., 2006; Kiriakoulakis *et al*., 2007). In addition to the scientific literature, WWF produced reports highlighting the need for protecting the area before the closure was implemented (Gubbay *et al*., 2002; Andersson *et al*., 2003).

During the course of the PhD, two articles based on preliminary results were published in peer-reviewed, international journals. The first, based on the legal framework given below in Chapter 2, detailed the development of the Habitats Directive and explored the legal ramifications of the Greenpeace Judgment and commitments to offshore MPAs given the different political outcomes of the Darwin Mounds and pair-trawl ban (De Santo and Jones, 2007a). The second article was presented at the 3rd International Symposium on Deep Sea Corals in 2005, detailing the policy process that led to the Darwin Mounds closure and incorporating perspectives of key players in the process (De Santo and Jones, 2007b). Aside from the aforementioned NGO reports and articles in the news media, the papers that resulted from this thesis represent the first social science analyses of the Darwin Mounds closure.

Addressing offshore MPAs poses challenges different not only to the terrestrial environment, but also inshore marine areas. The further one moves offshore, the fewer stakeholders are directly affected. Deep-sea ecosystems themselves pose different management challenges than those inshore, as organisms in dark, high pressure environments tend to exhibit slower growth and lower reproductive

capacity than their shallow-water counterparts. For example, the commercially exploited deep-sea fish species orange roughy (*Hoplostethus atlanticus*) does not reproduce until it is 20-30 years old, and can live up to 150 years or more (Fenton *et al*., 1991). Only some 0.0001% of the deep sea floor has been explored to date, hence it has often been said that we know more about the surface of the moon than we do about the deep-sea (UNEP, 2006). While this thesis does not address the management of the High Seas (*i.e.* beyond 200nm, a global commons), it aims to provide insights for management within the 200nm EEZ/EFZ that may be useful to consider in the designation of protected areas further offshore.

In contrast with protected sites closer to shore, very little has been written on the designation and management of offshore MPAs. This proved challenging during the early phase of the doctoral research, as there were few sources to consult that could provide a base against which to compare the situation of the Darwin Mounds. Rather, the story of how this cold water coral reef was discovered and protected presented a unique and interesting set of circumstances that merited further exploration. When the UK was subsequently unsuccessful in its attempt to ban pair-trawling for sea bass in the English Channel using the same legal mechanism that had protected the Darwin Mounds, this outcome allowed for a comparative analysis and also a chance to reflect on what these events indicate for the future of European marine policy. The difference in outcomes between the two case studies also highlighted the fundamental tension between fisheries management and marine nature conservation in the North-East Atlantic and the complex interaction between politics and law in European waters. The following introduction to the Chapters sets out the order of the thesis, highlighting the key issues explored.

### 1.3 INTRODUCTION TO THE CHAPTERS

The present chapter provides an introduction to offshore MPAs and sets out the aims and contribution of the thesis.

**Chapter 2** comprises the legal review conducted in the first year of the PhD (and subsequently updated). Global, regional and local (*i.e.* UK) commitments and legislation are examined in light of their applicability to offshore marine nature conservation. This chapter includes a detailed analysis of the development of the Habitats Directive (EC Directive 92/43/EEC) and the revised Common Fisheries Policy (EC Regulation 2371/2002).

**Chapter 3** examines theoretical approaches to environmental regime effectiveness and the role of science in policy-making with regard to marine nature conservation and fisheries management. Particular attention is given to the implementation of the precautionary principle and ecosystem approach and the ways in which these commitments have been ingrained in developing European marine protection legislation. While the precautionary principle could have been addressed in Chapter 2, it is discussed here in the context of the ecosystem approach, as the two are often linked in European environmental legislation. This chapter also addresses the difficulty of protecting the marine environment given its complex, adaptive nature.

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**Chapter 4** outlines the methodologies employed in this thesis, *i.e.* incorporating a detailed legal/policy analysis with semi-structured interviews and participant observation at relevant stakeholder workshops and conferences on UK marine environmental issues. Within the context of the interview methodology, this chapter provides an outline of the questions/themes addressed and the professional affiliations of the perspectives included in the analysis.

**Chapter 5** tells the story of the UK's first offshore MPA, the Darwin Mounds area of cold-water coral, from its discovery in 1998 to its protection as a closed area under the revised CFP in 2003. This chapter is based largely on oral histories given by key players in the process who were interviewed after the closure. The success of this initiative is analysed in light of issues raised during the interview process.

**Chapter 6** describes the UK's attempt to ban pair-trawling for sea bass in the English Channel, drawing on the legal process and perspectives from an array of stakeholders and experts. Implications for future management scenarios are discussed within the context of key issues that emerged during the analysis of the pair-trawl ban and Darwin Mounds closure, namely the role of science and precaution in environmental decision-making, and the bifurcation between marine nature conservation and fisheries management in European waters.

**Chapter 7** provides a discussion and reflection on issues raised by the Darwin Mounds closure and UK pair-trawl ban, in particular the limitations of using environmental regime theory for predicting outcomes in the designation and implementation of offshore MPAs. This chapter also examines implications of the two case studies and developing legislation for the successful application of an ecosystem approach to European marine conservation.

**Chapter 8** gives an overview of conclusions and recommendations for future efforts towards marine conservation in the North-East Atlantic and suggests areas for further research.

# 2

## LEGAL FRAMEWORK

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*"I am indeed lord of the world but the law is lord of the sea"*
*(Roman Emperor Antoninus)*

### OVERVIEW

This chapter examines existing global, regional and domestic (UK) legislation relevant to the application of MPAs in the North-East Atlantic, including a detailed examination of the origins and development of the EC Habitats Directive and the evolution of legislative jurisdiction with regard to fisheries management in Europe under the Common Fisheries Policy (CFP). First, however, certain legal definitions on territoriality and sovereignty should be outlined for the purpose of framing this analysis with respect to the primary contribution of the Greenpeace judgment, *i.e.* delineating the territorial scope of the Habitats Directive.

### 2.1 GENERAL LEGAL CONTEXT

Under international law, states are sovereign and have equal rights and duties as members of the international community despite economic, social, political or other differences.[1] The doctrine of the sovereignty and equality of states has three principal outcomes, namely that states have (i) a jurisdiction, *prima facie* exclusive, over a territory and a permanent population living there; (ii) a duty of non-intervention in the area of exclusive jurisdiction of other states; and (iii) the dependence of obligations arising from customary law[2] and treaties on the consent of obligor (Brownlie, 1990:287).

[1] Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States in Accordance with the Charter of the United Nations, UNGA Res. 2625 (xxv) (1970).

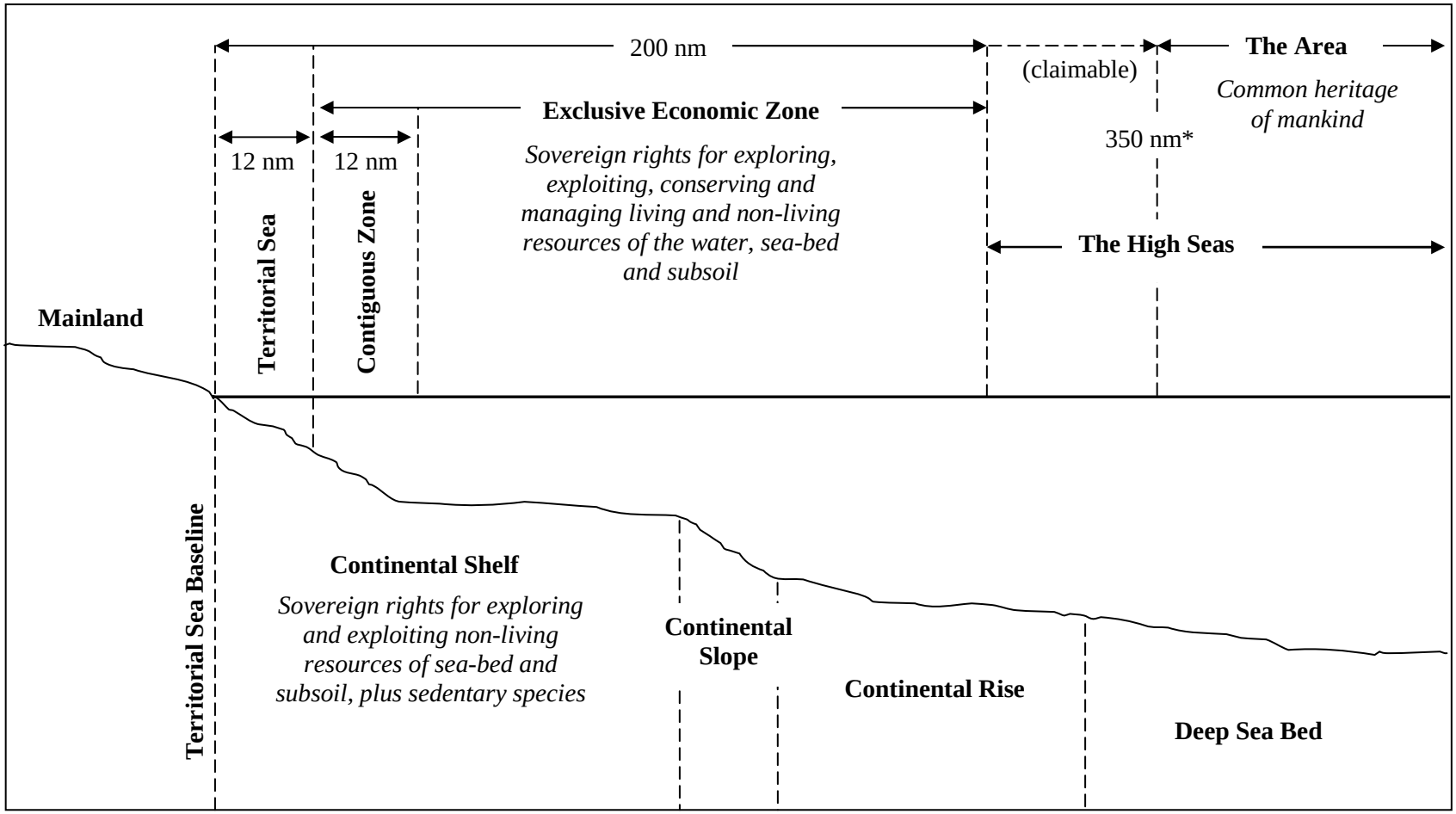
[2] Two elements are required to establish the existence of a rule of customary international law: (i) general and consistent practice adopted by States, and (ii) *opinio juris*, the conviction that the practice concerns a matter which is the subject of legal regulation and is consistent with international law (Churchill and Lowe, 1999:7).

Consequently, the sovereignty and exclusive jurisdiction of a state over its territory signifies that it alone has the competence to develop policies and laws in respect of the natural resources and the environment of its territory, which comprises: (i) the land within its boundaries, including the subsoil; (ii) internal waters, such as lakes, rivers and canals[3]; (iii) the territorial sea, which is adjacent to the coast, including its seabed, subsoil and the resources thereof[4] and (iv) the airspace above its land, internal waters and territorial sea, up to the point at which the legal regime of outer space begins (Sands, 2003).

In addition, states have limited sovereign rights and jurisdiction over other areas, including: a contiguous zone adjacent to the territorial seas[5]; the resources of the continental shelf, its seabed and subsoil[6]; certain fishing zones[7]; and the Exclusive Economic Zone (EEZ).[8] Figure 2.1 gives a schematic representation of ocean zone designations, and Figure 2.2 outlines the UK's marine administrative boundaries, outlining its territorial sea, Exclusive Fishing Zone (EFZ[9]) and continental shelf. It follows then that certain zones fall outside the territory of any state, and in respect of these no state has exclusive jurisdiction. These areas, which are sometimes referred to as the global commons, include the high seas and its seabed and subsoil, outer space, and, according to a majority of states, the Antarctic (Sands, 2003:710). The atmosphere is also sometimes considered to be a part of the global commons.

[3] UNCLOS (United Nations Convention on the Law of the Sea, 1982/1994), Article 8.
[4] UNCLOS, Article 2; on archipelagic waters as national territory, see UNCLOS, Article 48.
[5] UNCLOS, Article 33.
[6] UNCLOS, Articles 76 and 77.
[7] *Fisheries Jurisdiction Cases* (1974) ICJ Reports 3, at paragraph 52.
[8] UNCLOS, Articles 55 and 56.
[9] Some states have established Exclusive Fishing Zones (EFZs) rather than Exclusive Economic Zones (EEZs), such as the UK, in the late 1970s. The EFZ in combination with exclusive rights over sea-bed resources from the Continental Shelf regime give the UK all it wants at present from an EEZ (Churchill and Lowe, 1999).

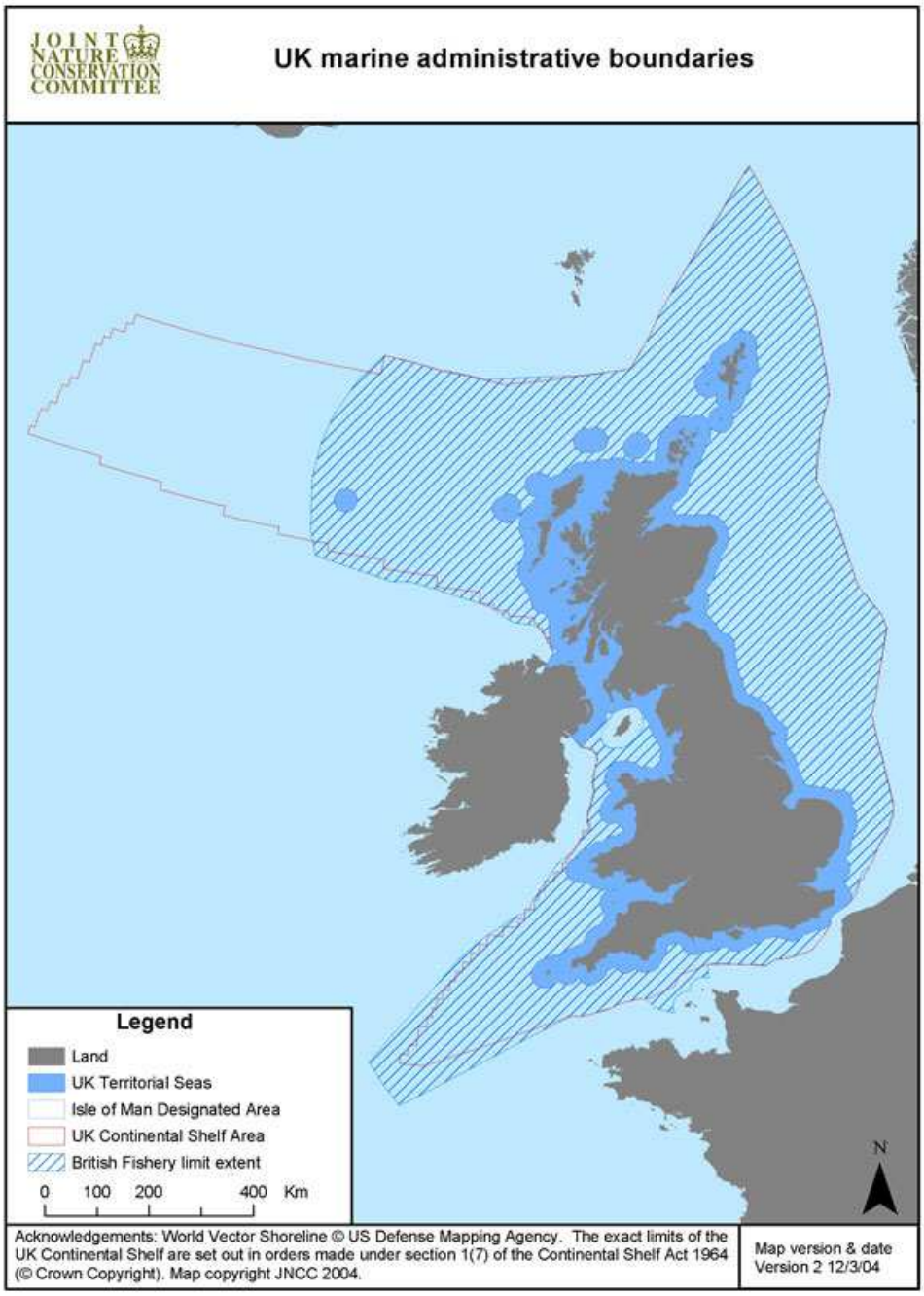
***Figure 2.1 Maritime Zones Established by the UN Convention on the Law of the Sea***




* or 100nm from the 2500nm isobath

*(Adapted from Churchill and Lowe, 1999:30)*

***Figure 2.2 The UK Offshore Area showing the Territorial Sea, EFZ and Continental Shelf boundaries***




*(Reproduced with permission from the JNCC website on marine SACs: www.jncc.gov.uk/ProtectedSites/marine/sac_marine.html)*

The rules of international environmental law have evolved such that they pull on states in two directions: while states have sovereign rights over their natural resources, they must not cause damage to their environment. These objectives are set out in Principle 21 of the 1972 Stockholm Declaration, which remains the cornerstone of international environmental law.[10] Twenty years later, the drafting of Principle 2 of the Rio Declaration only added two words to the language used by Principle 21, namely that 'states have the right to pursue their own environmental *and developmental* policies'. Taken together, Principle 21 and Principle 2 establish the basic obligation underlying international environmental law (Sands, 2003).

However, the legal regime of sovereign rights and territorial jurisdiction as outlined above, despite its codification as customary international law, does not accurately reflect the complex trans-boundary nature of the environment itself. The fluid nature of the marine environment poses significant challenges to management scenarios, an area that is explored later in this dissertation.[11] The interdependence of ecological issues poses a fundamental problem for international law, and explains why international cooperation and the development of international environmental standards are difficult and increasingly essential: international law faces the challenge of reconciling the fundamental independence of sovereign states with the inherent fundamental interdependence of the environment (Sands, 2003).

[10] According to Principle 21, 'States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction'. That Principle 21 reflects customary law was confirmed by the ICJ's 1996 Advisory Opinion on The Legality of the Threat or Use of Nuclear Weapons (Sands, 2003).

[11] The complex nature of the marine environment and its implications for management approaches is discussed in Chapter 3.

## 2.2 GLOBAL CONVENTIONS AND INITIATIVES

An important concept used to compare international politics across issue areas is that of international regimes.[12] With respect to the environment, a useful definition of an international regime is 'a system of principles, norms, rules, operating procedures, and institutions that actors create or accept to regulate and coordinate action in a particular issue area of international relations'[13] (Chasek *et al.*, 2006:17). Most regimes take the form of a binding agreement or legal instrument. On global environmental issues, the most common form of legal instrument are treaties (also referred to as conventions, accords, agreements and protocols), which may either contain all the binding obligations expected to be negotiated or it may be followed by a more detailed legal instrument elaborating on its norms and rules.

The 1969 Vienna Convention on the Law of Treaties[14] defines a treaty as 'an international agreement concluded between states in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation'.[15] This definition emphasizes the idea that a convention is intended to create international legal rights and obligations between parties; whether the creation of such binding obligations is intended will usually be clear from the characteristics of the treaty and the circumstance in which it is adopted (Sands, 2003:126). If a convention is negotiated in anticipation of further elaborating texts (*i.e.* protocols), it is termed a framework convention (Chasek *et al.*, 2006:19). Framework conventions usually establish a set of general principles, norms and goals for cooperation on an issue (including a regular Conference of Parties (COP)) rather than imposing binding obligations. Instead, the protocols subsequently negotiated under the

[12] The concepts of regime effectiveness and interaction are explored in more depth in Chapter 3.
[13] Chasek *et al.* (2006:17) further define *principles* as beliefs of fact, causation and rectitude; *norms* as standards of behavior; *rules* as specific prescriptions or proscriptions for action; *operating procedures* as prevailing practices for work within the regime; and *institutions* as mechanisms and organizations for implementing, operating, evaluating and expanding regimes.
[14] Vienna Convention on the Law of Treaties, 23 May 1969, in force 27 January 1980, 8 ILM 679 (1969).
[15] Vienna Convention, Article 2(1)(a).

framework convention set out specific obligations of parties (*e.g.* the Kyoto Protocol of the United Nations Framework Convention on Climate Change).

Non-binding agreements such as codes of conduct and plans of action, are termed 'soft law' and can also be viewed as regimes, though with varying degrees of effectiveness in attaining their goals. Non-binding agreements do influence state behavior to some extent, however legally-binding obligations related to environmental protection tend to be more effective.

The international legal regime for protecting marine species and habitats involves both global and regional rules. These regimes can be further broken down into those that address species protection versus those that focus on habitat protection, and/or a combination of the two.[16] With regard to habitat conservation, protected area conventions fall into two types: those that provide for geographic areas to be defined where activities may be prohibited or restricted, and those that prohibit or regulate a narrow range of activities and provide for the identification of areas particularly sensitive to these activities where more stringent protection applies (Kimball, 2001).

On the global level, there are three conventions/programs that define geographical areas for special protection. Two of these cover a wide range of areas, the 1972 World Heritage Convention[17] and the 1971 Man and the Biosphere Program.[18] The third focuses on wetlands, the 1971 Ramsar Convention.[19] Three global framework conventions directly applicable to the

[16] There is also a wealth of legislation addressing marine pollution, contributing indirectly to species and habitat protection, however this thesis addresses more direct measures and hence omits discussion of marine pollution legislation.

[17] The 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (World heritage Convention). Marine and coastal areas may be designated as 'natural and cultural areas of outstanding value' but only if they lie within the territory of a contracting party (*i.e.* not beyond the 12nm territorial sea).

[18] With respect to the marine environment, the 1971 Man the Biosphere Program's protection scheme is focused on 'integrated biodiversity strategies for islands and coastal areas' (*i.e.* not directly applicable to the European offshore marine area). Its Biosphere Reserves do not function under a legally-binding convention (Kimball, 2001).

[19] The 1971 Convention on Wetlands of International Importance, Especially for Waterfowl (Wetlands or Ramsar Convention), though not applicable offshore, is an example of successful international cooperation in the realm of habitat protection.

conservation of biodiversity in the European marine offshore environment are the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the 1983 United Nations Law of the Sea Convention (UNCLOS), and the 1992 Convention on Biodiversity (CBD). In addition, relevant international forums that addressed offshore MPAs worth mentioning in this section include the 2002 Johannesburg World Summit on Sustainable Development (WSSD) and the 2003 IUCN World Parks Congress held in Durban, South Africa. The following section goes into more detail on these global framework conventions and initiatives. As this thesis was submitted for examination in September 2007, the remainder of this chapter is current up to that date.

Table 2.1 lists European parties to the global and regional conventions discussed in the next two sections of this chapter, and was compiled from Convention membership lists as of September 2007. The key players for the purposes of this thesis are the UK and EC, both of whom are parties to most of the conventions discussed below. Exceptions include CITES (to which the UK is a party but the EC is not), and NEAFC (in which the EC acts on behalf of the UK, but the latter has no independent representation).

**Table 2.1 European parties to global/regional conventions**

| EC Members 2007 | CITES | UNCLOS | CBD | CMS | Bern | OSPAR | NEAFC | Aarhus |
|---|---|---|---|---|---|---|---|---|
| *Austria* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Belgium* | X | X,I,S | X | X | X | X | -- | X |
| *Bulgaria* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Cyprus* | X | X,I,S | X | X | X | -- | -- | X |
| *Czech Republic* | Succ | X,I,S | Apv | X | X | -- | -- | X |
| *Denmark* | X | X,I,S | X | X | X | X | X | Apv |
| *Estonia* | Acc | X,I,S | X | -- | X | -- | -- | X |
| *Finland* | Acc | X,I,S | Acp | X | X | X | -- | Acp |
| *France* | App | X,I,S | X | X | X | X | -- | Apv |
| *Germany* | X | X,I,S | X | X | X | X | -- | X |
| *Greece* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Hungary* | Acc | X,I | X | X | X | -- | -- | X |
| *Ireland* | X | X,I,S | X | X | X | X | -- | -- |
| *Italy* | X | X,I,S | X | X | X | -- | -- | X |
| *Latvia* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Lithuania* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Luxembourg* | X | X,I,S | X | X | X | X | -- | X |
| *Malta* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Netherlands* | X | X,I,S | Acp | X | X | X | -- | Acp |
| *Poland* | X | X,I,S | X | X | X | -- | -- | X |
| *Portugal* | X | X,I,S | X | X | X | X | -- | X |
| *Romania* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Slovakia* | Succ | X,I | Apv | X | X | -- | -- | Acc |
| *Slovenia* | Acc | X,I,S | X | X | X | -- | -- | X |
| *Spain* | Acc | X,I,S | X | X | X | X | -- | X |
| *Sweden* | X | X,I,S | X | X | X | X | -- | X |
| *UK* | X | X,I,S | X | X | X | X | -- | X |
| | | | | | | | | |
| **EC** | -- | X,I,S | Apv | X | X | X | X | Apv |
| **Iceland** | Acc | X,I,S | X | -- | X | X | X | -- |
| **Norway** | X | X,I,S | X | X | X | X | X | X |
| **Switzerland** | X | -- | X | X | X | X | -- | -- |
| **Russia** | Succ | X,I,S | X | -- | -- | -- | X | -- |

*(As of September 2007)*

| **KEY** | Acc = Accession |
|---|---|
| X = Ratified/Party* | Acp = Accepted |
| I = 1994 UNCLOS Implementation Agreement | Apv = Approved |
| S = 1995 UNCLOS Straddling Stock Agreement | Succ = Succeeded predecessor signatory |

**The Vienna Convention establishes a state's consent to be bound by a treaty in Articles 12-15. Ratification, Acceptance and Approval are legally equivalent actions but only applicable to states that sign a treaty when it is open for signature. Accession refers to when a state joins a treaty after it was open for signature.*

### *2.2.1 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973*

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) entered into force in 1975 and as of 2007 there were 172 Parties. Although the EC is not a Party, several European countries are, including the UK (the EC has however adopted legislation[20] providing for its implementation). The Convention aims to regulate the unsustainable harvesting and trade of wild plant and animal species through a permit system based on whether the species is listed in the treaty's three Appendices. Appendix I includes species threatened with extinction which are or may be affected by trade.[21] Appendix II includes species not presently threatened with extinction, but which may become so if their trade is not strictly regulated.[22] Appendix III includes species which a party to the convention identifies as being subject to regulation within its jurisdiction for the purposes of preventing or restricting exploitations, and as needing the cooperation of other parties in the control of trade.[23]

The Convention's guidelines take an ecosystem-based approach by requiring management to take into account all significant habitats throughout the range of the species. CITES provides varying degrees of protection to roughly 5,000 species of animals and 28,000 species of plants. Its three Appendices include several species of cetaceans, marine turtles and corals, however efforts to designate certain depleted marine fish species (such as Atlantic bluefin tuna) for protection under the Convention have been unsuccessful (Kimball, 2001).

In October 2006, CITES and the Food and Agricultural Organisation (FAO) of the United Nations signed a Memorandum of Understanding, formalizing a working relationship to cooperate in the management and conservation of fish species. While CITES has not been very successful to date in addressing

[20] Council Regulation (EEC) No. 82/3626, OJ L 384, 31.12.82, p.1, as amended. In 1997, this was replaced by Council Regulation (EC) No. 338/97, OJ L 61, 03.03.97, p.1, as amended.
[21] CITES, Article II(1).
[22] CITES, Article II(2).
[23] CITES, Article II(3).

offshore marine conservation issues, it has relevance in this geographic area given the inclusion of fish species found offshore within its Annexes. A growing number of commercially exploited fish species have come under CITES controls in recent years, including the basking and whale sharks (included in Appendix II in 2002) and the great white shark and humphead wrasse in 2004. At the latest Conference of Parties (COP) to CITES in June 2007, proposals for the inclusion of more species included the spiny dogfish, porbeagle shark, European eel, pink coral, sawfishes, Banggai cardinelfish, Caribbean spiny lobster and smoothtail spiny lobster. However, following extensive discussions only two of these made it onto the CITES Appendices, the European eel and sawfishes. Nonetheless, this is a positive development given the European eel is a popular food in many countries, and the further inclusion of valuable marine species in the CITES regime reflects growing concern about the accelerating decline of the world's oceans and fisheries.[24]

### *2.2.2 United Nations Convention on the Law of the Sea (UNCLOS), 1982/1994*

The United Nations Law of the Sea Convention (UNCLOS) provides a comprehensive framework for addressing marine issues and provides strong and binding obligations to protect and preserve the marine environment. Its principles and mechanisms have been realized through specialized legal instruments to support an ecosystem-based and precautionary approach to sustainable ocean use. The linkages among these agreements are helping to construct a web of international commitments that increasingly include all sources of ocean stress (Kimball, 2001). The Convention briefly addresses the issue of protected areas/species in Article 194(5), which provides that measures taken under Part XII (on the protection and preservation of the marine environment) 'shall include those necessary to protect and preserve rare or

[24] CITES press releases: (1)'Governments to consider new CITES trade controls for high-value marine and timber species', 28 February 2007, available online: (www.cites.org/eng/news/press/2007/070228_cop14.shtml) and (2) 'CITES updates wildlife trade rules to meet the emerging challenges of the 21st century', 15 June 2007, available online: (www.cites.org/eng/news/press_release.shtml).

fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life'.

Given the important ramifications for offshore management inherent in the Law of the Sea Convention (LOSC), some background is necessary to understand both its implications and the difficulties inherent in its negotiations. There have been four major attempts by the international community to codify the law of the sea, beginning with a League of Nations initiative in 1924[25] that resulted in a conference in the Hague in 1930. Though unable to reach an agreement about the geographic extent of territorial waters (*i.e.* waters under full sovereign jurisdiction of coastal states), the Hague conference led to draft articles that had some influence in developing further initiatives. The first UNCLOS, held in Geneva in 1958, succeeded in adopting four conventions on: (i) the Territorial Sea and the Contiguous Zone; (ii) the High Seas; (iii) the Continental Shelf; and (iv) Fishing and Conservation of the Living Resources of the High Seas, all of which were ratified except the fourth. The question of the breadth of the territorial sea was not resolved in the 1958 conference either, and thus a second Conference (UNCLOS II) was convened in 1960 to discuss this issue and the related question of fishery limits. It failed by only one vote to adopt a compromise solution entailing a six-mile territorial sea plus six-mile fishery zone (Churchill and Lowe, 1999). Agreement on the breadth of maritime zones was not reached until the completion of UNCLOS III, after prolonged negotiations.[26]

Of direct importance to the offshore MPA regime, the LOSC established maritime zones including a 12nm territorial sea and 200nm Exclusive Economic Zone (EEZ)[27], both under the sovereign jurisdiction of a coastal State (see Figures 2.1 and 2.2 above). Within the 12nm territorial sea, states are sovereign

[25] The League of Nations appointed a Committee of Experts to determine issues for codification, including territorial waters, piracy, exploitation of marine resources, and legal status of State-owned merchant ships.

[26] UNCLOS III held its first session in 1973 and was not adopted as a convention until 1982.

[27] As mentioned earlier, the UK claims an Exclusive Fishing Zone (EFZ) rather than EEZ (*supra*, note 9). Most of the other developed States that initially claimed EFZs have converted these to EEZs following the adoption of the LOSC. As the UK has not, this thesis refers to its EFZ when addressing the UK situation directly, but reverts to the term EEZ when discussing the regime generally.

over the seabed, subsoil, and the air space above the sea.[28] The innocent passage of foreign vessels is permitted within the 12nm zone, and coastal states are allowed to adopt laws regarding navigation, protection of cables and pipelines, fisheries, pollution, scientific research, and customs, fiscal, immigration and sanitary regulations.[29]

The EEZ extends up to 200nm from the baseline[30], within which coastal states have 'sovereign rights for the purpose of exploring and exploiting, conserving and managing' the fish stocks therein.[31] These rights are subject to several duties. Coastal states must take the necessary management measures to ensure that their fish stocks are not endangered by over-exploitation. Stocks are to be maintained at or restored to 'levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors […] and taking into account fishing patterns, the interdependence of stocks and any generally recommended'[32] sub-regional, regional or global minimum standards (Churchill and Lowe, 1999:289). These duties are broadly formulated and leave room for coastal states to set any level of total allowable catch, as long as it does not lead to over-exploitation. The EEZ regime agreed during the UNCLOS III negotiations addresses the problems of sustainable exploitation of open access resources by designating living resources under the jurisdiction of coastal states. The rights and duties of other states in the EEZ include freedom of navigation, over-flight and the laying of submarine cables and pipelines (with some limitations subject to the coastal State's powers of consent and pollution control).

Nearly 99% of the world's fisheries now fall under some nation's jurisdiction and a large percentage of the world's reserves of oil and gas are found in EEZs. Consequently there is a need for rational, well-managed exploitation of these

[28] UNCLOS, Article 2(2). The development of the concept of the territorial sea is beyond the scope of this thesis, which focuses primarily on offshore waters, *i.e.*, beyond 12nm. For a historical overview of the territorial sea, see Churchill and Lowe (1999, chapter 4).
[29] UNCLOS, Article 21.
[30] The baseline, from which the outer limit of the territorial sea and EEZ are measured, is defined as the 'low-water line along the coast as marked on large-scale charts officially recognized by the coastal State' (UNCLOS, Article 5).
[31] UNCLOS, Article 56(1).
[32] UNCLOS, Article 61(3).

resources. If all coastal states were to establish 200nm EEZs, roughly 36% of the sea would fall under this jurisdiction (Churchill and Lowe, 1999). Though not a large percentage of the oceans, this phytoplankton-rich area encompasses over 90% of commercially viable fish stocks and approximately 87% of the world's known submarine oil deposits (Churchill and Lowe, 1999). Nationals of other states fishing in an EEZ must comply with the measures, laws and regulations adopted by the State that holds jurisdiction in that zone, including conservation laws.[33]

Whereas a coastal State holds full sovereign rights over the seabed and its resources as well as the overlying water in its EEZ, the continental shelf (CS) regime agreed under the LOSC is more limited. A coastal State is entitled to a CS consisting of (i) the sea bed reaching 200nm from the baseline of the territorial sea and (ii) subject to the 'Irish Formula',[34] any area of physical continental margin (referred to as the 'outer' CS) beyond it (Churchill and Lowe 1999:149). The minimum breadth of the CS is set as 200nm (*i.e.* not less than the EEZ), a legal definition that differs from its geological classification. The maximum seaward limit of the CS is set as either within 350nm of the baseline or within 100nm of the 2,500 meter isobath.[35] Given this dual definition of the maximum extent of the CS, *i.e.* 200nm or up to 350nm, it is not surprising that many nations have focused their national legislation towards the larger definition where possible.

The rights of the coastal State are limited to the exploration and exploitation of the seabed and sub-soil of its CS. Consequently, sedentary species (such as coral) are considered to be under the exclusive control of the coastal State, while non-sedentary species (such as fish) are open to exploitation as one of the freedoms of the high seas.

[33] UNCLOS, Articles 62(4) and (5).

[34] Where the continental margin extends beyond 200nm, the outer limit of the legal CS is determined by the application of a complex test known as the 'Irish Formula'. The limit is either (i) a line connecting points not more than 60 miles apart, at each of which points the thickness of sedimentary rocks is at least 1% of the shortest distance from such point to the foot of the continental slope, or (ii) a line connecting points not more than 60 miles apart, which points are not more than 60 miles from the foot of the slope.

[35] UNCLOS, Articles 76(4) and (5).

Two factors complicating UNCLOS negotiations were fishing rights and oil exploration. A profound increase in fishing effort occurred during the twentieth century due to rising demand, growth in fishing industries in developing countries, and most importantly, tremendous advances in technology for catching and processing fish. The world's total fish catch increased from 15 million tons (mt) in 1938 to 28mt in 1958, 64mt in 1974 and 90mt by 1990, though it began to decline by the year 2000 (Birnie and Boyle, 2002:646). As global fish stocks decreased, conflicts arose and between 1974 and 1979 alone there were some twenty disputes over cod, anchovies or tuna and other species between, for example, the United Kingdom and Iceland, Morocco and Spain, and the United States and Peru. The designation of exclusive sovereignty over the sea and its fish stocks understandably played an important role in UNCLOS negotiations. The importance of oil interests as a driving force in the formation of the LOSC is evident in the fact that UNCLOS III was launched shortly after the October 1973 Arab-Israeli war and its resulting oil embargo and skyrocketing prices. At the time, only two percent of the continental shelf had been explored and hopes were high for further discoveries.

The LOSC entered into force in 1994, despite the non-involvement of key states with reservations about the Treaty's provisions on the deep sea bed (such as the United States and, initially, the UK[36]). As of September 2007, the Convention had 155 Parties.[37] Two subsequent legal instruments, the 1994 Implementation Agreement and 1995 Straddling Stocks Agreement[38] have served as implementation vehicles for the Convention with significant implications for the offshore zone. The Straddling Stock Agreement focuses primarily on the management of fish stocks in the high seas (*i.e.* beyond 200nm), however it also addresses areas under national jurisdiction in its Articles 5 (general principles), 6

[36] The UK ratified UNCLOS and its 1994 Implementation Agreement in 1997, and the Straddling Stocks Agreement in 2001. The US remains outside this Convention.

[37] As of September 2007, 130 States had ratified the 1994 Implementation Agreement and 67 had ratified the 1995 Straddling Stocks Agreement.

[38] The Implementation Agreement entered into force on 28 July 1998 and the Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks entered into force 11 December 2001.

(the precautionary approach) and 7 (management and conservation). Concurrent with the Straddling Stocks Agreement, the Food and Agriculture Organization of the United Nations sponsored a voluntary Code of Conduct on Responsible Fisheries in 1995. Though this code is an example of soft law, *i.e.* not legally binding, it sets out principles and international standards of behavior for responsible practices with the aim of conserving ecosystems and using the precautionary approach. It also recommends the development and application of selective and environmentally safe fishing gear and practices.[39]

In its preamble, the LOSC states as its goal the establishment of 'a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful use of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment'. In addition to its achievement of having finally codified states' maritime zones, it attempts for the first time to provide a global framework for the rational exploitation and conservation of the sea's resources and the protection of the environment (Birnie and Boyle:348). UNCLOS is consequently one of the most far-reaching and influential of global environmental regimes, and its provisions on the protection and preservation of the marine environment are considered by many states to reflect generally applicable principles or rules of customary law (Sands, 2003:396).

### *2.2.3 Convention on Biological Diversity (CBD), 1992*

Negotiated under the auspices of UNEP, the 1992 Convention on Biological Diversity was signed by 153 states and the EC at the United Nations Conference on Environment and Development (UNCED, also known as the Rio Conference or Earth Summit). It entered into force in 1993 and as of September 2007 it had 189 parties including the EC and the UK. The CBD established objectives for the comprehensive preservation of biological diversity, reflecting aims of the 1980 IUCN World Conservation Strategy (Sands, 2003:516). As a framework

[39] Article 6(6).

convention, it does not obligate signatories to any measurable conservation objectives, though it requires development of national strategies for the conservation of biodiversity.

Article 8 of the CBD requires parties to (i) establish a system of protected areas where special measures need to be taken to protect biological diversity and (ii) to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. In 1995, the second Conference of the Parties (COP II) focused on marine and coastal biodiversity, resulting in the non-binding Jakarta Mandate on Marine and Coastal Biodiversity.[40] This mandate aims to increase understanding of the value and effects of marine and coastal protected areas on sustainable use and to develop criteria for their establishment and management. It encourages the integration of protected areas into wider strategies so that external activities do not adversely impact marine and coastal ecosystems. The marine living resources program element (one of five established under the mandate) includes action to identify key habitats on a regional basis, and to prevent their physical alteration and destruction as well as protecting and restoring spawning and nursery areas and other important habitat (Kimball, 2001).

The UK published a Biodiversity Action Plan (BAP) in 1994 in response to Article 6 of the CBD, to develop national strategies for biodiversity conservation and the sustainable use of biological resources. The BAP committed the UK government and its agencies to 59 programs aimed at conserving species and habitats, developing public awareness and understanding, and contributing to biodiversity work in Europe and internationally. A Biodiversity Steering Group was subsequently established to advise the government on implementation of the BAP, involving several levels of membership such as central and local government, statutory nature conservation agencies, industry, the scientific community, agricultural representatives and conservation NGOs. Following the Biodiversity Steering Group's 1996 recommendations to the UK Government, a

[40] See implementation document by de Fontaubert *et al*. (1996).

framework of Groups was established to further the process. The UK BAP produced a report on the first five years of its work in 2001, 'Sustaining the Variety of Life'. Throughout the development of the UK BAP work it was evident that its successful implementation would depend on ensuring effective action at the local level. Consequently there are now over 160 local biodiversity action plans in some stage of development in the UK.

With regard to marine BAPs, following the establishment of a UK Marine BAP Coordinating Group (comprised of statutory agencies) in May 2000, a report detailing the UK BAPs for maritime species and habitats was published in October 2000.[41] The CBD supports existing arrangements for habitat protection by calling on states to establish a network of protected areas at the national level where special conservation measures are needed. In January 2004, the CBD's *ad hoc* technical expert group on marine and coastal protected areas published 'Technical Advice on the Establishment and Management of a National System of Marine and Coastal Protected Areas'.[42] At the seventh Conference of the Parties (COP VII) in February 2004, decision VII/S was taken on marine and coastal biodiversity, implementing the World Summit on Sustainable Development commitment to establishing a global network of MPAs by 2012 (see section 2.2.4 below).

The CBD's comprehensive approach to species, ecosystem and genetic diversity and its endorsement of an ecosystem approach[43] to biodiversity conservation strengthen the impetus for an ecosystem-based approach to marine conservation (Kimball, 2001). This Convention's strongest contribution may lie in promoting

[41] *UK Biodiversity Group Tranche 2 Action Plans, Volume V – maritime species and habitats*, October 2000.
[42] CBD Technical Series No. 13, available on the CBD website: (www.biodiv.org/doc/publications/cbd-ts-13.pdf).
[43] The Ecosystem Approach is considered by the CBD to be the primary framework for achieving sustainable development, by maintaining fully functioning ecosystems. It is hoped that an Ecosystem Approach will help to reach a balance of the three objectives of the convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources (CBD, 2000). See chapter 3 for a more detailed discussion of the Ecosystem Approach.

a more systematic approach to the use of the large number of international agreements promoting coastal/marine protected area designations.

### *2.2.4 World Summit on Sustainable Development (WSSD), 2002 / IUCN World Parks Congress, 2003*

Two recent global environmental initiatives are worth mentioning in the context of offshore MPAs. Ten years after the Rio Summit, the World Summit on Sustainable Development (WSSD) was held in Johannesburg in the autumn of 2002. In its Plan of Implementation, the WSSD addressed the marine environment in a section on 'protecting and managing the natural resource base of economic and social development'.[44] The Summit agreed, *inter alia*, (i) to encourage the application of the ecosystem approach to the world's oceans by 2010; (ii) to maintain or restore fish stocks to maximum sustainable yields by 2015 where possible, with the aim of achieving these goals for depleted stocks on an urgent basis; (iii) to implement the Food and Agriculture Organisation (FAO) plan for managing fishing capacity[45] by 2005; (iv) to implement the FAO plan to prevent illegal fishing[46] by 2004; and (v) to establish a regular UN process for assessing the state of the marine environment by 2004. The Johannesburg text says little about how these aims will be realized or who will be responsible for their implementation. At its eleventh session in May 2003, the UN Commission on Sustainable Development negotiated a work program for implementing the outcomes of the WSSD over the next 15 years. One of its seven themes was 'Oceans and seas, marine resources, small island developing states, disaster management and vulnerability'.

A year after the WSSD, in 2003 the fifth IUCN[47] World Parks Congress held in Durban, South Africa, produced specific recommendations for the development

[44] Johannesburg Plan of Implementation, available on the UN Division for Sustainable Development website: (www.un.org/esa/sustdev).
[45] FAO International Plan of Action for the Management of Fishing Capacity, 1999.
[46] FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2001.
[47] The World Conservation Union (IUCN) is a Swiss-based organisation with members from 140 countries including 70 states, 100 government agencies, more than 750 NGOs. One of its many functions is to provide policy advice and technical support to the secretariats and Parties

of MPAs in its commitments and policy guidelines for protected areas world wide.[48] In particular, the Congress called on international bodies and all nations to establish a global system of effectively managed, representative networks of marine and coastal protected areas by 2012 (including strictly protected areas that amount to at least 20-30% of each habitat, see Table 1.4 in Chapter 1). The Congress also called for the restoration of depleted fish stocks by 2015, the application of the ecosystem approach to ocean and fisheries management by 2010 and the establishment of at least five ecologically significant and globally representative High Seas MPAs by 2008. While the objectives set out by the IUCN are more detailed than the 2002 WSSD Plan of Implementation, neither is legally binding. Nonetheless, they may still contribute to the development of future binding commitments.[49]

The IUCN World Commission on Protected Areas (WCPA) is involved in a partnership with the WWF on a MPA Management Effectiveness Initiative, and presented a guidebook[50] on the topic at the Durban Congress. These guidelines are designed to provide tools to MPA practitioners and facilitate a learning network to improve management effectiveness.

### 2.3 REGIONAL CONVENTIONS AND COMMISSIONS

Regarding offshore marine conservation in the North-East Atlantic, relevant regional regimes include the 1979 Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention), the 1979 Bern Convention on the Conservation of European Wildlife and their Habitats, the 1992 OSPAR Convention on the Protection of the Environment of the North East Atlantic, the North-East Atlantic Fisheries Commission (NEAFC) and the 1998 Aarhus Convention (regarding access to environmental justice). The following section

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of international conventions. It also monitors World Heritage sites, assesses global biodiversity and convenes World Parks Congresses every four years.

[48] The recommendations of the fifth World Parks Congress can be found on the IUCN website: (www.iucn.org/themes/wcpa/wpc2003).

[49] While the 2002 WSSD Plan of Implementation (like the 1972 Stockholm Declaration and 1992 Rio Declaration) was not intended to create legal rules and obligations, it may reflect rules of international law or contribute to the development of such rules, other than by treaty law (Sands 2003:126).

[50] The document is available on the project website: (effectivempa.noaa.gov/guidebook).

goes into more depth on these treaties and their relevance in the context of offshore marine conservation. For a listing of European parties, see Table 2.1 above.

### *2.3.1 Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention), 1979*

The CMS entered into force in 1983 and focuses on the conservation of migratory species throughout their range. Its two Appendices list species at two levels of risk, those requiring immediate action and those with an unfavorable conservation status. As a framework convention, it provides guidelines for subsequent Agreements protecting particular species/regions (such as the 1992 Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)).[51] As of September 2007, the CMS had 105 Parties from Africa, Central and South America, Asia, Europe and Oceana (and including both the UK and EC), who are required to conclude Agreements benefiting migratory species, with the aim of restoring or maintaining their favorable conservation status. Both of the Convention's Appendices include marine species and migratory seabirds and several relevant Agreements have been concluded. The CMS is considered to be particularly interesting for three reasons: (i) it covers an unusually broad range of threats to listed species, (ii) its provisions are unusually rigorous in their restrictions and (iii) it establishes a precedent in international wildlife law for providing subsidiarity agreements which focus attention and efforts on particular species (Lyster, 2000).

The Bonn Convention stresses that states are the protectors of species within national boundaries, while recognizing that the conservation and effective management of migratory species require the concerted action of all states within whose boundaries they spend a part of their lifecycle (Birnie and Boyle, 2002:606). Its preamble has been cited as the clearest articulation yet in a

[51] Other Agreements concluded under the CMS with a marine focus include the 1990 Agreement on the Conservation of Seals in the Wadden Sea Area; the 1996 Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS); and the 1999 Memorandum of Understanding Concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa.

wildlife convention in force of the Brown Weiss doctrine of intergenerational equity[52], in stating that 'each generation of man holds the resources of the earth for future generations and has an obligation to ensure that this legacy is conserved and, when utilized, is used wisely' (Birnie and Boyle, 2002:606).

### *2.3.2 Bern Convention on the Conservation of European Wildlife and their Natural Habitats, 1979*

The Bern Convention was negotiated under the Council of Europe and came into force in 1982. Although the Convention initially had mostly economically developed countries of Northern Europe as Parties, including the EC, it has since expanded its membership to Central and Eastern European countries. As of September 2007, it had 45 Parties, including 39 Member States of the Council of Europe (which includes the UK), as well as the EC, Monaco and four African States. The Bern Convention's objectives are (i) to conserve wild fauna, flora and their habitats; (ii) to promote cooperation between states; and (iii) to give particular emphasis to endangered and vulnerable species, including endangered and vulnerable migratory species. It applies to all species and their habitats, regardless of their scarcity, and is applicable to visiting migratory species as well as European species found outside of Europe (Sands, 2003). The Convention lists species in three Appendices and imposes explicit mandatory obligations. Parties are obliged to take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of wild fauna and flora (Reid, 2002). Implementation of the Bern Convention falls under the jurisdiction of a Standing Committee composed of representatives, one from each Party. The Committee produces recommendations and proposals for

[52] This doctrine is threefold: (i) Conservation of Options: Each generation should conserve the diversity of the natural and cultural resource base so that the options of future generations are not unduly restricted; (ii) Conservation of Quality: Each generation should maintain the quality of the planet so that it is passed on in no worse condition than that in which it was received; and (iii) Conservation of Access: Each generation should provide its members with equitable rights of access to the legacy of past generations and conserve this access for future generations (Brown Weiss, 1990).

improving the effectiveness of the Convention and may adopt amendments to the Appendices.[53]

In December 1999 at its 19th meeting, the Bern Convention specifically addressed the conservation of marine habitats and species in Europe, reviewing a preliminary report,[54] which also emphasized the need for protection in offshore and deep sea areas. The consensus of this meeting however was to delay creating a working group on marine biodiversity until a more complete assessment of the work of other related organizations had been compiled. There was however general agreement on the need to look for synergies with all conventions in the regional seas and other appropriate organizations under the Bonn Convention. In its subsequent meetings in 2000 and 2001, the Bern Convention Standing Committee has addressed marine turtle conservation, but not habitat protection in general. As discussed below in section 2.4, the origins of the EC Birds and Habitats Directives can be found in the provisions of the Bern Convention. As the Directives are legally binding and impose more detailed obligations than the Convention, they can be seen as having a more practical impact on the conservation of wildlife and habitats. However, the Convention still contributes to nature conservation in Europe by extending commitment and co-operation among its Parties (*i.e.* to its non-EC members as well) and it also provides further legal recognition for the needs of certain endangered species (Reid, 2002).

### *2.3.3 OSPAR Convention for the Protection of the Marine Environment of the North East Atlantic, 1992*

The OSPAR Convention came into force in 1998, replacing the 1972 Oslo Dumping Convention and 1974 Paris Convention, and it has sixteen Parties[55]

[53] For example, in December 1991 over 400 species were added to Appendix I, to which an additional 107 Eastern European species were added in December 1996 (Sands, 2003).
[54] Castello, M. (1999) Convention on the Conservation of European Wildlife and Natural Habitats, Draft Report *'Conservation of Marine Habitats and Species in Europe'*, Strasbourg, 13 October 1999, T-PVS (99) 56.
[55] Belgium, Denmark, the EC, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK.

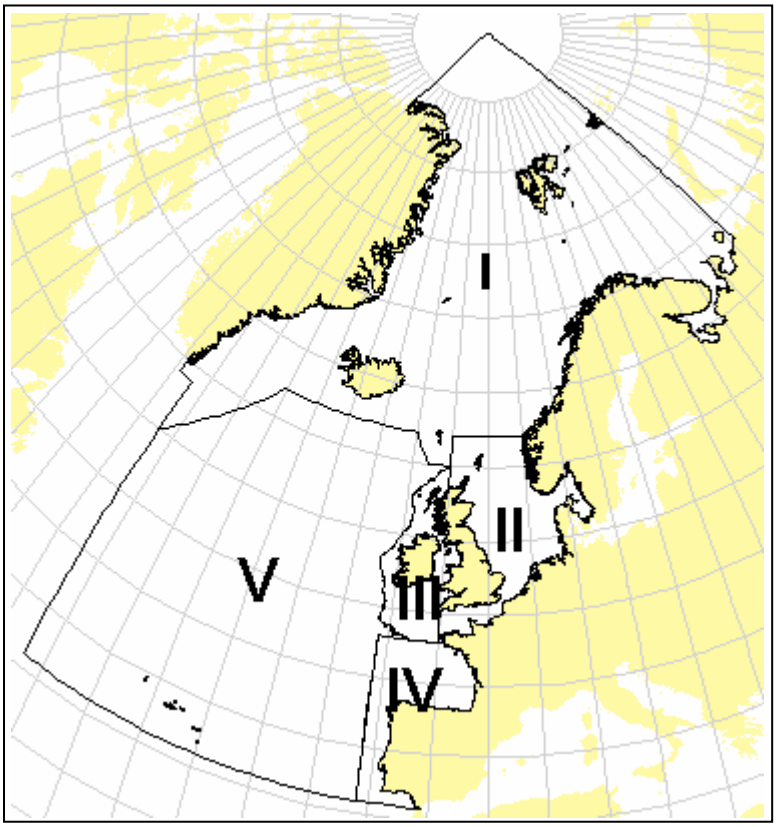
including the EC and the UK. Its coverage[56] includes the North East Atlantic and Arctic, including the North Sea and comprising internal waters and territorial seas as well as applying to high seas and the seabed and subsoil. A map of the area covered under the OSPAR Convention is given in Figure 2.3. OSPAR is primarily focused on addressing marine pollution in the regions covered, in a comprehensive and simplified approach, *i.e.* regulating all pollution sources in a single instrument.

Though aimed primarily at addressing pollution, OSPAR also contains important provisions in its Annex V on the protection and conservation of marine ecosystems and biodiversity. In early 1998, it was unclear whether OSPAR had precedence over the EC with regard to the protection of species and habitats in the EEZ, given the Member States' full competence within territorial waters. As a result, Annex V (on the Protection and Conservation of the Ecosystems and Biological Diversity of the North East Atlantic) was added to the Convention at the 1998 Ministerial Meeting of the Commissions in order to cover the area beyond territorial waters in the North East Atlantic.[57] Regarding fishery issues, OSPAR stipulates that their management is referred to the authority or international body competent for such issues. Thus questions of fishing rights for Member States of the EC must be taken under the EC's Common Fisheries Policy.

[56] The OSPAR Regions are (i) *the Arctic*: the OSPAR maritime area north of latitude 62ºN, but also including Iceland and the Færoes; (ii) *the Greater North Sea*: the North Sea, the English Channel, the Skagerrak and the Kattegat to the limits of the OSPAR maritime area, bounded on the north by latitude 62ºN, on the west by longitude 5ºW and the east coast of Great Britain, and on the south by latitude 48ºN; (iii) *the Celtic Seas*: the area bounded by, on the east, longitude 5ºW and the west coast of Great Britain and on the west by the 200 meter isobath (depth contour) to the west of 6ºW along the west coasts of Scotland and Ireland; (iv) *the Bay of Biscay/Golfe de Gascogne and Iberian coasts*: the area south of latitude 48ºN, east of 11ºW and north of latitude 36ºN (the southern boundary of the OSPAR maritime area); and (v) *the Wider Atlantic*: the remainder of the OSPAR maritime area.

[57] The UK ratified OSPAR in 1998 and Annex V and Appendix 3 (identifying human activities for the purpose of Annex V) in 2000. Implementation of Annex V is undertaken by the OSPAR Biodiversity Committee.

***Figure 2.3 Map of OSPAR Area***




*(From the OSPAR website: www.ospar.org)*

In addition to an expanded use of Annexes, other significant legal developments under OSPAR include a commitment to 'sustainable management' (rather than development, hence an endorsement of sustainability as an emerging international legal concept); an incorporation of the precautionary principle and polluter pays principle in the Convention; a commitment to increased public participation; and the creation of a new Commission with the power to take legally binding decisions and participate in compliance (Sands, 2003). The OSPAR Commission, comprised of one representative from each Party, may adopt legally-binding decisions as well as non-binding recommendations. The Commission is also required to assess compliance and call for steps to improve it, including new measures of assisting Parties in carrying out their obligations.[58] OSPAR is also unique in containing rules on the right of access to environmental information, a first for an international treaty.

[58] Article 23.

Preceding OSPAR, International Conferences on the Protection of the North Sea have been held since 1984, providing an opportunity for Ministers to make commitments to protecting the environment. In March 2002, the fifth International Conference on the North Sea was held in Bergen, Norway. The resulting Bergen Declaration addresses the use of an ecosystem approach and the establishment of a network of MPAs in the North Sea by 2010, among other issues. In its section on the Conservation, Restoration and Protection of Species and Habitats, the Bergen Declaration invited the 'competent authorities to study the practicability of the application of the EC Wild Birds and Habitats Directives beyond the territorial seas of EC Member States to the limits of their offshore jurisdiction'.

In June 2003, the first joint Ministerial Meeting of the Helsinki[59] and OSPAR Commissions was held in Bremen, Germany, resulting in the establishment of a joint HELCOM/OSPAR Work Programme on MPAs. This Programme aims to ensure that by 2010 there is a network of ecologically-coherent and well managed MPAs for the maritime areas of both HELCOM and OSPAR. In addition to specifically addressing MPAs and an ecosystem approach in the Annexes to the resulting Bremen Declaration, the Commissions also declared an intention to take forward and broaden the approach of the EC Birds and Habitats Directives 'in order to ensure the conservation of the full range of habitats and species in the marine environment within the jurisdiction of the EC Member States in accordance with the objectives of those directives, and suggest to the EC initiatives for these purposes'. OSPAR MPAs are to be designated throughout the North East Atlantic, including the high seas, based on criteria for site selection agreed on by OSPAR Ministers (using management guidance prepared by the OSPAR Biodiversity Committee) and legal mechanisms for their protection and management are to be determined by the member Parties (Johnston 2004).

[59] The Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area. Its Parties are Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, the Russian Federation and Sweden, together with the European Community.

The JNCC released a report (JNCC, 2004) on this initiative, exploring the concept of an 'ecologically coherent network' of MPAs as this concept is not formally defined[60] and the report includes several recommendations regarding the design of such a network, reflecting the biogeographic variation that is present across the OSPAR area. In 2006, OSPAR released its first report[61] on the status of the OSPAR network of MPAs. As of 2007, six of the twelve coastal Contracting Parties had proposed 81 MPAs for the network, most of which lie within territorial waters; only Norway and Germany proposed sites within their EEZs (3 Norway, 1 Germany). All of the sites proposed by EU Member States were either wholly or partially Natura 2000 sites, and there were no proposals for MPAs in areas beyond national jurisdiction. Table 2.2 gives the OSPAR MPA nominations to date, comprising a total area of 25,093 $km^2$ (the total OSPAR Area comprises 14,167,037 $km^2$ but that figure includes waters with significant ice cover in the Arctic). There are prospects for further OSPAR MPA nominations but their potential varies. The development of OSPAR's MPA Programme in parallel with the current process of designation for inshore and offshore marine SACs under the Habitats Directive presents an overlap in jurisdiction that is likely to lead to inherent institutional tensions, an issue explored later in the thesis (see Chapter 7).

[60] The JNCC defines an 'ecological network' of MPAs as follows: a network comprising an ecologically representative and coherent mix of land and/or sea areas that may include protected areas, corridors and buffer zones, and is characterized by interconnectivity with the landscape and existing socio-economic structures and institutions (JNCC, 2004).

[61] OSPAR Commission 2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas, available on the OSPAR website: (www.ospar.org/documents/).

**Table 2.2 OSPAR MPA nominations as of 2007**

| Party (# of sites) | Sites | Type (where given) |
|---|---|---|
| Portugal (1)<br>*525 km²* | Formigas/Dollabarat bank (Azores) | Nature reserve, 3,628 ha is also a Natura 2000 site |
| Norway (6)<br>*1,905 km²* | Selligrunnen | All except Selligrunnen have fisheries closures to bottom-trawling gear |
| | Røstrevet | |
| | Sularevet | |
| | Iverryggen | |
| | Tisler | |
| | Fjelknausene | |
| Germany (4)<br>*11,923 km²* | Helgoland Seabird Protected Area | Natura 2000 SPA |
| | Schleswig-Holstein Wadden Sea | National Park and Natura 2000 SCI |
| | SPA-Eastern German Bight | Natura 2000 SPA |
| | Lower Saxony Wadden Sea National Park | Natura 2000 SPA and SAC |
| Sweden (6)<br>*639 km²*<br>*(all sites overlap Natura 2000 sites)* | Koster-Väderö archipelago | Some enhanced protections including fisheries restrictions |
| | Gullmarn fjord | Some enhanced protections |
| | Norde älv estuary | Fisheries closures |
| | Kungsbacka fjord | Nature reserve |
| | Fladen | |
| | Lilla Middlegrund | |
| UK (56)<br>*9,858 km²* | *Full reporting requirements not yet completed* | |
| France (8)<br>*243 km²* | Réserve Naturelle Nationale de la Baie de Somme<br>Réserve Naturelle de l'Estuarie de la Seine<br>Réserve Naturelle Nationale du Domaine de Beauguillot<br>Réserve Naturelle de la Baie de l'Aiguillon,<br>Réserve Naturelle de la baie de Saint Brieuc<br>Archipel des Sept îles<br>Réserve Naturelle de Moëze-Oléron<br>Réserve Naturelle du Banc d'Arguin | All are Natura 2000 sites |

Regarding regional approaches to marine conservation, it should be noted that OSPAR is a partner program[62] of the UNEP Regional Seas Programme, a multilateral effort to manage coastal and ocean areas cooperatively in a regional framework. The UNEP Regional Seas Programme was established in 1974, shortly after the 1972 U.N. Conference on the Human Environment (UNCHE, or 'Stockholm Conference') and establishment of UNEP, and of the fourteen areas it has addressed, thirteen Regional Seas have adopted their own regional action plans, beginning with the Mediterranean Action Plan (MAP)[63] of 1975.[64] The MAP is the most advanced regime in the Programme, comprising the Barcelona Convention[65] and eight subsequent Protocols (seven of which address different types of pollution, while one focuses on biodiversity). The UNEP Regional Seas Programme has continued working on marine conservation since, and is currently developing an Action Plan for the Upper South West Atlantic.

As the UNEP Regional Seas Programme does not have a plan for the North-East Atlantic, consequently OSPAR is the only regional convention dealing directly with the region, however it does not directly address conservation issues resulting from fishing activities. Rather, the main regional tools for implementing conservation measures that target fishing activities are within European legislation (outlined in section 2.4 below) and the North-East Atlantic Fisheries Commission (NEAFC).

### *2.3.4 North-East Atlantic Fisheries Commission (NEAFC), 1982*

The North-East Atlantic Fisheries Commission (NEAFC) is a voluntary Regional Fisheries Management Organization (RFMO) established under the Convention

[62] Other partner programs exist in the Baltic, Arctic, Antarctic and Caspian Seas.
[63] The 1975 Mediterranean Action Plan (MAP) was replaced in 1995 by MAP Phase II.
[64] UNEP Regional Seas Action Plans exist for the Mediterranean (1975/1995); Red Sea and Gulf of Aden (1982); ROPME Sea Area (Kuwait region, 1978); wider Caribbean (1981); East Asian Seas (1981); S.E. Pacific (1981); West and Central African (1982); South Pacific (1982); East Africa (1985); Black Sea (1996); N.W. Pacific (1994); South Asian Seas (1995); and the N.E. Pacific (2001).
[65] The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) was originally adopted in 1976 and replaced in 1995 with a new Convention under the same name, which entered into force in 2004. Its Parties (as of 2004) are: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, the EC, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia and Turkey.

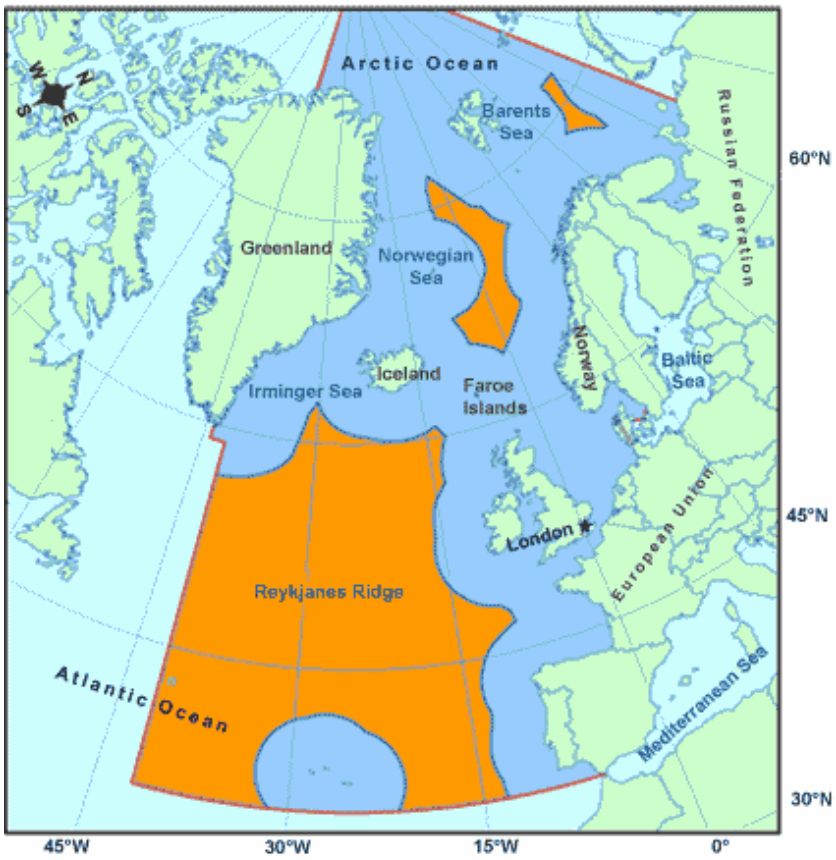
on Future Multilateral Cooperation in the North East Atlantic Fisheries, which entered into force on 17 March 1982. The earliest widespread international agreement concerning rules of conduct in the North-East Atlantic was the 1882 North Sea Fisheries Convention, which remained the only comprehensive regulation for North Sea fisheries for more than 50 years (Underdal, 1980:47). In the period between the World Wars, a number of conferences were held to address the rational exploitation of fish resources in the North-East Atlantic. The recovery of several commercially-exploited fish stocks during World War I seems to have called more attention to the possibility of over-fishing and stimulated interest in conservation (Underdal, 1980:48).

The first attempt at developing a comprehensive conservation scheme in the region was an International Convention for the Regulation of the Meshes of Fishing Nets and the Size Limits of Fish, signed in London in 1937. This convention never entered into force, primarily because of World War II, but several of the parties unilaterally practiced the new regulations (Underdal, 1980:49). A new conference was called in 1943 at the initiative of the UK government, to consider questions of policing as well as conservation, resulting in a Convention Relating to the Policing of Fisheries and Measures for the Protection of Immature Fish. Several countries feared its measures would not prove sufficient in peace time, however, and as a result the UK called for a new 'over fishing' conference in 1945, which resulted in the 1946 Convention for the Regulation of Meshes and Fishing Nets and the Size Limits of Fish. This convention established a permanent commission in 1953, the forerunner of NEAFC. In 1959, the North East Atlantic Fisheries Convention was established, which succeeded the 1953 commission and served as a framework for most international fishery regulations in the area until the establishment of EEZs in 1977.

With the accession of the European Economic Community to the Convention in 1980, a new NEAFC commission was established in 1982. The modern NEAFC emerged following the withdrawal of EC member states as individual members of the 1959 Convention (which had operated from 1963) and the general

extension of national fishery limits to 200nm in the 1970s. The contracting parties to NEAFC are currently the EC, Iceland, Norway, Russia and Denmark (on behalf of the Faeroe Islands and Greenland, and the only EC member state[66] that participates in the Commission). A map of the Convention's regulatory area is given in Figure 2.4. NEAFC's principal objective is 'to promote the long-term conservation and optimum utilisation of the fishery resources of the North-East Atlantic area, and in doing so to safeguard the marine ecosystems in which the resources occur, and accordingly to encourage international cooperation and consultation with respect to these resources'.[67]

***Figure 2.4 NEAFC Regulatory Area***




*(From the NEAFC website: www.neafc.org)*

[66] Bulgaria, Estonia, Poland and Sweden all formerly participated in NEAFC but have withdrawn from the Convention. Bulgaria and Sweden discontinued their membership in 1995, and Bulgaria and Poland in 2006, after they joined the EC.

[67] Preamble to the Convention on the Future Multilateral Cooperation in North-East Atlantic Fisheries. Available on the NEAFC website (www.neafc.org /about/docs/london-declarlation_and_new_convention.pdf).

NEAFC recommends management measures to its parties concerning fisheries beyond the areas under their jurisdiction (or that of the CFP, for European parties). It also recommends measures for areas under the jurisdiction of its parties, for those who request it. There are presently four co-operating non-contracting parties to NEAFC as well, *i.e.* states that have a fishing interest in the North-East Atlantic and who operate under NEAFC rules: Belize, Canada, Japan and New Zealand. NEAFC works closely with other RFMOs in the North Atlantic, namely the Northwest Atlantic Fisheries Organisation (NAFO), and the International Baltic Sea Fishery Commission (IBSFC) as well as the scientific advisory body ICES (the International Council on the Exploration of the Sea).[68] Within NEAFC, there are two schemes currently operating with regard to controlling fishing activity in the area, the Scheme of Control and Enforcement (an electronic surveillance scheme to control the fishing activities of vessels in the regulatory area, outside the fishing zones of parties) and a non-Contracting Party Scheme to address the problem of fishing activity by non-parties.

In November 2006, NEAFC closed the following areas to fishing from January 2007 to December 2009: parts of the Hatton and Rockall Banks, the Logachev Mounds and the West-Rockall Mounds. These and additional areas had been proposed by the EC in 2005, based on recommendations from ICES. The closures, while a positive step forward for offshore marine conservation, were viewed as exemplifying the short-term fishing interests of some of the Convention's parties by NGOs soon after they were designated. The politics involved in the decision-making process within NEAFC given the fishing interests of its contracting parties is an issue explored later in more depth in the case studies examined in this thesis, as is the role of ICES scientific advice in the designation of closed areas.

[68] The International Council for the Exploration of the Sea (ICES), based in Copenhagen, Denmark, was founded in 1902. It provides advice on marine ecosystems and fisheries to governments and international regulatory bodies that manage the North Atlantic and adjacent seas. Its 20 member countries are: Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, the UK and the US.

### *2.3.5 Aarhus Convention, 1998*

The Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters was adopted on 25 June 1998 and entered into force on 30 October 2001. It sets out a number of rights for the public with regard to the environment and is based on the premise that greater public awareness of and involvement in environmental matters will improve environmental protection. While the 1993 Lugano Convention[69] was the first international agreement to elaborate rules governing access to national courts to allow enforcement of environmental obligations in the public interest, the Aarhus Convention goes a great deal further, giving concrete effect to the requirements of Principle 10 of the 1992 Rio Declaration, on access to environmental justice (Sands, 2003:177). Indeed, it has been identified as the first comprehensive effort at the supra-national level at putting Principle 10 into operation (Morgera, 2005:138).

Both the EC[70] and the UK are Parties to this Convention, which was adopted under the auspices of the United Nations Economic Commission for Europe (UNECE). The NGO community was extensively involved in the negotiation and drafting of the Convention, consequently environmental NGOs are highlighted as 'public concerned' and 'principal clients' of the treaty, and are entitled to participate as observers at meetings of the Parties (Morgera, 2005:139). The Convention links elements from human rights instruments with elements from multilateral environmental agreements in a novel fashion, which also reflects the increasing concern of international law with issues once regarded as within the sovereignty of a State (Rodenhoff, 2002:343).

With regard to public participation in decision-making, the Aarhus Convention calls for action in three areas worth highlighting: (i.) public participation in decisions on specific activities (Article 6); (ii.) public participation concerning

[69] The 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention).

[70] The EC's implementation legislation is Regulation (EC) No. 1367/2006 of the European Parliament and of the Council on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies.

plans, programmes and policies (Article 7); and (iii.) public participation during the preparation of generally applicable legally binding normative instruments (Article 8). These legally-binding requirements may have ramifications for Member States with regard to their obligations under the Habitats Directive.

Considering the outcome of the Wadden Sea judgment discussed later in this chapter (section 2.4.5.1), whereby fishing activities can now be considered a 'plan or project', the Aarhus Convention may allow for greater stakeholder involvement in fisheries decisions that affect SACs or potential conservation areas in the marine environment. The role of the public in the supply end of fisheries matters is being taken increasingly into account; one has only to look at the proliferation of certification schemes for fish sold in UK supermarkets within the past few years. With increased public awareness of the issues surrounding threats by fishing activities to offshore marine conservation, increased access and participation in environmental decision-making through Aarhus Convention may provide a means for NGOs and the public to affect the policy process. Consequently, the issue of stakeholder participation can be viewed as both a positive and negative force in the potential for offshore MPAs and is an area worth further exploration as the developing European Maritime Policy and the draft Marine Strategy Directive come into play (these initiatives are discussed below in section 2.4.4).

## 2.4 EUROPEAN LEGISLATION

On the European level, the EC's Common Fisheries Policy and 1992 Habitats Directive are the key legal instruments for addressing marine conservation issues related to fisheries activities. There is also legislation currently developing towards a European Maritime Policy and a Marine Strategy Directive. The rest of this chapter examines European and UK legislation in more depth, focusing on the conventions that are most applicable to the designation of offshore MPAs.

### *2.4.1 Background on EC habitat and wildlife conservation*

European Community environmental law is set out in the EC Treaty as amended in 1986, 1992, 1997 and 2001.[71] The 1957 Treaty of Rome did not refer expressly to environmental protection until the Single European Act (SEA) amendments of 1986. Habitat and species protection was not a high priority in the early days of the EC, as its Member States considered nature conservation legislation to be within their exclusive competence. However, beginning in the 1970s, the development of the Community's Environmental Action Programmes (EAPs) shows an evolution towards conservation. The 1st EAP (1973-1976), although primarily focused on agricultural impacts on the environment, called for harmonization of the legislation and actions of Member States and international organizations to protect birds and certain other species. The 2nd EAP (1977-1981) initiated independent nature protection measures,[72] and the 3rd EAP (1982-1986) treated wildlife and nature protection as an issue independent of other Community concerns (Krämer, 1993).

The Single European Act (SEA) was enacted a few months prior to the 4th EAP (1987-1992) and integrated the habitat protection objectives of environmental legislation with the protection of human health, while safeguarding the interests of Member States in controlling their own legislation with a subsidiarity clause[73] and a process for unanimous decision-making. Article 25 of the SEA added a new Title VII on the Environment to the EC Treaty.[74] This amendment established a firm legal basis for the development of environmental law, in effect bringing the EC's economic activities within the potential scope of environmental law-making (Sands, 2003).

As a result of the SEA's impact, the 4th EAP addressed habitat protection and other environmental measures more broadly than had previous EAPs, including

[71] 1986 Single European Act; 1992 Maastricht Treaty on European Union; 1997 Amsterdam Treaty; 2001 Nice Treaty.
[72] Its 'Fauna and Flora Protection' chapter emphasized the necessity to protect nature, specifically wild animals and plants.
[73] The subsidiarity clause allows the EC to legislate only when it can do so more effectively than Member States (Krämer, 1993).
[74] Title VII consisted of Articles 130r, 130s and 130t (now Articles 174-176).

an encouragement for Member States to implement and enforce EC nature protection measures. In its discussion of such measures, the 4th EAP implied that national implementation of the 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats was inadequate (Krämer, 1993). The EC is a member of several international conventions aimed at nature protection. In many cases, however, it has not taken measures of secondary Community law to implement these conventions. The environmental provisions introduced into the EC Treaty by the SEA were further amended by the 1992 Maastricht Treaty on European Union, which elevated environmental protection to one of the fundamental objectives of the EC and set the basis for further extension and development of environmental law and policy (Sands, 2003). In the run-up to the new millennium, the 5th EAP (1993-1997) set long-term objectives and performance targets for the period up to the year 2000, an approach that was adopted in the Commission's 1998 strategy for integrating the environment into EC policies. The 6th EAP was approved in 2002 and continues to integrate environmental concerns into all aspects of the EC's activities, as well as directly mentioning the protection and conservation of the marine environment as one of its seven thematic strategies.[75] It has a more ambitious scope than previous Programmes, with the aim of achieving greater focus on questions of European importance and better integration of research via partnerships with international research communities, national authorities, end users and decision-makers (EC, 2002).

In October 2002, the European Commission published a Communication to the Council and the European Parliament 'Towards a Strategy to Protect and Conserve the Marine Environment'.[76] Its overall objective was, 'as is indicated in the 6th EAP, [the Marine Strategy should] promote the sustainable use of the seas and conservation of marine ecosystems, including sea beds, estuarine and coastal areas, paying special attention to sites holding a high biodiversity value'.

[75] In 2003, the European Economic and Social Committee published a report on the marine approach of the 6th EAP, 'Towards a Strategy to Protect and Conserve the Marine Environment'. COM(2002) 539final.

[76] COM (2002) 539 final, subsequently referred to as the EC's 'Marine Strategy' document.

The development of the 6th EAP coincided with the 2002 World Summit on Sustainable Development held in Johannesburg, and consequently the EC Marine Strategy document addresses a wide array of marine threats and issues. Currently there is some debate as to whether the Marine Strategy should take the form of a legally binding instrument, a view being put forward by the Commission. Several countries, including the Netherlands and the UK, are opposed and would prefer a non-binding document. This debate has important implications for the future jurisdiction of regional conventions such as OSPAR and HELCOM.

The application and enforcement of international environmental conventions is a shared responsibility of the EC and its Member States. In practice, however, if the Commission has not adopted a Regulation or Directive to implement an international convention, application and enforcement does not occur on a Community level. Instead, the EC leaves it to Member States to apply the provisions of the convention (Krämer, 2003). However, though recommendations and opinions are not legally binding, much of the secondary legislation (Regulations, Directives and Decisions) creates rights and obligations which can be relied upon before the courts of Member States, a phenomenon known as 'direct effect' (Sands 2003: 737).[77] With regard to the Bern Convention and other relevant international treaties, therefore, the most effective means by which the EC can improve its implementation on the Member State level is by enacting a Directive on species and habitat protection.[78] In requiring binding national legislation, the Habitats Directive is the most influential instrument affecting wildlife and habitat protection in the European Community. The Habitats Directive also established broad marine conservation aims and is discussed in more detail below.

[77] The recent ECJ Case C-213/03 *Syndicat professional coordination des pecheurs de l'Etang de Berre et de la region v Electicité de France* established a 'direct effect' regarding the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources. Consequently, Member States are obliged to treat Conventions to which the EC is a Party as Community law (see section 2.4.5.2 below).

[78] The Bonn Convention (1979), in providing networks for migratory species, is an example where nature conservation is not under the 'exclusive competence' of Member States.

### *2.4.2 EC Directive 92/43/EEC (1992 EC Habitats Directive)*

The origins of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992 EC Habitats Directive[79]) lie in the EC's 3rd and 4th Environmental Action Programmes as well as in its predecessor, the 1979 EC Wild Birds Directive[80], which required the establishment of a network of Special Protected Areas (SPAs) throughout the EC. The Habitats Directive follows this model, requiring Member States to prepare and propose national lists of Sites of Community Importance (SCIs) for submission to and evaluation by the EC. Approved SCIs are to be designated by Member States as Special Areas of Conservation (SACs) and combined with SPAs to form the Natura 2000 network. The Habitats Directive is the first international instrument to address the protection of all habitats, with regard to both geographical location and type (Sands, 2003). It is worth mentioning that although the drafting of the Habitats Directive began several years before the United Nations Conference on Environment and Development (UNCED, Rio de Janeiro 1992), it was negotiated in the same time frame as the 1992 CBD and can be viewed as a means of implementing the CBD in the EC, as well as the 1979 Bern Convention on the Conservation of European Wildlife and their Natural Habitats.

#### *2.4.2.1 Amendments*

The Habitats Directive was amended by a 1994 'Act on the accession of Norway, Austria, Finland and Sweden to the Community and related adjustments to the EC Treaty'.[81] Council Directive 97/62/EC of 27 October 1997 replaced Annexes I and II of the Habitats Directive, 'adapting certain natural habitat types and species to technical and scientific progress'.[82] The Directive was further

[79] Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, OJ L 206, 22.07.92, p.7.
[80] Council Directive 79/409/EEC of 2 April 1979 on the Conservation of Wild Birds, OJ L 103, 25.04.79, p.1.
[81] OJ C 241, 29.08.94, p. 9-404. Although it is not a member of the EU, Norway has access to the EU internal market through the European Economic Area agreement. This agreement commits Norway to implement all EU legislation related to the internal market as well as most of EU environmental legislation.
[82] OJ L 305, 08.11.97, p. 42-65.

amended twice in 2003: first by an Act[83] concerning the conditions of accession of new Member States in the EU (which affected the number of biogeographical regions covered and the Directive's Annexes I and II), and secondly by an EC Regulation[84] on the provisions relating to Committees (Articles 20 and 21 of the Directive).

Following the Directive's adoption, between 1992 and 1998 discussions focused primarily on the designation of areas for protection, in terms of size and location. It apparently took some time before the actors involved realized that the Directive was not only an important instrument for conserving biodiversity, but it also provided constraints of varying degrees on decision-making for projects that could harm biodiversity (Verschuuren, 2002).

#### *2.4.2.2 Implementation*

Member States were required to implement the Directive by May 1994[85] and to provide the Commission with a list of sites indicating the natural habitat types and species native to its territory listed in Annexes I and II by May 1995. A Commission Decision concerning the information format for proposed Natura 2000 sites was produced in 1996.[86] According to Article 4 of the Habitats Directive, Member States were required to submit their national lists by June 1995 and three years later (June 1998) the EC was to have adopted a list of Sites of Community Importance (SCIs) drawn from the Member States' lists. If the original schedule had been kept, SACs would have been designated by 2004. Although this process was delayed, following the adoption of the first list of

[83] Act concerning the conditions of accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic and the adjustments to the Treaties on which the European Union is founded – Annex II: List referred to in Article 20 of the Act of Accession – 16. Environment – C. Nature Protection, OJ L 236, 23.09.03, p. 667-670.

[84] Number 1882/2003 of the European Parliament and of the Council of 29 September 2003 adapting to Council Decision 1999/468/EC, OJ L 284, 31.10.03, p. 1-53.

[85] Transposition of Article 6 of the Directive into national legislation was required by June 1994, except for Austria, Sweden and Finland, who were required to transpose the Directive by January 1995.

[86] Commission Decision 97/266/EC of 18 December 1996, OJ L 107, 24.04.97, p. 1-156.

SCIs for the Mediterranean in July 2006, there are now initial lists of SCIs for all six biogeographical regions[87] for the original 15 EC Member States.

In addition, Member States were advised to ensure that sites on their national lists of proposed SCIs were not allowed to deteriorate before the Community list of SCIs was adopted. Where national lists remained incomplete, they were advised to also ensure the non-deterioration of sites that, according to scientific evidence based on the criteria of Annex II of the Directive, should be listed. The EC guide on interpreting Article 6 of the Directive suggests using environmental impact assessment under Directive 85/337/EEC[88] in relation to potentially damaging projects (EC, 2000).[89] Directive 85/337/EEC requires the environmental assessment of 'public and private projects which are likely to have significant effects[90] on the environment', excluding projects related to national defense or projects whose details are adopted by a specific act of national legislation, as these were expected to go through an appropriate assessment during the legislative process (Sands, 2003). One problem with implementation of the Habitats Directive that has been discussed by Jans (2000) is territorial scope. This is directly relevant to the designation of offshore MPAs as discussed in the Greenpeace judgment (see Chapter 5, section 5.3).

In July 2003 the EC published a progress report (EC, 2003) on the implementation of the Directive among Member States, detailing the legislative and legal frameworks in place for site designation and current problems, but with no mention of mechanisms for the offshore area (beyond 12nm). With regard to progress in protecting this zone, a study conducted by WWF in June 2003 interviewed OSPAR members affiliated with WWF and its partner organizations. According to this study (Anderson *et al*., 2003) progress has been limited but recognizable. National legislation for designating MPAs beyond territorial

[87] The six Natura 2000 biogeographical regions are: Atlantic, Mediterranean, Continental, Boreal, Alpine and Macaronesian.

[88] Council Directive 85/337/EEC of 27 June 1995 on the assessment of the effects of certain public and private projects on the environment, OJ L 175, 05.07.85, p. 40.

[89] A recent case involving cockle fishermen in the Wadden Sea confirmed that fishing management plans constitute a 'plan or project' and are therefore relevant to Articles 6(3) and 6(4) of the Habitats Directive. See section 2.4.5.1 below.

[90] 'Significant effects on the environment' are not defined in the Directive.

waters exists in Belgium, Denmark, Germany, Ireland, Iceland, Spain and Sweden. In addition to the UK, Norway and the Netherlands are revising their existing legislation to cover the offshore maritime area. Denmark designated Natura 2000 sites across and beyond its territorial sea from the beginning of the implementation process, but its early progress has been stalled by the conservative government's decision to cut funds for nature conservation (WWF press release 16/3/2003).

The UK, Germany and (partially) Ireland initiated their offshore conservation activities with a systematic scientific assessment of the EEZ under the criteria of the Habitats Directive. The Netherlands and Sweden are considering the importance of designating marine protected areas in the offshore zone, but do not have a strategic system in place. Norway has closed some of its cold water coral reefs to bottom trawling.[91]

The Azores, an autonomous region of Portugal, has designated sites beyond 12nm as Natura 2000 areas under the Habitats Directive and has sought legal protection for other deep sea and open ocean habitats from the Portuguese government and parliament. In 2002 the Azores designated two hydrothermal vents (the Lucky Strike and Menez Gwen vents) within its EEZ as MPAs. In 2006 the process for designating these sites under Portuguese law was completed, and they will be nominated as Natura 2000 and/or OSPAR MPAs. As the initial designation occurred in 2002 (pre-dating the Darwin Mounds emergency closure by a year), these sites represent the first deep-sea offshore MPAs established in the OSPAR area (Anderson *et al.*, 2003). In 2005, the Azores also implemented a ban on deep-water trawling, discussed below in Chapter 3, section 3.3.1 on precaution and MPAs.

[91] Norway's Sula Reef (978 $km^2$) was the first cold-water coral area to be protected in European waters, in 1999. As of 2005, Norway had protected five additional coral areas: in 2000, the Iverryggen Reef (offshore, 620 $km^2$) and the Selligrunnen Reef (offshore, 0.6 $km^2$); and in 2003 the Røst Reef (offshore, 303 $km^2$), the Tisler Reef (inshore, 1.8 $km^2$) and the Fjellknausene Reef (inshore, 1.9 $km^2$).

In May 2004, Germany nominated a set of ten offshore sites in its EEZs in the Baltic and North Seas to the European Commission to become part of the Natura 2000 network.[92] This represents 38% of Germany's total marine area (including current nominations) or 31% of its EEZ. These MPAs will also become parts of the MPA networks being established under OSPAR, HELCOM and the CBD. This development was due to an April 2002 amendment to the German Federal Nature Conservation Act, which established a statutory basis for the implementation of Natura 2000 in the German EEZ. Under Article 38 of the Act, the German Federal Agency for Nature Conservation and the German Environment Ministry are now responsible for selecting, designating and managing offshore MPAs.

In the UK, as of September 2007 the JNCC has proposed six offshore sites to DEFRA for consideration as potential Marine SACs (Johnston *et al.*, 2004).[93] In addition to (i) the Darwin Mounds, these include the (ii) Saturn *Sabellaria spinulosa* site (reef); (iii) Haig Fras (reef); (iv) Wyville Thomson Ridge (reef); (v) Dogger Bank (sandbanks slightly covered by sea water all the time); and (vi) Scanner Pockmark (submarine structure made by leaking gases). Nine further sites of Annex I habitat under the Habitats Directive are also being assessed to be proposed as offshore Marine SACs in 2005 (see Table 2.3 below in section 2.7.2 for a listing of the proposed Offshore Marine SACs).

#### *2.4.2.3 Development and limitations*

The development of the 1992 Habitats Directive began in July 1988 with the adoption of a preliminary 'Proposal for a Council Directive on the protection of natural and semi-natural habitats and of wild fauna and flora'[94] by the European Commission, which was subsequently transmitted to the European Council and European Parliament (Figure 2.3). Following consultations of the Economic and Social Committee and the European Parliament, an amended proposal including

[92] Detailed maps of the German proposals are available online: (www.habitatmarenatura2000.de).
[93] Maps of these sites were not available at the time of writing.
[94] COM/1988/381 OJ C 247, 21.09.88, p.3.

annexes[95] was adopted on 15 February 1990. This version of the proposal[96] was transmitted to the European Council and European Parliament and underwent another round of Economic and Social Committee opinion.[97] The amended proposal[98] was adopted on 8 February 1991, transmitted to the European Council on the same day, and soon afterwards to the European Parliament. Following a European Council agreement at the end of 1991, it was formally adopted on 18 May 1992.

The evolution of the Habitats Directive has not been previously described in detail in the literature, but is worth noting here in relation to offshore marine conservation. In particular, Article 1 of the working documents mentioned above stated it would apply to the territory of Member States 'including maritime areas under the sovereignty or jurisdiction of the Member States', *i.e.*, throughout their Exclusive Economic Zones (EEZs) or Exclusive Fishery Zones (EFZs), 200nm from shore. This clause was subsequently dropped before the final version of the Directive was agreed, perhaps in order to maintain consistency with the earlier Birds Directive.

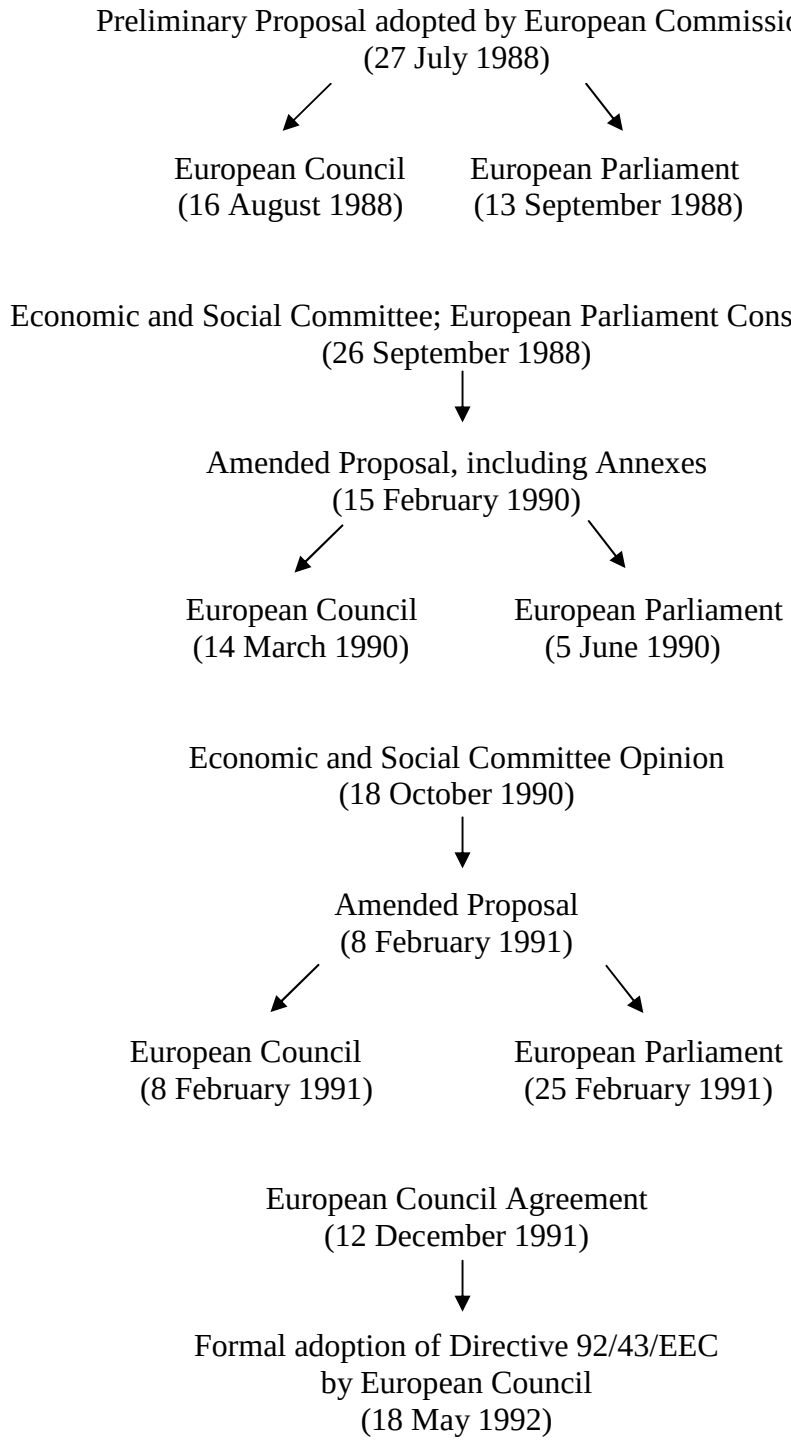
[95] Supplementary Annexes to the Proposal for a Council Directive on the Protection of Natural and Semi-natural Habitats and of Wild Fauna and Flora, COM/90/59 final, OJ C 195, 03.08.90, p.1.

[96] Proposal for a Council Directive COM/88/381 final and COM/90/59 final, OJ C 324, 24.12.90, p.22. See also the Legislative Resolution Embodying the Opinion of the European Parliament on the Proposal, OJ C 324, 24.12.90, p.71.

[97] Opinion of the Social and Economic Committee on the proposal for a Council Directive on the protection of natural and semi-natural habitats and of wild fauna and flora and on the Supplementary Annexes, 18 October 1990, OJ C 31, 06.02.91, p.1.

[98] Modified proposal for a Council Directive on the conservation of natural and semi-natural habitats and of wild fauna and flora, COM/91/27 final, OJ C 75, 20.03.91, p.12.

***Figure 2.5 Development of EC Directive 92/43/EEC***




*(From De Santo and Jones, 2007a:5)*

Information on the negotiations is not readily available; however there appears to have been significant debate regarding the Commission's powers of intervention, the number of Annexes and draft funding regulations (Bromley, 1997). The early development of the Habitats Directive has been described as an indication of not only the way that the relationships between the Commission, the Parliament and the Council have developed, but also the opportunities that exist for Parliament and lobby groups to influence the process (Bromley, 1997). Presumably, it was during the negotiation process that the maritime areas provision was removed. Following the outcome of the 1999 Greenpeace judgment, the Directive does now finally apply to the UK's EFZ and other Member States are also preparing SCI proposals for their offshore waters.

Prior to the conclusion of the Greenpeace judgment, in July 1999 the Commission released a Communication to the Council and European Parliament on 'Fisheries Management and Nature Conservation in the Marine Environment'.[99] In its discussion of the application of the Habitats Directive, the Commission clearly outlined the direct applicability of the Directive to the 200nm EEZ boundary of European Member States as follows:

> 'The provisions of the Habitats Directive automatically apply to the marine habitats and marine species located in territorial waters (maximum 12 miles). However, if a Member State exerts its sovereign rights in an exclusive economic zone of 200 nautical miles […] it thereby considers itself competent to enforce national laws in that area, and consequently the Commission considers in this case that the Habitats Directive also applies, in that Community legislation is an integral part of national legislation' (paragraph 5.2.2).

It can be argued that the Habitats Directive was drafted from a terrestrial perspective and is ill-suited to application in the offshore marine environment as only three habitats and seven species listed in its Annexes I and II are found in UK offshore waters.[100] It is not unlikely that the Annexes will eventually be

[99] Communication from the Commission to the Council and the European Parliament: Fisheries Conservation and Nature Conservation in the Marine Environment, COM(1999)363 final.

[100] Habitats: Sandbanks which are slightly covered by sea water all the time; Reefs; Submarine structures made by leaking gas. Species: Harbour Porpoise (*Phocoena phocoena*); Grey Seal

updated to include more species and habitats now that not only the UK but other Member States are applying the Habitats Directive to their offshore waters. However, such revisions are likely to occur in the long rather than short term, given the severe delays that have already occurred with the Directive.[101]

In addition to gaps in the species and habitats covered and delays in its implementation, another weakness of the Habitats Directive lies in its emphasis on habitats and species *per se*, which leaves little room for areas of functional importance such as spawning sites or other ecological processes that are difficult to define spatially. This approach also overlooks areas that might be important as migratory routes and/or sanctuaries for marine species.

Although the Habitats Directive does not call explicitly for an 'ecosystem approach' to conservation, which evolved as the primary framework for action under the CBD, it does provide for protection in parts. The ecosystem approach, defined by the CBD as 'a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way', is an aim of not only the revised CFP and the UK's emerging marine management framework, as evidenced in its 2004 Review of Marine Nature Conservation and currently developing Marine Bill, but also the aforementioned developing EC Marine Strategy Directive and the OSPAR network of MPAs, which aim to implement the approach in the North East Atlantic.

#### *2.4.2.4 Article 6*

Despite what can be perceived as flaws in its drafting and limitations in its coverage, the Habitats Directive does provide an important mechanism for the protection of species and habitats. Article 6 contains three main sets of

(*Halichoerus grypus*); Common Seal (*Phoca vitulina*); Sturgeon (*Acipenser sturio*); Shad (*Alosa* spp.); Lamprey (*Petromyzon marinus*); Loggerhead turtle (*Caretta caretta*).

[101] Member States were required to implement the Directive into their national legislation by 1995, though some still have not completely, and the final lists of SCIs for the Natura 2000 network were to have been selected by Member States by 1998, but this process was still ongoing in 2007.

provisions. Article 6(1) provides for the establishment of 'necessary conservation measures' and is focused on positive and proactive methods. Article 6(2) has a more preventative emphasis, providing for the avoidance of habitat deterioration and significant species disturbance. Articles 6(3) and 6(4) set out a series of procedural and substantive safeguards governing plans and projects likely to have a significant effect on Natura 2000 sites and are the means by which Article 6(2) is achieved (EC, 2000).

The interpretation of Article 6 has led to significant debate and some interesting cases in the European Court of Justice (ECJ), especially in relation to paragraph 4, whereby 'imperative reasons of overriding public interest, including those of a social or economic nature' can be cited to allow Member States to authorize plans or projects with a deleterious effect on a SAC.[102] This is in contrast to what had been previously decided in the well-known *Leybucht* case,[103] under the Birds Directive in 1991, where the Commission had stated that the destruction of a protected habitat was only acceptable 'in the case of a threat to human life'. This overturn has been described as a slap in the face for the European Court (Scott, 1998). In 1995, the Commission adopted two Opinions[104] that to some extent clarify Article 6(4), *i.e.* the 'exemption clause'. These Opinions have also been referred to as being among the few authoritative decisions of EC institutions that elucidate how Community law aims to unite the objectives of habitat protection and infrastructure expansion (Nollkaemper, 1997). They addressed a German A20 motorway project which intersected two Natura 2000 sites, the Trebel and Recknitz Valley and the Peene River Valley. Despite these areas' having been protected under both the Birds and Habitats Directives, the Court concluded that a less damaging crossing of these valleys did not exist, and considering the high unemployment in the region, 'imperative reasons of overriding public interest' justified the project's going ahead.

[102] On overriding public interest, see: Holder J. Overriding Public Interest in Planning and Conservation Law. Journal of Environmental Law 2004;16:377-407.
[103] Case C-57/89, *Commission v. Germany* [1991] ECR I-883.
[104] Opinion on the Trebel and Recknitz Valley (OJ C 178, 27.04.95, p.3) and Opinion on the Peene Valley (OJ L 6, 09.01.96, p.14).

Subsequent cases on this subject include two that focused on the site selection process under the Birds and Habitats Directives, the *Lappel Bank* case[105] of 1996 and the *Severn Estuary* case[106] of 2000. A year later, in 2001 Airbus Industrie gained permission to expand its A380 production factory in the Mühlenberger Loch area near Hamburg, the largest freshwater/tidal flat in the EC at the time and a critical habitat for migratory birds which had been designated a protected area under the Ramsar Convention as well as a priority site for the Natura 2000 network. The German Federal Constitutional Court declined to grant an injunction to stop the filling of 20% of the Loch. A complete overview of the issue of overriding public interest is beyond the scope of this chapter; however the recent Wadden Sea judgment (see section 2.4.5.1 below) has some interesting implications that are relevant to implementation of the Habitats Directive in the marine realm.

### *2.4.3 EC Common Fisheries Policy*

It is worth noting that unlike the Common Agricultural Policy, there is no specific mention of a Common Fisheries Policy (CFP) in the Treaty on European Union.[107] This is not to say that the EU Treaty lacks provision for fisheries legislation however. Instead, fisheries were, and still are, grouped with agricultural products in the Agriculture Title, Articles 32-48 (formerly Articles 38-46), which establishes guidelines for the establishment of a common market in agricultural products, including fisheries. A common policy towards fisheries in the EC began in 1970 with the establishment of the Structural Regulation 2141/70[108] defining rules on access to fishing grounds, markets and structures. At this time it was apparently envisaged that fishing would continue to be regulated

[105] Case 44/95, *Regina v. Secretary of State for the Environment,* ex parte *RSPB* [1996] ECR I-3805.
[106] Case C-371/98, *The Queen v. Secretary of State for the Environment, Transport and the Regions,* ex parte *First Corporate Shipping Ltd.* [2000] ECR I-9235.
[107] European Community environmental law is set out in the EU Treaty as amended in 1986 (Single European Act), 1992 (Maastricht Treaty on European Union), 1997 (Amsterdam Treaty) and 2001 (Treaty of Nice).
[108] Regulation (EEC) No. 2141/70 of the Council of 20 October 1070 laying down a common structural policy for the fishing industry, OJ L 236, 27.10.70, p.1 (English special edition Series 1 Chapter 1970(III) p.703, no longer in force).

primarily by international fisheries commissions and Member States' national authorities (Churchill, 1987) but this did not remain the case.

*2.4.3.1 Evolution of legislative jurisdiction*

The EC gained exclusive legislative jurisdiction[109] to regulate fishing under the 1972 Act of Accession of Denmark, Ireland, Norway and the UK[110] as follows: 'From the sixth year after accession at the latest, the Council, acting on a proposal from the Commission, shall determine conditions for fishing with a view to ensuring protection of the fishing grounds and conservation of the biological resources of the sea' (Article 102).

However the EC's full powers over fisheries management only took effect at the start of 1979; prior to this, Member States had some powers over fisheries in their waters.[111] This shift can be viewed as occurring over three phases: (i) the time prior to the extension[112] of Member States' fishing limits to 200nm at the beginning of 1977, (ii) a transitional period from the start of 1977 to the end of 1978 laid out in Article 102 of the Act of Accession, and (iii) the period since the EC gained full legislative jurisdiction at the start of 1979. In the first phase, Member States were permitted to adopt national measures, a right that was confirmed by the ECJ with respect to the Netherlands in the 1976 *Kramer* cases.[113]

During the second, transitional, phase, certain exceptions to the EC's exclusivity were allowed in what can be viewed as a 'grace period' during which Member States were entitled to take unilateral conservation measures in cases where the Council had yet to adopt necessary conservation measures. This occurred in

[109] The term 'legislative jurisdiction' is used in this context as the competence to enact legal rules, as opposed to enforcing them.
[110] 1972 Act of Accession of Denmark, Ireland, Norway and the UK to the EC, OJ L 73, 27.3.72, p.1.
[111] A full history of the development of the CFP and the evolution of European fisheries management is beyond the scope of this chapter. For a definitive analysis, see Churchill (1987).
[112] On 3 November 1976 the Council adopted the Hague Resolution extending Member States' fishing limits to 200 nautical miles.
[113] '*Kramer*' joined cases 3,4 and 5/76 – Cornelius Kramer and others.

Ireland,[114] France[115] and twice in the UK.[116] In addition, the *van Dam* cases[117] clarified that Member States had not only the right to enact independent conservation measures in this interim period, but also the 'duty' to do so.

The second ECJ case involving the UK[118] occurred at the start of the third phase and demonstrated the now complete shift of power over fishery conservation measures to the EC (albeit with some qualifications as the Council had not yet adopted the measures required of it under the 1972 Act of Accession). This was soon followed by a Commission Declaration[119] to the same end, which required that Member States adopt conservation measures based on Commission proposals. Comprehensive fishery management measures for most EC waters were adopted by the Council at the beginning of 1983.

A related issue is the equal access principle introduced with the 1972 Act of Accession which came into effect on 31 December 1982. This contentious principle allowed Member States equal access to fisheries resources within the 200nm zones established in 1977 by the Hague Resolution (although in practice all Member States claim six or twelve mile restricted zones off their coasts for vessels that traditionally fished in those waters, through a derogation allowed under the Act of Accession). The equal access principle followed from the traditional view among Member States that fish do not belong to anyone until caught. Consequently this principle has had the effect, along with EC fisheries legislation, of making marine fisheries resources a common property resource among Member States, a situation which has not occurred with other natural resources in the EC (Churchill, 1987).

[114] '*Irish Fisheries*' case 61/77 – Commission of the European Communities v. Ireland.
[115] '*France v. the United Kingdom*' case 141/78.
[116] '*Commission v. UK*' case 32/79 and '*Commission v. UK*' case 804/79.
[117] '*Van Dam*' joined cases 185-204/78 – Criminal proceedings against J. van Dam en Zonen and others.
[118] *Supra*, note 116.
[119] Declaration of the Commission, 27 July 1981, OJ C 224, 03.09.1981, p.1.

*2.4.3.2 Reform of the CFP*

The principal instrument governing the use of fisheries resources from 1983 to 1993 was Council Regulation 170/83 establishing a Community system for the conservation and management of fisheries resources,[120] which included Total Allowable Catches and quotas, conservation measures and regulations on access to coastal waters. The first review of the CFP took place in 1992, when it was evident that technical measures alone would not be sufficient to prevent over-fishing, as there were simply too many vessels for the available resources. Between 1970 and 1985, the total number of European vessels had increased by 75% and decommissioning efforts from 1985 onwards had only reduced the fleet by 7% (Boude *et al.*, 2001). Reforms to the CFP were undertaken and the 1983 Regulation was replaced in 1992 by Council Regulation 3760/92 establishing a Community system for fisheries and aquaculture,[121] designed to extend and consolidate the preceding legal regime. Following the latest CFP reform process that began in 1998, this Regulation has now been replaced by Council Regulation 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the CFP.[122]

The EC has been operating under the revised CFP (Regulation 2371/2002 herein referred to as the Basic Regulation) as of January 2003. The Basic Regulation encompasses four key changes to the CFP. First, a long-term approach has been implemented, aimed at attaining and/or maintaining safe levels of adult fish in EU stocks (previously, measures concerning fishing opportunities and related measures had been taken on an annual basis). Second, the overcapacity of the EU fleet was addressed by providing two sets of measures, (i) a simpler fleet policy placing responsibility for matching fishing capacity to fishing possibilities with the Member States, and (ii) phasing out public aid to private investors to help them renew or modernize fishing vessels. The third improvement to the CFP involved developing cooperation among authorities vis-à-vis enforcement, strengthening the uniformity of control and sanctions throughout the EU and

[120] OJ L 24, 27.01.83, p.1 (no longer in force).
[121] OJ L 389, 31.12.92, p.1 (no longer in force).
[122] OJ L 358, 31.12.2002, p.59.

extending the powers of Commission inspectors. And fourth, the involvement of stakeholders in the management process was prioritized by the introduction of Regional Advisory Councils (RACs).

In addition, the Basic Regulation strengthened the CFP's environmental aspect by introducing the precautionary approach. Article 2(1) stipulates that 'the Community shall apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimize the impact of fishing activities on marine eco-systems' with the aim of ensuring 'exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions'. The predecessor to the Basic Regulation, Regulation 3760/92, referred to 'taking into account [fisheries exploitation activities] implications for the marine eco-system' (Article 2(1)) however, the Basic Regulation goes a step further by providing an emergency closure mechanism for nature conservation, rather than just fish stock recovery.

#### *2.4.3.3 Emergency measures*

In addition to the precautionary approach outlined above, the Basic Regulation emphasizes that: '[The Community]… shall aim at a progressive implementation of an ecosystem-based approach to fisheries management' (Article 2 para. 1). In order to implement these approaches, Chapter II of the Basic Regulation entitled 'Conservation and Sustainability' outlines specific technical measures including recovery and management plans and the establishment of emergency closures. In particular, Article 7 allows for the Commission to apply emergency measures 'if there is evidence of a serious threat to the conservation of living aquatic resources, or to the marine ecosystem resulting from fishing activities and requiring immediate action'.

Under the three subsequent Articles (8-10), some powers of legislative jurisdiction concerning fisheries conservation and management have been returned to Member States, namely in Articles 8 on Member State emergency

measures, Article 9 on Member State measures within the 12nm zone and Article 10 on Member State measures applicable solely to fishing vessels flying their flag. However these powers are limited, in that all measures under Article 8 and some under Article 9 are subject to a complicated EC consultation process (Owen, 2004). It is also worth noting that unlike Articles 8 and 9, Article 10 fails to refer to a power to adopt measures to minimize the effect of fishing on the conservation of marine ecosystems (Owen, 2004). Nevertheless, the emergency measures mechanism for closing an area for nature, rather than fish stock, conservation objectives represents an important shift in the legislative approach to European marine environmental protection.

### *2.4.4 EC legislation currently under development*

#### *2.4.4.1 Maritime Green Paper Towards a Future Maritime Policy*

The European Commission's Strategic Objectives for 2005-2009 focus on delivering prosperity, solidarity and security for all Europeans. With regard to the marine environment, the Objectives state that 'in view of the environmental and economic value of the oceans and seas, there is a particular need for an all-embracing maritime policy aimed at developing a thriving maritime economy and the full potential of sea-based activity in an environmentally sustainable manner'.[123] This commitment materialized in the development of a Maritime Green Paper Towards a Future Maritime Policy, which was released in June 2006 (and was open to consultation until June 2007). In line with the Lisbon Agenda,[124] the Green Paper focuses on stimulating growth and jobs in the wider maritime sector in a sustainable manner, ensuring the protection of the marine environment. This commitment to economic growth and jobs represents the first pillar on which the Commission envisages its new Maritime Policy will rest. The second, environmental pillar, is comprised of a European Marine Thematic

[123] Communication from the President in agreement with Vice-President Walström: Strategic Objectives 2005-2009 'Europe 2010: A Partnership for European Renewal. Prosperity, Solidarity and Security', Section 2.2. Brussels, 26.1.2005, COM(2005)12 final.

[124] The Lisbon Agenda was agreed in 2000, when European leaders set the European Union the goal of becoming 'the most dynamic and competitive knowledge-based economy in the world' by 2010.

Strategy and related Marine Strategy Directive. When the Green Paper consultation is completed in 2007, the Commission will present a Communication to the Council and Parliament summarizing the results.

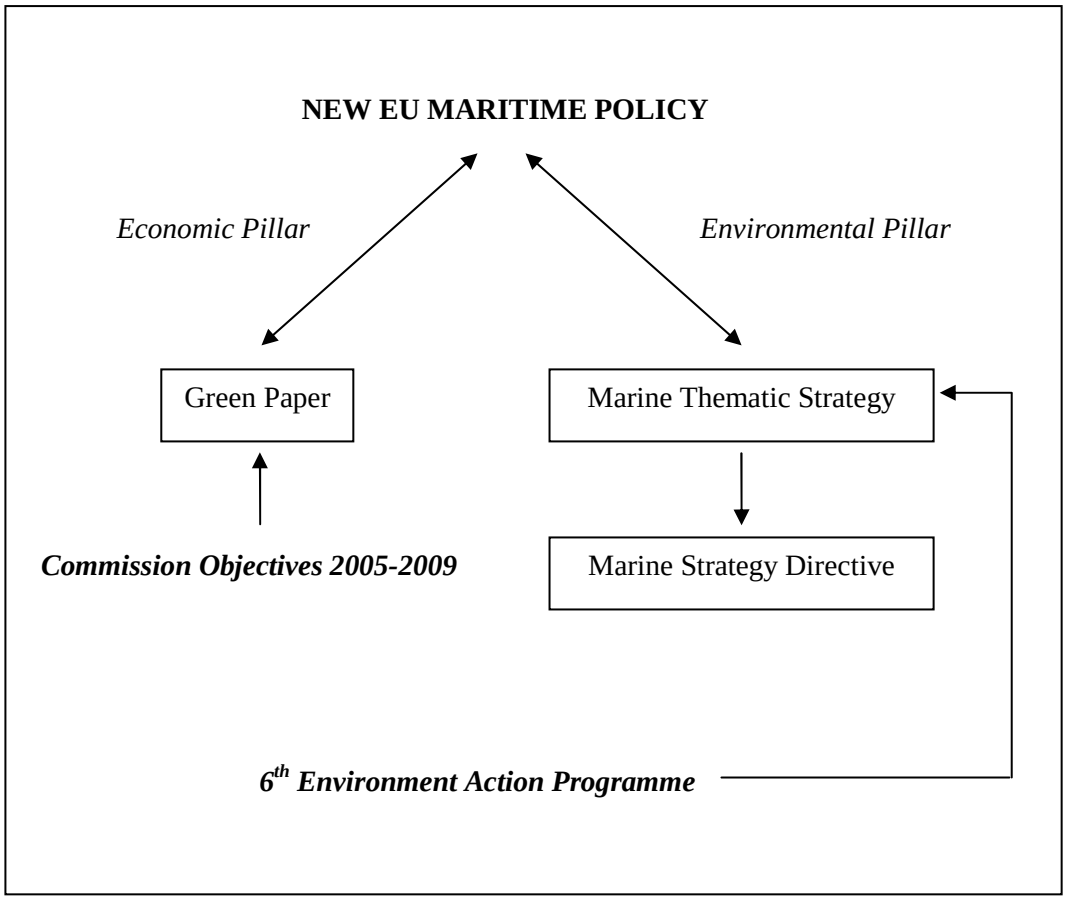
*2.4.4.2 European Marine Thematic Strategy / Marine Strategy Directive*

The European Marine Thematic Strategy for the Protection and Conservation of the European Marine Environment is one of seven thematic strategies proposed by the European Commission in 2005-2006 to address various environmental issues.[125] These strategies are intended to be the key mechanisms for delivering the objectives set out in the 6th Environmental Action Programme adopted by the Council and Parliament for the period from 2002-2012 (see section 2.3.1 above). The Marine Thematic Strategy was released on 24 October 2005[126] as a package, including also a Proposal for a Marine Strategy Directive[127] and an impact assessment.[128] Figure 2.4 outlines the relationship between the Green Paper and the Marine Thematic Strategy and Directive with relation to the developing EU Maritime Policy.

The development of the Marine Strategy package began in 2002 with the release of a Commission Communication entitled 'Towards a strategy to protect and conserve the marine environment' which was open to an extensive consultation process from 2002-2004. The main objective of the draft Directive is to achieve 'Good Environmental Status' of the marine environment by 2021. The Directive establishes European Marine Regions[129] as management units for implementation, within which Member States will be obliged to develop Marine Strategies and cooperate among each other (and with third countries where relevant).

[125] The other thematic strategies address: air quality; the sustainable use of resources; waste prevention and recycling; pesticides; soil quality; and the urban environment.
[126] Communication from the Commission to the Council and the European Parliament "Thematic Strategy on the Protection and Conservation of the Marine Environment" COM(2005)504.
[127] Proposal for a Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy (Marine Strategy Directive) COM(2005)505.
[128] Impact Assessment SEC(2005)1290.
[129] The draft Directive lists the following three regions: the Baltic Sea; the North East Atlantic Ocean; and the Mediterranean Sea, with the latter two further divided into sub-regions.

***Figure 2.6 Current Development of EU Maritime Policy***




Following the draft Directive's release in October 2005, the UK held a consultation on the document until April 2006. Three key issues were raised by this process, first that there was a lack of certainty regarding what 'Good Environmental Status' will imply, and a need for better understanding of likely requirements up-front. The second concern focused on the need for integration between the proposed Directive and other EU legislation, particularly the Water Framework Directive[130] and the Common Fisheries Policy. Third, the consultation raised the issue of how the Directive will be implemented, including arrangements for coordination between Member States and the role of the Commission in approving strategies and programmes.

[130] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, OJ L 327, 22.12.2000, p.1.

### *2.4.5 Recent ECJ cases*

The following three recent cases provide some insights and clarifications for the legislation and conventions discussed in this chapter, especially with regard to EC Member State obligations under international environmental conventions. As a result, these rulings may have interesting implications in the future when the OSPAR network of marine protected areas comes into effect in 2010.

#### *2.4.5.1 Wadden Sea judgment (Habitats Directive)*

Two issues relevant to the interpretation of the Habitats Directive were recently highlighted in a 2004 ECJ case[131] involving mechanical fishing for cockles in the Wadden Sea SPA, in the Netherlands. In this judgment, the Court went into detail explaining the meaning of Article 6, in particular what kinds of activities amount to 'plans or projects' under paragraph 3, concluding that fisheries activities undertaken under an annual license can be considered as falling in this category. Consequently, if such activities are likely to have an effect on a Natura 2000 site, they can only proceed after an 'appropriate assessment' of their impacts in keeping with Article 6 (Verschuuren, 2005). This decision can be seen as a positive development in terms of linking the CFP and the Habitats Directive. While it does not mean that a detrimental activity will be prevented for certain, given the overriding public interest 'exemption clause' mentioned earlier, it is debatable whether fishing would be considered of 'overriding' regional economic and strategic development importance.

A second outcome of the Wadden Sea judgment of relevance to the implementation of the Habitats Directive in offshore waters involves the principle of 'direct effect', *i.e.* whether an individual can rely on a Directive to claim rights in a national court when the Directive has not been transposed (or has been improperly transposed) into national law. For European Directives, such transposition is subject to an implementation deadline, and for the Habitats Directive this deadline expired in 1995. In the Wadden Sea judgment, the Court

[131] Case C-127/02, *Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Volgels v. Staatssecretaris van Landbouw, Natuurbeheer en Visserij*, ECJ Grand Chamber [2005] Env LR 14.

focused its consideration of this principle on Article 6(3) on 'plans or projects', which the Netherlands had not transposed into national legislation, but it did not refer to the principle of direct effect by name. It is debatable whether the Court was explicit enough (Verschuuren, 2005) or not (Lowther, 2004). At the minimum, however, it can be agreed that the judgment clarified that Article 6(3) was indeed held to be directly effective, despite the Netherlands not having transposed it into national legislation (Stokes, 2005). Given that the UK is still in the process of revising its Conservation (Natural Habitats, etc.) Regulations (1994) over its continental shelf, it can be inferred that Article 6(3) is applicable in the offshore, and 'plans or projects', including licensed fishing activities, should be subject to an 'appropriate assessment' by national authorities to assess whether they may affect the integrity of any potential Natura 2000 sites.

#### *2.4.5.2 de Berre case (Barcelona Convention)*

A 2004 ECJ case[132] on the pollution of a French saltwater marsh connected to the Mediterranean Sea, is worth noting with regard to the 'direct effect' of international environmental agreements on European Member States. In *Syndicat professional coordination des pêcheurs de l'Étang de Berre et de la region* v *Électricité de France*, the ECJ's Second Chamber gave direct effect to two provisions of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (Barcelona Convention).[133] It can be inferred from this ruling that Member States are obliged to treat Conventions to which the EC is a Party as Community law.

This case also highlights the ECJ's apparent willingness both to ensure the enforcement of international environmental agreements, and to permit their enforcement at the domestic level (Cardwell and French, 2007). A subsequent judgment[134] by the European Court of First Instance (CFI) concerning France's obligations under the Barcelona Convention reiterated that 'In accordance with

[132] Case C-213/03, Syndicat professional coordination des pêcheurs de l'Étang de Berre et de la region v. Électricité de France.
[133] See section 2.3.2, *supra* note 56.
[134] Case C-239/03, *Commission of the European Communities v. France.*

case-law, mixed agreements concluded by the Community, its Member States and non-member countries have the same status in the Community legal order as purely Community agreements' (paragraph 25) and consequently France had an obligation to comply with the Convention given it's membership in the EC (in addition to its own obligation as a signatory to the Barcelona Convention). Consequently, under certain circumstances, a provision in an international agreement concluded by the EC may be directly applicable in the member state, and the provision of an international agreement can become part of the member state's domestic law.

*2.4.5.3 MOX case (UNCLOS)*

In May 2006 the ECJ issued its judgment[135] on a longstanding dispute between Ireland and the UK regarding a nuclear reprocessing plant in Sellafield. This dispute began with the 1993 decision by the UK to authorize the construction of a Mixed Oxide Fuel (MOX) reprocessing plant situated on the east coast of the Irish Sea.[136] The plant was made operational in 2001 following nearly a decade of studies on its environmental impacts, economic justifications for the plant, and an extensive public consultation (Scott, 2007). Ireland alleged that the UK failed to respond adequately to its concerns and consequently was in breach of its obligations under OSPAR and UNCLOS. In 2001 Ireland initiated dispute settlement proceedings under the auspices of both conventions, the OSPAR component of which was dismissed in a majority decision by the arbitral tribunal in 2003.[137] The International Tribunal on the Law of the Sea (ITLOS) proceedings were more lengthy, and suspended between June and December 2003 in order to seek further information on the potential impact of EC law on the dispute.

In the meantime, the European Commission sent a letter of formal notice to Ireland in May 2003 complaining that by instituting proceedings against the UK

[135] Case C-459/03, *Commission of the European Communities v. Ireland*..
[136] For a detailed analysis of the ITLOS proceedings, see Scott (2007).
[137] *Dispute Concerning Access to Information under Article 9 of the OSPAR Convention*, Ireland v. UK, Final Award (2 July 2003), 42 (2003) ILM 1118.

under the LOSC, Ireland had failed to comply with its obligations under the EC Treaty (Articles 10 and 192) and Euratom (Articles 192 and 193). Ireland then requested ITLOS to suspend its hearing until the ECJ delivered judgment in the case brought by the Commission, and as of 2007 the proceedings remain suspended (Scott, 2007).

The resulting ECJ judgment clarified that the whole of UNCLOS is EC law and forms 'an integral part of the Community's legal order' (paragraph 82). This clarification is especially important in a situation, such as this, where both the EC and its individual Member States are parties to the same convention.

### *2.4.6 Flexibility in EC decision-making*

This section briefly outlines mechanisms relevant for understanding how legislation is implemented and enforced by European institutions. This is of particular relevance with regard to the case studies examined in the empirical chapters below, as flexibility within the decision making process was evident in the designation of the area surrounding the Darwin Mounds that was protected from bottom-trawling.

The European Commission represents one branch of the institutional triangle that manages and runs the EC (the other two being the Council and the Parliament (formerly known as the Assembly). It members are appointed for five-year terms and since 2004, it has been made up of one Commissioner from each Member State. The Commission is assisted by a civil service comprised of thirty-six Directorates, encompassing the executive arms of the EC. The functions of the Commission include proposing environmental legislation and ensuring that the environmental and other provisions of the EC Treaty and secondary legislation are applied, including taking cases to the ECJ when necessary (Sands, 2003:736).

Like the Commission, the Council is composed of one representative from each member state, however the particular minister attending from each state will vary depending on the subject matter being discussed and the decisions being made (Sands, 2003:736). The Council's powers vary with each Treaty but in effect it

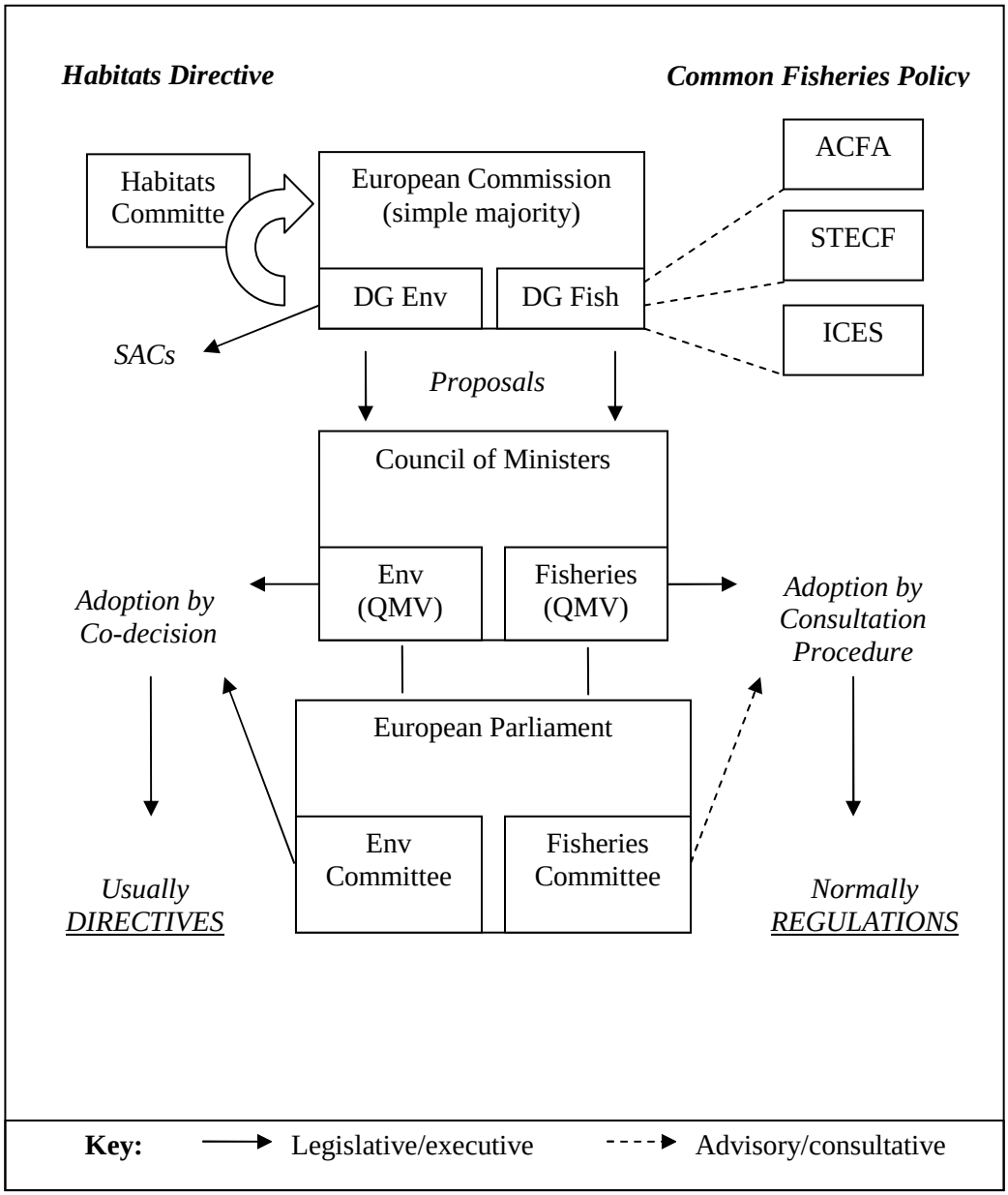
'expresses the political will of the members and exercises a legislative or regulatory function' (Sands and Klein, 2001:180). Environmental issues are generally addressed by the Environment Council, comprised of ministers responsible for environmental matters in each member state.

The Parliament is comprised of 626 members elected by direct universal suffrage and represents the parliamentary organ for the Community. Its powers are three-fold: it exercises democratic control over all the Community institutions (in particular the Commission); it shares legislative power with the Council; and it plays a decisive role in the adoption of the budget (Sands, 2003:737).

The ECJ and CFI each have fifteen judges and, in the case of the ECJ, eight Advocates General. The ECJ's primary function is to ensure respect for the rule of law in the application and interpretation of the Treaties and of acts made by the EC institutions (Sands, 2003:737). The ECJ may also decide matters brought by the Commission or a member state against a member state which is alleged to be failing to fulfill an obligation under the Treaty (see discussion on the issue of 'direct effect' in section 2.4.2 above).

The process for decision-making in the EC (focusing primarily on the Habitats Directive and the CFP) is outlined in Figure 2.5. While the Commission takes decisions based on a simple majority, the Council of Ministers operates under Qualified Majority Voting (QMV), a system of weighted voting based on member state size and population (the Council also takes decisions under unanimity, but QMV is more common). Decisions taken under QMV are also voted on by the Parliament, such that the Council and Parliament take a co-decision procedure.

***Figure 2.7 EC decision-making process***




*Adapted from Coffey and Richartz (2003:2)*

As illustrated above, the process for decision making involves both legislative/executive and advisory/consultative actions. The Advisory Committee on Fisheries and Aquaculture (ACFA), the Scientific, Technical and Economic Committee for Fisheries (STECF), and ICES all provide advice to DG Fisheries when drafting proposals for the Council, while DG Environment operates in a consultative process with Habitats Committees.

In the case of the Darwin Mounds closure, described in more detail below in Chapter 5, the emergency closure that was put into place was operated under the CFP and hence was open to consultation by relevant Committees, as well as informal consultations directly between member states. Other key bodies and instruments influencing and advising the European decision-making progress not included in the figure above include the European Environment Agency (EEA), NGOs, member states, national agencies, the epistemic community, the public and the media. The influence of these outside interests is well-illustrated in the cases detailed below in the empirical chapters on the Darwin Mounds and the pair-trawl ban.

## 2.5 UK NATIONAL COMMITMENTS

### *2.5.1 UK legislation*

The UK ratified the Bern Convention in 1982, which was implemented into UK legislation via the Wildlife and Countryside Act (1981 and as amended). This Act is considered to be the single most important instrument relating to the protection of wildlife in the UK, having created numerous offences relating to the killing and taking of birds, other animals and plants, but it has also been widely criticized as being weak (Reid, 2002). A new system of Sites of Special Scientific Interest (SSSIs)[138] was established, which has been judged a success in tackling the main threats that the Act was designed to address, however there has also dissatisfaction at their failure to prevent damage to protected sites (Reid, 2002:201). In addition, SSSIs only apply to the low-water mark, below which no property rights or land planning provisions exist (Jones, 1999) and hence enforcement policies necessary for conservation cannot be applied as they are on land.

Weaknesses in the 1981 Wildlife and Countryside Act were addressed by the

[138] Sites of Special Scientific Interest (SSSIs) were first introduced in the 1949 National Parks and Access to the Countryside Act (NPACA, section 23) but the original provisions were weak, only requiring special consideration within the town and country planning system, *i.e.* the owners and occupiers of the land were not even informed of the designation (Reid, 2002:200).

establishment in 2000 of the Countryside and Rights of Way Act (CRoW), intended to improve the protection of species and habitats in three ways. Under the CRoW amendments, the Act now (i) includes as crimes actions taken recklessly as well as intentionally; (ii) increases the penalties for offences and (for the first time) enables custodial sentences to be imposed under the legislation implementing the Habitats Directive (the Conservation (Natural Habitats, etc.) Regulations) and CITES,[139] and (iii) it enables the Secretary of State to designate 'wildlife inspectors' with the authority to enter and inspect premises (Reid, 2002). CRoW also introduced fundamental changes to the system of SSSIs, imposing stricter controls, with the power to prohibit damaging operations and to adjust the scope of the controls over time (Reid, 2002:201).[140]

### *2.5.2 Conservation (Natural Habitats, etc.) Regulations, 1994*

The Conservation (Natural Habitats, etc.) Regulations came into force on 30 October 1994 and were amended in 1997 and (in England only) in 2000.[141] The Regulations were drafted to implement parts of the Habitats Directive not already included in national legislation. This move to create new legislation rather than integrating the Directive's provisions with the 1981 Wildlife and Countryside Act removed any possibility of maintaining the key laws on species protection in a single instrument. Although this approach allows for consistency and transparency from the perspective of Brussels, it also provides confusion in that two overlapping sets of rules exist in UK law with regard to species and habitat conservation with similar provisions (Reid, 2002). The Conservation Regulations do differ from the 1981 Act in terms of scope of application, including non-intentional activities that destroy breeding habitats as offences.

[139] Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein, OJ L 61, 03.03.1997, p.1.

[140] Subsequently, in 2006 the Natural Environment and Rural Communities Act (NERC) came into effect, establishing Natural England. This is the first time the responsibility for enhancing biodiversity and landscape in urban, rural and coastal (but not marine) areas have been unified with promoting access and recreation.

[141] Statutory Instrument 1997 No. 3055 and Statutory Instrument 2000 No. 192. The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) came into force 13 November 1995 and replicate the provisions in force in the GB Regulations, applying them to the separate legal system existing in Northern Ireland. Directive 92/43/EEC was transposed into the laws of Gibraltar on 25 August 1995 by the Nature Protection Ordinance (Amendment) Regulations 1995 (DEFRA, September 2001).

There are also differences in permissible exceptions and in the language of the two laws that complicate their interpretation.

The Regulations are comprised of five Parts and four Schedules, providing for the designation and protection of 'European sites' and 'European protected species'. As it stands, the Regulations only apply to the territorial sea of the UK. However, as mentioned earlier, in 2003 the Regulations underwent a consultation (DEFRA, 2003a) and revision process to extend its applicability out to the UK Continental Shelf.[142] A draft of the revised Regulations was opened to consultation in 2006, and came into effect in August 2007.

Concurrent with this review, the UK Government commissioned the Joint Nature Conservation Committee (JNCC) to provide information enabling the designation of offshore SACs. This project was conducted under a joint steering committee including representatives from the Department for Environment, Food and Rural Affairs (DEFRA), the Department of Trade and Industry (DTI) and other government departments and country conservation agencies. The JNCC recommendations have been published as 'Natura 2000 in UK Offshore Waters: Advice to support the implementation of the EC Habitats and Birds Directives in UK offshore waters' (Johnston *et al.*, 2001). The first two offshore MSACs proposed by JNCC are the Darwin Mounds and Saturn *Sabellaria Spinulosa* site, followed recently by four additional areas, as mentioned earlier. See Table 2.3 for a listing of offshore MSACs proposed by JNCC to the UK Government as of November 2006 (including future proposals currently under research).

[142] Sovereignty over the UK Continental Shelf (UKCS) sea bed and subsoil was established by the Continental Shelf Act of 15 April 1964 (followed by several amendments in the 1960s and 1970s clarifying the extent of its jurisdiction).

**Table 2.3 Offshore marine SAC sites proposed by JNCC to the government**

| SITES PROPOSED | HABITAT TYPE | GENERAL LOCATION |
|---|---|---|
| Darwin Mounds: ~1,500 $km^2$ | reef (*Lophelia pertusa*) | Scottish Continental Shelf |
| Saturn site: 16 $km^2$ | reef (*Sabellaria spinulosa*) | Southern North Sea |
| Haig Fras: 757 $km^2$ | reef | Celtic Sea |
| Wyville Thomson ridge: 1533 $km^2$ | reef | Scottish Continental Shelf |
| Dogger Bank: 13,405 $km^2$ | subtidal sandbanks | Southern North Sea |
| Scanner pockmark: 7.25 $km^2$ | submarine structure made by leaking gases | Northern North Sea |
| | | |
| **SITES IN PREPARATION FOR PROPOSAL** | | |
| Braemar pockmarks | submarine structure made by leaking gases | Northern North Sea |
| North Norfolk Sandbanks | subtidal sandbanks | Southern North Sea |
| Haddock Bank | subtidal sandbanks | Southern North Sea |
| Haisborough Tail, Hewett Ridges, Hammond Knoll & Smiths Knoll | subtidal sandbanks | Southern North Sea |
| Median Deep | reef | English Channel |
| Norh West Irish Sea mounds | reef | Irish Sea |
| Blackstones Bank | reef | West Scotland/Minches |
| Stanton Banks | reef | Scottish Continental Shelf |
| West Hebrides Platform | reef | Scottish Continental Shelf |

*As of September 2007*

### *2.5.3 Marine Nature Reserves / Marine SACs / Marine Natural Areas*

Though a basis for terrestrial conservation in the UK was established with the National Parks & Access to the Countryside Act of 1949, marine sites were not directly addressed until the 1981 Wildlife and Countryside Act, and even then

coverage was extremely limited, leading to the establishment of only three[143] statutory Marine Nature Reserves (MNRs) (Jones, 1999). An *ad hoc* network of voluntary MNRs was subsequently developed, which promoted cooperation among users of the marine environment and allowed for participatory management, albeit in a cautious manner. This network lacked a systematic approach, however, and sites were selected opportunistically with a bias towards rocky reef areas in south-west England. In addition, as these reserves were based on a voluntary approach, there was no requirement for statutory support if and when needed (Jones, 1999). The development and implementation of the Habitats Directive thus provided an opportunity for stricter enforcement and protection of the UK marine environment.

There are inherent difficulties in applying the requirements of the Habitats Directive to the marine environment, both in identifying areas to be protected and determining the means of protection given the influence of external factors, such as land-based pollution, on inshore areas (Reid, 2002). The challenges posed by the physical nature of the marine environment are discussed in more depth in Chapter 3. If one considers the offshore marine environment, these characteristics are even more problematic than in waters closer to shore to which UK conservation policies have thus far been restricted (DETR, 2001).

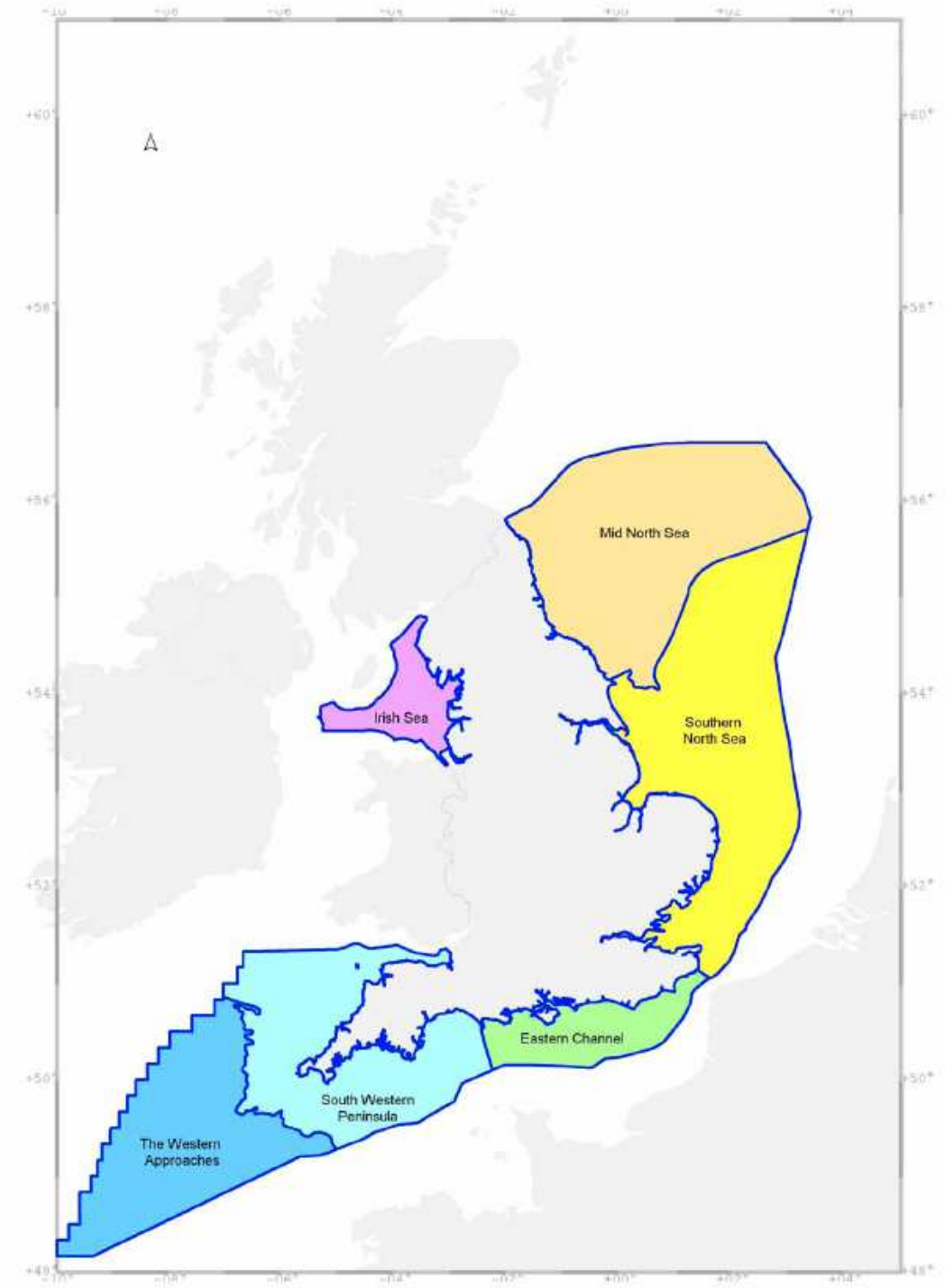
Regarding the implementation of the Habitats Directive in the (inshore) marine environment, the Conservation (Natural Habitats, etc.) Regulations require relevant authorities to work together to establish management schemes, but there is no overriding power or coordinating function designated to any particular authority (Jones and Burgess, 2005). Consequently, the protection of marine sites depends upon cooperation among the relevant authorities, who are encouraged to form management groups to oversee the process (subject to a call-in by the Secretary of State) while allowing for consultation from other groups such as riparian parties, marine users, industry and interest groups. It will be interesting to follow how this scheme changes when applied to the offshore area

[143] The three MNRs designated to date are Lundy in England, Skomer in Wales and Strangford Lough in Northern Ireland.

once the revised Regulations have been published. Given that inshore and offshore MPAs are to be selected and managed under different frameworks, coordinating them as a coherent network will pose significant challenges.

Another scheme for marine protection in the UK is the English Nature Marine Natural Areas initiative. This program covers six geographic areas: the (i) Western Approaches; (ii) South-western Peninsula; (iii) Eastern Channel; (iv) Southern North Sea; (v) Mid-North Sea; and (vi) the Irish Sea and is currently limited to English territory, with their outer extent set at the 200nm limit (see Figure 2.8). These Marine Natural Areas have been designated and described by English Nature in cooperation with the JNCC and in consultation with other organizations and the program is designed to provide a more comprehensive, ecosystem-based approach in a similar manner to terrestrial Natural Areas. As the remit for providing advice on nature conservation shifts from English Nature to the JNCC beyond the 12nm limit, the program identifies the need for these two bodies to work together on transboundary issues of common concern. The Areas were identified according to oceanographic processes, bathymetry and biogeographic characteristics to define broad natural divisions, *i.e.* ecologically-relevant boundaries, and emphasize the importance of natural processes, the interaction between these, geology and wildlife. English Nature has designed this initiative to work in a complementary fashion with other programs, including the regional seas approach set out under DEFRA's Review of Marine Nature Conservation (2004).

***Figure 2.8 Marine Natural Areas around England***




*(From Jones* et al., *2004:7)*

### *2.5.4 Marine Bill*

The development of a UK Marine Bill currently underway represents the culmination of several Government-commissioned reports released since the 2002 First Marine Stewardship Report, 'Safeguarding Our Seas'. These reviews examined various aspects of management of the UK's seas and coasts and are listed in Table 2.4. The UK Government's commitment to a developing domestic legislation to specifically address its marine environment appeared in the Labour Party Manifesto in April 2005 as follows:

> 'Through a Marine Act, we will introduce a new framework for the seas, based on marine spatial planning, that balances conservation, energy and resource needs. To obtain best value from different uses of our valuable marine resources, we must maintain and protect the ecosystems on which they depend'.

The UK government is developing the Marine Bill around five themes: (i) managing marine fisheries; (ii) planning in the marine area; (iii) licensing marine activities; (iv) improving marine nature conservation and (v) the potential for a new Marine Management Organisation. A consultation on the draft Marine Bill was held from March – June 2006, during which DEFRA received over 1200 responses. A large majority of respondents (94%) were in support of the development of a new mechanism for designating MPAs to be introduced in the Marine Bill, to replace legislation on MNRs (DEFRA, 2006).[144] The creation of a new system of Marine Spatial Planning (MSP) has also received strong support in the consultation process to date. There is also significant interest in developing a Marine Management Organisation (MMO), as there is a general consensus that no existing body in the UK government can undertake MSP responsibilities. DEFRA released the responses to its consultation in October 2006.

[144] It is worth recalling that the 2004 Royal Commission on Environmental Pollution report mentioned earlier (Chapter 1, section 1.1.2) called for a network of NTMPAs to be established amounting to 30% of the UK's EFZ. In addition, English Nature's 2005 Maritime Strategy (English Nature, 2005) included the objective of protecting 20-30% of each inshore marine habitat type, and the UK NGO community has been campaigning for a network of Highly Protected Marine Areas in UK waters (Jones, 2006b).

**Table 2.4 UK government initiatives towards a Marine Bill**

| REVIEW | SOURCE | DATE |
|---|---|---|
| **Safeguarding Our Seas**: A strategy for the conservation and sustainable development of our marine environment (First Marine Stewardship Report) | DEFRA | May 2002 |
| **Seas of Change**: The Government's consultation paper to help deliver our vision for the marine environment | DEFRA | November 2002 |
| **Marine Nature Conservation and Sustainable Development**: The Irish Sea Pilot | JNCC | January 2004 |
| Government Response to its Seas of Change Consultation | DEFRA | March 2004 |
| **The Marine Environment**: Environment, Food and Rural Affairs Select Committee, Sixth Report of Session 2003-2004 | EFRA | March 2004 |
| **Review of Marine Fisheries and Environmental Enforcement** | DEFRA | March 2004 |
| **Net Benefits**: a sustainable and profitable future for UK Fishing | Prime Minister's Strategy Unit | March 2004 |
| **Integrated Coastal Zone Management in the UK**: A Stocktake | DEFRA | April 2004 |
| **Marine Environment**: Government's reply to the Committee report. Tenth Report of Session 2003-2004 | EFRA | June 2004 |
| **Review of Marine Nature Conservation**. Working Group report to Government | DEFRA | July 2004 |
| **Turning the Tide**: Addressing the impact of fisheries on the marine environment | RCEP | December 2004 |
| **Charting Progress**: An integrated assessment of the state of UK seas | DEFRA | March 2005 |
| **The Future for UK Fishing**: Environment, Food and Rural Affairs Select Committee Sixth Report of Session 2004-2005 | EFRA | March 2005 |
| **Securing the Benefits**. Government response to recommendations made in Net Benefits | DEFRA | June 2005 |
| **Safeguarding Sea Life**. Joint UK response to the Review of Marine Nature Conservation | DEFRA | December 2005 |
| Marine Bill Consultation | DEFRA | March – June 2006 |
| Government response to the RCEP's Turning the Tide report | DEFRA | May 2006 |
| Responses to Marine Bill Consultation released | DEFRA | October 2006 |
| Consultation on **A Sea Change**, a Marine Bill White Paper | DEFRA | March – June 2007 |

*As of September 2007*

The development of the Marine Bill is ongoing, with further public consultation on a draft White Paper, released in March 2007, currently underway.[145] There was a chance that the draft Bill might be brought before Parliament by 2006, but the process has been delayed by at least a year, if not two. It seems likely that the Bill will not be presented to Parliament before Autumn 2008 (P. Jones, *pers. comm.*).

There has already been a great deal of debate on what a Marine Bill should contain, and how to reconcile and integrate conservation goals with the full range of demands currently placed on the marine area (Houghton, 2006:163). How the UK Marine Bill would interact with existing UK legislation relevant to the designation of offshore MPAs remains to be seen, as does the value of establishing a new MMO to replace existing authorities' jurisdiction over these issues (*i.e.* rather than strengthening existing institutions). It is also not clear whether the devolved administrations of the UK would want a UK MMO to perform functions on their behalf, or wish to create separate MMOs (Houghton, 2006). Potential functions of an MMO would be those not easily delivered by existing public bodies, and might include overseeing Marine Spatial Planning (MSP, discussed below in Chapter 3, section 3.4.2) and the delivery of an integrated licensing regime, if introduced.

**CONCLUSION**

This chapter has set out the legal framework relevant to the designation of offshore MPAs in the North-East Atlantic, from global commitments to regional and UK-level legislation. While some of the Conventions discussed here are more directly applicable to offshore MPAs *per se* than others, this analysis has intended to provide an overview of the legal issues and context in which the Darwin Mounds closure occurred. In the case of the UK, given the outcome of the de Berre case discussed above, it is now clear that all EC Member States are required to treat Conventions to which the EC is a Party as Community Law.

[145] The interviews conducted for this thesis occurred during 2005-2006, *i.e.* before the White Paper was released for consultation. It is therefore not analyzed in detail in this thesis. At the time this thesis was submitted (September 2007), the public consultation on "A Sea Change" was underway.

While the global CBD, CITES and UNCLOS Conventions provide international fora for discussing offshore conservation issues, they have not established any binding targets for implementing offshore marine conservation. Rather it is the regional Conventions and Commissions that are leading the way in establishing offshore MPAs. As mentioned earlier, NEAFC established four fishery closures; OSPAR is developing a network of sites that will include areas offshore; and the Darwin Mounds closure was implemented through the revised CFP rather than national legislation (though it will eventually be a SAC under the Habitats Directive).

This chapter has also provided some detail on the process of EC environmental decision-making, which highlights the inherent bifurcation between nature conservation and fisheries management in the operation of the EC institutions. This bifurcation is an important issue affecting the development of offshore marine conservation initiatives in European waters, and is explored further within the context of the case studies examined later in the thesis. The development of the European Marine Strategy Directive and Maritime Policy in tandem with the other regional and international initiatives for offshore MPAs presents a situation of potential institutional tension .

Another issue of key relevance to the case studies examined later in the thesis is the UK political environment. Within the UK, a key issue affecting the implementation of environmental legislation is the devolution settlement of 1999.[146] While fisheries have been devolved among the relevant Scottish, Welsh, English and Northern Irish authorities, nature conservation has not. The devolution settlement further magnifies the tension inherent in the European split between nature conservation and fisheries management, and this is discussed later in the thesis within the context of the Darwin Mounds and UK ban on pair-trawling for sea bass.

[146] The legislative framework for devolution is set out in the *Scotland Act 1998*, the *Government of Wales Act 1998* and the *Northern Ireland Act 1998*. There is also a non-legislative framework of concordats, agreements between Government departments and the devolved institutions, under a *Memorandum of Understanding* (Leeke *et al.*, 2003).

The next chapter addresses implications of this legal framework, namely the incorporation of the precautionary principle and an ecosystem approach in legislation addressing marine conservation. It also addresses theoretical approaches to determining regime effectiveness and managing complex ecological systems, such as the marine environment.

# 3

# THEORETICAL FRAMEWORK

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*"You won't achieve understanding of a person or an issue in a day. Take your time, dig, go back" (Bob Woodward)*

## OVERVIEW

This chapter explores theoretical constructs for evaluating the regime currently developing for offshore marine protected areas and its potential to alleviate the issues it is being designed to address. After setting out theoretical approaches to assessing regime effectiveness and interaction, this analysis examines the role of the precautionary principle in marine nature conservation, and related inherent difficulties/challenges posed by the marine environment's ecological complexity. This analysis then explores the implementation of an ecosystem approach in European marine conservation, and the role of science in environmental decision-making. Whereas the previous chapter set out the legal framework applicable for the designation and implementation of offshore conservation measures, this chapter provides a theoretical framework for assessing the potential of and challenges to offshore MPAs. The theoretical material discussed here is derived from the common pool resource literature, political science, ecological theory, and international environmental law. The issues raised by this theoretical analysis are further explored and examined in the subsequent empirical chapters in light of the data obtained from semi-structured interviews and participant observation at conferences and workshops related to offshore environmental management.

## 3.1 DEFINING AND EVALUATING ENVIRONMENTAL REGIMES

Regime analysis grew out of studies on globalism and interdependence in the 1960s and 1970s, following a shift in focus from transnational corporations to transnational environmental issues of global concern (Stokke, 1997). A complete history of the development of regime theory is beyond the scope of this

chapter[1], thus the present analysis will focus on the application of governance and regime theory to understanding the complex system of policies and institutions currently evolving to address offshore marine conservation.

In examining environmental regime effectiveness and institutional governance, it is useful to begin by clarifying the meanings of these terms themselves, as these have sometimes varied during the development of regime theory. Young (2002a) attributes the difficulty in comparing and contrasting the results of studies on institutions to be due to a lack of uniform definitions of central concepts. To maintain consistency, it therefore makes sense to outline appropriate definitions as follows. *Institutions* are 'sets of rules of the game or codes of conduct that serve to define social practices, assign roles to the participants in these practices and guide the interactions among occupants of these roles' (Young, 1994:3). *International environmental regimes* are a form of institution, *i.e.* 'social institutions consisting of agreed upon principles, norms, rules, procedures, and programs that govern the interactions of actors in specific issue areas' (Levy *et al.*, 1995:274). This should not be confused with the function of *organizations*, which are instead 'material entities possessing offices, personnel, budgets, equipment and, more often than not, legal personality' (Young, 1994:4). Organizations are therefore actors (*i.e.* participants[2]) in the political arena, and institutions affect their behavior by defining social practices and outlining appropriate codes of conduct. With respect to environmental regimes, an example of an institution would be the United Nations Framework Convention on Climate Change, as opposed to the organizations and actors that aim to implement its protocols.

Examples of successful international regimes include the Antarctic treaty system created in the 1950s, which prevented the development of firm jurisdictional claims in the region, and the ozone regime that emerged in the 1980s, aimed at

[1] A review of the interdependence literature can be found in Keohane and Nye (1977) and Nau (1979) provides a comparison with integration theory. Stokke (1997) goes into more depth on the development of regime analysis, its criticisms, and lessons that can be learned from it for global governance. A recent PhD thesis (Fritz, 2000) provides a useful comparative analysis of current regime theory and earlier theories of international institutions.

[2] The term 'actors' in the analysis of international environmental regimes refers to both state and non-state participants (*e.g.* corporations, NGOs and individuals).

phasing out the production and consumption of chlorofluorocarbons (CFCs) and other chemicals that destroy ozone in the upper atmosphere. However, while initially successful, the ozone regime more recently has faced challenges related to its implementation in developing countries and with the development of black markets in some of the relevant chemicals (Young and Levy, 1999). Regimes aimed at managing international fisheries have been far less successful, resulting repeatedly in the continued depletion of important fish stocks (Peterson, 1993; Young and Levy, 1999).

How and why some environmental regimes succeed while others fail is a complex question that has generated substantial research. Early studies in the first half of the 1990s delineated the stages of regime formation and related theoretical constructs (*e.g.*, Underdal, 1992; Haas *et al.*, 1993; Andresen and Wettestad 1995). These were followed in the later 1990s by comprehensive international projects based on case studies examining the effectiveness of measures put in place, measuring both compliance with rules set out and the resultant effects of a regime on the environmental problem that led to its formation (*e.g.*, Brown Weiss and Jacobsen, 1998; Victor *et al.*, 1998; Hisschemöller and Gupta, 1999; Young, 1999; Miles *et al.*, 2002). Since then, analyses of regime effectiveness have tended to focus to a greater extent on methodological issues and on the linkages between regimes (*e.g.* Helm and Sprinz, 2000; Stokke, 2001a; Stokke 2001b; Young 2002a, 2002b, 2003; Andresen and Wettestad, 2004; Underdal and Young, 2004; Stokke *et al.*, 2005; Oberthür and Gehring, 2006a).[3]

### *3.1.1 Regime formation*

All social institutions can be seen as responses to collective-action problems or 'situations in which the pursuit of interests defined in purely individualistic terms regularly leads to socially undesirable outcomes' (Young, 1989:84).

[3] A useful overview of the results of regime effectiveness analyses to date can be found in Andresen and Hey (2005). This area of study is quite well developed and to examine it in depth is beyond the scope of this chapter.

Early studies of regime formation distinguished three potential processes of generation: spontaneous, negotiated and imposed (Young, 1983; Young 1989; Levy *et al.*, 1995). Self-generating or spontaneous regimes emerge through a process of converging expectations that does not require conscious efforts on the part of those who become participants. Such regimes can be viewed as precluding the need for institutional design, and consequently they are favored by political conservatives and have been referred to as a means of producing order without law (Ellickson, 1991). Negotiated regimes arise from a process of bargaining among parties, which often leads to a lengthy process of compromises and commitments. Such regimes are the most common in the international environmental arena. Imposed regimes, conversely, occur when a single powerful actor (or small coalition of powerful actors) succeed in convincing others to accede to its/their institutional preferences. In practice, regime formation can exhibit elements of all three processes, with one or more exhibiting particular prominence. As a result, analyses of environmental regime development benefit from taking these categorizations into account, as they may include elements of spontaneous generation, bargaining and even imposition of institutional design by one or more powerful parties.

The development of an environmental regime can be divided into three conceptual phases as follows: (i.) agenda setting, (ii.) institutional choice, and (iii.) operationalization (Keohane *et al.*, 1993, Levy *et al.*, 1995). *Agenda setting* involves the identification of problems requiring action and their emergence into the political agenda. *Institutional choice* is the implementation of said agendas into policies.[4] *Operationalization* is the transformation of policies into practice, whereby a regime's member states implement its rules on various non-state actors operating within their jurisdiction. The latter two stages can also be distinguished form one another vertically, with institutional choice representing international policy formation, while operationalization involves national policy responses. Examining how a regime affects the political process during these three stages is one way of gaining a preliminary understanding of whether the regime is solving the problems it was designed to address.

[4] This phase often includes *institutional bargaining*, a concept intrinsic to the formation, implementation and effectiveness of regimes according to Young (1994).

### *3.1.2 Regime effectiveness and resilience*

Studies of regimes focus on their effectiveness and resilience.[5] These combined factors can be used to characterize the significance and permanence of institutional arrangements. *Regime effectiveness* refers to the ability of a regime to eliminate or substantially ameliorate the problem that led to its creation. Effectiveness is analyzed with respect to both *compliance*, the degree to which involved actors follow a regime's prescriptions and whether this requires an alteration in their behavior, and *results* (*i.e.* outcomes), the degree to which the changes caused by a regime produce real environmental improvement. *Regime resilience*, on the other hand, refers to the capacity of international arrangements, rules and expectations, whether formal or informal, to remain in force despite the existence of destabilizing forces. Such forces can be endogenous or exogenous, the former being internal instability and the latter external.[6] Destabilizing forces include both sudden crises, such as collapses in resource availability (*e.g.* fish stocks) and more gradual changes (*e.g.* rising sea level) and external market forces (*e.g.* rise in demand or collapse of markets for resources). A regime that is well-designed to cope with gradual external pressures may be severely crippled by sudden shocks and vice-versa. Coupling the resilience of a well-designed institutional framework with the environmental issue being addressed is necessary for success (see the discussion on environmental resilience below, in section 3.3.1).

Determining environmental regime effectiveness is not necessarily a straightforward process, as 'effectiveness' *per se* can have many meanings. Effectiveness can be interpreted in several ways: problem-solving, legal, economic, normative and political (Levy *et al.*, 1995; Young and Levy, 1999). A *problem-solving* approach centers on the degree to which a regime eliminates or alleviates the problem that prompted its formation. This can be harder to measure than it may seem, given the complexity of social systems. A *legal*

[5] Also referred to as *regime robustness* (*e.g.* by Young, 2002a).
[6] Young (2002a) cites the following examples. *Endogenous*: the fact that a democratic electoral system could lead to the election of antidemocratic leaders. *Exogenous*: how revolutionary changes in political systems affect more specific arrangements governing human uses of renewable resources.

definition of effectiveness focuses on the degree to which contractual obligations drawn up under a regime are met. This is easier to measure but it does not necessarily reflect whether the regime is accomplishing what it was designed to address. *Economic* effectiveness incorporates efficiency with the legal definition, *i.e.* whether a regime generates the right outcome at the least cost. This approach is difficult to apply, given the difficulty of measuring efficiency. *Normative* parameters include values such as fairness or justice, stewardship and participation. Analysts usually do not focus on normative constructs as a measure of regime effectiveness, as these are obviously extremely difficult parameters to measure. A *political* approach views regimes as directed at particular international problems and examines behavioral changes in actors or policies and whether they are responsible for environmental improvements.

In terms of measuring effectiveness empirically, a recent comprehensive analysis of case studies (Miles *et al.*, 2002) determined factors necessary for success, classifying regimes into three categories: effective, mixed-performance, and ineffective. Criteria related to success and failure according to this analysis are listed in Tables 3.1 and 3.2.

**Table 3.1 Characteristics of effective regimes**

| VARIABLE | CONDITION |
|---|---|
| Type of problem | Predominantly *benign* or at least *mixed*<br>State of knowledge: *good* |
| Problem-solving capacity | *High*, as indicated by:<br>- Decisions rules providing for adoption of rules by (qualified) majority<br>- An inter-governmental organization (IGO) with significant actor capacity serving the regime<br>- A well-integrated epistemic community<br>- Distribution of power in favor of pushers, or pushers and intermediaries<br>- Instrumental leadership by one or a few parties or by individual delegates or coalitions of delegates |
| Political context | *Favorable*, as indicated by:<br>- Linkages to other, benign problems<br>- Ulterior motives or selective incentives for cooperation |

*(From Miles et al., 2002:63)*

**Table 3.2 Characteristics of ineffective regimes**

| VARIABLE | CONDITION |
|---|---|
| Type of problem | Predominantly *malignant*<br>State of knowledge: *poor* |
| Problem-solving capacity | *Low*, as indicated by:<br>- Decision rules requiring unanimity or consensus<br>- Weak IGO serving the regime<br>- No epistemic community present<br>- Distribution of power in favor of laggards or laggards and bystanders (*i.e.*free-riders)<br>- Scant instrumental leadership provided by delegates or coalitions of delegates |
| Political context | *Unfavorable*, as indicated by:<br>- Linkages to other malign problems<br>- No ulterior motives or selective incentives for cooperation |

*(From Miles et al., 2002: 309)*

Examples of effective regimes according to the case studies analyzed by Miles *et al.* (2002), using this comparative framework, include the North Sea Oslo Commission's work on dumping, the reduction of low-level radioactive waste dumping from 1964-1982, the management of tuna fisheries in the West Central and Southwest Pacific, and the 1985 Vienna Convention on the protection of the ozone layer and subsequent Montreal Protocol. Examples of ineffective regimes include the Mediterranean Action Plan, oil pollution from ships at sea, CITES, the International Whaling Commission (IWC) and the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). Environmental regimes falling in the intermediate 'mixed' category, according to this analysis, include land-based pollution control in the North Sea, the Convention on Long-Range Transboundary Air Pollution (CLRTAP), and the management of high seas salmon in the North Pacific.

### *3.1.3 Regime interactions*

Given the proliferation of environmental agreements and conventions addressing marine environmental problems in the past few decades, a discussion of the issues related to overlap and interaction between environmental regimes is necessary. Environmental regimes do not operate in a vacuum; as mentioned above, both endogenous and exogenous forces can affect their resilience and, consequently, effectiveness. In a similar way, institutions can influence one another, both positively and negatively, and the boundaries separating institutions can sometimes be hard to define. As Young (2002b:266) states, the success of an environmental regime 'is a function not only of the allocation of tasks between or among institutions operating at different levels of social organization but also of cross-scale interactions among distinct institutional arrangements'. However, the conceptual development of regime interaction analysis is still at an early stage. This chapter follows the example of Oberthür and Gehring (2006a) in using the term *regime interactions* to encompass various terms used by previous studies to express the idea of inter-institutional influence, such as *interplay*, *linkage*, *interlinkage*, *overlap* and *interconnection*.

In examining environmental regimes in the marine environment, the interaction between different legal instruments must be taken into account, as this is a multi-

use environment that has seen the establishment of various regimes aimed at different problems, such as pollution, fish stock management, and environmental protection. Empirical work on regime interactions grew out of the effectiveness research touched upon above and, like these analyses, aimed to identify successes and failures of deliberate policymaking in order to draw lessons for global governance. Oran Young has contributed several influential and important studies on categorizing regime interactions during the past decade (Young, 1996, 1997, 1999, 2002a, 2002b, 2003). He initially proposed four types of interaction: embeddedness, nestedness, clustering and overlap (Young, 1996). *Embeddedness* refers to the relationship of a governance institution to broader principles and practices such as sovereignty. *Nestedness* describes the relationship of a smaller institution to a functionally or geographically larger one. *Clustering* describes the deliberate grouping of different institutions. *Overlap* describes the phenomenon when regimes that were formed for different purposes and largely without reference to one another intersect and impact one another in the process. Young has subsequently distinguished between *vertical* and *horizontal* hierarchical interactions at different levels of social organization, from the local level to the international (Young 2002a, 2002b).

Attempts to categorize regime interactions have also been undertaken recently by Olav Stokke (2001a, 2001b). He identifies four types of regime interaction: utilitarian, normative, ideational, and interplay management (Stoke, 2001b:10). *Utilitarian interplay* occurs when rules or programs undertaken by one regime alter the costs or benefits of behavioral options for another. *Normative interplay* occurs when the rules upheld in one regime either conflict with or reinforce the operation of another. *Ideational*[7] *interplay* involves processes of learning, whereby one regime can support the effectiveness of another by drawing political attention to the problems addressed by the recipient regime. *Interplay management* refers to the political management of influence between institutions, in order to prevent normative conflict or duplication of programmatic efforts. These four types of interaction can have a positive or negative effect on regime

[7] Also referred to as *diffusive* interplay (Stokke, 2001a).

effectiveness, depending on the situation and on whether the actors involved are aware of the interaction and seek to influence it.

In their analysis of interactions between European and International environmental regimes, Oberthür and Gehring (2006a) examine 163 cases of institutional interaction in eleven environmental (or environmentally-relevant) regimes and environmental EU Directives according to the variables listed in Table 3.3.

**Table 3.3 Variables of institutional interaction and relevant distinctions**

| VARIABLE | RELEVANT DISTINCTIONS |
|---|---|
| Quality of effect (within the target institution) | - Synergy<br>- Disruption<br>- Neutral or unclear |
| Policy fields (of source and target institution) | - Same policy field<br>- Different policy fields |
| Intentionality (of the triggering action of the source institution) | - Intentional<br>- Unintentional |
| Key differences | - Objectives of source and target<br>- Memberships of source and target<br>- Means of source and target |
| Policy responses | - Collective response<br>- No collective response |
| Potential for further improvement | - Significant potential<br>- No significant potential |

*(From Gehring and Oberthür 2006b:309)*

Gehring and Oberthür identify four causal mechanisms of institutional interaction: cognitive interaction, interaction through commitment, behavioral interaction and impact-level interaction (2006a:8). *Cognitive interaction* involves a transfer of knowledge between institutions, while *interaction through commitment* occurs when commitments agreed upon in one institution affect the interests and decision-making process of another. *Behavioral interaction* describes a situation when an institution may induce behavioral changes in actors within its issue area that are relevant for the effectiveness of another institution within the same issue area. Finally, *Impact-level interaction* describes a situation when an institution, as a direct result of its actions towards its target of

governance (*i.e.* issue area), affects another institution on the level of the issue being addressed.

Looking at these definitions slightly more broadly, a source institution can directly influence the rule-making process of a target institution in two ways: by triggering a learning process that leads to voluntary adaptation (*cognitive interaction*),[8] or by committing its members to an obligation that changes their preferences on matters negotiated in the target institution (*interaction through commitment*).[9] Within a specific issue area, a source institution may affect the effectiveness of a target institution in two ways: by exerting influence on the behavior of states and nonstate actors that is relevant for the implementation of the target institution (*behavioral interaction*), or it may directly affect the ultimate goal of the target institution (*impact-level interaction*)[10] (Oberthür and Gehring, 2006b:20). As the work compiled by Oberthür and Gehring (2006a) is the most recent to emerge in the literature, and involved the participation of Stokke in its empirical analysis, these definitions are the most current and perhaps also the most comprehensive, as the authors based their derivation on theories of institutions, negotiation theory and also cooperation theory.

The majority of interactions examined in this large analysis were classified as exhibiting synergy, with only one quarter of the interactions deemed as disruptive. Disruptive interactions occurred more frequently at the international level, while synergy dominated at all levels, both in horizontal interactions between international institutions, in horizontal interactions between EC legal instruments and in vertical interactions between international and EC instruments (Gehring and Oberthür, 2006a:12). This conclusion, which can be viewed as going against conventional wisdom, raises the question of whether or not institutional interaction is something negative which should be minimized. In their findings, Gehring and Oberthür (2006a:12) state that institutional fragmentation in international and EC governance and issues of overlap do not

[8] Similar to Stokke's (2001b) '*ideational interplay*'.
[9] Similar to Stokke's (2001b) '*utilitarian interplay*'.
[10] Gehring and Oberthür's analyses exclude impact-level interaction as it is 'frequently based on complicated natural science links' (2006a:11) and because they prioritized obvious cases of interaction with short causal chains over less obvious ones with longer causal chains.

predominantly result in conflict or duplication of work, rather these interactions may provide a 'valuable asset for skillful policymaking to enhance environmental governance'.

Indeed, with respect to addressing complex, diversely interacting systems, such as the marine environment, having a network of institutions interacting in a management framework may be a more resilient approach. The complex nature of the marine environment is discussed in more detail below in section 3.3, as are concepts related to ecosystem resilience and adaptive management. First, however, it is useful to examine the role of the precautionary principle in addressing the designation of MPAs, as this legal principle has been cited widely in environmental legislation during the past two decades.[11]

### 3.2 THE PRECAUTIONARY PRINCIPLE

The precautionary principle is worded in a variety of subtly different ways in the different conventions and agreements into which it is integrated. Principle 15 of the Rio Declaration, which attracts broad support, provides that 'where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'.[12] For the purpose of this thesis, given its focus on marine conservation in the North East Atlantic, an appropriate definition is the one given by the 1992 OSPAR Convention, which links prevention and precaution (Sands, 2003:271) as preventative measures should be taken when there are 'reasonable grounds for concern […] even when there is no conclusive evidence of a causal relationship between the inputs and the effects'.[13]

The 1991 Maastricht Treaty on European Union incorporated the precautionary principle as both a legal obligation and required objective for environmental

[11] International treaties and agreements incorporating the precautionary principle include the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, the third North Sea Conference of 1990, the 1992 Rio Declaration on Environment and Development, the 1992 UN Framework Convention on Climate Change, the 1992 Maastricht Treaty on European Union, the 2000 Cartagena Protocol on Biosafety, and the 2001 Stockholm Convention on Persistent Organic Pollutants. For a detailed history of the development of the precautionary principle in the 20th century, see Harremoës *et al*. (2002).

[12] WSSD Plan of Implementation, paragraphs 22 and 103.

[13] OSPAR Convention, Article 2(2)(a).

policy[14], and this was further amended by the 1997 Amsterdam Treaty and subsequent 2001 Treaty of Nice as follows:

> 'Community policy […] shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay. Environmental protection requirements must be integrated into the definition and implementation of other Community policies'.[15]

The first introduction of the precautionary principle into the global fisheries regulatory agenda was in Article 6 of UNCLOS (the 1995 Straddling and Highly Migratory Fish Stocks Agreement), and this together with other features of the Agreement can be viewed as the first introduction of a truly environmental dimension into international fisheries law (Freestone and Makuch, 1996 and Freestone, 1999).

It is not entirely clear whether the precautionary principle should be considered a general principle of international law, with sufficient state practice to support the argument that it has emerged as a principle of customary international law. On the one hand this may seem logical given its incorporation into several international environmental treaties and policy documents (Cameron, 2001; Cameron and Abouchar, 1996), though there is still no clear consensus on the principle's exact meaning in the international arena (Sands, 2003:272). In the 1998 WTO *Beef Hormone* case[16] the EC invoked the principle to justify prohibiting the import of beef with artificial hormones from the United States and Canada. Although the EC argued that the principle was already 'a general customary rule of international law or at least a general principle of law,' the legal status of the precautionary principle was found to be uncertain (Birnie and Boyle, 2002:118) and while it has been accepted by Canada as an emerging principle of international law, the United States has denied that it has any legal status at all (Birnie and Boyle, 2002:118; Sands, 2003).

[14] 1991 Maastricht Treaty, Article 130r(2).
[15] 2001 Treaty of Nice, Article 174(2).
[16] WTO Appellate Body. Measures Concerning Meat and Meat Products; 1998.

The European Commission released a Communication on the precautionary principle in 2000, which stated that it had been progressively consolidated in international environmental law and consequently has become a 'full-fledged and general principle of international law'.[17] However this raises an interesting question; while the principle can be seen as part of customary international law, why has it not been accepted as part of customary international environmental law? Nevertheless, while the precautionary principle only applies explicitly with regard to EC environmental policy, the European courts have endorsed its application in relation to other policies, namely public health (Scott, 2004).[18]

### *3.2.1 Precaution and MPAs*

No-Take Marine Protected Areas (NTMPAs) are considered a precautionary approach to fisheries management, providing insurance in the face of uncertainty (Guénette *et al*., 1998; Lauck, 1998; Jones, 2006a). There have been a few instances in recent years where closures and bans have been implemented in European waters, integrating environmental concerns with fisheries management (Table 3.4). Prior to the Darwin Mounds closure, an area extending 20,000 $km^2$ from North East Scotland to Northumberland was closed in 2000 to sand-eel fishing under the auspices of the Birds Directive, as a decline in sand-eel populations appeared to be affecting puffin and kittiwake populations, which depend on sand-eels for food during their breeding season. This area includes the 'Wee Bankie' off the Firth of Forth and hence is popularly referred to under this name. Though it began as a seasonal closure, the timeline has been extended over the past five years and it is expected that a complete ban on sand-eel fishing may occur in the North Sea in the very near future as sand-eel stocks have plummeted. An analysis of ecosystem-based fisheries management in the North East Atlantic (Frid *et al.*, 2005) refers to the management of this fishery as having an ecosystem objective (seabird population health), being precautionary (as the link is not yet proven) and using kittiwake breeding success as a biological indicator of the ecosystem effects of the fishery.

[17] European Commission Communication on the Precautionary Principle, COM 2000 (1), 2 February 2000, at page 10. Available on the Europa website: (europa.eu.int/eur-lex/en/com/cnc/2000/com2000_0001en01.pdf).

[18] For a detailed account of the precautionary principle before the European Courts, see Scott (2004).

**Table 3.4 Recent examples of closures/bans where environmental concerns have been integrated into fisheries management**

| CLOSURE/BAN (SPECIES) | AREA AFFECTED | YEAR |
|---|---|---|
| 'Wee Bankie' from NE Scotland to Northumberland (Sand-eel fishing) | 20,000 $km^2$ of North Sea | 2000 |
| EC Drift-net ban (cetaceans) | EC waters (as of 2002), including Baltic Sea (to begin 2007) | 2002 |
| ICCAT Driftnet ban | Mediterranean Sea | 2003 |
| Darwin Mounds closure (*Lophelia pertusa*) | 1,380 $km^2$ of NE Atlantic | 2003 |
| FAO GFCM ban on Driftnets and demersal trawling below 1000m | Mediterranean Sea | 2005 |
| UK Sea Bass Pair Trawl Ban (cetaceans) | UK territorial waters and European waters (UK fishermen only) | 2005 |
| Azores, Madeira, and Canary Islands trawling ban (seamounts, cold-water corals and hydrothermal vents) | Waters 100-200 nm offshore, ban on use of nets and trawling gear below 200m | 2005 |

*(Adapted from De Santo and Jones, 2007a:10)*

Another precautionary set of measures was taken recently in European waters to address driftnet fishing. An EC drift net ban (Regulation 1239/98[19]) came into effect in 2002, ten years after the United Nations moratorium[20] on large scale driftnets and covering all European waters except the Baltic Sea. A subsequent Regulation (No. 812/2004[21]) extended the ban into the Baltic and is to take effect in 2007. However compliance has been problematic in the Mediterranean, and in 2003 the International Commission for the Conservation of Atlantic Tuna (ICCAT) prohibited the use of driftnets for fisheries of large pelagics.[22] This

[19] Commission Regulation (EC) No 1239/98 of 8 June 1998 amending Regulation (EC) No 894/97 laying down certain technical measures for the conservation of fisheries resources, OJ L 171, 17.06.1998, p.1.

[20] United Nations General Assembly Resolutions 44/225 (of 22 December 1989) and 46/215 (of 20 December 1991) on Large-scale pelagic drift-net fishing and its impact on the living marine resources of the world's oceans and seas. Available from the UNGA documents website: (www.un.org/documents/resga.htm).

[21] Commission Regulation (EC) No 812/2004 of 26 April 2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98, OJ L 150, 30.04.2004, p.12.

[22] International Commission for the Conservation of Atlantic Tunas (ICCAT) Recommendation 03-04 relating to Mediterranean swordfish.

was followed in 2005 by a recommendation[23] from the FAO General Fisheries Commission for the Mediterranean (GFCM) that reiterated the ICCAT prohibition and went a step further, banning benthic trawling fishing methods at depths below 1000m.

Despite these efforts, illegal driftnet fishing is still occurring in the area, according to NGOs who have been pressuring EC Fisheries Ministers to address loopholes in the Regulation that allow fishermen to modify driftnets (*e.g.* affixing anchors to the nets) and continue to use them. The driftnet ban is an interesting example, as it is an issue that garnered a lot of media attention in the 1980s and 1990s, involves charismatic species such as cetaceans, and yet the EC Regulation alone has not been enough to control illegal fishing in the Mediterranean and regional fisheries organizations have stepped in to add further prohibitions. Traditionally, the 'burden of proof' has lain with those opposing an activity to prove that it does not cause environmental damage (Sands, 2003). A fuller incorporation of the precautionary principle into European fishing activities[24] would shift the burden of evidence to those carrying out the activities to prove that such activities will not cause harm, in which case something like the UK's proposal for a pair-trawl ban might be considered more positively.

The waters around the Azores, Madeira and Canary Islands, known to possess several deep water habitats, were protected from trawling in 1995 by a special access regime defined in Council Regulation 2027/95.[25] This Regulation was repealed in 2003 by Regulation 1954/2003[26] (also known as the Western Waters Regulation). On 8 July 2004 the European Court of First Instance rejected the Azores' request to suspend parts of the Western Waters Regulation, which would allow the EU fishing fleet access to Azorean waters between 100-200nm as of 1 August 2004. A campaign by two Azorean NGOs, WWF, Greenpeace and Seas

[23] FAO General Fisheries Commission for the Mediterranean (GFCM) Recommendation GFCM/2005/3 on the management of certain fisheries exploiting demersal and deepwater species.
[24] As called for by, *inter alia*, Lauck *et al*. (1998), the RCEP (2004) and Jones (2006a).
[25] Regulation (EC) No. 2027/95 of 15 June 1995 establishing a system for the management of fishing effort relating to certain Community fishing areas and resources, OJ L199 24.08.1995, p.1.
[26] Council Regulation 1954/2003 of 4 November 2003 on the management of the fishing effort relating to certain Community fishing areas and resources, OJ L289 07.11.2003, p.1.

At Risk asked the Court to suspend the Council Regulation until its legality could be proved, a process that could have taken up to two years. The Court rejected the request as it was not convinced of the urgency to take measures to protect the area. In particular, the Court did not think the environmental concerns balanced the effect a suspension would have on EU fishermen.

The Seas At Risk, WWF and Greenpeace campaign continued and on 16 August 2004 the EC proposed temporary protective measures[27] for deep-sea corals around the Azores, Madeira and the Canary islands until long-term rules could be established. A long-term plan for a ban was tabled in February 2004,[28] but its progress through the Council and European Parliament was delayed by the European Elections, thus temporary measures were put in place to protect the area from trawling gear in the interim. In September 2005, the permanent ban[29] on the use of 'any gillnet, entangling net or trammel net at depths greater than 200 metres and any bottom trawl or similar towed nets operating in contact' with the seabed around Madeira, the Azores and the Canary Islands came into effect. This closure represents the second cold-water coral closure in the EC, following the Darwin Mounds MPA discussed in detail in Chapter 4 (though it did not involve the same use of the revised CFP emergency closure provisions).

Applying a precautionary approach to the marine environment is inherently difficult due to the physically complex and highly adaptive nature of the marine environment itself. The next section goes into some detail on approaches to managing complex ecosystems.

### 3.3 COMPLEX ADAPTIVE SYSTEMS

As outlined by Jones (2001), compared with terrestrial systems, the marine environment has several attributes that pose challenges for designing protected

[27] Commission Proposal for protection of coral reefs around Azores, Madeira and Canary Islands and changes to North Sea Haddock rules, IP/04/1034, Brussels, 16 August 2004.
[28] Proposal for a Council Regulation amending EC Regulation No 850/98 as regards the protection of deep-water coral reefs from the effects of trawling in certain areas of the Atlantic Ocean, COM(2004) 58 final, 03.02.2004.
[29] Council Regulation (EC) No. 1568/2005 of 20 September 2005 amending Regulation (EC) No. 850/98 as regards the protection of deep-water coral reefs from the effects of fishing in certain areas of the Atlantic Ocean, OJ L252, 28.09.2005, p.2.

areas. From an ecological perspective, marine ecosystems tend to encompass large spatial scales, with less definable boundaries than their terrestrial counterparts. Areas that are spatially separated are often functionally inter-connected due to the three-dimensional nature of the marine environment. There is also a high degree of variability in marine systems, with non-linear population dynamics (*e.g.*, unpredictable rises and crashes) occurring as a result of both natural and man-made causes. From a management perspective, marine ecosystems are generally in a more 'natural' state than conserved terrestrial habitats, which are often the subject of positive intervention (*i.e.* the management of marine areas is more likely to involve avoiding intervention). At the same time, however, the scientific knowledge base for establishing effective MPAs is poor compared with terrestrial areas, and the complex nature of the marine environment poses challenges to establishing the significance and causes of observed anthropogenic impacts. Marine systems are also often subject to the effects of multiple users within a given area, again due to the three-dimensional nature of the marine environment.

Recent studies in both the social and natural sciences have addressed the dynamic nature of ecosystems as *complex adaptive systems* (Wilson, 2006 and 2002; Olsson *et al.*, 2004; Hartvigsen *et al.*, 1998; Levin 1998; Milne, 1998; Holling, 1987). In complex adaptive systems (CASs), patterns at higher levels emerge from localized interactions and selection processes acting at lower scales, and these systems are characterized by having nonlinear relationships operating at diverse scales of space, time and organizational capacity (Levin, 2002 and 1998). CASs are also characterized by a capacity to self-organize or adapt without outside influence (Mahon *et al.*, 2007).

It can be argued that approaches to establishing governing institutions in the marine environment to date have incorporated 'a very particular and inappropriate scientific conception of the ocean' (Wilson, 2002:327) that assumes more control over natural processes than is feasible, resulting in the creation of dysfunctional management institutions. A recent analysis of fisheries as CASs (Mahon *et al.*, 2007) suggests that enabling adaptation in both governance and opportunity-taking is the approach most likely to result in

improved management of fisheries systems, especially in small-scale fisheries. Social and ecological systems behave in non-linear ways and act as strongly coupled, complex and evolving integrated systems, therefore management approaches that build resilience can sustain social-ecological systems in situations of surprise, unpredictability and complexity (Folke *et al.*, 2002).

### *3.3.1 Ecosystem resilience and adaptive co-management*

*Resilience* is a measure of the magnitude of disturbance an ecosystem can absorb without slowly degrading or unexpectedly flipping into alternate states (Hughes *et al.*, 2005; Folke *et al.*, 2004; Walker *et al.*, 2004; Pimm, 1984; Holling, 1973). The more resilient a natural system, the better equipped it is to adapt to disturbances without losing its overall function. Resilience in ecological systems is not easily observed, and there is some debate surrounding the relationship between the diversity of ecosystems and their resilience (Adger, 2000; Naemm *et al.*, 1994; Pimm 1984). Logically, resilience should be associated with high species diversity, which allows for adaptation and learning, *i.e.* a higher evolutionary capacity. However, Costanza *et al.* (1995) argue that coastal and estuarine ecosystems, which exhibit low species diversity (due to their exposure to periodic physical changes and the high mobility of their organisms) are actually highly resilient due to the high levels of functional diversity found within these ecosystems. For deep-sea species, however, certain life history characteristics set them apart from other marine systems, such as their extreme longevity, late age of maturity, slow growth and low fecundity. Deep-sea species also tend to aggregate around fixed topographic features, such as seamounts or cold-water coral reefs, and are notably unproductive, highly vulnerable to over-fishing and have potentially little resilience to over-exploitation (Koslow *et al.*, 2000).

As both natural and social systems behave in nonlinear, complex ways, theoretical work on sustainable development has in recent years focused on the coupling of social-ecological systems and calls for adaptive capacity and collaborative management (or co-management) in social institutions to build resilience (Ostrom *et al.*, 2002; Folke *et al.*, 2002, 2004 and 2005; Carlsson and Berkes, 2005; Hughes *et al.*, 2005; Koontz and Thomas, 2006). Adger (2000)

argues that while the meaning and measurement of social resilience is debated, it is important to explore this debate as both an analogy of how societies work, drawing on the ecological concept, and as a means of exploring how social and ecological resilience are linked.

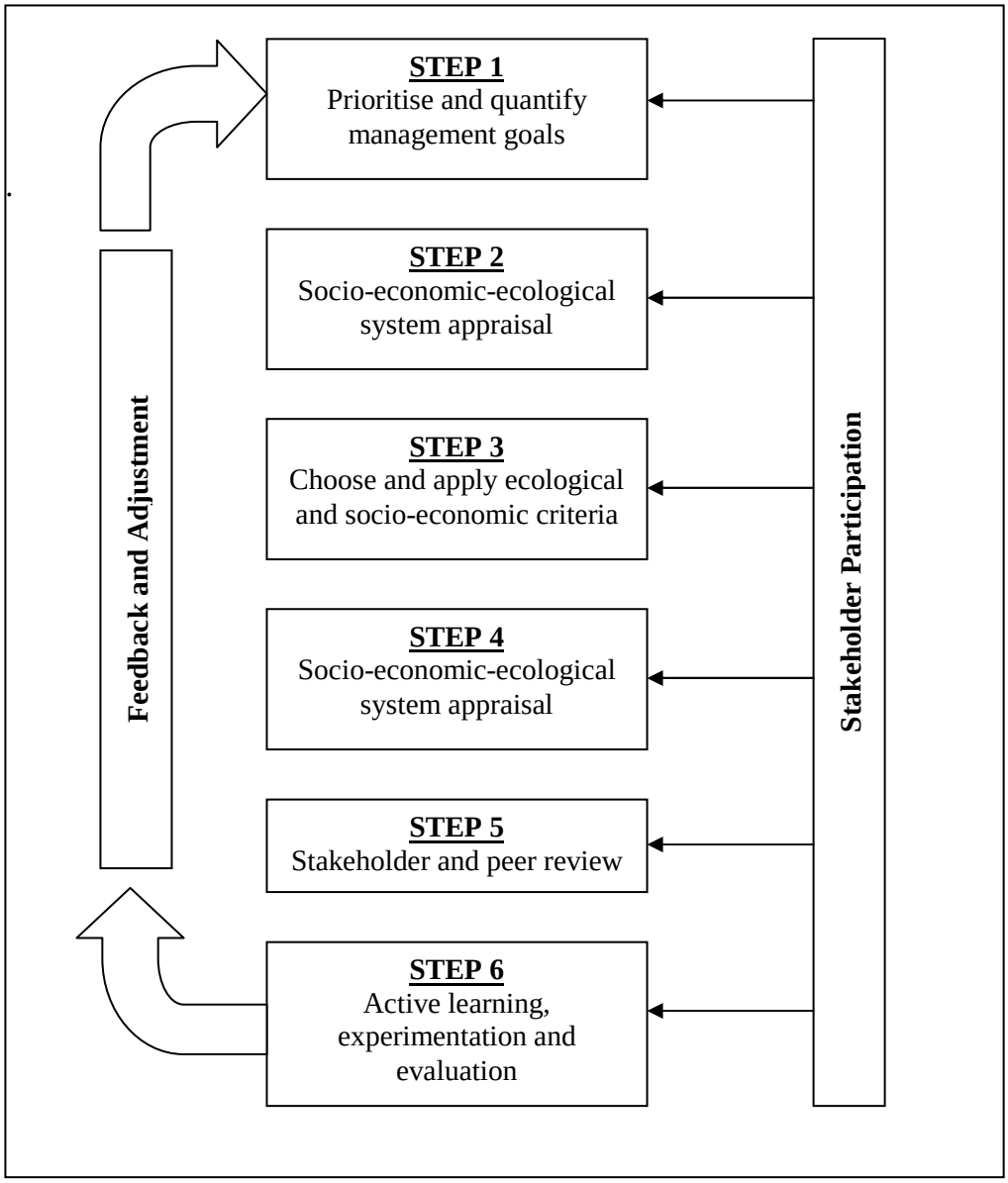
Incorporating resilience in the design of social institutions has been termed *adaptive co-management*, *i.e.* management that builds resilience and sustains social-ecological systems in the face of surprise, unpredictability and complexity (Folke *et al.*, 2002). The more complex and fragile the ecosystem (for instance, the deep sea), the more difficult yet important it is to maintain its resilience, and to design governing institutions with ingrained flexibility and hierarchical levels of organization. Active adaptive management was first introduced into fisheries by Walters and Hilborn (1978 and 1976), as a means for addressing uncertainty, *i.e.* implementing a precautionary approach. Adaptive approaches are a means of improving management given uncertainties, as they incorporate active learning, planning, evaluation and judgment about the socio-economic-ecological environment and the effects of institutional decision-making (Grafton and Kompas, 2005).

A good example of the complex decision-making required in the setting-up of marine reserves is given by Grafton and Kompas (2005) who provide six general steps for this process, illustrated in Figure 3.1 below. This scheme incorporates a decision, learning and feedback loop for marine reserve design and provide for stakeholder involvement at each stage of the process. The first step involves setting measurable objectives and goals for the development of a marine reserve. The second step is a socio-economic-ecological system appraisal, examining ecological drivers of the system, the key economic benefits derived from the system, the effectiveness of the current and past management scheme, and determining base-level indicators to judge the effectiveness of reserves in improving management goals. The third step requires decision makers to consult with stakeholders in the selection of appropriate socio-economic-ecological criteria to be used to evaluate the objectives of the reserve, in preparation for the next step. The fourth step concerns decision-making regarding the size, number, duration and location of marine reserves. The fifth step involves a peer and

stakeholder review of the reserve design decisions taken in the previous steps. The sixth and final step requires that managers actively learn and experiment so as to have better designated reserves that meet the defined goals.

While this framework does not guarantee that all management objectives are realized, it offers a systematic decision-making process to better design marine reserves in the face of uncertainties (Grafton and Kompas, 2005:476).

***Figure 3.1 Steps for active and adaptive management of marine reserves for fishery purposes***




*(Adapted from Grafton and Kompas, 2005:474)*

There is a growing recognition that understanding the social, legal and economic aspects of resource management is insufficient for achieving sustainable outcomes unless coupled with a deep understanding of ecology (Hughes *et al*., 2005). With the adoption of the Convention on Biological Diversity (CBD, outlined in Chapter 2, section 2.2.3), managing the environment in an ecologically sustainable manner has shifter from being an option to a legal requirement. The next section explores the idea of an 'ecosystem approach' to environmental management and its implication for the designation of offshore MPAs.

### 3.4 TOWARDS AN ECOSYSTEM APPROACH

Although the word 'ecosystem' was first introduced by Sir Alfred George Tansley in 1935, concepts of the hierarchical organization of individuals, populations, communities and the functional connections between living organisms and the environment date back to the mid 19th century (Christensen *et al.*, 1996:670). Tansley (1935:299) defined an ecosystem as 'a biotic assemblage and its associated physical environment in a specific space'. The basic connotations of this definition have not changed significantly since as, for example, Article 2 of the CBD defines an ecosystem as 'a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit'.

The ecosystem approach concept[30] moves beyond a species-based approach to conservation, which assumes that the species in trouble are already identified. An ecosystem-based approach aims to address the conservation of all species in an ecosystem, including those not yet known (Walker, 1995). It has also been defined as a comprehensive, science-based approach to the conservation and management of environmental resources (Wang, 2004:43). The 5th Conference of Parties (COP) to the CBD interpreted the ecosystem approach as a strategy for the integrated management of natural resources that equitably promotes both conservation and utilization, focusing on 'levels of biological organization which

[30] The term 'ecosystem approach' originated in the 1980s, but was first formally recognized during the 1992 UN Conference on the Environment and Development (UNCED) in Rio de Janiero, where it became a key pillar of the Convention on Biological Diversity (CBD, discussed earlier in the thesis, at Chapter 2, section 2.2.3).

encompass the essential processes, functions and interactions among organisms and their environment'. It recognizes that humans are an integral component of ecosystems, and also takes adaptive measures to deal with ecological complexity and adopts the precautionary principle (Wang, 2004:43).

Incorporating an ecosystem-based approach to marine conservation and fisheries management has been espoused by most of the conventions and legislation dealing with marine nature conservation and fisheries management in the North East Atlantic set out in Chapter 2. Laffoley *et al*. (2004) outline key elements of the ecosystem approach, including deliverables for its adoption in marine and coastal environments in the UK and Europe (*i.e.* improving environmental, economic, social, spatial, temporal, scientific and institutional coherence). Some specific mechanisms have recently been put forward as means for ensuring an ecosystem approach to marine conservation in Europe. These include the establishment of Regional Advisory Councils (RACs) under the revised CFP and a Marine Spatial Planning (MSP) framework within the developing UK Marine Bill. These initiatives are briefly outlined below, and discussed further within the context of interviewee responses later in the thesis.

### *3.4.1 Regional Advisory Councils (RACs)*

Following the reform of the CFP (described above in Chapter 2, section 2.4.3.2), six Regional Advisory Councils (RACs)[31] were established in 2004 with the purpose of increasing stakeholder participation. The RACs have been designed as a mechanism for more regionally sensitive management and for implementing an ecosystem approach, but it still too early to say whether the RACs will live up to the high expectations set upon them.

Critics of RACs question their ability to make any real impact on the centralized decision-making of Brussels or to improve the quality of decision making. Opinions that come out of the RACs are not binding, thus there is a risk that they may be perceived as nothing more than 'talking shops' without real influence. The six RACs may not adequately represent European biodiversity

[31] The six RACs are divided among the following areas/issues: the Baltic, Mediterranean and North Seas, North-West Waters, South-West Waters and pelagic fish stocks. As of April 2007, four of them are in place (North Sea, Pelagic, NW Waters and Baltic).

and given the large geographic regions covered by each RAC, gaining stakeholder cooperation on an international scale will likely prove difficult. Even though they were established to help identify ways for establishing sustainable fisheries, decisions on Total Allowable Catches (TACs) and quotas remain with the Council of Fisheries Ministers.

### *3.4.2 Marine Spatial Planning (MSP)*

The concept of Marine Spatial Planning (MSP) has its roots in the 1999 European Spatial Development Perspective, which sought to make planning more than the land use regulation of individual Member States (Slater, 2004). A non-binding document approved by the Informal Council of European Ministers of Spatial Planning of the European Commission, the Perspective aimed to provide an integrated, multi-sectoral and indicative strategy for spatial development.[32] Six key issues relevant to applying a spatial management approach to the marine environment include: (i) the type of activities to be regulated by the planning system; (ii) the format of the spatial plan; (iii) jurisdiction and areas of control by the planning authorities; (iv) the role and relationship of MSP with strategic environmental assessment; (v) the role for NGOs and members of the public; and (vi) enforcement (Slater, 2004).

The MSP framework proposed in the draft UK Marine Bill is still developing (see Chapter 2, section 2.5.4). DEFRA has commissioned a consortium of environmental consulting groups to research options for developing, implementing and managing MSP planning in the UK.[33] Although it has not yet been finalized, the UK's MSP framework is worth mentioning here within the context of an ecosystem approach to marine conservation, as it will aim to work across sectors and give a geographic context in which to make decisions about

[32] The European Spatial Development Perspective is available online: (//ec.europa.eu/regional_policy/sources/docoffic/official/reports/som_en.htm).

[33] The consultants working with DEFRA on MSP are ABPmer, Terence O'Rourke, Risk & Policy Analysts, Geotek, Hartley Anderson and Coastal Management for Sustainability. Further information on their preliminary work is available online: (//mspp.abpmer.co.uk/mspp/index.asp).

the use of resources, development, conservation and the management of activities in the marine environment.[34]

The UK's MSP framework will be made statutory and is intended to improve planning and management for industry and conservation, following the model currently used for land use planning under the 2004 Planning and Compulsory Purchase Act. Given the UK's commitment under international and regional conventions discussed earlier in the thesis and its obligation under the Habitats Directive to develop the Natura 2000 network out to 200nm, the developing MSP framework may help facilitate the development of a representative and ecologically coherent MPA network. On the European level, the developing European Marine Thematic Strategy mentioned earlier in the thesis (Chapter 2, section 2.4.4.2) also aims to develop a cross-sectoral management framework, addressing the integration of nature protection measures and the various activities impacting on the marine environment, including spatial planning.

The aforementioned consortium of environmental consulting groups assembled by DEFRA has undertaken a detailed analysis[35] of international experiences with MSP, from Australia, New Zealand and Fiji, to the US and the Philippines. One of the key findings of this review is that many of the initiatives are effectively still in the implementation phase and many of the practical issues associated with MSP are still being worked through. In addition, the waters around the UK may be more intensively used by people than in some of the comparative studies, which will pose further challenges to implementing MSP effectively. Nevertheless, stakeholder engagement is considered a key part of plan production, acceptance and successful implementation. The role of RACs and MSP in addressing an ecosystem approach (including stakeholder engagement) within the UK and European waters, as perceived by different perspectives incorporated in the interviews undertaken by this thesis, is explored later (see Chapter 7).

[34] WWF and the Wildlife Trusts Joint Marine Programme, Marine update 55 Newsletter, June 2004.
[35] *Supra*, note 33.

Wilson (2006:9) emphasizes that a successful transition to ecosystem-based management requires institutions in tune with feedback about the impact of human activities, something that is best achieved by having multi-scale institutions whose organization mirrors the complex nature of the ecosystem being addressed. The institutional framework relevant to the implementation of offshore MPAs outlined in Chapter 2 did not evolve with an ecosystem-approach as a target; rather this priority has evolved as a subsequent objective. That is not to say that applying an ecosystem approach in the marine environment is unattainable, however. Rather, the role of science in policy-making provides a key vehicle for implementing the approach, where institutional capacity may seem limited.

### 3.5 THE ROLE OF SCIENCE IN ENVIRONMENTAL DECISION-MAKING

Environmental policy decisions 'nearly always have to be made on the basis of imperfect information about the problem itself and/or the impact of alternative options' (Underdal, 2000:4). Studies of the relationship between science and politics generally focus along two paths of research: the 'nature of the problem' versus 'problem-solving capacity'. With regard to the nature of the problem being addressed, conventional wisdom would argue that some problems are less complicated or more politically benign than others, and hence easier to solve. Problem-solving capacity, in contrast, is an elusive and complex concept, posing both intellectual and political challenges. Intellectually, the challenge is to identify and diagnose problems and come up with effective response measures. Politically, the challenge lies in mobilizing a group of states or other actors to undertake collective action in pursuit of an effective solution (Underdal, 2000:2). Consequently, transforming scientific knowledge into premises for policy decisions lies at the interface between these challenges.

Utilizing a precautionary approach requires relying on tentative information at least as much as what is 'known', and the question becomes how much and what kind of knowledge is needed. Table 3.5 outlines some key characteristics of scientific knowledge that affect its impact on environmental regimes. Drawn from the varied success of several case studies, this table shows quite clearly that the role of scientific input in environmental decision making is affected by

consensus, the feasibility of a solution (or 'cure'), the relative impact of the environmental issue in question (both time-wise and in the public and global sphere), the political climate, and the strength of the institutions designed to address the environmental threat. An often-cited example of a successful regime that benefited from strong science is the Vienna Convention and Montreal Protocol on Ozone Layer Depletion (see section 3.1.2 above). Not only was the science considered decisive, a solution was readily available, *i.e.* the development of alternatives to chlorofluorocarbons (CFCs).

**Table 3.5 Conditions affecting the impact of scientific inputs**

| Impact likely to be strong | Impact likely to be weak |
|---|---|
| Definite or at least consensual conclusion | Tentative or contested hypothesis |
| Feasible 'cure' available | 'Cure' unclear or not feasible |
| Effects close in time | Effects remote |
| Problem affecting social centre of society | Problem affecting periphery only |
| Problem developing rapidly and surprisingly | Problem developing slowly and according to expectations |
| Effects experienced by, or at least visible to, the public | Effects not (yet) experienced by, or visible to, the public |
| Political conflict: low | Political conflict: high |
| Issue linkage: none or on substantive merits only | Tactical issue linkage: issue contamination |
| Institutionalized setting, iterative decision-making | Not yet institutionalized, *ad hoc* decision-making |

*(From Underdal, 1989:259)*

With regard to marine fisheries, the challenge of gaining knowledge about a complex system is further complicated by communication difficulties. The use of excessively technical language reduces the ability of scientists to convey to industry and managers a clear picture of the biological consequences of management proposals (Stokke and Coffey, 2004). O'Riordan (2004:239) argues that few environmental scientists have a close enough perspective on the political process to be fully able to link the two, and there is a need for a more politicized science to emerge from the interlocking of science and the political context. This move towards a 'sustainability science' aims to include relevant stakeholders into the adaptive implementation of environmental science, and

although several partnerships between user groups, industry and the public have emerged, it has not yet gained wide prominence (O'Riordan, 2004:239).

As discussed later in the thesis, the Darwin Mounds and pair-trawl ban policy processes demonstrate that it is not just the quality of the science that matters to decision-makers, but also the origin of the knowledge itself, *i.e.* 'whose science'. As Underdal (2000:6) observes, 'decision makers typically have multiple and sometimes conflicting concerns and objectives, some of which can be quite remote from those enshrined in their official roles'. As a result, they may turn to science in search of selective arguments for positions into which they are already deeply entrenched, rather than seeking the absolute truth.

As outlined by Skodvin and Underdal (2000), the ideal relationship between science and policy is one where knowledge is communicated undistorted to decision-makers who then utilize it as factual premises for policy decisions. In practice, however, this relationship can be jeopardized by two factors. First, the mechanism by which it produces knowledge may be impaired (*i.e.* the objectivity of the scientific method may be compromised). And second, when science is used by one side in a political conflict, the opposing side may try to undermine its validity and/or question the competence and integrity of the scientists involved (Skodvin and Underdal, 2000:29).

In short, science and politics constitute quite separate entities. Skodvin and Underdal (2000) argue that the transformation of research-based knowledge into premises for policy decisions must provide an enlightened, consensual and user-relevant interpretation of the policy implications of the science, without distorting the knowledge itself or impairing the practices through which it is produced or maintained.

The discussion earlier in this chapter on effective environmental regimes addresses the role of institutional design. This is a key requirement for the proper utilization of science in policy-making, yet real-world practice shows that it is not necessarily enough to ensure a positive outcome. External political factors and pressure on decision-makers must also be taken into account. As will

become evident later in the thesis, legal approaches for marine conservation that work in some cases are less successful in others, a result not only of the different science and situations, but also the political process involved.

## CONCLUSION

The theoretical framework outlined in this chapter has aimed to explore the key issues related to designating and implementing effective environmental conservation measures offshore. While the extensive body of research that has addressed the design of effective regimes provides a useful frame of reference for evaluating the potential success of environmental initiatives, at the same time it is difficult to apply lessons learned between different cases. This difficulty is due primarily to the role of players in the process, and the different challenges posed by environmental and social factors.

The role of science in the political process is a key issue for implementing precautionary approaches towards the 'ecosystem approach' ingrained in legislation on marine nature conservation, and the Darwin Mounds closure and attempted pair-trawl ban illustrate some strengths and weaknesses that should be addressed in the regime management framework currently developing for offshore MPAs. In exploring the subsequent case study chapters, there are several issues that should be kept in mind: (i) While the Darwin Mounds has been considered a successful example of offshore marine conservation, does it constitute a first step towards an effective regime? (ii) Is offshore marine conservation following a precautionary approach, as required under European legislation? (iii) What role did science play in the success/failure of the policy processes in each of these case studies?

It is worth reiterating that the legislative bifurcation between nature conservation and fisheries management in Europe outlined in Chapter 2 plays an important role in understanding the different outcomes of the case studies examined in this analysis. The next chapter details the methodology employed in the empirical analysis, and provides a brief introduction to the subsequent case study chapters.

# 4

# METHODOLOGY AND INTRODUCTION TO THE CASE STUDIES

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*"Let us take off the spectacles that show us the shadows of things instead of the things themselves" (Olaus Worm, 17th Century Naturalist)*

## OVERVIEW

This chapter sets out the methodology undertaken in the thesis. An overview of its three-tiered interdisciplinary approach is provided, namely combining a detailed legal analysis with semi-structured interviews and participant observation at relevant workshops and conferences on European marine environmental issues.

## 4.1 THEORETICAL RATIONALE

This project was conducted within the Department of Geography from 2003 to 2007, co-supervised by the Faculty of Laws. This collaboration was decided from the start of the PhD, as the project aimed to explore not only the human element responsible for the designation of the UK's first offshore MPA but also how this and future offshore designations would interact within the global, regional and UK legal environment. As the thesis progressed, having a strong legal component in the PhD research proved to be a key element, as new ECJ judgments emerged that helped clarify the potential opportunities and challenges to offshore marine conservation.

As my previous research background involved both the natural and social sciences, I decided to take an interdisciplinary approach when developing my theoretical framework and methodology. As detailed in the previous chapter, the theoretical framework entailed exploring the environmental regime political science literature, as well as theories related to managing complex ecosystems, such as the marine environment, and policy implications of the precautionary principle and ecosystem approach. A theoretical analysis of the developing

regime for offshore MPAs leaves some unanswered questions, however. In order to elucidate the reasons why the Darwin Mounds closure worked while the UK's attempt to ban pair-trawling for sea bass was less successful, accessing personal histories and perspectives through a program of semi-structured interviews and participant observation opportunities proved to be the most viable method for ascertaining the opportunities and challenges to the developing regime.

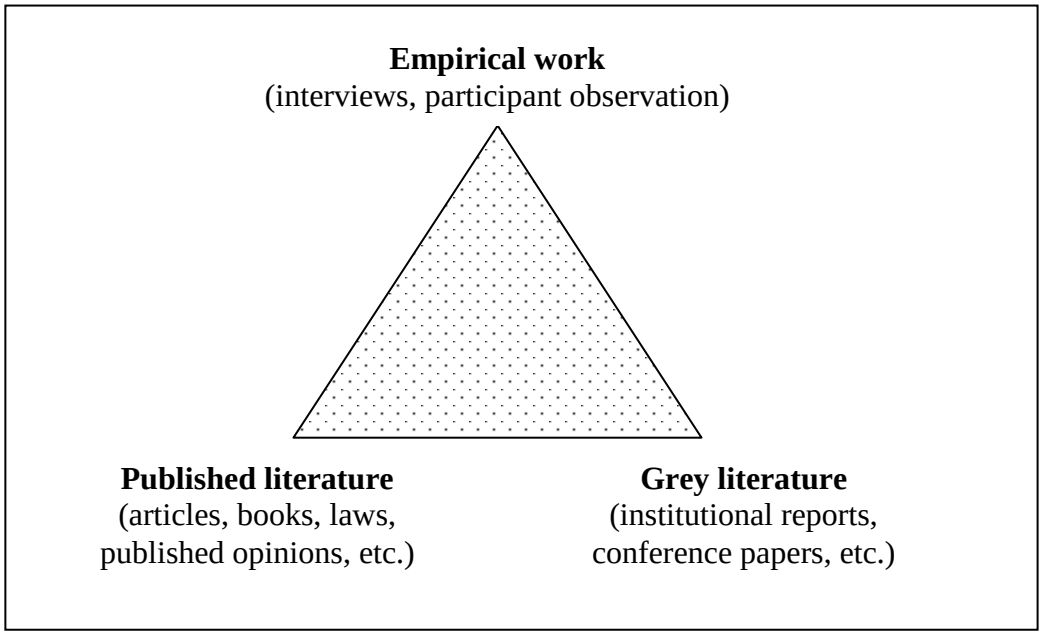
The methodological rationale of this study reflects the interdisciplinary nature of the issues examined. This involved combining three methods: a detailed legal analysis, semi-structured interviews, and participant observation at regional and international conferences on marine conservation. The preliminary legal analysis was conducted from October 2003 to January 2005, when the upgrade from MPhil to PhD candidacy was completed. Semi-structured interviews with relevant stakeholders and players in the process in England and Scotland were conducted in person and over the phone from December 2004 to July 2006. Throughout the PhD, I participated in several Coastal Futures meetings organized by Coastal Management for Sustainability. These conferences and workshops are the primary forums for discussing marine and coastal issues in the UK, and involve the participation of regulatory, user and NGO actors. Table 4.1 outlines the schedule of the PhD.

**Table 4.1 Schedule of PhD**

| DATE | ACTIONS/OUTPUTS |
|---|---|
| Year I (2003 – 2004) | Preliminary legal analysis, literature review |
| | Informational interviews |
| Year II (2004 – 2005) | Upgrade to PhD candidacy |
| | Continuation of interviews and legal analysis |
| | Participant observation opportunities |
| Year III (2005 – 2006) | Presented preliminary results at the 3rd International Symposium on Deep-Sea Corals, Miami, USA |
| | Continuation of interviews and transcription, analysis of data |
| | Continued participant observation and legal analysis |
| | Published two articles in academic journals |
| Year IV (2006 – 2007) | Continued participant observation |
| | Write-up of thesis (submitted September 2007) |

The research methodology can be viewed schematically as a triangulation approach, illustrated below in Figure 4.1, where empirical results were evaluated in the context of both published and non-published literature. Triangulation refers to the use of multiple techniques to test research questions (Jackson, 1999). Using a combination of sources of evidence in conjunction with interview material (*i.e.* triangulation) allows for the production of valid findings (Cochrane, 1998).

***Figure 4.1 Triangulation research methodology approach undertaken in the thesis***




The following section goes into some detail on each stage of the methodology, from the legal analysis and literature review to the interview process and empirical analysis, as well as concurrent participant observation opportunities.

## 4.2 METHODOLOGY

### *4.2.1 Legal analysis*

The legal analysis examined global, European and UK legislation most relevant to the development of offshore MPAs. The results of this undertaking are given

in Chapter 2. It is worth mentioning that a detailed examination of the development of the Habitats Directive with respect to offshore marine conservation was undertaken, as such an analysis had not been previously published in the relevant literature. The results of the literature review of non-legal sources, *i.e.* from the social and natural sciences, are outlined in Chapter 3, within the theoretical framework. The initial literature and legal analysis helped frame the interview process by (i) identifying potentially desirable interviewees, and (ii) providing enough background to conduct 'intelligent interviews' and resulting in data, theory and facts as resources for problem and solution analysis (Weimer and Vining, 2005:321).

Throughout the PhD, a concerted effort was made to keep up to date with relevant literature and legal developments. Membership at the University of London Institute for Advanced Legal Studies (IALS) was obtained, and this library, in combination with the University College London (UCL) Science Library and its online resources, provided valuable information and access to international, European and UK legal materials (both in print and electronically). Several electronic journals were checked periodically for relevant articles on the issues examined by this thesis. In addition, frequent searches were undertaken on legal databases to gain information relevant to the case law in question (primarily related to the Habitats Directive and the Common Fisheries Policy). These databases included Lexis-Nexis and Westlaw UK, as well as more general searches on the Web of Science database, which provided access to works in the social and natural sciences.

### *4.2.2 Semi-structured interviews*

Unstructured or semi-structured interviews can be viewed as 'conversations with a purpose' (Valentine, 1997), designed to take a conversational, fluid form whereby each interview varies according to the interests, experiences and views of the interviewee. The interviewer has a number of issues to be addressed to help uncover the interviewee's views. However, unlike more structured approaches such as questionnaires, semi-structured interviews allow further room for the interviewees to express themselves, and the interviewer has the

opportunity to ask the same questions in different ways in order to explore issues more fully. This format also allows the interviewee to provide additional information that the interviewer may not have anticipated, and each interview is unique. In contrast to structured interviews, which involve tight control over the format of the questions and answers, semi-structured interviews allow the interviewer to be more flexible in terms of the order in which topics are addressed, and they allow the interviewee to develop ideas and speak more widely on the issues being discussed (Denscombe, 1998).

The researcher brings a list of questions or fairly specific topics to be covered, often referred to as an 'interview guide', but the interviewee has a great deal of leeway in how to reply (Bryman, 2001:314). Questions may not follow in the exact order outlined in the researcher's guide, and additional questions may also be added as the researcher picks up on things identified by the interviewee. Overall, however, an effort is made to use similar wording between interviews and to cover the same topics.

For the purposes of this study, interviewing was the most appropriate means for gathering inside information about a policy process currently evolving and charting new territory. As I already had a fairly clear focus on my topic, semi-structured interviews were the most appropriate method to use 'so that more specific issues' could be addressed (Bryman 2001:315). Effort was made not to bias interviewees' responses, by allowing them to speak at length without too much prompting and without overtly forcing the direction of the conversation. The interview process was flexible, and allowed for the emphasis to be on how the interviewees framed and understood issues and events.

Conversations were recorded with the interviewees' permission, and transcribed soon after the meeting in order to create as accurate a record as possible. Transcription required approximately 4-5 hours of work per hour of recording and was completed as soon as possible after the interview. Most interviews lasted approximately one hour. In cases where interviewees were not comfortable with being recorded, only notes were taken and these were

transcribed, reviewed and added to (from memory) immediately following the interview. In all cases, interviewees were reassured that their opinions would be kept anonymous.

Interviews were conducted with 41 representatives from the following communities: Regulatory (*i.e.* government and agencies), Users (*i.e.* oil and gas industry and fishing associations), Epistemic (*i.e.* academics/experts), Legal experts and representatives from NGOs. I first approached people based on their relevance to the Darwin Mounds closure (*i.e.* the key players in the process). As time progressed, and my understanding of the issues grew, I approached more people based on recommendations from other interviewees, a process referred to as 'snowballing' (Valentine, 1997). My list of contacts increased from both personal recommendations and my exploration of the relevant literature, and was maintained in an Excel spreadsheet, color coded according to interviewee 'type' and whether they had agreed to participate in the project. In-person interviews were conducted at the interviewee's place of work, with the exception of interviews conducted at international conferences, which occurred on the side of the meeting.

Not every person contacted replied to my interview request or agreed to participate (out of 60 invitations made, 41 individuals participated). One perspective that is not included in the thesis, as a result, is that of the Directorate General (DG) for Environment in the European Commission. While I was able to speak with a representative from DG Fisheries and Maritime Affairs, my invitations to several representatives from DG Environment went unanswered. This seems likely to be due to the fact that DG Environment is arguably over-worked and under-staffed in comparison with DG Fisheries, an issue that is discussed later in the thesis (see Chapter 6).

A sample letter of introduction is given in Appendix I. As the PhD addressed institutional and policy-making issues, I focused on interviewing representative authorities rather than individual stakeholders. Thus, for example, I spoke with fishing industry representatives rather than approaching individual fishermen.

Quotations are provided in the thesis in order to illustrate perspectives. As interviewees were assured of anonymity during the interview process, any relevant quotations used in this thesis refer to individuals in a random number order under the codes given in Table 4.2:

**Table 4.2 Interviewee codes within the thesis**

| CODE FOR QUOTATIONS | SECTOR |
|---|---|
| RC | Regulatory Community |
| EC | Epistemic Community |
| UCF | User Community, Fisheries |
| UCI | User Community, Industry (oil and gas) |
| NGO | Non-Governmental Organization |
| LC | Legal Community |

So, for example, a quotation from a member of the regulatory community is followed by the citation '[RC-01]' in the text of the thesis. In this way, interviewees are not individually identifiable and their anonymity is preserved. Within the thesis, direct quotations from interviewees are italicized, while quotations from literature and legal sources are not. For interviewee quotations, shorter phrases are left within the text, while longer quotations are in subparagraphs and indented.

Between December 2004 and July 2006, 42 interviews were conducted in person or over the telephone (one interviewee was interviewed twice). Table 4.3 lists interviewees' affiliations and the schedule of interviews is given in Table 4.4. A progressive pattern was followed in the development of the interview schedule. Early interviews were more 'informational' and provided a broad background on the history of the Darwin Mounds' discovery and closure, as well as the names of additional contacts and institutions to pursue. Every effort was made to maintain the same level of integrity in interview technique from interviewee to interviewee, and between in-person and telephone interviews. In all cases, interviews were conducted in a professional manner and interviewees were assured that their views would be kept confidential and any quotations used would be kept anonymous.

**Table 4.3 Interviewee affiliations**

| SECTOR | INTERVIEWEES |
|---|---|
| ***Regulatory Community*** | Department for Environment, Food and Rural Affairs (DEFRA) |
| | English Nature |
| | EC Directorate General for Fisheries and Maritime Affairs (DG Fisheries) |
| | Joint Nature Conservation Committee (JNCC) |
| | North East Atlantic Fisheries Commission (NEAFC) |
| | Scottish Executive Environment and Rural Affairs Department (SEERAD) |
| | Scottish Fisheries Protection Agency (SFPA) |
| | |
| ***User Community - Fisheries*** | National Federation of Fishermen's Organisations (NFFO) |
| | Scottish Fishermen's Federation (SFF) |
| | |
| ***User Community - Industry*** | AFEN (Atlantic Frontier Environment Network) |
| | DTI (Department for Trade and Industry) |
| | UKOOA (UK Offshore Operators Association) |
| | |
| ***Epistemic Community*** | British Antarctic Survey (BAS) |
| | Coastal Management for Sustainability (CMS) |
| | Fisheries Research Services (FRS) |
| | Int'l Council for the Exploration of the Sea (ICES) |
| | IUCN (World Conservation Union) |
| | London School of Economics and Political Science (LSE) |
| | Marine Biological Association (MBA) |
| | National Oceanography Centre, Southampton (NOCS) |
| | Scottish Association for Marine Science (SAMS) |
| | University College Cork |
| | University of Oslo |
| | University of Plymouth |
| | |
| ***NGO Community*** | British Ecological Society (BES) |
| | Greenpeace |
| | Institute for European Environmental Policy (IEEP) |
| | Oceana |
| | Royal Society for the Protection of Birds (RSPB) |
| | WWF |
| | |
| ***Legal Community*** | 39 Essex |
| | Fenners Chambers |
| | University College London |
| | University of Wales, Bangor |

**Table 4.4 Interview schedule**

| LOCATION OF INTERVIEW | DATE | INSTITUTION | TAPED | TYPE |
|---|---|---|---|---|
| Southampton | 8/12/04 | NOCS | No | In person |
| London | 24/3/05 | MBA | No | In person |
| Cambridge | 9/5/05 | BAS | No | In person |
| Peterborough | 17/5/05 | JNCC | Yes | In person |
| London | 18/5/05 | JNCC | Yes | In person |
| London | 20/5/05 | IEEP | Yes | In person |
| London | 15/1/05 | University of Plymouth | Yes | In person |
| Cambridge | 23/6/05 | Fenners Chambers | No | In person |
| London | 6/7/05 | DEFRA | Yes | In person |
| Aberdeen | 15/8/05 | SFF | Yes | In person |
| Aberdeen | 16/8/05 | AFEN | Yes | In person |
| Aberdeen | 16/8/05 | DTI | Yes | In person |
| Aberdeen | 16/8/05 | JNCC | Yes | In person |
| N/A | 23/8/05 | UKOOA | Yes | Telephone |
| Edinburgh | 25/8/05 | SFPA | Yes | In person |
| Edinburgh | 25/8/05 | SFPA | Yes | In person |
| Edinburgh | 25/8/05 | SEERAD | Yes | In person |
| N/A | 26/8/05 | SAMS | Yes | Telephone |
| N/A | 7/9/05 | FRS | Yes | Telephone |
| N/A | 14/9/05 | DEFRA | Yes | Telephone |
| N/A | 4/11/05 | Consultant | Yes | Telephone |
| London | 15/11/05 | SEERAD + NEAFC | Yes | In person |
| N/A | 18/11/05 | CMS | Yes | Telephone |
| Miami, USA | 30/11/05 | WWF | No | In person |
| London | 6/12/05 | Matrix Chambers | No | In person |
| N/A | 8/2/06 | EC DG Fisheries | Yes | Telephone |
| N/A | 6/3/06 | U. College Cork | Yes | Telephone |
| N/A | 7/3/06 | DTI (fmr AFEN) | Yes | Telephone |
| N/A | 9/3/06 | University of Oslo | Yes | Telephone |
| N/A | 17/3/06 | Greenpeace (fmr IEEP) | Yes | Telephone |
| N/A | 6/4/06 | Oceana (fmr WWF) | Yes | Telephone |
| London | 12/4/06 | 39 Essex | No | In person |
| N/A | 21/4/06 | ICES | Yes | Telephone |
| London | 27/4/06 | Fenners Chambers | No | In person |
| Peterborough | 23/5/06 | English Nature, IUCN | No | In person |
| N/A | 30/5/06 | RSPB | Yes | Telephone |
| N/A | 16/6/06 | University of Wales | No | Telephone |
| N/A | 16/6/06 | BES | Yes | Telephone |
| N/A | 26/6/06 | IUCN | Yes | Telephone |
| London | 10/7/06 | IEEP | No | In person |
| Aylesbury | 18/7/06 | LSE | No | In person |
| N/A | 28/7/06 | NFFO | Yes | Telephone |

### *4.2.3 Interview question framework*

A general question framework was used as a template during interviews: not every question was asked of each interviewee. Rather, the interviews were conducted as an open conversation and this framework served as a means by which the conversation was directed towards topics of particular interest to the research. Particular attention was given to not 'leading' the interviewees towards particular responses, rather they were encouraged to express their own opinions as freely as possible with occasional 'guidance' from the question framework.

Interviewees were given the opportunity to decline my request to record the interview. They were also assured of anonymity. The purpose of the interview was read to them as follows:

> I hope to gain an understanding of the stories behind the sequence of events that led to the protection of the Darwin Mounds, the history, motives and issues underlying these events and their consequences (intended and otherwise).
>
> I would like to know your perspective on the story of the Darwin Mounds. What, in your opinion, were the critical events or stages that led to its designation? What are the implications of this designation for future offshore marine nature conservation initiatives? And what do you see as being the key challenges and prospects for the future?

The interviews varied in approach and questions asked, depending on the expertise of the particular interviewee. As the interviews took place over a long time scale, some questions were added and others deleted as the research process unfolded, and new issues emerged, such as the pair-trawl ban.

Table 4.5 lists in detail the topics and issues addressed in the interview process:

**Table 4.5 Interview question framework**

| ISSUE AREA | TOPIC | QUESTIONS |
|---|---|---|
| I. Legal Issues: | Habitats Directive | History of negotiations/development, territorial applicability offshore? |
| | | Insights on backstage relations/issues during the Directive's development? |
| | | Are the marine habitats listed in the Directive adequate? +/- |
| | | Overlap/interaction with other legislation? +/- |
| | | Why has the revision of the UK's implementing legislation been delayed? |
| | Greenpeace Judgment | (If they were involved) Tell me your personal view on how it happened. |
| | | What is your perspective on the outcome/implications? |
| | | Your opinion on overriding public interest issues with respect to the marine environment? |
| | Challenges to the designation of offshore MPAs | What lessons do you see has having been learned from the Darwin Mounds designation? |
| | | What is happening with the designation of other (potentially impacted and/or pristine) sites? |
| | OSPAR, other MPA initiatives | How will OSPAR MPAs overlap with SACs under the Habitats Directive, and any other designations? |
| | | How does the UK's situation differ from that of other EC Member States under the same legal obligations? |
| | Darwin Mounds versus Pair-Trawl Ban | What happened in the Commission? |
| | | What does a unilateral UK ban mean for the long-term effectiveness of such a ban? |
| | | Your opinion on the reasons for this difference in outcomes? |
| II. Scientific Knowledge: | *Lophelia pertusa* | What is its distribution/condition in the North East Atlantic? |
| | | Are there many pristine areas that should be focused on for conservation value? |
| | | How 'unique' were the Darwin Mounds? |

| | | |
|---|---|---|
| | Other deep-sea habitats | Are habitats that are not included in the Habitats Directive to be included in OSPAR or other initiatives? What habitats should be focused on? |
| | General issues | What is your opinion on the role of science in policy-making? +/- |
| | | What is your opinion of the ecosystem approach, and how is it being implemented in offshore marine conservation? |
| III. Institutional Tensions: | Jurisdictional issues between regulatory bodies | How is the overlap between the CFP/HD and EC/OSPAR being addressed with regard to designating, monitoring and enforcing MPAs? |
| | | How can a coherent network of inshore/offshore MPAs be achieved? |
| | | Where/what are the tensions within the EC, between DG Fisheries and DG Environment? |
| IV. Enforcement: | Darwin Mounds | Who was fishing out there? How many boats, which countries, which target species? |
| | | Have there been infringements? |
| | | When will the area be surveyed again? |
| | | How does the VMS surveillance work in practice? |
| | | Is VMS the only option? |
| | Actors/stakeholders | How are the RACs developing? |
| | | What role is played by the relevant actors and what are their perspectives? |
| | | How will the designation of offshore MPAs affect stakeholder interests? |
| | Responsibility | Who should be responsible for enforcing MPAs in the offshore zone? |

While not all of these questions were addressed in every interview, the interviewee was given the opportunity to offer opinions on areas in which they were not 'expert', if they chose (most declined to do so, it should be noted). There was also ample room for interviewees to express their personal opinions

on the issues involved in offshore marine conservation and any lessons learned for the future implementation of MPAs in this region.

At the end of the interview, participants were asked to offer any additional relevant information that they felt I had not addressed, and they were also asked for the names of additional contacts I could pursue, where applicable.

### *4.2.4 Interview analysis*

The analysis of interview data was conducted by hand. In the first pass, I went through the transcripts on paper, making notes in the margins identifying key themes. This process is referred to as 'memoing', and is a preliminary stage of coding, though not as concise. The coding process involved filtering the memos into more concrete themes. Codes can be broken into two categories, 'etic' and 'emic', according to their origin (Silverman, 2001). While etic codes are derived from the researcher's focus, questions and priorities, emic codes emerge during the interview process and are more a function of the interviewee's perspective. Table 4.6 lists the key codes used in the interview analysis.

**Table 4.6 Key interview codes used in the analysis**

| ETIC | EMIC |
|---|---|
| Darwin Mounds closure, Greenpeace Judgment | UK as a 'leader' versus others |
| Pair-trawl ban | Role of science in policy-making |
| OSPAR, NEAFC, ICES, European initiatives (Marine Strategy Directive, Maritime Policy) | Russia |
| Ecosystem Approach | Marine Spatial Planning (MSP) |
| Precautionary Principle | 'Uniqueness' of Darwin Mounds |
| Habitats Directive, Common Fisheries Policy, Regional Advisory Councils (RACs) | Devolution |
| Tension/synergy (institutional overlap) | DG Fish and DG Environment |
| Enforcement | Policy process |
| Science, *Lophelia pertusa* | AFEN |

After the printed interviews had been reviewed by hand, I returned to the electronic versions and combined all of the interviews into one large Microsoft Word document. This facilitated my analysis as I was able to search the large document for key words and phrases I had identified as part of my coding

process, using the Microsoft Word 'find/replace' function. The relevant sections of the document were highlighted using the Microsoft Word 'highlight' function, and colored according to topic/general theme/chapter, to facilitate locating them during the writing-up of the thesis. I developed this method as an alternative to using an automatic coding program, as it facilitated a more qualitative, first-hand, contextual approach. If I had interviewed a larger number of people, it may have been necessary to use a coding program, but in the case of this project, using the methods outlined above proved ideal.

### *4.2.5 Participant observation*

Throughout the PhD, I participated in regional and international meetings on marine environmental issues, to observe how different stakeholders interact. These meetings also provided an opportunity to keep up-to-date on European and UK legislation currently under development, as they were also organized as consultation forums.

These meetings also provided an opportunity to make contacts with potential interviewees and also to meet in person some of those I had only been able to interview by telephone. I used these experiences as a 'barometer' for assessing different perspectives on issues related to marine conservation, and the results run throughout the thesis. In cases where I have drawn insights based on my observation of a particular stakeholder group's perspective on an issue, such a conclusion is cited as a 'personal observation' and the relevant meeting is referenced in a footnote. One of the meetings organized by Coastal Futures, on the Ecosystem Approach, produced a summary of questionnaire responses after the meeting, in which participants were asked about their perspectives on the issue. I examined this conference output, and refer to it in the discussion on implementing an ecosystem approach (see Chapter 7), again citing the meeting in a footnote.

Table 4.7 lists the conferences attended during the course of the PhD.

**Table 4.7 Conferences attended/participant observation opportunities**

| DATE | MEETING/LOCATION |
|---|---|
| May 2007 | Coastal Futures Conference *'Implementing the Ecosystem Approach'*, London, UK |
| January 2007 | Coastal Futures Annual Conference, London, UK |
| November 2006 | Second Royal Institute for International Affairs Workshop on Illegal, Unregulated and Unreported (IUU) Fishing, London, UK |
| November 2006 | Coastal Futures Conference '*Climate Change and the Marine Environment*', London, UK |
| October 2006 | Coastal Futures Conference '*Towards a European Maritime Policy*', London, UK |
| July 2006 | 30th Virginia Law of the Sea Conference '*Law, Science and Ocean Management*', Dublin, Ireland |
| June 2006 | Coastal Futures Conference '*The Marine Bill: Options, Opportunities and Building Networks*', London, UK |
| May 2006 | First Royal Institute for International Affairs Workshop on Illegal, Unregulated and Unreported (IUU) Fishing, London, UK |
| January 2006 | Coastal Futures Annual Conference, London, UK |
| October 2005 | Coastal Futures Conference '*The Marine Bill: Realising the Opportunity*', London, UK |
| November 2005 | Presented preliminary research at 3rd International Symposium on Deep-Sea Corals, University of Miami, Florida, USA |
| November 2004 | 8th International Wildlife Law Conference, New Orleans, Louisiana, USA |

## 4.3 INTRODUCTION TO THE CASE STUDIES

At the start of the PhD, in October 2003, the Darwin Mounds emergency closure had occurred just two months beforehand, and the original aim of the thesis was to elucidate the policy process behind the closure. As the PhD progressed, the UK attempt to ban pair-trawling for sea bass unfolded and this issue came up repeatedly during the interview process. Given that the UK attempted to ban pair trawling using the same legal mechanism that had worked for the Darwin Mounds, but with a less successful result, it was decided that the policy process for this ban would be included in the thesis and explored as a comparative study in order to understand the challenges to implementing offshore MPAs. The next two chapters detail these two case studies and related issues from the legal analysis and theoretical framework.

# 5

## THE DARWIN MOUNDS

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*"There are places where the seabed went from looking rich in sea-life to a World War One battlefield, you could see almost nothing there – a few scavengers and so on"* [UCI-02]

### OVERVIEW

This chapter details the background and policy process for the UK's first offshore MPA, the Darwin Mounds area of cold-water coral off the coast of Scotland. The consequences of the Greenpeace judgment and the mechanism whereby the area became protected from deep-sea trawling are outlined in detail, based on information gathered from a detailed legal analysis and interviews with participants in the policy process. Lessons learned from the closure and future challenges for offshore marine nature conservation are also explored.

### 5.1 BACKGROUND ON *LOPHELIA PERTUSA*

Cold-water corals have been known to scientists and fishermen for hundreds of years. Their scale and abundance has only become evident over the past couple of decades, as fisheries and oil exploration activities have expanded into deeper waters, with an associated development of increasingly sophisticated survey techniques and access to submersibles (Roberts *et al.*, 2006). Although they share many characteristics with their counterparts found in warmer waters, such as reef-building in some species, cold-water corals lack zooxanthellae[1], preying instead upon zooplankton drifting past on currents. This characteristic allows cold-water corals to exist at great depths where sunlight cannot penetrate. Cold-water corals are limited to oceanic waters and temperatures between 4°-12°C, conditions found in relatively shallow waters (~50-1000m) at high latitudes and

[1] Symbiotic dinoflagellate algae that photosynthesize light to produce energy and valuable metaboliotes for their coral hosts.

much deeper (up to 4000m) beneath warm water masses at low latitudes (Roberts *et al.*, 2006).

*Lophelia pertusa* (Linnaeus, 1758) is the best studied cold-water reef-forming coral species to date (Rogers, 2004). *Lophelia* is a stony cold-water coral (Scleratinia, family Caryophylliidae) found throughout the world's oceans except in polar regions (Fosså, 2002). The rich concentration of biodiversity associated with coral reefs and the slow growth of these ecosystems is well-known (Rogers, 1999; Husebø *et al.*, 2002; Roberts *et al.*, 2003; Roberts *et al.*, 2006). Traditionally deep-water reefs were considered good sites for net and long-line fishing. With the advent of bottom-trawling, however, substantial damage to *Lophelia* reefs has been documented (Fosså *et al.*, 2002; Hall-Spencer *et al.*, 2002; Wheeler *et al.*, 2005) increasing with the development of larger vessels, more powerful trawls and gear specially adapted to reaching areas that were previously inaccessible. A recent study on *Lophelia* in Norwegian waters determined that between 30-50% of their reefs had been damaged or impacted by trawling, with an associated decline in fishing success according to local fishermen (Fosså *et al.*, 2002).

### *5.1.1 Deep-sea fisheries*

In the late 1980s, as traditional stocks of continental-shelf dwelling fish species declined and quotas were tightened, large-scale fishing operations began to expand along the North-East Atlantic continental shelf break, and markets developed for deep-water non-quota species such as roundnose grenadier (*Coryphaenoides rupestris*), orange roughy (*Hoplostethus atlanticus*), black scabbard fish (*Aphanopus carbo*), deep-sea sharks (leafscale gulper shark (*Centrophorus swamosus*) and Portuguese dogfish (*Centroscymnus coelolepis*)) (Gordon, 2001; Hall-Spencer *et al.*, 2002). The biology and life history of deep-sea fish species is poorly understood, but in general they are slow-growing, late maturing and low in reproductive capacity. Consequently, fisheries targeted at deep-sea species have a serious effect on populations, which take decades to recover or are entirely wiped out after only a few years of exploitation.

A member of the oil and gas industry commented on how powered trawling has changed the way humans impact the seabed, given the rapid technological developments of the twentieth century:

> *"[Deep-sea] fishing has changed from a man or two, a boat going out from small harbors and basically a heritage artisanal activity to a true industry. The vessels cost several million, they have all the electronic and fish finding and positioning kit that you could ask for and so to consider their management in the same light as you would one man and a boat and a couple of crab pots is no longer appropriate"* [UCI-02].

Deep-sea fisheries were unregulated in EC waters until the European Council adopted total allowable catch quotas (TACs) for deep-water species in 2002 for the period 2003-2004. TACs were allocated according to Member States' past history of deep-sea fishing. For the UK, this resulted in what the fishing industry would consider a disproportionately low allocation in fishing quotas, compared with other Member States, as they had a shorter history of partaking in deep-sea fishing activities. As a member of the fishing industry commented:

> *"Scottish boats had been urged to go there as an alternative new fishery at the end of the 80s early 90s so we had active fishing there for 3, 4, maybe 5 years whereas the other people had it for a longer period"* [UCF-02].

A member of the regulatory community agreed that the UK got the short end of the stick when the deep-sea TACs were decided, commenting:

> *"…we'd also just been completely screwed by the Commission in adopting TACs in deep-water stock based on track records, and of course that meant the French got everything and we got 5% I think"* [RC-09].

This perceived short-changing for UK deep-sea fishing rights compared with other European Member States established an underlying feeling of support from both the regulatory and fishing communities for the Darwin Mounds closure described below, especially given the low level of UK fishing occurring in the region.

## 5.2 DISCOVERY OF THE DARWIN MOUNDS

Prior to the discovery of the Darwin Mounds area, an interviewee who worked for oil and gas industry in the late 1980s on surveys near the Magnus field in the North Sea described how they took the opportunity to do some deeper water sampling west of the Shetland Islands and found that "*one of the trawls came up completely filled with Lophelia as in live stuff, all sorts of interesting things living on it*" [UCI-02]. Thus there was some knowledge in the oil and gas industry that coral existed in the UK's offshore waters by the time exploration activities commenced to the west of Scotland.

### *5.2.1 Atlantic Frontier Environment Network (AFEN)*

The Darwin Mounds[2] area of *Lophelia* was first discovered in May 1998 during a seabed survey conducted by Southampton Oceanography Centre (SOC[3]) scientists on behalf of the Atlantic Frontier Environment Network (AFEN), a partnership between the oil and gas industry and UK government agencies including the Department of Trade and Industry (DTI), the Joint Nature Conservation Committee (JNCC) and the Scottish Office Agriculture and Fisheries Department[4] (AFEN, 2000; Bett, 2001).

The AFEN partnership originated soon after the increase in survey activity north and west of Scotland that followed the discovery of the Foinaven and Schiehallion oil fields in the early 1990s. In 1994, eight operators established an association known as the West of Shetland Group to address environmental issues facing industry in the Atlantic Margin. By 1995, membership had expanded to 14 members, the group was renamed AFEN, and it became one of the networks within the Atlantic Margin Joint Industry Group (AMJIG). The research commissioned under AFEN was designed with the objective of gaining an environmental baseline for the areas being licensed, with a multidisciplinary

[2] The Darwin Mounds were named for the SOC research vessel that undertook the survey, the RRS *Charles Darwin*.

[3] The Southampton Oceanography Centre (SOC) has since changed its name to the National Oceanography Centre, Southampton (NOCS). It is a research centre jointly owned by the Natural Environment Research Council (NERC) and the University of Southampton.

[4] This department is now known as the Fisheries Research Services (FRS) agency of the Scottish Executive.

research program that included analyses of the seabed, the benthos, the water column, distributions of marine mammals and seabirds, and coastal protection plans. As an interviewee from the regulatory community put it: *"this was the first time we actually got government advisers and industry all working together on a series of coordinated projects in one area"* [RC-09].

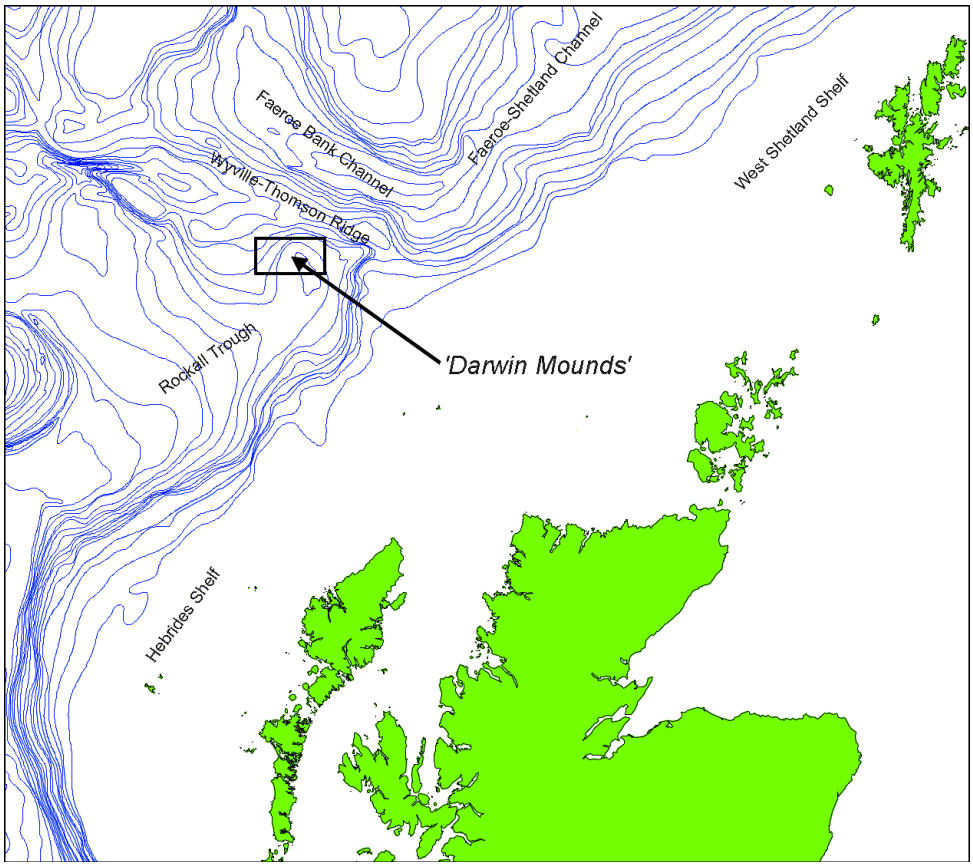
AFEN's membership fluctuated over time, with companies' merging or being taken over, and with some losing interest in exploration in the area. A number of similar collaborative groups were established under AMJIG, which have since been incorporated into UKOOA (The United Kingdom Offshore Operators Association) technical committees (AFEN, 2000).

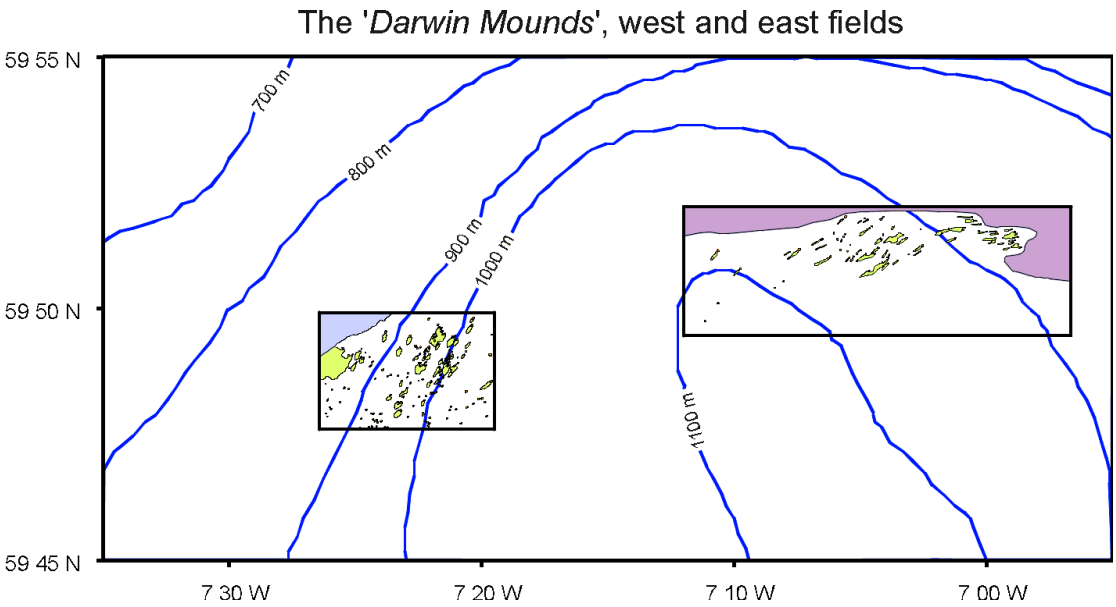
### *5.2.2 'Scotland's barrier reef'*

The first AFEN seabed survey west of Scotland took place in 1996, during which no signs of *Lophelia* were found. The next seabed survey occurred in 1998, on areas that had just been licensed for drilling, and "*it was during that second survey that the particular sidescan sonar system that was being used picked up these exotic reflections which when they were investigated turned out to be what we now call the Darwin Mounds"* [UCI-02].

The 1998 AFEN-sponsored survey that initially discovered the Darwin Mounds was followed in 1999 by a DTI-sponsored survey, again conducted by SOC scientists, during which the eastern field of mounds was discovered. The Darwin Mounds were further investigated twice during the summer of 2000, when evidence of damage from trawling was visible over half of the eastern fields (Bett, 2001; Wheeler *et al*., 2005). See Figure 5.1 for a map showing their geographical location and distribution.

***Figure 5.1 Location of the Darwin Mounds***




*(From: JNCC Report 02 P10, June 2002. Figures courtesy of Brian Bett, National Oceanography Centre, Southampton)*

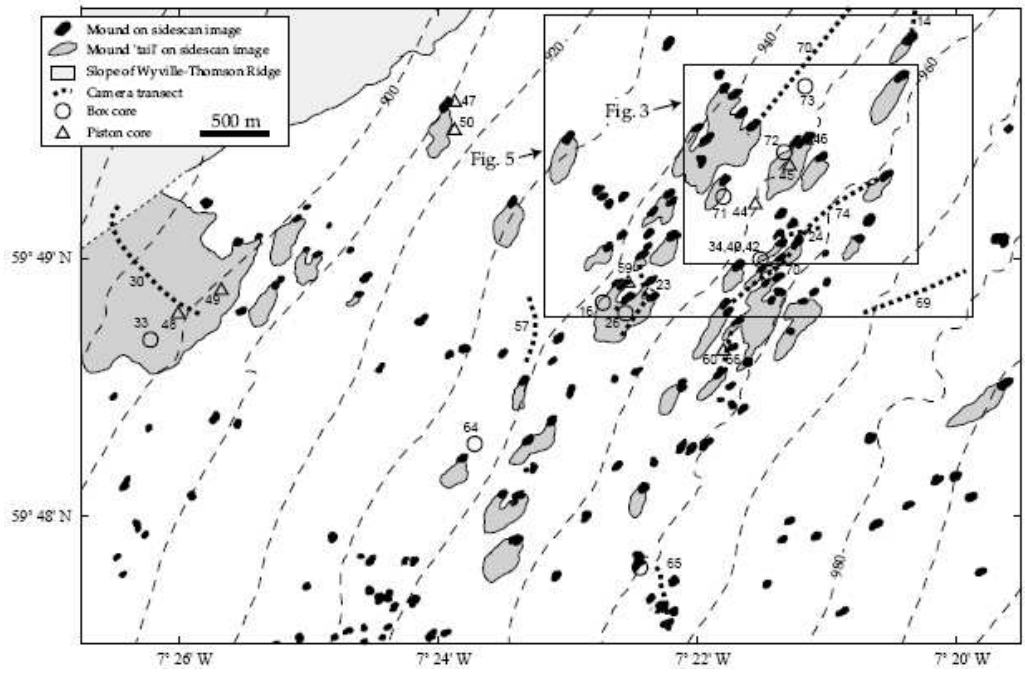
The Darwin Mounds lie approximately 185 kilometers (100nm) to the northwest of Scotland at a depth between 900-1060 meters, scattered across approximately 1500 square kilometers and supporting significant amounts of *Lophelia* and associated biodiversity, including sessile or hemi-sessile invertebrates and giant protozoan xenophyophores (*Syringammina fragilissima*) (Bett, 2001). The hundreds of mounds present in the area are ovoid in shape, measuring up to 75 meters across, and have a maximum topographic height of 5 meters (Wheeler *et al.*, 2005).

At the time of their discovery, the Darwin Mounds were a 'unique' example of *Lophelia* growing on sandy mounds (rather than a hard substrate) with a distinctive 'tail' structure not seen elsewhere, and illustrated in Figure 5.2. This 'uniqueness' played an important role in moving the policy process for protection forward, however more recently, similar *Lophelia*-topped mounds have been found in the Porcupine Seabight to the west of Ireland. When asked to describe the uniqueness of the Mounds, a member of the epistemic community commented that:

> *"They were fairly unique at that time but now we've collected more data, I think we can say there are other examples, some of which have been trawled, some haven't. [The Darwin Mounds are] only unique in the sense that all of the mounds are different in the way people are different, they're not all identical they do have slightly different fauna and flora, they express themselves differently, but [they're] not radically unique"* [EC-14].

However, a representative of the fishing industry remarked that from their perspective at the time of the closure, "*there was no sense of whether this was a unique feature or not and [the closure] seemed imposed on the UK fishing industry by the government"* [UCF-01]. Nevertheless, the perceived 'uniqueness' of the Mounds played an important role in the policy process that led to their protection from fishing activities, as discussed later.

***Figure 5.2 Detailed interpretation of the west Darwin Mounds, showing tails***




*(From: Masson et al., 2003:164)*

The damage caused by bottom trawling observed in 2000 appeared to have concentrated on the eastern field of mounds, with evidence of multiple trawling events (Wheeler *et al.*, 2005). Where coral areas had been trawled, presumably by otter trawls based on the nature of the marks in the sediment, broken coral rubble and dead coral were obvious. Figure 5.3 shows some of the damage to the Darwin Mounds area observed by Wheeler *et al.* (2005) during their 2000 research cruise, captured by sidescan sonar. It is impossible to know whether the reefs were damaged before or after their discovery, as the first survey used a lower-resolution method. As a scientist involved in the research cruise put it:

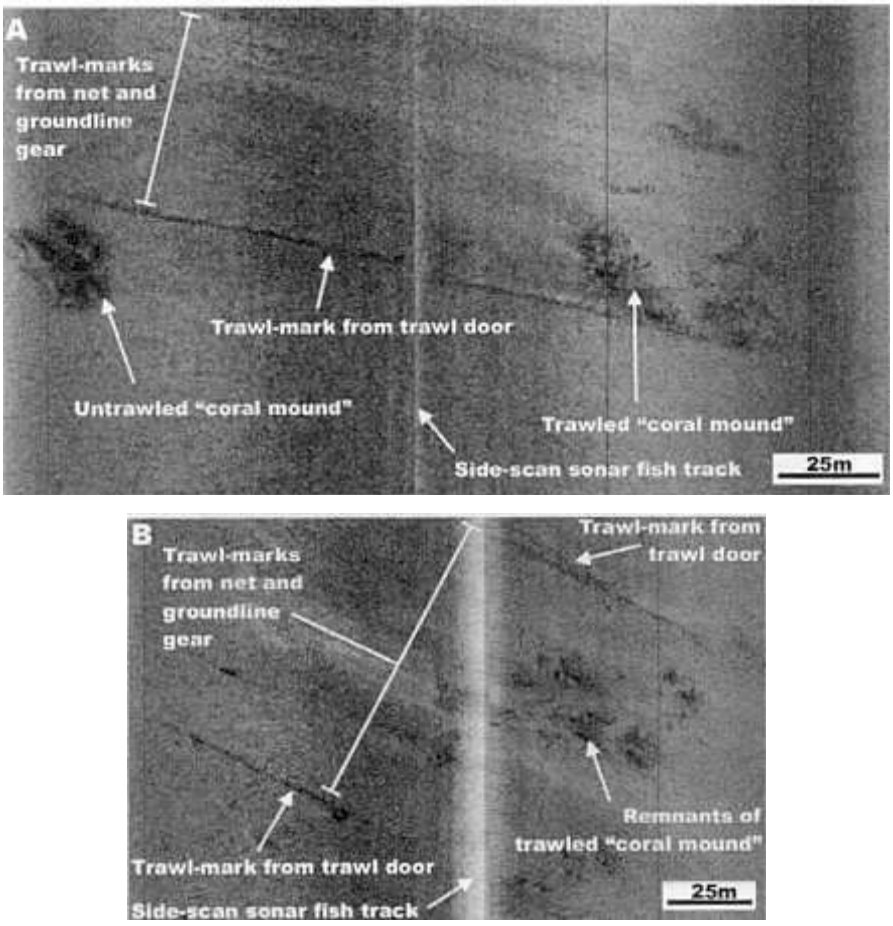
> *"Exactly when those trawling impacts occurred, we don't know and they may well have been there on the earlier data or they may have occurred after it but you wouldn't have detected them anyway"* [EC-14].

The damage to the mounds visible in 2000 was unmistakable, however:

> *"What we […] saw were these trawl marks, and some of them just missed the mounds, some of them went straight over the top of the*

*mounds, and you could physically see the impact of that, you could see where the trawl mark went over a mound, the impression of the mound was much fainter. There was less upstanding coral colonies, it was harder to detect with the side-scan, and sediment drift was starting to encroach on the mounds. And they had been reduced to rubble, they were no longer growing and they were being slowly covered by mobile sand. And that was a very graphic image, a very obvious image. A couple of these pictures became then […] pictures you put on politicians' desks and say 'look this is what's happening, these are very healthy mounds, these are ones that have been trawled' – it was obvious to a lay person what was happening and what the impact was"* [EC-14].

***Figure 5.3 Damage to the Darwin Mounds visible in 2000***




*(From: Wheeler et al., 2005:811)*

Photographic evidence of damage to cold-water corals caused by trawling is even more dramatic, as illustrated by Figures 5.4 and 5.5. As a scientist present on the 2000 research cruise commented:

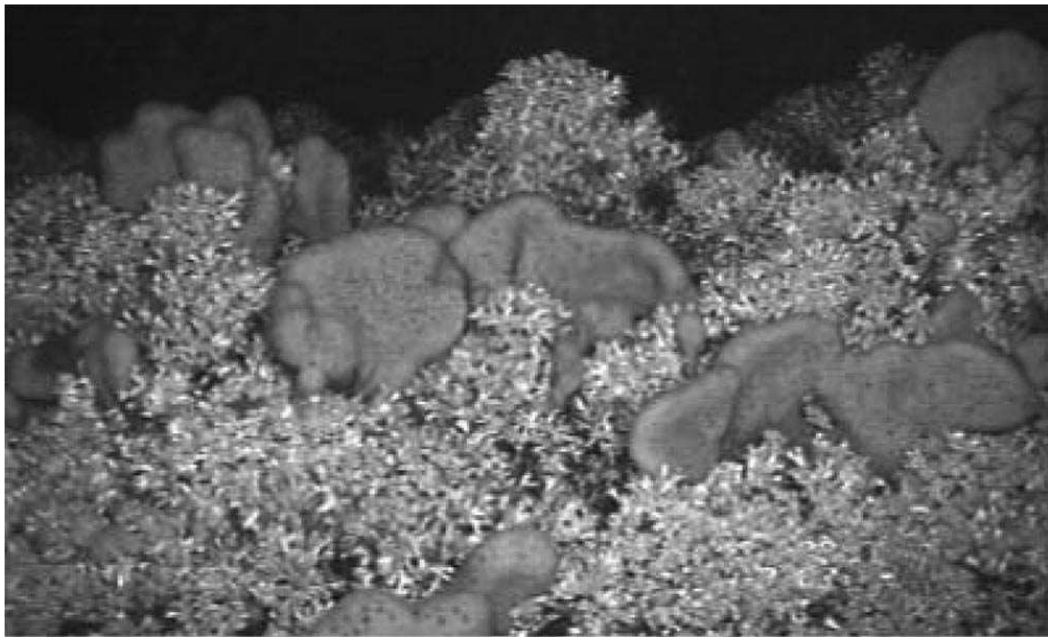
> *"I guess from a conservation perspective, when we did that high resolution survey that was when we started to see significant trawling impacts for the first time. And great images were taken which then became quite pivotal in protecting the mounds, we supplied ammunition to the people who were raising awareness and wanted to get them protected"* [EC-14].

Even in areas where trawling does not completely destroy corals, it still has an impact on coral longevity. As one scientist noted, based on their analysis of samples from the Darwin Mounds and other areas of *Lophelia pertusa*,

> *"The lowest genetic diversity we found was around the Darwin Mounds. When we looked at corals form that area we couldn't find any that were reproducing. It's almost as though the trawling is basically mowing the corals and keeping them at a size where they can't reproduce. So it's like a sub-lethal effect, if you like, of trawling"* [EC-13].

As most of the corals examined in the Darwin Mounds area appeared to be 'self-recruiting', *i.e.* they do not have access to genetic material from other reefs for reproduction, thus their recovery will *"be pretty slow […] recruiting from the outside would take tens of hundreds of years"* [EC-13].

***Figure 5.4 Untrawled Lophelia interspersed with Mycale sponges at Nordleska, West Norway, May 1999 (depth 200m)***



*(From Hall-Spencer et al., 2002:510)*

***Figure 5.5 Trawled Lophelia in the Iverryggen area, West Norway, May 1999 (depth 200m). The arrow indicates a trench from towed fishing gear.***

*(From: Hall-Spencer et al., 2002:510)*

### *5.2.3 Greenpeace Atlantic Frontier Campaign*

The aforementioned Foinaven and Schiehallion oil fields came on line for production in 1997 and 1998, respectively. At roughly the same time, Greenpeace launched an Atlantic Frontier climate change campaign aimed at halting further oil exploitation and beginning a phase-out of fossil fuels. Whereas previous climate change campaigns had been aimed at impacts and were *"negative and overwhelming"* [LC-04], the Greenpeace Atlantic Frontier campaign aimed at the other end, *i.e.* the production and use of fossil fuels. A member of the oil and gas community commented:

> *"Greenpeace were running a campaign at the time, 'no new oil to the west of Shetland', saying we should stop and have renewable energy and the government said yes we should try renewable energy but we can't just stop because we're running out of oil and gas and the alternative is to import it from places like Russia or Azerbaijan or places where the impact on the environment of the production of oil and gas might be much more severe"* [UCI-03].

Greenpeace first targeted the 17th Round of licensing[5] on the UK Continental Shelf (for the period 1996-1997), charging the UK Government with not taking the Habitats Directive into account when taking decisions about the areas to be licensed. This first effort was unsuccessful as their application was delayed[6] and came too late in the licensing round, and it was overturned in a House of Lords plenary case. Their second attempt, aimed at the 19th Round (for 2000-2001), went in earlier and was successful. This ruling[7] is commonly referred to as the Greenpeace judgment. As a member of the oil and gas industry observed:

> *"It was quite ironic really that it was the oil industry and the AFEN group that was leading the investigations as to whether or not Lophelia was present in areas of licensed activity or not and then Greenpeace – the irony is amazing in that in 1996 nothing had been found but they still brought a court case and then subsequently 1998 the Darwin Mounds were found"* [UCI-02].

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[5] Licensing of the UK offshore environment for oil and gas development began during the North Sea boom in the 1960s. For further information, see the DTI website: (www.og.dti.gov.uk/upstream/licensing).

[6] The delay involved a three-day hearing to decide whether Greenpeace had leave to apply for judicial review (*i.e.* to determine whether their case was arguable and worthy of taking further).

[7] *R. v. Secretary of State for Trade and Industry, ex parte Greenpeace (No. 2)* [2000] 2 CMLR 94.

Another representative from the oil industry emphasized that "*Greenpeace's case really wasn't anything to do with the Habitats Directive, it was to do with opposition to the oil and gas industry, period"* [NGO-04].

A member of the legal community pointed out that Greenpeace acts differently from other NGOs, as *"it takes direct action, it's not warm and cuddly"* [LC-04] and it has a role to play in European environmental policy, *"coming out with challenging action and litigation"* [LC-04]. This interviewee went on to say that it was their impression that *"other NGOs never thought Greenpeace would win the judgment, and didn't even consider going to court"* [LC-04]. While other NGOs *"have a more open relationship with the government, negotiating and working things through, Greenpeace is willing to take more risks"* [LC-04]. It also *"has leverage: it raises a case and then walks off"* [LC-04] leaving other NGOs to continue the campaign, as did the WWF in the case of the Darwin Mounds. A member of the epistemic community expressed the same sentiment, commenting that "*Greenpeace thought the job was done at the end of the case and it was sort of left up to WWF to continue that work"* [EC-13].

### 5.3 GREENPEACE JUDGMENT

In the Greenpeace judgment of November 1999, the English High Court ruled that the European territory to which the Habitats Directive applies includes areas over which Member States exercise sovereign rights beyond territorial waters (*i.e.* beyond 12nm). As a result of this judgment, the UK is required to apply the Habitats Directive to the 200 nm limit of its Exclusive Fishing Zone (EFZ)[8] including the water column and seabed, and other Member States are following suit, designating protected areas (SACs) under the Habitats Directive in their offshore waters. In addition to its EFZ, the UK also claims jurisdiction over its

[8] The UK has a 200nm Exclusive Fishing Zone (EFZ) rather than EEZ, pursuant to section 1(1) of the Fishery Limits Act 1976.

Continental Shelf,[9] extending up to 340 nm from the baseline, but covering only the seabed.

Following the outcome of the Greenpeace judgment (discussed in more detail below), the Offshore Petroleum Activities (Conservation of Habitats) Regulations[10] were released in 2001, governing industry activity in the UK EFZ. The UK Government has since been revising its existing national legislation, the 1994 Conservation (Natural Habitats etc.) Regulations, in order to transpose the Habitats Directive and its predecessor, the 1979 Birds Directive, into UK law in its offshore waters. This extension will encompass not only the UK's EFZ, as stipulated in the Greenpeace judgment, but the entire UK Continental Shelf (CS). This process has been prolonged but the new Regulations are due to come into effect in 2007 (DEFRA, *pers. comm.*). Given the total land area of the UK is 244,101 $km^2$ and that of its territorial sea is approximately 161,200 $km^2$, this extension over the UK Continental Shelf would add an additional 706,200 $km^2$, resulting in a total extent of UK area (territorial and offshore waters, and land area) subject to protection of 1,111,501 $km^2$ or a 2.74 fold increase in area protected by the UK implementation of the Habitats Directive.

### *5.3.1 Territorial scope of the Habitats Directive*

In July 1999, prior to the conclusion of the judgment and in response to a request for clarification from Greenpeace, the European Commission published a Communication to the Council and European Parliament on 'Fisheries Management and Nature Conservation in the Marine Environment'[11] in response to a request from Greenpeace. In its discussion of application of the Habitats Directive, the Commission observed that:

> "The provisions of the Habitats Directive automatically apply to the marine habitats and marine species located in territorial waters (maximum 12 miles). However, if a Member State exerts its

[9] Section 1(1) of the Continental Shelf Act, 1964: any rights exercisable outside territorial waters with respect to the seabed and subsoil and their natural resources (except in relation to coal) are vested in the Crown.
[10] Statutory Instrument 2001 Number 1754.
[11] COM (1999) 363 final.

> sovereign rights in an exclusive economic zone of 200 nautical miles [...] it thereby considers itself competent to enforce national laws in that area, and consequently the Commission considers in this case that the Habitats Directive also applies, in that Community legislation is an integral part of national legislation".[12]

A member of the legal community interviewed commented on the Commission's perspective:

> *"[The Commission] had nothing to lose by extending the jurisdiction of the HD out to 200nm, it extends their power base. The drafters of the Birds Directive were thinking of the wider European context, it wasn't limited"* [LC-04].

As mentioned earlier, the 1999 Greenpeace judgment extended the applicability of the EC Habitats Directive to the 200nm EFZ boundary of the UK. Unlike other legal proceedings addressing the Directive, which had focused on the exclusion of particular areas from designation as SACs, this case focused on the inclusion of the Darwin Mounds area of *Lophelia* as a SAC. The judgment involved a critical issue for implementation of the Directive, namely the territory to which the Directive applies. As the judgment's section on geographical scope states, 'A Directive which includes in its aims the protection of, *inter alia*, *Lophelia* and cetaceans will only achieve those aims, on a purposive construction, if it extends beyond territorial waters'.[13] The EC Treaty only deals with the issue of territory on a very general level. Article 299 of the amended EC Treaty of 1992 (Maastricht Treaty) states 'This Treaty shall apply to…' followed by the names of all fifteen Member States. According to general principles of international law, this indicates that the Treaty binds the Member States with respect to their entire sovereign territory (Jans, 2000). As Article 299 does not contain any reference to the territory of the Member States, it cannot be regarded as limiting the territorial scope of the Treaty.

[12] *Ibid.*, section 5.2.2.
[13] *R. v. Secretary of State for Trade and Industry, ex parte Greenpeace* (*supra*, note 7), section [38].

In addition, during the Greenpeace judgment, Lord Justice Kay cited the discrepancy in early versions of the Habitats Directive, namely that it was originally drafted as applying to Member States' EEZs and this qualifier was later dropped (see Chapter 2, section 2.5.3). This omission is significant in that the Secretary of State and the Oil Companies were able to argue that the European Council had intended to limit the Habitats Directive to land and the territorial sea. Greenpeace countered, however, that this drafting was due to a desire to bring the Habitats Directive in line with its predecessor, the Birds Directive.

In determining the geographical extent of the Habitats Directive, the Greenpeace judgment proceeded along a line of reasoning touching on several issues summarized as follows. The first point of discussion involved the concept of maintaining consistency with the object and purpose of the Habitats Directive, *i.e.* to promote the maintenance of biodiversity. This purpose was viewed as being most achievable through the extension of the Directive's geographic scope to the continental shelf and its superajacent waters, given that cetaceans only spend a limited amount of time in territorial waters and *Lophelia* is generally found beyond the 12nm limit. Cetaceans are listed in the Directive's Annex IV (a), and although *Lophelia* is not listed specifically, reef habitats are and it was determined that the purpose of the Directive in relation to protecting the species listed in its Annexes would be best achieved by extending its scope.

The judgment then explored the 'nature of things' line of argumentation, *i.e.* to the extent that a Member State has competence in relation to the continental shelf, so does the Community. This concept was developed by the ECJ in the 1976 *Kramer* case,[14] concluding that the rule-making authority of the Community extended to fishing on the high seas. This decision was upheld by a

[14] Joined Cases 3, 4 and 6/76 *Kramer* [1976] ECR 1279: *'It follows […] from the very nature of things that the rule-making authority of the Community* ratione materiae *also extends – in so far as the Member States have similar authority under public international law – to fishing on the high seas'.*

subsequent judgment, the 1993 *Drift-Net* case (Jans, 2000).[15] In his analysis of the Greenpeace judgment, Jans (2000) regards these two preceding cases as having come to the following conclusion: in so far as Member States are competent under international law to protect the environment outside their own territories, the Community must also be regarded as being competent to take such measures.

The next issue discussed in the judgment involved practice under Community law as applied by the UK. Greenpeace noted that the EC had applied many of its laws to activities carried out in areas beyond territorial waters (including laws relating to oil exploration and pollution control *etc.*), and the UK had subsequently transposed these into national legislation. International conventions were also discussed, including the 1992 Convention on Biological Diversity (CBD) and UNCLOS, and the interrelated nature of these Conventions and the Habitats Directive was pointed out, furthering the necessity for all of them to apply to the same geographic area, *i.e.* beyond territorial waters. UK legislation extending beyond the 12nm mark was cited, including the 1985 Food and Environmental Protection Act, the 1990 Environmental Protection Act and the 1998 Merchant Shipping (Oil Pollution Preparedness, Response and Cooperation Convention) Regulations. The view of the Commission was also examined, namely the Communication cited at the beginning of this section, which recommends the transposition of the Habitats Directive into national legislation in such a way that it applies to a Member State's EEZ/EFZ as well. International treaty obligations were mentioned again at this point, emphasizing the CBD, UNCLOS, CMS, ASCOBANS and OSPAR, all of which apply beyond territorial waters.

The judgment then explored a few issues brought up by the Secretary of State, who emphasized the land-based nature of the Habitats Directive and the discrepancy in the early drafts of the Directive with its final version, as discussed earlier. Some of the language in the Directive can be viewed as being land-

[15] Case C-405/92 *Etablissements Armand Mondiet v. Société Armement Islais* [1993] ECR I-6133.

based, using terminology such as 'landscape' and 'land-use planning', therefore the Secretary of State argued that the term 'territory' should have a more narrow definition. However, Lord Justice Kay agreed with Greenpeace that the term 'territory' is plainly used in Community law as extending beyond territorial waters.

The Secretary of State also submitted that substantial legal difficulties would be caused by extending the Habitats Directive, in two ways in particular. First, it was noted that the CFP seriously circumscribes the ability of Member States to adopt measures to deal with the problems caused by fishing, however the most relevant Regulation (3760/92[16]) which so limits the powers of Member States post-dated the Habitats Directive by eight months. Second, the Secretary of State cited UNCLOS Article 78.2, which states that the exercise of the rights of the coastal state over the continental shelf 'must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other states as provided for in this Convention'. The Secretary of State pointed to this as an indicator towards a narrower geographical scope of the Habitats Directive. However, Lord Justice Kay stated that this submission was difficult in that there is no hierarchy of norms or interests recognized by the law, and it is virtually inevitable that tensions will arise between different international regimes of protection and entitlement (such tensions are one of the key issues this thesis is exploring, see Chapter 6). The Greenpeace judgment concluded with Lord Justice Kay agreeing that the Habitats Directive applied to the UK CS and to the superajacent waters up to a limit of 200nm, and stating he decided not to refer any of the issues raised in the judgment to the European Court of Justice.

A related issue raised by the High Court during the Greenpeace judgment involved the question of whether or not there is a legal duty not to affect the natural habitats of Community interest. The *Lophelia* site under question in this case was not specifically listed in the Habitats Directive (*i.e.* the species is not mentioned in the Annexes although 'reefs' are) nor had the location yet been

[16] Council Regulation 3760/92 of 20 December 1992 establishing a Community system for fisheries and aquaculture [1992], OJ L 389, p.1.

proposed as a SCI or SAC. With regard to case law relating to the Birds Directive, in particular the *Santoña Marshes* case,[17] a Member State cannot escape its duty to protect a site which, according to relevant scientific criteria, deserves protection. However it is not clear whether this principle can be applied to the Habitats Directive as well, though the Commission argues that it is possible in its publication on 'Managing Natura 2000 Sites' (European Commission, 2000). Jans (2000:386) observes, '[The fact] that the drafting history of the Directive provides a serious argument for a more limited territorial scope, did not seem to play a very important role in the High Court's judgment and it shows once again, the 'power' of purposive interpretation of EC law in general and environmental law in particular'.

### 5.4 DARWIN MOUNDS CLOSURE

The sequence of events that led to the closure of the Darwin Mounds area to bottom-trawling is outlined in Table 5.1. Following their discovery and the outcome of the Greenpeace judgment, in 2001 Margaret Beckett (then Secretary of State for the Environment and Rural Affairs) made a commitment to protect the Darwin Mounds as a SAC under the Habitats Directive. From 1999 to 2001, the UK's Joint Nature Conservation Committee (JNCC) undertook a two-year research project to identify offshore marine sites for protection under the Habitats and Birds Directives, resulting in the completion of a comprehensive report on implementing the Directives in UK offshore waters (Johnston *et al.*, 2001).

Another report was produced by WWF[18] and released in May 2002, suggesting a management framework for the Darwin Mounds as the UK's first offshore SAC (Gubbay *et al.*, 2002). The WWF campaign picked up where Greenpeace had

[17] Case C-355/90 *Commission v. Spain* [1993] ECR I-4221.

[18] WWF produced several documents advocating a closure of the Darwin Mounds area, including a June 2001 report to OSPAR entitled 'The Darwin Mounds – A Potential MPA' (www.ngo.grida.no/wwfneap/Publication/briefings/DarwinMounds.pdf), a September 2001 report entitled 'The Darwin Mounds: Out of Sight and Still Under Threat' (www.wwf.org.uk/filelibrary/pdf/darwin_mounds.pdf) and an October 2001 Factsheet on Coral Reefs Threatened off Britain (www.ngo.grida.no/wwfneap/Projects/Reports/Darwin_Mounds_Facts.pdf).

left off following the outcome of the Greenpeace judgment: assuring that the commitment made by the UK would be taken through and the Darwin Mounds would be protected under UK law from bottom-trawling fisheries. By April 2003, WWF spoke out in the media[19] calling specifically on the Secretary of State to uphold the commitments she had made 18 months earlier.

[19] "Government's Failure Trashes Scotland's Barrier Reef" 23 April 2003, WWF Scotland website (www.wwf.org.uk/news/scotland/n_0000000871.asp); "Scottish Barrier Reef Under Threat" 23 April 2003, BBC News website (//news.bbc.co.uk/1/hi/scotland/2968435.stm).

**Table 5.1 Timeline of Darwin Mounds MPA Designation**

| DATE | ACTION | OUTCOME |
|---|---|---|
| 1998<br>MAY | Discovery of Darwin Mounds by AFEN survey | |
| 1999 and 2000 | Darwin Mounds revisited, damage visible | |
| 1999<br>NOVEMBER | Greenpeace judgment | UK required to extend Habitats Directive offshore |
| 1999 – 2001 | JNCC process established by DEFRA to identify offshore Natura 2000 sites | JNCC Report 325: Implementing Natura 2000 in UK Offshore Waters |
| 2000<br>JULY | European Commission requested ICES to provide advice on cold-water corals | Reports in 2001, 2002 and 2003 on *Lophelia* in ICES waters |
| 2001<br>OCTOBER | Secretary of State Beckett commits to protecting area as an SAC | Publicity |
| 2002<br>MAY | WWF-UK Report on Darwin Mounds SAC | |
| 2002<br>OCTOBER | UK first approached European Commission regarding protecting area | Positive indications from Commission |
| 2002<br>DECEMBER | Commission agreed on TACs for deep-sea species in 2003 and 2004 | |
| 2003<br>JANUARY | Revised CFP Regulation 2371/2002 came into effect | Provided mechanism for emergency closure |
| 2003<br>MARCH | UK held informal discussions with European Commission and other Member States | Compromise on degree and extent of closure |
| 2003<br>JUNE | UK made formal approach (in writing) to European Commission for action under CFP Regulation 2371/2002 | Positive response from Commission |
| 2003<br>JULY | UK made formal request for closure of Darwin Mounds area | Accepted |
| 2003<br>AUGUST | Emergency closure (Regulation 1475/2003) | |
| 2003<br>SEPTEMBER | Proposal for permanent Regulation submitted | |
| 2004<br>FEBRUARY | Emergency closure extended a further six months (Regulation 263/2004) | |
| 2004<br>MARCH | Closure made permanent (Regulation 602/2004) | |

*(From De Santo and Jones, 2007:8)*

In addition to the draft Regulations mentioned earlier, in the late summer of 2003, the Department for the Environment, Food and Rural Affairs (DEFRA) released a consultation document proposing the Darwin Mounds as a candidate Special Area of Conservation under the Habitats Directive (DEFRA, 2003b). DEFRA subsequently informed the European Commission that the site would become the UK's first offshore SAC under the Habitats Directive.

### *5.4.1 CFP emergency closure*

While the Habitats Directive provides an important framework for protecting habitats and species in Europe, the primary mechanism currently available for enforcing areas closed to fishing in the marine environment (beyond 6nm) lies in the revised Common Fisheries Policy (CFP), referred to as the Basic Regulation. A review of the process that went into the revision of the CFP is given earlier in the thesis as well as an explanation of its emergency closure provisions (Chapter 2, section 2.4.3). It is worth reiterating that Article 7 of the Basic Regulation allows for the Commission to apply emergency measures 'if there is evidence of a serious threat to the conservation of living aquatic resources, or to the marine eco-system resulting from fishing activities and requiring immediate action'. It was this mechanism that allowed for the initial protection of the Darwin Mounds area.

### *5.4.2 Evolution of the UK's first offshore MPA*

While at first glance the closure of the Darwin Mounds area may appear to have been a somewhat quick and straightforward process, taking a relatively short period of time to move from a temporary to permanent ban on bottom-trawling in the area (*i.e.* seven months), it required a careful, step-wise approach on the UK's part with a certain degree of compromise. In October 2002 the UK made its first approach to the European Commission, alerting them to the site and indicating a need for action to be taken, although no mechanism yet existed for implementing a protected area in offshore waters.

> *"Looking back at that letter, it leaves slightly open what we wanted them to do exactly. And I think that in turn reflected the fact we weren't clear what the instruments were to implement the*

> *closure. That stemmed in part from the fact that we haven't implemented our regulations offshore in any case. And also there weren't very clear powers under the CFP as it was, it was the old CFP Regulation 3760/92"* [RC-03].

With the advent of the reformed CFP in 2003, however, a mechanism became available and the UK began informal discussions with the Commission about whether and how to use the emergency closure provisions.

> *"It was clearer that the remit of the CFP also involved protection of the marine environment from the impact of fishing, that was made much more specific… What was definitely more explicit was the fact that you could use the Regulation to request emergency measures to protect the environment as opposed to just protecting fisheries or fishing grounds, or however it was phrased before. So we started to think that was probably the best approach and I would say around that stage the baton passed to us in Fisheries to get this moving because the* [UK's] *offshore regulations has still not got anywhere so it was obvious that wasn't going to provide any solution"* [RC-03].

As this would be the first use of the mechanism, and as it was the first closure proposed for nature conservation objectives, there was care taken by both the UK and the European Commission in order to ensure that the proposal was properly assessed and that no poor precedents would be set, with the UK wanting to be certain the Commission was on board. Consequently it aimed to provide the most solid case possible for closure based on the best evidence available and recommendations from the JNCC and the International Council for the Exploration of the Sea (ICES) Advisory Committee on Ecosystems (ACE). As a member of the regulatory community involved in negotiating the closure commented:

> *"I think there was a slight hesitancy because this would be the first use of the emergency measures provision and I think… they didn't want the first use of this to fail, they actually wanted it to succeed. So in some ways, there was almost a sort of working together to make sure we put to them the best case we possibly could and covered all the areas of concern that they could see other Member States would raise. The other part of the reason for doing that is you've seen the timing of all this, you put it in and Member States*

> *have only got five days, now if they're unsure about it they're more likely to say no than anything"* [RC-03].

The ICES advisory process had begun a bit earlier, in July 2000, when the European Commission made a request for urgent advice 'to identify areas where cold-water corals may be affected by fishing' (ICES, 2001). Subsequently ICES established a Study Group on Mapping the Occurrence of Cold Water Corals (SGCOR) which compiled maps identifying cold-water coral areas in the North-East Atlantic. These maps were then circulated to ACE and a selection of working group chairs for comment, in order to enable ICES (through ACE) to provide advice to the European Community (ICES 2001, 2002 and 2003).

Concurrent with its aforementioned dialogue with the European Commission in 2003, the UK also pursued informal discussions with other Member States, targeting those with fishing interests in the area (primarily France and Spain) and others supportive of a closure in the area (Ireland and the Netherlands). As a member of the UK regulatory community described it:

> *"[We then took] negotiating tactics – who do we need to talk to, who do we need to get on board, as well as the Commission. I mean there's no point for the Commission bringing out a proposal which the Member States are going to just shout down, it needs to be a process of awareness-raising about the environment and the impact of fishing on it, who's fishing there, just the general process of getting support for something the UK sees as a priority. […] We didn't think there was that much concern about the area being closed because other Member States could see the case for closing it, and we also felt that quotas could be met by fishing outside that area anyway so you wouldn't damage the fishing prospects"* [RC-03].

The UK continued its step-wise approach to the Commission in subsequent months, with a formal letter expressing their intention to pursue an emergency closure in June 2003 before actually making the formal request on 24 July 2003. No objections were received from other Member States during the five-day comment period, and a six-month emergency closure went forward, under

Regulation 1475/2003[20] of 27 August 2003. However it is worth noting that as this was the first use of the emergency closure mechanism, the Commission may not have *"allowed themselves enough time to clear all their formal procedures properly"* [RC-03] in having such a short comment period, especially as it was also *"the summer, when the Commission shuts down"* [RC-03]. France did not object to the emergency closure, which "*may have been just [due to] the sheer speed: they only had five days and it was the summer"* [RC-03].

This temporary closure was extended for a further six months under Regulation 263/2004[21] of 14 February 2004, during which the UK prepared a proposal for a permanent closure of the area, which involved amending Regulation 850/98[22] of 30 March 1998 on the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms. The preparation of the permanent closure regulation began as early as September 2003, only a month after the emergency closure had taken effect. As a member of the regulatory community noted, this quick response indicated the Commission was on board:

> *"We had a proposal for a permanent regulation in September 2003, which was quite swift for the Commission given it was summer and they only sort of get back into business in September. So I mean that showed that they were serious about taking this forward"* [RC-03].

The permanent ban on bottom-trawling in the Darwin Mounds area came into effect as Regulation 602/2004[23] on 22 March 2004, adding the geographical location of the Darwin Mounds area to Article 30 of Regulation 850/98 in its section on restrictions on the uses of demersal towed gears.

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[20] Commission Regulation (EC) No. 1475/2003 on the protection of deep-water coral reefs from the effects of trawling in an area north west of Scotland. OJ L 211, 21.8.2003, p.14.

[21] Commission Regulation (EC) No. 263/2004 of 15 February 2004 extending for six months the application of Regulation (EC) No. 1475/2003, OJ L 46, 17.2.2004, p.11.

[22] Council Regulation 850/98 of 30 March 1998 for the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms. OJ L 125, 24.7.98, p.1.

[23] Council Regulation (EC) No. 602/2004 of 22 March 2004 amending Regulation (EC) No. 850/98 as regards the protection of deepwater coral reefs from the effects of trawling in an area north west of Scotland. OJ L 97, 1.4.2004, p.30.

In the drafting of the permanent regulation, more formal negotiations with other Member States came into play, as "*there were concerns from France and Spain about the closure"* [RC-03]. While Spain pressed for pelagic fishing to still be allowed in the Darwin Mounds area, France disputed the boundaries of the closure area recommended by ICES. Spanish concern focused on making sure *"that the measures stayed targeted at what had been demonstrated to be damaging activities in the area"* [RC-03]. The ICES advice had primarily focused on bottom trawling, and although there was some discussion during the drafting of the closure regarding the impact from long-lining and gill-netting, *"there wasn't enough information to justify targeting those other types of fishing"* [RC-03]. However, as a member of the regulatory community commented, there was little to no pelagic fishing occurring in the area in any case, and this compromise was more symbolic than necessary to the Spanish:

> *"Unfortunately pelagic fishermen are of course very vocal lobbying, they don't catch any fish in the area of the Darwin Mounds but they made a case that was accepted that they had to be able to fish there! They don't catch anything – I must admit we were a but shocked at the government's acceptance that pelagic trawling had to be permitted because it doesn't happen"* [RC-07].

Nevertheless, the Spanish pushed for pelagic fishing to continue in the area, and, as one of the UK negotiators described it:

> *"We […] made a calculation that let's restrict this to the most damaging form of fishing, we're more likely to get agreement to permanent regulation. If we started to extend it on the basis 'well there's a possibility [of] long-lining or gill-netting…' we'd have got a sort of alliance of France and Spain [who] could possibly [gain] enough support amongst other Member States to see it off because it all ends up as qualified majority voting"* [RC-03].

The second compromise, on the extent of the area closed, resulted from pressure by the French:

> *"French industry itself started to cast doubt on the ICES advice and query it, peeling apart things like they've got a reference slightly wrong in the report. I think it was an attempt to just discredit it. […] It was a smokescreen really, but they were*

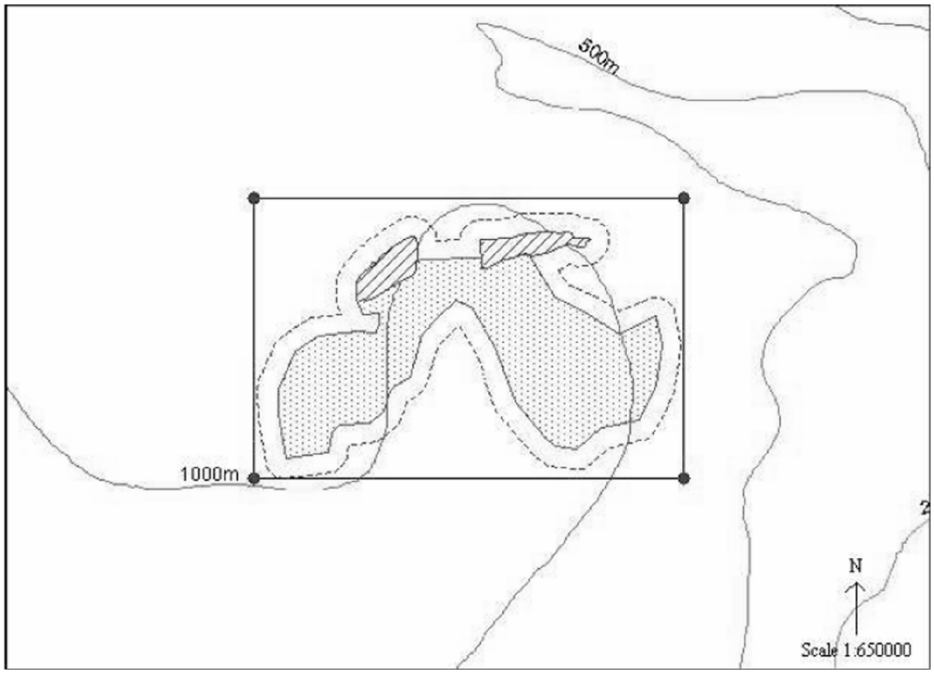
> *obviously very concerned about the impact on their fishing opportunities"* [RC-03].

The borders of the original square-shaped ICES ACE recommendation for a closed area around the Darwin Mounds were altered, with the North East and North West corners removed, resulting in a hexagon-shape. Figure 5.6 shows the original ICES proposal for a closure, which was modified to what is shown in Figure 5.7, the final area surrounding the Darwin Mounds permanently closed to bottom-trawling. The UK was sympathetic to French concerns, as:

> *"The ICES report jumped on a square and said most fisheries closures are squares, it's easier to enforce, it should be this area. Now we felt France actually had a point when they started to concentrate on this […] as a key issue because we've got all sorts of closures under the CFP which are all sorts of strange shapes, so there isn't any need for it to be a basic square to enforce correctly. And we could see, I mean the discussions were becoming quite protracted, it was just going round and round, we wanted to make sure we got the most effective protection in. […] We agreed to consider a French suggestion. […] So we accepted the principle that we could still enforce an area shaped like that. […] That seemed to be sufficient to get the French on board and that was it"* [RC-03].

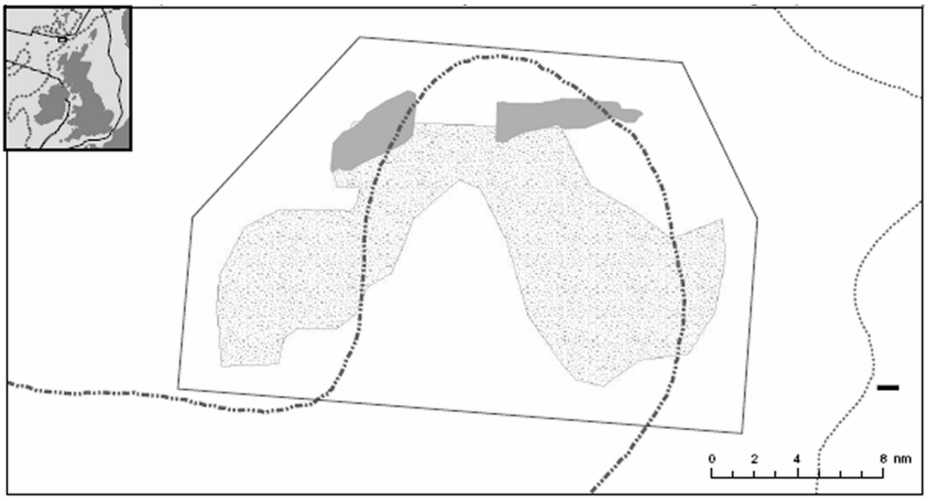
The closed area is slightly larger than the extent of the feature to allow for a 'buffer zone' such that trawls cannot accidentally cross the Mounds at the end of their 1.5 – 2km long trawl warps.

***Figure 5.6 Darwin Mounds Closure as recommended by the ICES Advisory Committee on Ecosystems***




*(Reproduced with permission from the 2003 ICES Report of the Study Group on Cold Water Corals, CM 2003/ACE:02, Copenhagen)*

***Figure 5.7 Permanent Darwin Mounds Closure***




*(Reproduced with permission from the JNCC)*

## 5.5 WHY A SUCCESS? CAUTION AND COMPROMISE

In addition to the stepwise approach made by the UK and the compromise made on the degree and extent of the closure during the negotiation process, other external factors provided incentives for the closure to succeed. It should be reiterated that from a legal standpoint, a bifurcation between nature conservation and fisheries management exists in the European Union. While the former remains the remit of Member States, the European Commission retains exclusive legislative jurisdiction over fisheries. Consequently, when a Member State is faced with a nature conservation issue that results from fishing activity, before the provisions of the Basic Regulation came into effect there was no mechanism available to handle such a situation. As the first use of the revised CFP's emergency closure mechanism, there was an incentive for the Commission to make certain that the Darwin Mounds closure went through. For the UK's part, it was imperative that the most robust case for closure possible be made, and the role played by the JNCC report and ICES ACE recommendations to the European Commission during the negotiations process should not be overlooked. This irrefutability is of particular importance given that Article 7 of the Basic Regulation requires 'evidence of a serious threat to the conservation of living aquatic resources' for the Commission to act. The fact that these corals had been revisited and damage from trawling had been clearly visible made a strong case for an immediate closure.

An important factor in their protection was the 'uniqueness' of the Darwin Mounds, with their 'tail-like' shapes, associated fauna and the fact that the corals had colonized sandy rather than hard substrate. At the time of their discovery, the Darwin Mounds were the only example of these characteristics, however since then, similar (though not identical) situations have been found for *Lophelia* in other areas. A member of the epistemic community commented that *"if you go back to the literature at that time, they were 'unique'. Ten years later, not even, they are not all that unique. […] Biologists have the strong tendency when they find something, they think its unique, but when you look a bit closer…"* [EC-10].

In addition, the area under question was relatively small, covering less than 1500 $km^2$, and lacked the intensive fishing history of other nearby areas containing *Lophelia*, such as the Rockall Bank. Nevertheless, there was concern on the UK side that fishing in the area could increase in the summer of 2003 following the first allotment of Total Allowable Catch (TAC) quotas for deep-sea fish species released in 2002 (Council Regulation 2340/2002). As a member of the regulatory community involved in the policy process commented:

> *"We weren't happy they were selling TACs for these species, we didn't think there was enough information to do that, we voted against it. So I think the Commission were amenable to do something to address our concerns on that deep-water settlement in any case and they had left open with us the suggestion that we came back to them and put forward some areas for possible closure to address our concerns. So they were probably more amenable to sorting something out on the Darwin Mounds because of that as well"* [RC-03].

This threat added further impetus to the UK's efforts to secure a closure as quickly as possible. In addition, momentum was maintained at both the national and European level by the environmental NGO community, notably the WWF with its aforementioned 2002 report on the Darwin Mounds as a potential SAC (Gubbay *et al*., 2002).

From the fishing industry's perspective, there was a mixed reaction to the Darwin Mounds closure, as to whether it was *"good or bad, necessary or unnecessary"* [UCF-02]. As stakeholder involvement in fishery decision-making has increased with the establishment of Regional Advisory Councils (RACs) under the revised CFP, members of the fishing industry commented that the Darwin Mounds closure would not easily be repeated. Interestingly, while members of the regulatory community and scientific experts felt strongly that the certainty of the information presented showing evidence of damage to the Mounds had played a pivotal role in the establishment of the closure, fishing industry representatives commented on the lack of information they were party to during the process, and how their increased participation in the policy process might have resulted in a different outcome. As one industry representative put it:

> *"I suspect in my experience since [the Darwin Mounds closure], that a lot of the opinions would have been made on pretty insufficient information. I think we have a much better relationship […] with government and NGOs and the agencies and all the other relevant people, so I think if the same thing were to happen again, we would be part of the process from a much earlier stage and have access to accurate information to feed back to our members. So it would not necessarily change the opinions, but at least it would be more informed opinions"* [UCF-02].

Another fishing industry representative commented that with the development of the RACs and greater stakeholder participation in European marine policy, the "*consultation process is more effective nowadays on certain aspects because we're working a lot closer with the scientific community and parts of the government"* [UCF-01].

Members of the regulatory community involved in enforcement were also positive about their communication with policy-makers, yet expressed concern that *"we're not seeing, […] this interaction to at least alert ministers to potential difficulties that might occur, to fisheries ministers in particular"* [RC-02]. Fisheries Protection Officers are the frontline when dealing with infringements in protected areas, and take risks. Regulatory authorities involved in enforcement are understandably concerned about putting their Officers in a dangerous situation, and make every effort to maintain a dialogue with policy-makers, as one authority commented:

> *"We always want to ask the fisheries department in particular to keep us posted of activities that may have an impact at the end of the day on what our guys are doing on the front line. [Especially] if somebody's going to get shot at in the harbor because somebody's upset about something that's happened"* [RC-02].

Consequently, while opportunities for consultation have improved between the fishing industry and UK government, there is some concern in the enforcement community that the implications of conservation-driven legislation "*which will exclude people who currently do things at sea from doing that and having a major impact on their potential for earning a living"* [RC-02] need to be taken

more fully into account. This concern is understandable, given the fact that MPA enforcers occupy a sometimes precarious position in between the users and policy-makers.

## CONCLUSION

Although the closure of the Darwin Mounds area can be viewed as a political success, there are several outstanding issues that need to be addressed. The current method of enforcement relies on Vessel Monitoring Systems (VMS), satellite transmitters that relay a fishing vessel's location back to shore via a Global Positioning System (GPS) satellite network. While theoretically an efficient means of tracking fishing activity, it is only recently that UK fishermen have been required to use VMS boxes without 'off' switches, and this requirement is not extended throughout the EU's fishing fleets. Spain and Portugal have something similar, but the UK's technology is *"state of the art"* [RC-02] in comparison. French fishing boats however *"still have VMS you can turn off, so [enforcement agencies] need to be quite acute about watching what they're doing"* [RC-07]. In addition, the current system relies on data sent every two hours, a rate that may not be sufficient to detect bottom-trawling activity on the edge of a closed area. A representative of the UK fishing industry remarked that fishermen felt they bore the financial burden of VMS, as *"there was European funding […] but the [UK] government took the money and built a control centre and got the industry to buy the equipment themselves"* [UCF-01].

A member of the regulatory community involved in enforcement described the UK's vessel monitoring technology as being capable of evading tampering, as:

> *"We designed a completely bespoke system of VMS boxes that was built by a private contractor and is approved as a technical standard in the EU now. So if you have a UK-registered vessel, we insist that you have one of our boxes and there is no off-on switch on it, and there's a battery inside it – if you cut the power to it, pull a fuse or something, it will send a message to us to say this guy's just pulled my fuse, I'll keep speaking to you as long as I can"* [RC-07].

For the Darwin Mounds, VMS data is supplemented with aerial surveys by the Scottish Fisheries Protection Agency (SFPA) and enforced by SFPA patrol vessels. From an enforcement point of view, however, the most easily and efficiently protected area is one that is closed to all forms of fishing (Guénette *et al*., 1998). Given that the closure only applies to bottom trawling, the SFPA have to prove 'beyond reasonable doubt' that fishing vessels, whether observed by VMS or by air patrols, were actually trawling the seabed, given that pelagic trawling is permitted. The burden of evidence in this respect can be problematic, making successful prosecutions very difficult. Boarding by a fisheries patrol vessel may be the only way to secure successful prosecutions, and this is expensive, dangerous and logistically challenging. This also calls into question the assumption that VMS will provide for the enforcement of offshore fisheries closures. The enforcement of such protected areas is thus likely to continue to pose major challenges (Jones, 2006a). As a member of the regulatory community responsible for enforcement commented, the fact that the Darwin Mounds is still open to pelagic fishing is not a problem, in this case, as:

> *"There's no fish there. There's no herring, mackerel – and that would be a major issue for the pelagic industry if the closure had an impact on them but they don't go there. From an enforcement point of view it's an interesting point – the cheapest way to enforce a closed area is from the air. You can't enforce it by VMS because it doesn't actually tell you anything. It might tell you that a vessel's there but you can't charge a vessel"* [RC-02].

That is to say, *"you have to charge an individual or owner/master of the boat"* [RC-07] and under Scottish law, *"every pertinent fact has to be spoken to from two separate sources"* [RC-07], consequently an infraction cannot be proved by just one observation. In practice, this means that:

> *"In a Scottish court […] you can't prove what someone's doing just by looking at it, you'd have to get on board and see the gear being hauled and say yes this type of gear is a bottom trawl"* [RC-07], *"which does make us unique in terms of the UK and indeed is an issue for our friends in Europe who – most Member States don't have that, and the European Commission views it as some kind of flaw"* [RC-02].

With Member States designating further offshore MPAs in coming years, the question of enforcement must be taken into careful consideration as resources are stretched to meet the difficult requirement of policing areas that are spread over wide areas far from shore. The OSPAR network of MPAs currently being designated will include sites already classified as SACs under the Habitats Directive, and will also incorporate marine habitats and species not listed in the Annexes to the Directive. The JNCC released a report (JNCC, 2004) on this initiative, exploring the concept of an 'ecologically coherent network' of MPAs, as this concept is not formally defined, and providing several recommendations regarding the design of such a network. From a jurisdictional perspective, the overlap between the OSPAR network and that of Natura 2000 in offshore waters may pose some tensions with regard to enforcement, as Member States will be required to monitor those areas comprising Natura 2000 under their obligations stemming from the Habitats Directive, while the European Community will be responsible for OSPAR areas under its commitment to the OSPAR Convention. From my research on this area of institutional overlap, it does not yet seem clear how the latter goal will be achieved. Nevertheless, the Marine Strategy Directive and European Maritime Policy currently in development may harmonize matters – this remains to be seen. As a member of the regulatory community involved in enforcement commented:

> *"My understanding is there's a raft of things in the Habitats Directive, there's OSPAR, these other groups have got an interest in all of this, and not necessarily all of them have got a coordinated banner to indicate that some organization knows the totality of the position, I don't think we see that happening, from our perspective"* [RC-02].

Another key issue raised by the case of the Darwin Mounds is the role of the precautionary principle in the CFP. Whereas this principle, in its simplest form, calls for actions to be taken in the face of uncertainty, the Basic Regulation articles on emergency closures require a degree of scientific certainty that may not be available in all situations. With regard to the Darwin Mounds, irrefutable proof of damage from bottom-trawling was a cornerstone in the argument to close the area to fishing. This may not be the case for other areas in need of

protection, and one can also argue that such an approach is counter-productive; if evidence of damage to an area of deep-water coral is required to close it to fishing, then what method is available for protecting pristine areas that are at risk of being damaged?

Although the closure of the Darwin Mounds is a success in many respects, it also highlights the division between marine nature conservation and fisheries management in the European Community, a legal and political issue that will require resolution in the near future. The next chapter explores the UK's attempt to ban pair-trawling for sea bass in the English Channel under the revised CFP, which resulted in a different outcome and highlights limitations in addressing fisheries activity impacts on marine nature conservation.

# 6

## THE PAIR-TRAWL BAN

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*"To me it's all a bit piecemeal and reactive. You know whoever shouts the loudest [...] gets the biggest response"* [NGO-04]

*"When you protect a dolphin by banning drift nets, is that a fisheries measure or nature conservation? You have these dialogues everywhere"* [NGO-03]

### OVERVIEW

Drawing on a policy analysis and interviews with key players in the policy process, this chapter outlines the UK's attempt to ban pair-trawling for sea bass. This process occurred after the Darwin Mounds closure and used a similar legal approach, but without the same level of success. Although it was not the primary focus of this thesis (as it occurred within the 12nm territorial sea) the sea bass pair-trawl ban is worth exploring as it highlights some key issues necessary for achieving better synergy between nature conservation and fisheries management in the marine environment.

### 6.1 BACKGROUND ON THE PAIR-TRAWL FISHERY

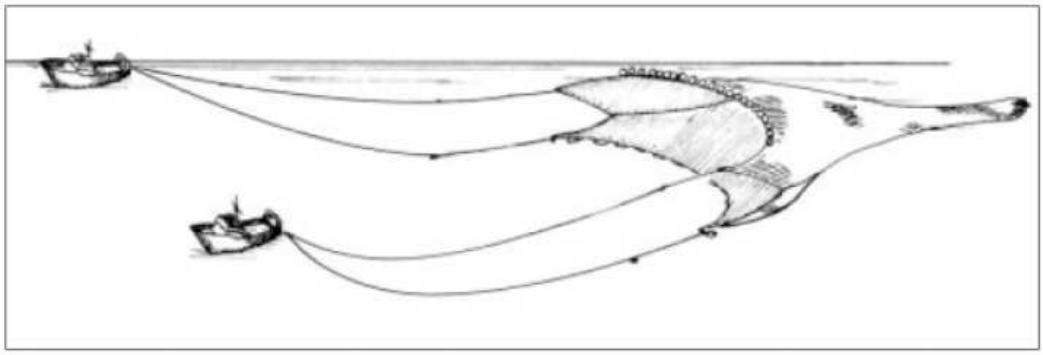
Pair-trawling for sea bass involves towing a large net between two vessels through the water column, which can result in the bycatch[1] of cetaceans. An illustration of this fishing method is given in Figure 6.1. Compared with bottom trawling, pelagic (or mid-water) trawling has a higher potential to capture cetaceans as the nets can be towed at faster speeds, and perhaps also because cetaceans seek prey fish within the net. This may be true for fisheries targeting species that cetaceans are known to pursue, such as sardines, but sea bass is not known to be a prey species for cetaceans.[2] Approaches to reducing cetacean bycatch include modifying gear and/or using acoustic devices (*i.e.* 'pingers') to

[1] The term 'bycatch' refers to the incidental catch of non-target species (such as mammals, birds, fish and other marine fauna) by commercial fishing activities.

[2] For common dolphins in particular (the species most frequently caught in the pair trawl fishery), an analysis of the stomach contents of stranded and incidentally caught animals off the Portuguese coast found that they feed primarily on sardines and squid (Silva, 1999).

deter cetaceans from entering the net. Alternatively, this issue can be addressed by restricting the fishery itself. The area known as the Western Approaches of the English Channel is the site of intensive pair-trawl fishing activity during the winter months, from October to May. From 2002-2003 alone, 250 dead cetaceans (mostly common dolphins) washed up on the shores of Devon and Cornwall[3] exhibiting external damage consistent with death caused by the type of netting used in pelagic trawls (WDCS, 2004).

***Figure 6.1 Illustration of pair-trawling***



*(From WDCS, 2004:7, citing Northridge, 2003)*

In the Western Approaches to the English Channel, the primary countries fishing for sea bass are the UK and France. For the 2003/2004 season, seven pairs of UK boats were engaged in the fishery, with a far higher French presence (French participation in the fishery may have been seven times that of the UK, *i.e.* 49 pairs of vessels). However, during the policy process outlined below, DEFRA maintained that the majority of the French fleet did not enter the UK's 12nm territorial waters (Lowther, 2006:52).

### *6.1.1 Legal context*

The Habitats Directive requires EC Member States to protect cetaceans, 'all species' of which are listed under Annex IV. Article 12 requires that such species are strictly protected throughout their natural range (paragraph 1),

[3] "Dolphin Carnage Continues" BBC News Website, 8 February 2004, available online: (//news.bbc.co.uk/1/hi/england/cornwall/3469135.stm).

including ensuring that incidental capture and killing does not have a negative impact on such species (paragraph 4).

At the sixth Conference of Parties (COP) to the Convention on Migratory Species (CMS) in 1999, Resolution 6.2 urging stronger measures against bycatch was drafted by the UK and adopted by consensus.[4] As a signatory to the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)[5], concluded under the CMS (see Chapter 2, section 2.3.1) the UK is obliged to address problems affecting small cetaceans related to bycatch. At present, the ASCOBANS agreement covers the Baltic and North Seas, including the English Channel. At the fourth Meeting of Parties, held in Esbjerg, Denmark in August 2003, a resolution on extending the ASCOBANS area into the Eastern North Atlantic was passed, which should come into effect by the end of 2007. This extension will incorporate waters adjacent to Ireland, Portugal and Spain into the Agreement area, and closes the gap between ASCOBANS and the Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas and the contiguous Atlantic Area (ACCOBAMS).

At the third meeting of parties to ASCOBANS in 2000, a resolution[6] was passed calling for a reduction in bycatch to below 1.7% of the best estimate of abundance, with a precautionary objective of reducing bycatch to less than 1% of the best available population estimate. These targets were subsequently adopted in the 2002 Ministerial Declaration[7] of the Fifth North Sea Conference held in Bergen, and 'minimising bycatch of species which are not the intended object of commercial fishing' was included in a Statement on the Ecosystem Approach to the Management of Human Activities at the aforementioned 2003 joint OSPAR-

[4] Recommendation 7.2 on the implementation of Resolution 6.2 was adopted at the seventh COP in 2002.

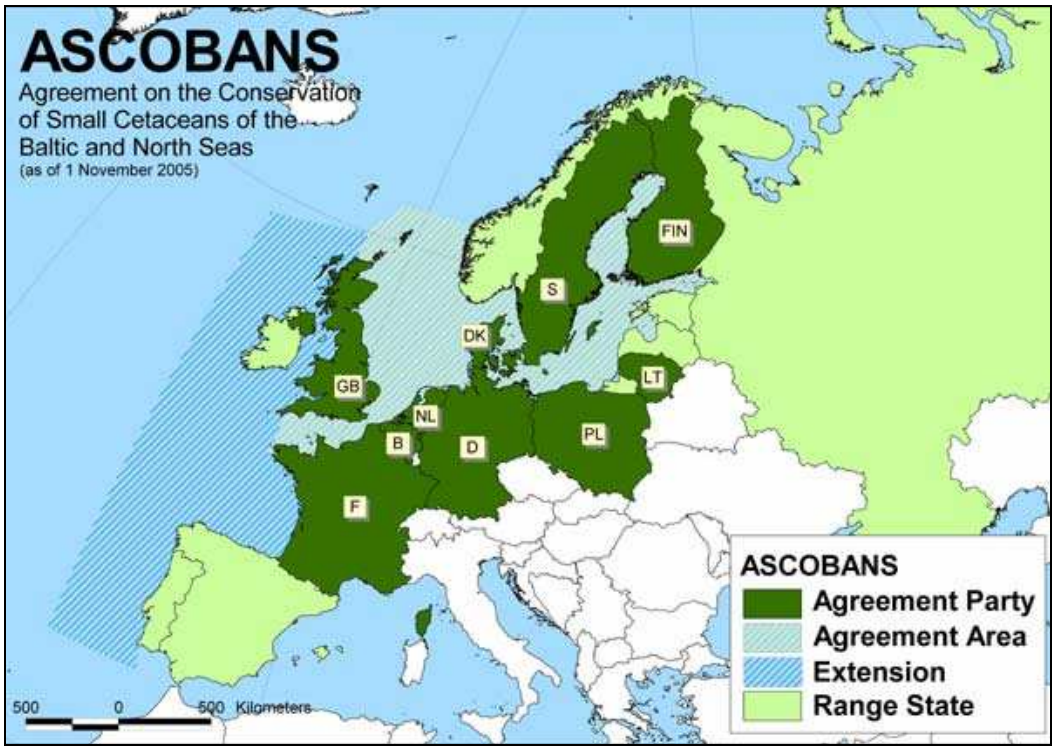
[5] The ASCOBANS Agreement was concluded in 1991 under the auspices of the Convention on Migratory Species and entered into force in 1994. As of 2007, its Parties include Belgium, Denmark, Finland, France, Germany, Lithuania, The Netherlands, Poland, Sweden and the UK.

[6] Resolution No.3 on the Incidental Take of Small Cetaceans, Third Meeting of Parties to ASCOBANS, Bristol, UK, 26-28 July 2000.

[7] The 2002 Bergen Declaration, available on the Norwegian Ministry of the Environment website: (www.regjeringen.no/upload/kilde/md/rap/2002/0002/ddd/pdfv/156076-engelsk.pdf)

HELCOM Ministerial Meeting in Bremen (see Chapter 2, section 2.3.3). Figure 6.2 gives a map of the ASCOBANS area and its parties and range states.

***Figure 6.2 ASCOBANS area***




*(From the ASCOBANS website, www.ascobans.org)*

In April 2004, Council Regulation (EC) No 812/2004[8] entered into force, addressing measures concerning incidental catches of cetaceans in fisheries. In particular, it calls for the use of 'pinger' deterrence mechanisms, observer schemes and a phased reduction in the use of driftnets. However, at the time of its release, this regulation was criticized by the Whale and Dolphin Conservation Society (WDCS) for the following exclusions: (i) gill netting vessels under 12

[8] Council Regulation (EC) No 812/2004 of 26 April 2004, laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98, OJ L 50, 30.4.2004, p.12. The use of pingers has subsequently also been included in (i) Commission Regulation (EC) No 356/2005 of 1 March 2005 laying down detailed rules for the marking and identification of passive fishing gear and beam trawls, OJ L 56, 2.3.2005, p.8; and (ii) Commission Regulation (EC) No 1805/2005 of 3 November 2005 amending Regulation 356/2005, OJ L 290, 4.11.2005, p.12.

meters in length are not required to use pingers, and (ii) vessels using pingers and also vessels less than 15 meters long are not required to carry observers.[9]

The use of pingers is a contentious issue with the fishing industry, who claim that they not only attract dolphins, but are also expensive, difficult to use and break easily or even explode, endangering their crews.[10] This issue is recognized not only by UK fishermen, but across the EC, as fishing industry representatives from several Member States approached the Commission in April 2006 to express their concern and desire that the regulations requiring pingers would be reconsidered or even revoked in the future.[11] Scientific studies of the effectiveness of pingers on reducing cetacean bycatch have shown mixed success, depending on the species.[12]

## 6.2 POLICY PROCESS

It is worth bearing in mind that while the run up to the policy process described below overlapped somewhat with the designation of the Darwin Mounds closure, the later phases (*i.e.* rejections of UK emergency closure requests by the Commission) occurred after the Darwin Mounds had been permanently closed to bottom-trawling.

### *6.2.1 Emergency closure attempt*

Prior to the release of the aforementioned EC Regulation 812/2004 on cetacean bycatch, the UK released a consultation paper[13] in 2003 outlining its strategy on the issue, which emphasized that the most effective method of bycatch reduction is closure of the offending fishery without displacing fishing effort elsewhere. It

[9] WDCS website, news page on cetacean bycatch issues: (www.wdcs.org/dan/publishing.nsf/allweb/E4C35E6A87FFF8CC80256E1B003F3678)

[10] 'Pingers put dolphins and fishermen at risk' article by Phil Lockley, 17 February 2006 in The Fishing News, available online (www.thefishingnews.co.uk).

[11] 'Brussels "summit" on pingers fiasco' article by Tim Oliver, 28 April 2006 in The Fishing News, available online (www.thefishingnews.co.uk).

[12] The Cetacean Bycatch Resource Center has summarized the results of several studies on its website, according to species, fishery and region. Available at: (www.cetaceanbycatch.org/pingers_effectiveness.cfm).

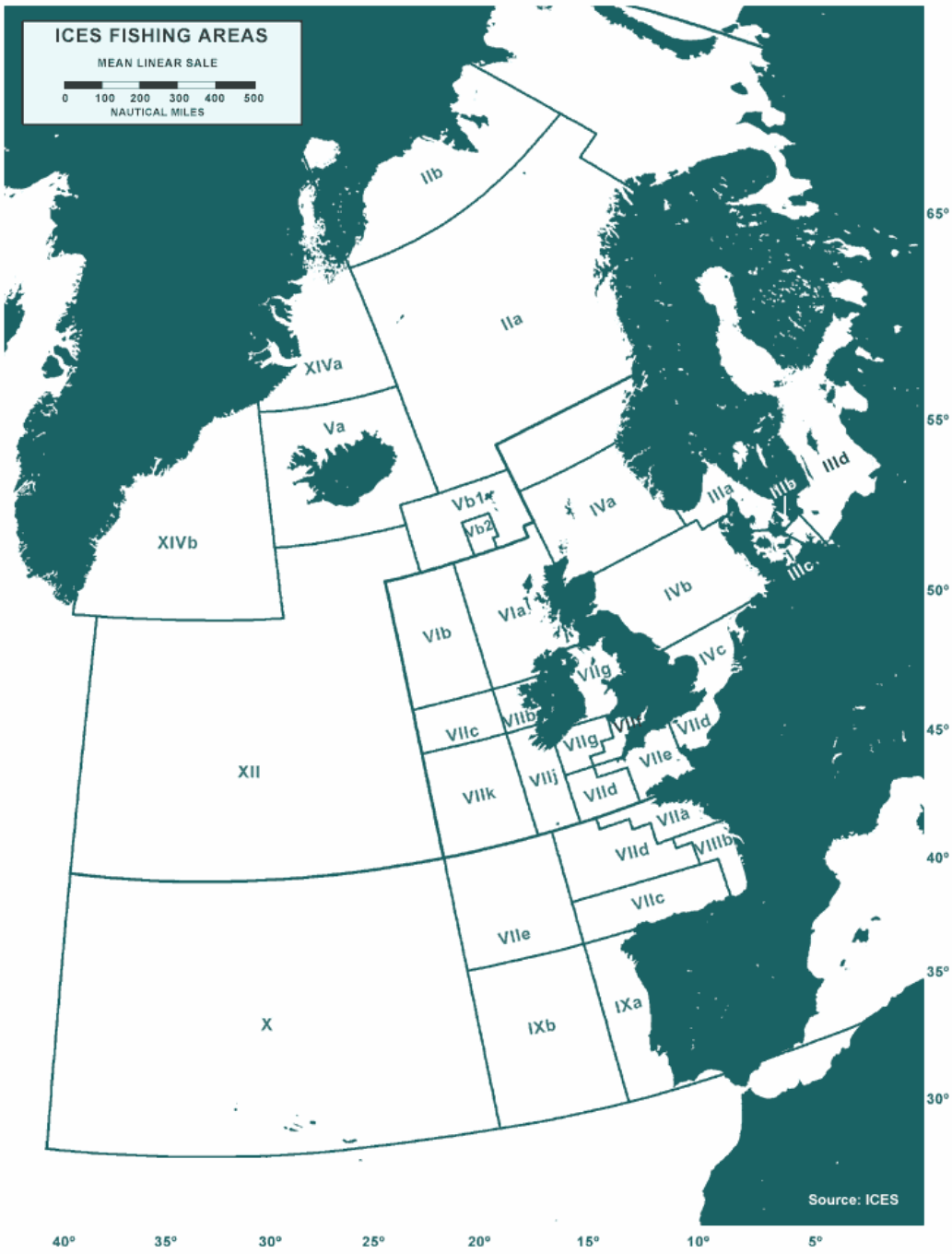
[13] UK Small Cetacean Bycatch Response Strategy (March 2003) A consultation paper outlining the proposed strategy by DEFRA, Scottish Executive, Welsh Assembly, Dept. Agriculture & Rural Development, Ireland to reduce the incidental capture of small cetaceans in UK fisheries.

was noted that if displacement did occur, the closure might not be of any use at all (Lowther, 2006). The consultation paper recommended that the UK adopt a small cetacean bycatch strategy, which would coordinate an effective range of measures, and that further research was needed (Lowther, 2006). In the summer of 2004, the UK Sea Mammal Research Unit (SMRU) was commissioned by DEFRA to provide observations of bycatch in the 2003/2004 pair-trawling season.[14] The results of this study showed a substantial bycatch of dolphins, exceeding the 1.7% limit set by ASCOBANS.[15]

In July 2004 DEFRA made a request to the European Commission to close the Western Channel pair trawl fishery throughout ICES Area VIIe (see Figure 6.3 for a map of ICES areas) under Article 7 of the CFP Basic Regulation, on emergency measures.[16] This request was rejected[17], as the Commission did not find that the legal requirements justifying an emergency procedure were fulfilled, *i.e.* a need for immediate action was not apparent as the request was made in the summer when the sea bass fishery is most active in winter months.[18] It was also not apparent, in the Commission's view, that the background information on bycatch accompanying the UK's request provided radically new evidence on the level of threat to the conservation of cetaceans by the fishery. Rather, the Commission suggested that a ban in ICES Area VIIe might result in a redistribution of fishing effort, either into other fisheries in the same area or into adjacent areas, without necessarily reducing the bycatch of cetaceans. It is also worth questioning whether, given the recent adoption of EC Regulation 812/2004, further agreed measures from the Commission level were unlikely to go through.

[14] Report to DEFRA on dolphin bycatch mitigation work in the bass pair trawl fishery, SMRU September 2004.
[15] The SMRU study observed 400 bycatches for the UK element of the fishery in the 2003-2004 season. On the assumption that the bycatch rate was the same in the larger French element of the fishery (and on the basis of population estimates between 75,000 and 120,000) it was estimated that bycatch of common dolphins could be 2% or higher.
[16] A copy of this letter is given in Appendix II.
[17] Commission decision of 24 August 2004 on the request presented by the United Kingdom pursuant to Article 7 of Regulation (EC) 2371/2002 – C(2004) 3229.
[18] A copy of the Commission's response can be found in Appendix III.

***Figure 6.3 ICES fishing areas***




*(From the Catch, Effort and Discard Monitoring, Sixth Framework Programme website: ceder.jrc.cec.eu.int)*

Monitoring highly mobile cetacean populations in the dynamic marine environment is an inherently uncertain exercise. Efforts to estimate abundance involve a variety of approaches depending upon the target species and the resources available (Evans and Hammond, 2004). In the case of the ASCOBANS area, a survey entitled SCANS (Small Cetacean Abundance in the North Sea and adjacent waters) was conducted under the Agreement in 1994, and provided the first robust estimates for cetacean abundance in the North Sea and adjacent waters (Hammond *et al.*, 2002). The second SCANS survey did not occur until 2005, and results of the analysis have only been released in 2006. As a result, population estimates and changes that may have arisen from the survey were not yet available when the UK approached the Commission on the pair-trawling issue.

Rather, the UK relied upon the aforementioned SMRU research, which was finalized and released in September 2004 and showed a three-fold increase in the numbers of stranded carcasses of common dolphins and harbour porpoises on beaches in South West England since the 1990s. This analysis indicated that the bycatch rate in the 2003-2004 season was 12 times higher than in 2001-2002 and more than twice the amount reported for 2000-2001. Overall, between 2001-2003, the SMRU reported that a higher proportion of cetacean bycatch occurred between 6-12nm than 12-18nm or 18-24nm from shore. They also observed a shift in bycatch occurrence toward inshore waters for the 2003-2004 season: whereas in previous years bycatch rates had been highest in waters 24-30nm from shore, for 2003-2004, bycatches were seen much more frequently between 12-18nm. However, the SMRU was unable to say with any certainty whether the high rate and geographical shift of bycatch during the 2003-2004 was an anomaly or would be repeated. In other words, the high amount of bycatch may have been an artefact of the survey effort itself (*i.e.* if you look for something, you will find it). Interestingly, a member of the regulatory community involved in the policy process commented on the SMRU data, that *"it's quite clear that the pair trawling in the Channel doesn't reach the [1.7%] threshold [set by ASCOBANS]. [...] And you can manipulate and massage the data in a way that you can just cross the threshold if you want to"* [RC-08].

### *6.2.2 Unilateral Order and second emergency closure attempt*

In September 2004, Ben Bradshaw (then Minister for Nature Conservation and Fisheries) announced that measures were being drawn up to address cetacean bycatch caused by pair-trawling fisheries in the South West of England, including a ban on pair-trawling for sea bass within the 12nm territorial sea, and the introduction of a licensing system for UK vessels operating within 12-200nm.

The UK subsequently established a unilateral Order[19] under domestic legislation on 22 December 2004, prohibiting British fishing vessels from pair-trawling both within UK territorial waters (*i.e.* within 12nm of the coast) and anywhere else they operate, *i.e.* in EC waters. In January 2005, the UK approached the Commission again[20], requesting an emergency closure under Article 9 of the Basic Regulation on measures within 12nm, to prohibit other Member States from pair-trawling within UK territorial waters, but this request was also rejected.[21] The Commission's decision built on its previous rejection, adding that no new scientific information had been made available that could justify a change in their analysis. While the UK proposals had relied on data from the SMRU, the Commission looked to ICES for advice,[22] which concluded that (i) other fisheries were also responsible for bycatches, and (ii) that a prohibition on pair-trawling in UK territorial waters would result in displacement of fishing effort into adjacent areas without necessarily reducing incidental bycatches of dolphins.

As a result, while UK fishermen are prohibited from using pair trawling methods in UK and EC waters, this ban has no effect on other Member States, including

[19] The South-west Territorial Waters (Prohibition of Pair Trawling) Order 2004 under the Sea Fish (Conservation) Act (1967). Statutory Instrument 2004 #3397, available online: (www.opsi.gov.uk/si/si2004/20043397.htm).
[20] A copy of the UK request is given in Appendix IV.
[21] Commission Decision of 26 February 2005 on the request presented by the United Kingdom pursuant to Article 9 of Council Regulation (EC) No 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, OJ L 104, 23.4.2005, p.37.
[22] ICES Reports of the Advisory Committee on Ecosystems (ACE) 2002 and 2003.

those that participate in pair-trawling within UK territorial waters. Table 6.1 outlines the events leading to the unilateral ban on pair-trawling for UK vessels.

**Table 6.1 Timeline of UK ban on pair-trawling for sea-bass**

| DATE | ACTION |
|---|---|
| 2003 MAR | UK published a consultation paper outlining its strategy to reduce small cetacean bycatch in UK fisheries |
| 2004 APRIL | EC Regulation 812/2004 on small cetacean bycatch in force |
| 2004 JULY | UK approached Commission requesting emergency measures under Article 7 of Regulation 2371/2002 to close fishery in the Western Channel (ICES area VIIe) |
| 2004 AUG | Commission decision to reject request |
| 2004 SEPT | Fisheries Minister Ben Bradshaw announced intention to ban fishery unilaterally |
| 2004 DEC | UK Order closing the fishery within 12nm of English Coast for UK fishermen (whether in UK or EC waters) |
| 2005 JAN | UK approached Commission requesting extension of domestic ban to vessels of other Member states, under Article 9 of Regulation 2371/2002 |
| 2005 FEB | Commission decision to reject request |
| 2005 OCT 10 | Rejection of Greenpeace-initiated judicial review by the High Court of Justice, Queen's Bench Division |
| 2005 OCT 31 | Rejection of Greenpeace- initiated appeal by the Supreme Court of Judicature in the Court of Appeal (civil division) |

*(From De Santo and Jones, 2007:8)*

### *6.2.3 Greenpeace judicial review and appeal*

After the UK Order came into effect, Greenpeace pursued a judicial review to overturn the closure, arguing that it would not only be ineffective but also have a negative effect, displacing fishing effort beyond 12nm from shore and consequently increasing cetacean bycatch. However Greenpeace's efforts were unsuccessful and their claim was dismissed by the High Court.[23] In the proceedings of the judgment, Greenpeace argued that the motive for the Order was improperly 'political', designed to give a 'false impression' that the Government was taking action to save dolphins. Justice Stanley Bunton, who presided over the judgment, dismissed this argument by pointing out that the Order was only 'political' in that it would assist the UK in pressing for EC

[23] Case C0/865/2005, *Greenpeace Ltd. v the Secretary of State for the Environment, Food and Rural Affairs*, 10 October 2005, High Court of Justice, Queen's Bench Division.

action, which, 'given the restrictions on unilateral action imposed by the CFP, is the only really effective action that can be taken' (paragraph 66). Given the data provided by the SMRU showed a higher bycatch rate within the 12nm zone from 2001-2003, Justice Bunton concluded that there would be an increase in bycatch as a result of the Order only if vessels moved their fishing beyond 24nm. Indeed, from Justice Bunton's perspective, there was 'no real difference between the motivation of Greenpeace and DEFRA', rather 'the dispute between them is as to mean rather than ends' (paragraph 3). The judgment also noted that the number of UK vessels operating in the pair-trawl fishery operating outside of 12nm had decreased from seven in 2003-2004 to two in 2004-2005, and at the time of the appeal, preliminary results indicated that the bycatch rate in the latest season (2004-2005) was half that of the previous season and common dolphin strandings had decreased from 93 in the first quarter of 2004 to 43 in the first quarter of 2005 (paragraph 60). Greenpeace subsequently attempted to appeal[24] the judgment but it was dismissed.

### 6.3 Implications for Future Management Scenarios

There are several reasons why the pair-trawl ban did not meet the same positive response afforded the Darwin Mounds closure by the Commission. A member of the regulatory community involved in the attempted pair-trawl ban summarized its failure to be a result of two factors, *"no support in Council"* and:

> *"I think the Darwin Mounds thing was on the stocks for quite a while before it happened, the bass pair trawl ban I think we seemed to be pressurized into a bit more by concerns from environmentalists so we weren't really ever in control of that process in the same way"* [RC-05].

With the sea-bass fishery in the English Channel, not only is it very much dominated by French fishermen, who maintain a powerful lobby, but also the accepted scientific advice available argued that the ban would be an arbitrary measure, and unlikely to achieve the desired goal of reducing cetacean bycatch.

[24] Case C1/2005/2282, *Greenpeace Ltd. v Secretary of State for the Environment, Food and Rural Affairs*, 31 October 2005, in the Supreme Court of Judicature, in the Court of Appeal (Civil Division).

As mentioned above, the ICES advice relied upon by the Commission indicated that other fisheries in the area also resulted in bycatch and that there was a need for comprehensive monitoring of the numerous trawl fisheries active in the region before ICES could be precise about mitigation requirements.

In addition, the second attempt at a ban was targeted at fishing occurring within the UK's territorial waters, *i.e.* 12nm from shore, but it can be argued that with the fishery operating outside this boundary as well, cetaceans would still be at risk of being caught and drowned in pair-trawl nets. At the same time however, the UK government pursued a ban within 12nm presumably because it knew it would not be politically feasible to extend a ban throughout the English Channel, given the failure of its first attempt under Article 7 of the Basic Regulation. As a result, when faced with the second Commission rejection, the UK was left with maintaining its unilateral stance, prohibiting pair-trawling only for its own fishermen. A member of the regulatory community involved in the policy process summarized the outcome of a unilateral pair-trawl ban as *"meaningless, really"* given the proportion of UK trawlers versus French boats operating in the area, *i.e.*: *"unless you do something against the French who are the vast – by far the biggest, I mean when they claim they're 95% of the fishery, they might be right"* [RC-08].

When asked about why the ban did not go forward, this interviewee commented that *"there was never any hope for it [to succeed], not really"* and that:

> *"It was political cover. It just wasn't going to happen. And actually why should it? There's legislation about – I mean it's fair enough – if you want no catches of dolphins at all then it should have worked but you've got an international agreement that says 'up to' I think it's 3% of the population, 3.4%, something like that, that's not called a legitimate bycatch but an acceptable rate"* [RC-08].

As mentioned earlier, the ASCOBANS resolution on cetacean bycatch called for a reduction to 1.7% of the population. As this resolution noted that even 2% was defined as 'unacceptable', it is interesting to note that a member of the regulatory community who had been involved in the pair-trawl ban policy process did not

recall this fact correctly during the interview. It goes without saying that a unilateral ban is in contrast to the level playing field sought by UK fishermen in the context of European fisheries management. This interviewee also argued that only banning UK fishermen from the area worked against the development of potential research on preventing bycatch as:

> *"If you wanted any evidence or trialing [on] what to do for cetacean escapes, these were the only boats engaged in it, so by prohibiting their activity you were effectively just leaving it to the French, who weren't doing anything"* [RC-08].

It also acts against UK fishing interests on the European level, as:

> *"There's a long-term fisheries downside to that, which is it's not a regulated stock and if it ever does come to be regulated and allocated between different member states, then your track record of catches will count. So by restricting ourselves now, we are taking a lower share in the future"* [RC-08].

It can be argued that the Commission's decision to reject the UK's request for an emergency closure hinged on the definition of 'irreversible damage' as outlined in the emergency measures Articles of the Basic Regulation, and defining this state for a stationary, slow-growing coral reef is easier than defining it for mobile populations such as cetaceans. Another interviewee from the regulatory community summarized this issue well, when they commented that:

> *"For the Darwin Mounds, it's clear that once you take a trawl through, you've irreversibly damaged it. For dolphins, yes you're damaging them but it's not necessarily irreversible. Particularly if you're doing something and trying to develop mitigation at the same time"* [RC-09].

One of the key issues that emerged during interviews with members of the scientific and regulatory communities was the role of science in policy-formation, particularly with respect to the success of the Darwin Mounds closure and the failed attempt to ban pair-trawling for sea bass. The theoretical framework set out in Chapter 3 emphasized the positive role played by science in setting the agenda and hence on overall environmental regime effectiveness, but

this issue is worth exploring further, and within the context of precaution and the complexity of the marine environment.

### *6.3.1 'Whose science?' Improving the science/policy interface*

The Darwin Mounds closure and the pair-trawl ban highlight some interesting interpretations of 'precaution', given it is one of the stated goals of the CFP Basic Regulation. If a precautionary approach can be deemed as implying that nature conservation should be pursued in the face of scientific uncertainty, a flaw can be seen in the emergency measures provisions of the Basic Regulation, which require a degree of certainty, *i.e.* that 'evidence of a serious threat' must already exist. The difficulty of determining what degree of damage or threat is required to have occurred before action can be taken remains an issue. In the sea bass pair-trawl ban example, the Commission's rejection of the UK's proposal for a closure under Article 7 of the Basic Regulation was justified on the basis of lack of evidence as required under the Article, but this requirement is arguably inconsistent with the interpretations of the precautionary principle discussed earlier (see Chapter 3) and now incorporated into the EU Treaty. As a member of the epistemic community commented:

> *"Well if you require damage before you start to introduce conservation measures, it's a big concern. You should be able to find out if you have a habitat that needs protection, then you go out and do it based on the habitat criteria, you don't need to have anything to do with damage. It's just totally absurd"* [EC-06].

While this perspective can be viewed as a conservation scientist's idealism, interestingly a member of the oil and gas industry spoke along similar lines with regard to the use of the precautionary principle in environmental decision-making:

> *"One of the things that [the failed pair-trawl ban] emphasized to me was how unable to control fisheries individual member states are. Because there's the science angle of it and then the political angle of quotas etc., and there isn't a strong conservation ethic in many of the Member States or even necessarily a recognition of the issues. So when it comes to debating fishing access or closures or whatever it is, I think the precautionary principle [...] is very low*

> *on the priority ranking in decisions, which I think is a great shame [...] We set a lot of store by it but we don't actually apply it. We talk a lot about sustainability but certainly in terms of deep water fisheries our activities are clearly unsustainable and therefore why on earth are we doing it? Are we – and Europe – are we that short of protein that we have to go damaging resources?"* [UCI-02].

Another member of the epistemic community made an interesting comment regarding perceptions of precaution and the differences between scientific and regulatory definitions of uncertainty:

> *"The phrase 'we have no evidence' means different things to a scientist and a politician: to a scientist it means we've examined a lot and concluded there's no significant effect. The political translation is they haven't looked yet, or at all"* [EC-04].

A member of the regulatory community expressed the concern shared by many in the policy arena, *i.e.* whether to push forward with protecting areas *"just because we're not sure if there are corals [there] or not? I think this is not proportional"* whereas some areas *"are more representative"* than others, and should be prioritized [RC-01]. During the interview process, the issue of prioritizing and protecting 'pristine' areas came up frequently. According to another interviewee from the regulatory community, a conscious decision has been made by the UK in its site selection process for offshore SACs, that rather than going for the *"best"* sites, they would go for *"representative, and that's a big shift [in approach]"* [RC-10]. This interviewee went on to say that in situations where two areas of habitat (of the same type) are being considered for designation, and there is good information about one but not the other, the site with the better information will be prioritized while the second is *"put to one side for a while [...] because otherwise you wouldn't get anywhere"* [RC-10].

A member of the epistemic community commented on the precautionary approach as being two-fold, from the perspective of a researcher interacting with policy-makers. First, for practicality's sake, the science needs to be strong and obvious, *"we can only do things where there's strong evidence"* [EC-14]. And second, the question of whether we are only looking for sites that have been

damaged, *"we shouldn't be protecting sites that are damaged, we should be protecting pristine sites that are vulnerable, so we want evidence of good areas that are in good vitality"* [EC-14]. This raises another issue, however, if a site is pristine and hasn't been damaged, why not? Is the area inaccessible and consequently not in need of protection? It can be argued that policy-makers are taking a precautionary approach by pursuing protection for 'representative' areas, but at the same time the necessity to have good information about a site before it can be protected is somewhat contrary to the philosophy of a truly precautionary approach. This conflict is due to the complex physical nature of marine ecosystems and the inherent difficulty this presents for determining appropriate conservation measures. A member of the epistemic community summarized this rationale well when they remarked that *"in areas where fishing is going on, you have to find the corals first before you can implement the precautionary principle. The burden of proof still lies with the environment"* [EC-05].

Some interviewees from the epistemic community expressed apprehension about the way science is being used in the political arena. As one scientist put it:

> *"I think the science has been usurped completely. In the old days we used to argue with Greenpeace about issues but now Greenpeace goes directly to legislation. [...] Science has a relatively small role in this. It's public opinion-making rather than science"* [EC-06].

At the same time, a perception exists in the NGO community that the number of scientists *"willing to engage"* in communicating their findings to policy-makers in a form easily digested and applicable to the policy arena is limited, and therefore *"maybe [NGO] science isn't as broad-based as it should be"* [NGO-07]. NGO representatives also raised concern about the objectivity of science funded by industry, and data collection (*i.e.* monitoring) that occurs on fishing vessels where *"major intimidation and bribes"* [NGO-07] are a factor.

Interviewees from industry also commented negatively about the role played by NGOs. A representative from the fishing industry commented on the lack of

accountability that they saw in the NGO perspective, adding that the fishing industry doesn't get much of *"a positive reflection"* [UCF-01] from Greenpeace and the Marine Conservation Society. An interviewee from the oil and gas community also felt victimized in the public eye, explaining:

> *"Greenpeace or pressure groups who are trying to make life difficult, [we] have to explain to them that the production of oil and gas isn't necessarily the great Satan and it can be done in an environmentally sound manner and yes we are building renewable offshore wind farms at the same time. A lot of it is about communication"* [UCI-03].

The question remains, whose science counts? This is an issue related not only to the role of political pressure and lobbying, but also one of trust between users, experts and policy-makers. One of the aims of this thesis was to elucidate the perspectives of these groups on one another's roles in marine governance. In addition to the RACs described earlier (see Chapter 3, section 3.4.1), fisheries-science partnerships have been established in recent years within the UK. Representatives from the NGO community were somewhat optimistic about the potential for improving fisheries management through consultation processes:

> *"The UK [scientists] sit down with fishermen on a regular basis, and that's taken a lot of the sting out of ICES being seen as a closed shop where they're not listening to the wider views of the fishing stakeholder sector"* [NGO-04].

Representatives from the fishing industry had mixed reactions about their interaction with scientific experts. While one emphasized that *"the consultation process [with regard to establishing protected areas] is more effective nowadays [...] because we're working a lot closer with the scientific community and parts of the government"* [UCF-01], another felt that the fishing industry *"needs more information, there needs to be a greater tie-in"* to the policy process [UCF-02]. This interviewee summarized the difficulty with applying a precautionary approach and integrating science into policy-making quite well, as follows:

> *"In any other industry you would think that there would be a pretty simple structure for coming to a decision and there would be a process you would go through, evidence-based, and the decision*

> *would be made. Everything to do with fisheries is so politically motivated that the scientific evidence is given, the socioeconomic evidence is given and then the decision the Commission makes can be a million miles away because the French put pressure on, the Spanish put pressure on, the UK's put pressure on, whatever. You're asking people to give their expert advice and then you're ignoring that advice and the Commission are making their own decision on it, which doesn't fit with the advice that they've been given, because of political maneuvering. And that can't be good for the resource they're supposed to be there to protect"* [UCF-02].

Taking a precautionary approach to offshore marine conservation poses serious challenges, given the complex nature of the marine environment and the political motivations behind the use of science in decision-making. As a member of the legal community noted, there has been some improvement in the integration of precaution in fisheries management since the mid 1990s, albeit *"incremental and not generally very applied"* [LC-03].

In the case of the Darwin Mounds, the ICES science brought to the Commission played a pivotal role, and was considered to be both strong and impartial evidence. This evidence falls within what Haas (2004:574) would term 'usable knowledge', *i.e.* accurate information that is of use to politicians and policy makers. Such knowledge must also be seen as representing consensus and contributing to the achievement of collective goals. Perhaps even more important than the quality of the science itself, however, is the process through which the knowledge is transformed into decision-making. As Skodvin and Underdal (2000:31) argue, the critical challenge for this transformation process is to provide an 'enlightened, consensual and user-relevant interpretation' of the policy implications of environmental science, without distorting the science itself or impairing the scientific process that produced it.

In 2004, ICES was reorganized with the ecosystem approach in mind: *"instead of structuring along disciplines"* ICES is now divided into science groups and advisory groups with the advice being *"pooled into one group under one head"* [EC-10]. A member of the NGO community commented positively about

ICES's incorporation of the ecosystem approach in its recent structural reorganization:

> *"ICES has made a concerted effort to try and restructure itself to take on board an ecosystem-based approach with the way it's reconfigured its committee structure, and you just don't see any of that kind of fertile thinking at DG Fisheries"* [NGO-04].

ICES is limited in its advisory role by two factors: uncertainty regarding the state of fish stocks as well as *"pure political pressure, lobbying"* [EC-10]. In addition, a member of the epistemic community raised concern over the impartiality of ICES science, as, in their opinion, *"the EU has been struggling with ICES for years, it's been kind of trying to take over ICES"* [EC-06].

The information provided for the Darwin Mounds closure was comprehensive and unquestionable, but also required several years worth of material. As a member of the regulatory community involved in the policy process described it:

> *"We had evidence, there was no hesitation there. For that year and for the year before and probably two years before, ICES was giving repeated advice that the main threat to deep water corals or sponges was trawling, so there was no doubt to apply the precautionary approach"* [RC-01].

Another member of the regulatory community who had been involved in the Darwin Mounds negotiations *"found it odd that something where the ICES advice had seemed so clear – that we could end up having [...] quite a lengthy debate"* [RC-03]. Despite the irrefutable evidence of damage to the Darwin Mounds observed in 2000, three years elapsed before the area was protected from bottom-trawling. An interviewee from the NGO community put this down to the fact that ICES science *"is very slow"* and *"you have to have everything absolutely beyond a doubt proven before that triggers anything in DG Fish"* [NGO-03]. At the same time, however, the emergency closure Articles of the revised CFP did not come out until 2002, only a year before the area was closed. As described in Chapter 5, the Darwin Mounds designation process was relatively quick, but also measured and step-wise, *i.e.* precautionary.

As discussed earlier (see section 5.2.1 above), the science used by the UK for its proposals to the Commission to ban pair-trawling came from the SMRU. The Commission, meanwhile, went to ICES for advice, which stated that a ban on pair-trawling in UK territorial would not achieve its objective of halting cetacean bycatch. As a member of the regulatory community commented:

> *"At the UK level, [decision-makers] will obviously listen to their internal science advisors be it [the JNCC] or SMRU. At the European level, quite rightly the Commission wanted more international consensus, so that's the ICES mechanism. And since [the JNCC feeds] into the ICES mechanism, assuming we've got it approximately right, there's usually very little difference"* [RC-09].

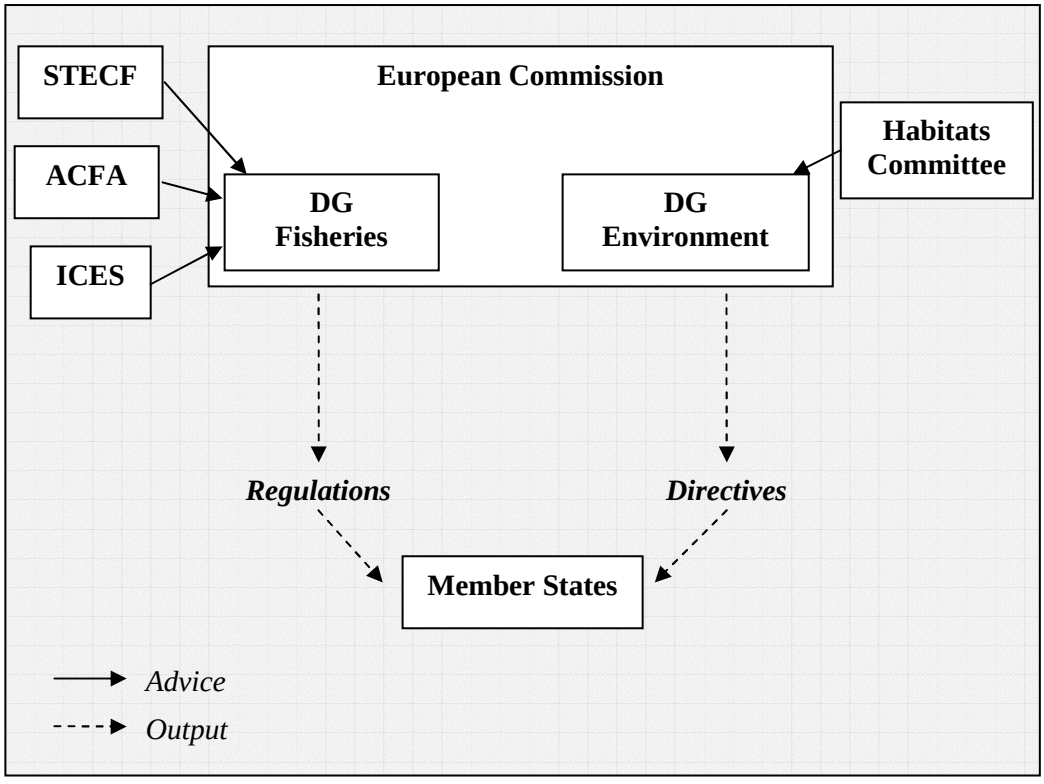
Thus it can be argued that by favoring ICES advice over that of the SMRU, the Commission was aiming for 'international consensus' rather than allowing a Member State to call for a conservation measure based solely on its own national scientific data, which might be less objective. However, it seems more likely that the economic and political impact of shutting down a fishery largely dominated by French industry at the request of the UK, which had a minor stake in the fishery, played a greater role.

International tensions aside, a key issue underlining the challenges to implementing a precautionary and ecosystem-based approach in the marine environment is the lack of integration between nature conservation and fisheries management measures. This bifurcation occurs on both the international level (*e.g.* with OSPAR not including fishing issues, and NEAFC's actions towards nature conservation being compromised by its members' fishing interests) and also within the European Commission.

### *6.3.2 Disconnect within the Commission*

The origins of the bifurcation between fisheries management and nature conservation are described in more detail in Chapter 2 (section 2.4.3), whereby the European Commission gained legislative jurisdiction over fisheries measures while Member States retain nature conservation within their remit. Figure 6.4 (a simplification of Figure 2.7 in Chapter 2) illustrates this split, with DG Fisheries, working on the advice of ICES, the Advisory Committee on Fisheries and Aquaculture (ACFA) and the Scientific, Technical and Economic Committee for Fisheries (STECF) produces Regulations that Member States must abide by, while DG Environment, with the advice of Habitats Committees (in the case of nature conservation issues), produces Directives which Member States must implement via national legislation (*i.e.* 'direct effect').

***Figure 6.4 Disconnect within the European Commission***




It is worth noting that the developing European Maritime Policy is being headed by DG Fisheries while the Marine Strategy Directive has come out from DG Environment. In October 2006, at a Coastal Futures workshop on the Maritime

Policy Green Paper, a representative from the European Commission discussed its development.[25] I spoke with this representative after the meeting and when I asked the reason for why DG Fisheries was heading the Maritime Policy, as opposed to DG Environment, she replied that (DG Fisheries) Commissioner Borg's portfolio was "*smaller than that of other possible Commission leaders, such as Environment and Transport"*. When pressed, she also added that the decision was "*political*", *i.e.* going back to the tension and territoriality between the DGs. As the Maritime Policy will involve industry sectors such as shipping and transport, it is not surprising that DG Fisheries would position itself to be the lead authority on policy affecting industrial stakeholders. When I asked a member of the epistemic community who had been present at the Coastal Futures meeting about their opinion on the issue of DG Fisheries leading the developing Maritime Policy rather than DG Environment, they commented:

> *"After the experience of the CFP do you really want Europe in charge? Eurocrats are inefficient and the CFP is not a ringing endorsement of Europe when it comes to management"* [EC-04].

While an inside Commission perspective described cooperation between the DGs as "*generally good"* and went on to say that *"we have more in common, the draft Marine Strategy, the [...] future Maritime Policy, so they need us and we need them"* [RC-01], all other relevant stakeholders interviewed disagreed, including members of the epistemic community, the UK regulatory community, NGO representatives and industry. Consultation does occur between the DGs, however there is no formal process for communication. Several interviewees offered anecdotes to illustrate the disconnect between DG Fisheries and DG Environment, either from their own personal experience or from what they had seen occur (or not) during the course of their career. As one NGO representative put it:

[25] "Towards a Future Maritime Policy for the Union: A European Vision for the Oceans and Seas", presentation given by Nathalie Hesketh, Maritime Policy Task Force, European Commission on 12 October 2006 at the Costal Futures Conference "Towards a European Maritime Policy", School for Oriental and Asian Studies (SOAS), University of London, London, UK.

> *"I have to say that in the time that I've been doing this job, and that's getting on 15 years now, I haven't seen any improvement in the engagement between DG Environment and DG Fisheries"* [NGO-04].

Another representative from the NGO community commented on the ingrained role played by this bifurcation within the EC in the pair-trawl ban:

> *"ICES is going to DG Fish, it's not going to the EU or the Council, it's just going to DG Fish and that triggers DG Fish to action if the evidence is sufficient. And the Member States don't go to the Council, they go to DG Environment, so it's a parallel situation. And what's not there is any communication between these two. And I think my idea would be that DG Fish should absolutely listen to ICES but they must also listen to their colleagues when their colleagues say for us nature conservation, it's our Habitats Directive. When the red light is on you need to react, and that just doesn't exist at all. So these guys talk to each other but still Fish have one constituency and one scientific body and Nature has another"* [NGO-03].

A representative from the fishing industry commented that not only do *"[DG Fish and DG Environment] barely speak to each other"* but also *"they seem to be fiercely territorial about what they cover respectively and unwilling to work with the other, in case they're giving a little bit of their turf to the other group"* [UCF-02]. As a representative from the UK government put it *"the link between CFP and the HD, the interaction between those two, there are still issues surrounding that which we haven't fully resolved with the Commission"* [RC-03]. This *"lack of a coordinated approach in the Commission"* [RC-03] between the DGs was noted by most interviewees, however the NGO community expressed the strongest concerns about this disconnect, for example:

> *"If you ask DG Fisheries about things to do with the Habitats Directive, they just tell you to go speak with DG Environment about it quite a lot of the time, whereas you should be able to get a joined up answer from either end really. So it is a real concern and I don't really think that we're going to move much further forward until we get out of this sort of structure we have at the moment – there is a real… crying out for some proper institutional sort of harmonization"* [NGO-04].

Members of the NGO community also commented that the blame should be put on DG Fisheries for this situation, *i.e. "the impetus should be coming from them because DG Environment is quite a small DG and it doesn't have the resources to lead on these sorts of things"* [NGO-04]. As a member of the epistemic community put it, *"DG Environment is doing the bare minimum on the Habitats Directive – they just don't have enough resources"* [EC-04]. It appears that there is a *"completely clear but unwritten hierarchy"* [NGO-07] whereby DG Fisheries not only perceives itself as being stronger than DG Environment, but is generally perceived by others to be higher up in the hierarchy than DG Environment, which is likely seen as *"among the lowest in ranking"* of all the DGs [NGO-07]. This may seem obvious, given the economic importance of fisheries as compared with environmental and conservation issues; however it was interesting that several interviewees commented on the inequality and lack of legal basis for it. As one interviewee commented, DG Fisheries is *"reluctant to engage or let DG Environment interfere in their sphere of competence"* [NGO-04] although it recently renamed itself as the Directorate General for Fisheries and Maritime Affairs, a classification that several interviewees commented sounded more environmental, although this was likely not the case.

At the same time however, devising a strategy for alleviating this discrepancy is problematic, or as one member of the regulatory community put it: *"this impossible job of linking the two Directorates"* [RC-08]. Clearly this issue will need to be addressed, given the forthcoming Maritime Policy and Marine Strategy Directive; any synergy between the two initiatives, which seems necessary for their success, will rely on direct communication between the DGs. The wider issue of a split between fisheries management and nature conservation in the EC will not be resolved without a stronger dialogue between the DGs and focused efforts to integrate the developing Maritime Policy and Marine Strategy Directive. A member of the regulatory community commented that compromises will need to be made, and territory conceded, as:

> *"I think either DG Environment's going to have to come out and say 'we have no competence to legislate in fisheries' or DG Fish is going to need to come out and say 'DG Environment can legislate*

> *for fisheries in respect to environmental matters' – if either of those statements happens then no court case will happen but otherwise I think a court case is almost certain to happen at some point"* [RC-05].

Given the bifurcation between marine nature conservation and fisheries management in the EC, the outcome of the pair-trawl ban supports the argument that the tension between the DGs inherently threatens the successful implementation of an ecosystem-approach in European waters.

## CONCLUSION

When compaired with the Darwin Mounds closure, the UK's attempts to gain Commission approval to ban pair-trawling for sea-bass in its territorial waters do not bode well for the future of European marine nature conservation. While the political situations surrounding these two cases were rather different, and this may be the primary reason for the difference in outcomes, at the same time one can not help but wonder whether the success of the Darwin Mounds measure was itself an impediment for future marine protection through the revised CFP Basic Regulation. In other words, the Darwin Mounds closure may have simply been a relatively straightforward way to show that the revised CFP was 'greener'. Compared with the pair-trawl industry, deep-sea fishing around the Darwin Mounds involved fewer fishermen, and as several interviewees (from the epistemic and NGO communities) acknowledged, fishing over coral reefs destroys nets and does not compensate a fisherman's economic loss of having his gear ruined.

> *"Fishermen don't like trawling coral because it destroys their nets. Sensible fishermen wouldn't try to go for any coral areas – they might try to get close to them but they're very cautious about it because of the damage to their nets"* [EC-14].

As outlined earlier, the revised CFP commits its EC membership to implementing precautionary and ecosystem-based approaches to fisheries management (Article 2.1). It could be argued that the evidence required for a closure to be established was present in the dolphin strandings that clearly

resulted from the fishery. Yet the Commission argued that there was less evidence for a closure, in comparison with the case put forward to the Commission for the Darwin Mounds. As a member of the UK regulatory community involved in the pair-trawl ban policy process noted, the EC bycatch regulation had only taken effect at the beginning of 2004 and *"there really just wasn't the data on the French [fishery] bycatch"* [RC-03] that could have changed the outcome. Whether the EC decision-making process could have closed the fishery is another issue however, given the powerful lobbying potential of the French fishing industry, and the fact that the bycatch evidence put forward by the UK was called into question by the independent advice provided to the Commission by ICES. A member of the NGO community spoke pessimistically about moving forward from the Darwin Mounds in the future, as:

> *"I think it's going to be a very very long, slow burn to get beyond things like the Darwin Mounds – vitally important as they are, it's a one-off, and what we're not seeing is the kind of mainstream thinking that would enable that to happen more widely.* […] *So you can imagine, you think hell – are we going to have to go through the Darwin Mounds on every offshore Natura 2000 site in Community waters? It's an alarming prospect, and you just don't feel that it's going to be easy"* [NGO-04].

The Darwin Mounds closure required compromise and step-wise, careful diplomacy: repeating this process for every closure under the CFP emergency closure provisions is not a practical solution. In the case of the UK, now that its legislation for implementing the Habitats Directive is soon coming into force (the Conservation (Natural Habitats etc.) Regulations), it should be easier to close areas within the UK's 200nm EFZ. Yet within European waters (*i.e.* 12-200nm), this issue remains contentious: some countries are certainly ahead of others with respect to prioritizing offshore SACs. In the case of something like pair-trawling for sea-bass, where fishing interests came directly into conflict with a nature conservation issue, the revised CFP clearly favors economic interests through its requirement of firm evidence, despite its espousal of a precautionary approach to environmental protection. Consequently, it is to the Member States' benefit to enforce their national legislation for implementing the Habitats Directive throughout their offshore and inshore waters.

As mentioned earlier, a recent ECJ ruling (Case C-06/04) can be interpreted as requiring all Member States to apply the Directive offshore. Whether applying the Habitats Directive fully is enough to overcome the underlying tension between fisheries management and marine nature conservation within EC waters remains to be seen. Fully applying the Directive from 12-200nm will require more cooperation between the two DGs, but this may not be enough to address the underlying tension. In fact, this bifurcation is likely to continue to pose problems, given the fact that the unifying legislation for European marine policy is also split along these lines, with the Marine Strategy Directive under the control of DG Environment, while the EC Maritime Policy is being headed by DG Fisheries.

The next chapter goes into more detail on European marine legislation currently under development and whether/how these initiatives will (in conjunction with the legislative framework already in place) move towards the goal of implementing an ecosystem-based approach to marine nature conservation.

# 7

# DISCUSSION AND REFLECTIONS

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*"When you have the facts on your side, argue the facts. When you have the law on your side, argue the law. When you have neither, holler" (Al Gore)*

*"The marine environment can't vote"* [RC-04]

## OVERVIEW

Building on the experiences of the Darwin Mounds offshore MPA and the ban on pair-trawling for sea bass, this chapter further explores issues raised by the different policy outcomes of the two case studies, namely how the complex institutional environment currently evolving will achieve its goal of implementing an ecosystem-based approach to offshore marine conservation. First, an assessment of the regime effectiveness theoretical framework set out in Chapter 3 is explored in light of the outcomes of the two case studies, highlighting some limitations of applying theoretical constructs to developing regimes given political realities and constraints.

## 7.1 INSTITUTIONAL INTERACTION IN THE NORTH-EAST ATLANTIC

### *7.1.1 Potential effectiveness of an offshore MPA regime*

As discussed in Chapter 3 (section 3.1.1) many regimes show characteristics of multiple processes of regime generation. This is the case for offshore MPAs: the regime for offshore marine conservation did not develop spontaneously, it evolved through the modification of existing legislation with the addition of new rules and regulations. While the legislation involved has been 'imposed', the 'negotiation' process surrounding the Darwin Mounds closure played a pivotal role in its establishment. At the same time however, efforts at negotiation were not sufficient to ensure success for a ban on pair-trawling for sea bass in the English Channel.

In examining the developing regime for offshore MPAs in the North-East Atlantic, it is quickly evident that it has the potential to perform with 'mixed' effectiveness. As discussed in Chapter 3 (section 3.1.2), theoretical approaches to characterizing environmental regime effectiveness have recently focused on three key variables: the 'type of problem' being addressed, the 'problem-solving capacity' of the regime and the related 'political context' (see Tables 3.1 and 3.2, section 3.1.2, from Miles *et al.* (2002)). Looking at these variables more closely, it is apparent that the 'type of problem' addressed by offshore MPAs can vary in malignancy and in the state of knowledge about the problem, given the range of objectives for which an area may be designated (*i.e.* species and/or habitat conservation, fish stock regeneration etc.). In examining the potential effectiveness of the Darwin Mounds MPA, for example, the problem was severe (*i.e.* irreparable damage to a coral reef) but the state of knowledge was good. For the failed pair-trawl ban on the other hand, there was less consensus on whether the best available data on dolphin bycatch represented a severe problem in that situation.

With regard to 'problem-solving capacity', although no set procedure for adopting decisions related to offshore MPAs yet exists, there is some potential for congruence given the mechanisms already in place in the CFP and Habitats Directive, as both DG Fisheries and DG Environment use Qualified Majority Voting (QMV)[1] within the Council of Ministers to adopt Regulations and Directives, respectively. During the interview process, a few members of the regulatory community commented negatively on QMV, *e.g.* that *"decisions [taken] are about the Lisbon Agenda*[2]*, keeping fishermen in work […] short term benefits"* [RC-04]. As another member of the regulatory community explained:

> *"[There are] drawbacks of relying totally on the Community process, because of qualified majority voting. What would have happened at the end of this Darwin Mounds procedure if the*

[1] QMV and the process of European decision-making are described earlier in the thesis, see Chapter 2, section 2.4.6

[2] The Lisbon Agenda was mentioned earlier in the thesis (see Chapter 2, section 2.4.4.1 at note 123).

> *Council had voted not to approve the closure? Where would we stand with meeting our obligations under the Habitats Directive?"* [RC-03].

Other factors related to the 'problem-solving capacity' of the regime involve the roles of an Inter-Governmental Organization (IGO) and the epistemic community, the leadership of one or more parties to a regime, and the distribution of power within the regime's membership. There is, as of yet, no specific IGO tasked with overseeing an offshore MPA regime, however there have been discussions at recent forums on the developing European Maritime Policy and European Marine Strategy Directive of a need for an international Marine Management Organization (MMO). A well-structured IGO with well-defined links to/from relevant actors would clearly increase the potential effectiveness of an offshore MPA regime. The idea of establishing a national MMO has also been discussed with reference to the UK's developing Marine Bill (see discussion below in section 7.2.2). The epistemic community is already well-integrated into decision-making regarding offshore marine conservation, and expert evidence played an important role in the outcome of the Greenpeace judgment and the Darwin Mounds emergency closure. Given the arguably less favorable outcome of the pair-trawl ban, however, it is perhaps more valuable to analyze the way the science is interpreted and used, rather than just looking at whether it is ingrained in the decision process (as discussed in Chapter 6).

With regard to leadership, by designating the first European offshore MPA, the UK is viewed by many as 'gold-plating' environmental standards and can consequently be considered as a 'pusher' and/or 'instrumental leader' in the process. Whereas other Member States tend to take a 'copy-out' approach to implementing European Directives, the UK has been described as more likely to 'elaborate' them, in order to provide greater clarity and certainty (NAO, 2005). This proactive approach is viewed both positively and negatively, depending on the perspective, as users understandably feel constrained by obligations they see the UK adopting that are taken less seriously by other Member States. As a representative from the fishing industry put it:

> *"One of the disadvantages the UK fishing industry has always had is a competitive disadvantage because of the UK's approach to Europe, both on gold-plating of regulations and the unilateral approach of our government bringing in legislation that will only actually apply to UK vessels"* [UCF-01].

However, from a regime effectiveness standpoint, if some players take on a leadership role and pressure others to follow, there is increased potential for overall success. This is true not only with regard to the development of environmental regimes, but also the success of international conventions and treaties.[3] It is also true of EC interrelations, as under Article 227[4] of the EC Treaty, when a Member State feels that another Member State has failed to fulfill an EC obligation (including environmental commitments), it can bring the matter before the ECJ.[5] Theoretically, the UK's leadership role in the Darwin Mounds closure and attempted pair-trawl ban should have resulted in positive outcomes in both cases. However, given the politics behind the pair-trawl ban, this was not the case.

The 'political context' for the developing regime is less simple to define as the marine environment's inherent biological and spatial complexity implies linkages between issues and institutions that make it harder to analyze than a comparable terrestrial ecosystem. However, the developing UK Marine Bill, European Maritime Policy and Thematic Marine Strategy aim to take the different issue areas into account, for example addressing pollution and transport as well as nature conservation by utilizing a Marine Spatial Planning (MSP) approach, as discussed earlier in the thesis (see Chapter 3, section 3.4.2 above, and section 7.2.2 below). The comprehensive analysis of environmental regime analysis offered by Miles *et al.* (2002) uses 'ulterior motives or selective measures for cooperation' as a benchmark for measuring the 'political context'

[3] Chasek *et al.* (2006:42) define four possible roles for states during environmental regime formation: serving as a leader, a supporter, a swing state or vetoing/blocking the process. A lead state has a strong commitment to effective international action on an issue, moves the process of negotiations forward, and attempts to gain the support of other state actors.

[4] Formerly Article 170.

[5] This right has been used several times to threaten court proceedings, but on only one occasion has it resulted in a decision by the ECJ, when France successfully brought proceedings against the UK for having unlawfully enforced domestic legislation setting a minimum mesh size for prawn fisheries, Case 141/78, *France v. United Kingdom* [1979] ECR 2923 (Sands 2003:185).

variable. However, with respect to marine conservation, this variable fluctuates considerably. In the case of the Darwin Mounds, as discussed in Chapter 5, there was a strong impetus from the Commission and DG Fisheries to make sure the closure went through, as it was the first use of the emergency closure mechanism within the revised CFP, and an environmental success would highlight the 'greening' of European fisheries. From the UK's perspective, the political context was also supportive of a closure, given the government's concern about the new deep-sea TACs and quotas coming into effect in European offshore waters in the summer of 2003.

The political situation surrounding the pair-trawl ban was quite different, and its less successful outcome may have been partially due to the success of the Darwin Mounds measure. The Darwin Mounds emergency closure was achieved as a result of consultation and compromise, and while not a simple process, the area concerned was relatively small and involved a limited number of specialized deep-sea fishermen. In comparison, the pair-trawling industry involved a larger number of (mostly French) pelagic fishermen, fishing over a larger area, and hence with greater lobbying power on the Commission level (given the economic impact a ban on their activities would have). This lobbying power was likely more proactive and resistant following the Darwin Mounds closure. Members of the regulatory community involved in enforcement spoke about the potential for *"a monumental human cry if the situation develops as the conservationers [sic] are proposing at the moment"* [RC-02]. From the perspective of enforcement agencies, this would entail *"riots on the quayside [and] potentially conflict at sea between fishery protection vessels and boats that will just ignore [them]"* [RC-02]. It would be understandable for the UK fishing industry to feel cheated with the outcomes of both closures. With the Darwin Mounds, the deep-sea fishing industry was stopped from operating while pelagic trawls (largely Spanish) were allowed to continue, and only UK fishermen are prohibited to use pair-trawling methods for catching sea-bass in EC waters.

As a result, while some of the factors used by regime theorists (*e.g.* Miles *et al.*, 2002) to define regime effectiveness are useful indicators for offshore

conservation in the North-East Atlantic, others remain unclear. It is therefore useful to step back and examine offshore MPAs within a broader regime interaction context in order to assess the strengths and weaknesses of the developing regime.

### *7.1.2 Conventions and interactions*

The Maritime Policy for the European Union (see Chapter 2, section 2.4.4.1) currently under development is being designed to provide an overarching framework for marine protection. In the Green Paper currently open to consultation, the Maritime Policy is described as resting on twin pillars: the Lisbon strategy[6] (*i.e.* sustainable development) and the ecosystem approach. It acknowledges the challenges posed by the global nature of the oceans and large number of actors involved, but it also aims to unite policies on maritime transport, industry, coastal regions, offshore energy, fisheries, the marine environment and other relevant areas. This is an enormous task, and the Maritime Policy's reliance on the Lisbon Agenda has raised concern among members of the NGO community, given its focus on economic development and what can be perceived as the antithesis of the ecosystem approach:

> *"I think there's a lot of concern following the Lisbon summit, there's been a kind of redefining of sustainable development. You know we think about sustainable development as this three-legged stool of social, economic, environmental – the environmental leg has got very wobbly as of late and there's a really strong drive to redefine sustainable development as underpinning the profitability of the sectors and making sure all this social and economic criteria are met"* [NGO-04].

The draft European Maritime Policy refers to a 'common EU maritime space' governed by the same rules on safety, security and environmental protection. A recent paper (Suárez de Vivero, 2006) casts doubt on this concept and raises an important question: is a unified marine policy the way forward or will it lead to chaos if inter-institutional linkages are not clearly defined beforehand?

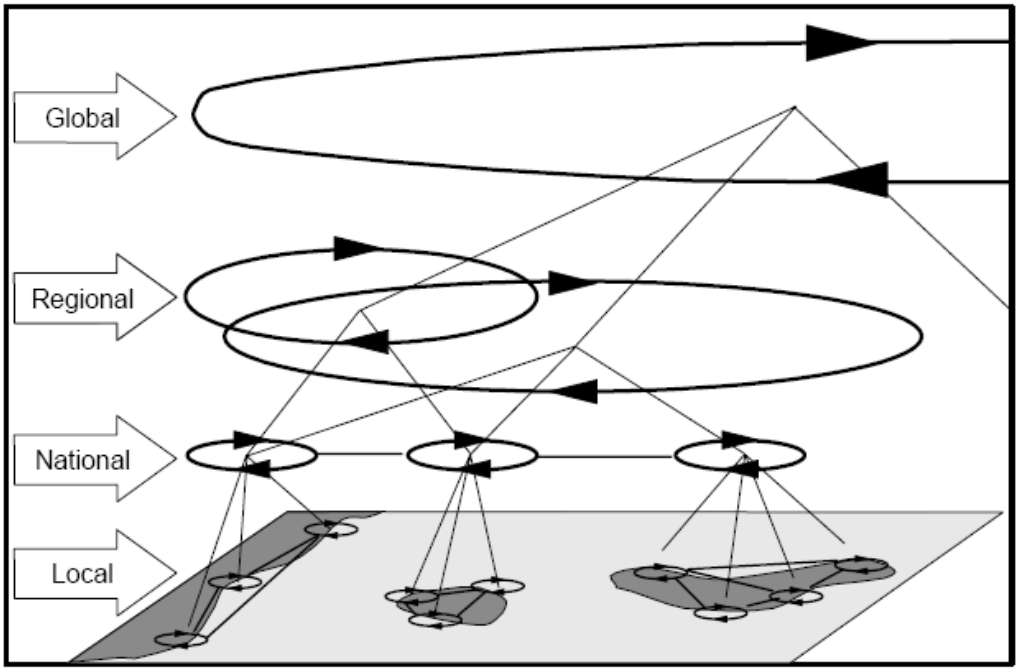
[6] As mentioned above in section 7.1.1.

Regarding the European Marine Thematic Strategy and related Marine Strategy Directive (see Chapter 2, section 2.4.4.2), as mentioned earlier, there were concerns raised about its definitions of 'Good Environmental Status' (GES) and the lack of linkages to other Community legislation, such as the CFP, Water Framework Directive and the developing European Maritime Policy. Another serious concern is the lack of fisheries provisions in the draft Directive. One interviewee from the NGO community stated that DG Fisheries had been responsible for removing the criteria that fish stocks had to be recovered in order to attain GES, as:

> *"Fisheries still are absolutely considered to be a resource and not a nature conservation aim, and therefore there's the argument that no environmental legislation can really speak about fisheries resources"* [NGO-07].

Until the Marine Strategy Directive and Maritime Policy are finalized, it is difficult to analyze these initiatives within a regime effectiveness framework. However, the relationships between these EC initiatives and other institutions in the offshore marine environment can be examined in light of vertical and horizontal institutional interactions. For the purposes of this discussion, vertical interactions are those operating from the international to regional and/or national level (*i.e.* of a hierarchical nature), while horizontal interactions occur between institutions operating on the same level (*e.g.* between international conventions or between regional conventions etc). Figure 7.1 provides a visual representation of the complexity of institutional interactions in both the vertical and horizontal dimensions.

***Figure 7.1 Vertical and horizontal levels of institutional interaction***




*(From: Caribbean Large Marine Ecosystem Project report, 2007, available on the Ocean Security Initiative website www.osi-int.org)*

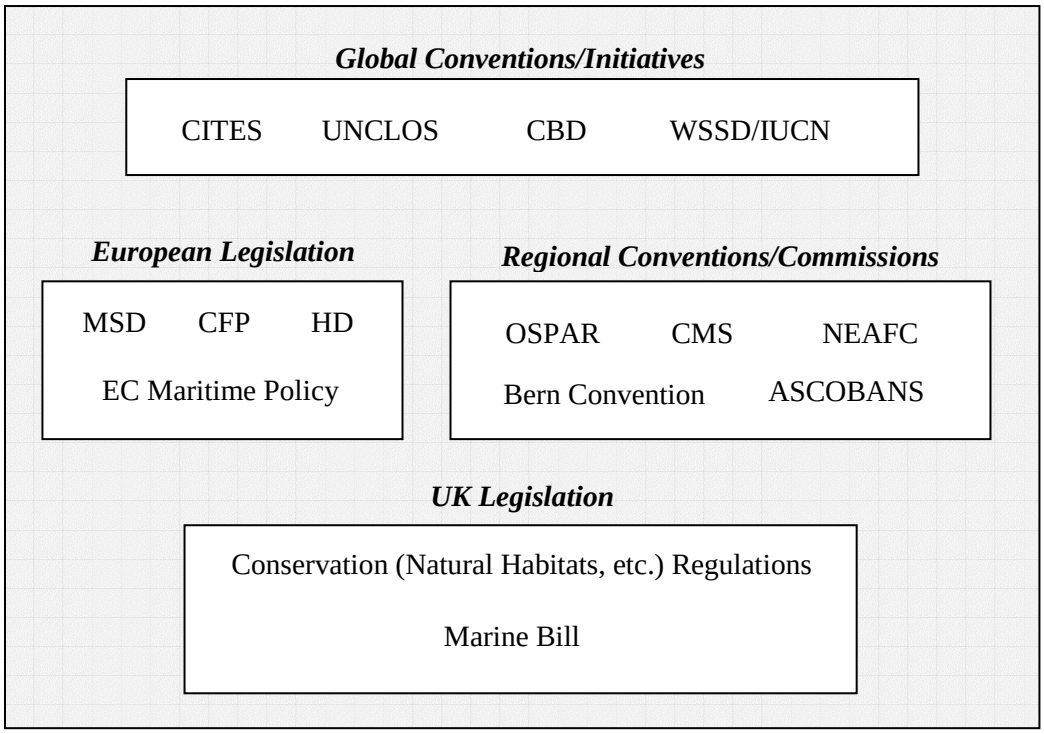
The institutions and legislation in place of relevance to offshore marine conservation in the North-East Atlantic can be viewed on the global, regional and national levels. For the UK, these include UNCLOS, CITES and the CBD on the global level, EC legislation (including the draft Marine Strategy Directive (MSD), Common Fisheries Policy (CFP), Habitats Directive (HD) and the developing European Maritime Policy), OSPAR, the CMS and the Bern Convention on the regional level, and the developing Marine Bill and Offshore Marine Conservation (Natural Habitats, etc.) Regulations on the domestic level. Figure 7.2 gives a schematic representation of these levels of governance.[7]

This hierarchy represents the legislative framework for implementing offshore MPAs, however in practice not all of these institutions are currently actively involved in European offshore marine conservation issues (*i.e.* CITES, although it does include marine species found offshore in its Annexes). While not legally

[7] This legislation and provisions related to offshore marine conservation are discussed in depth in Chapter 2.

binding, the 2003 World Summit on Sustainable Development and the 2003 IUCN World Parks Congress are both included as they highlighted offshore marine conservation and, as mentioned in Chapter 2 (section 2.2.4), these initiatives may help shape future legislation.

***Figure 7.2 Hierarchical view of international, regional and UK legislation relevant to offshore marine conservation***



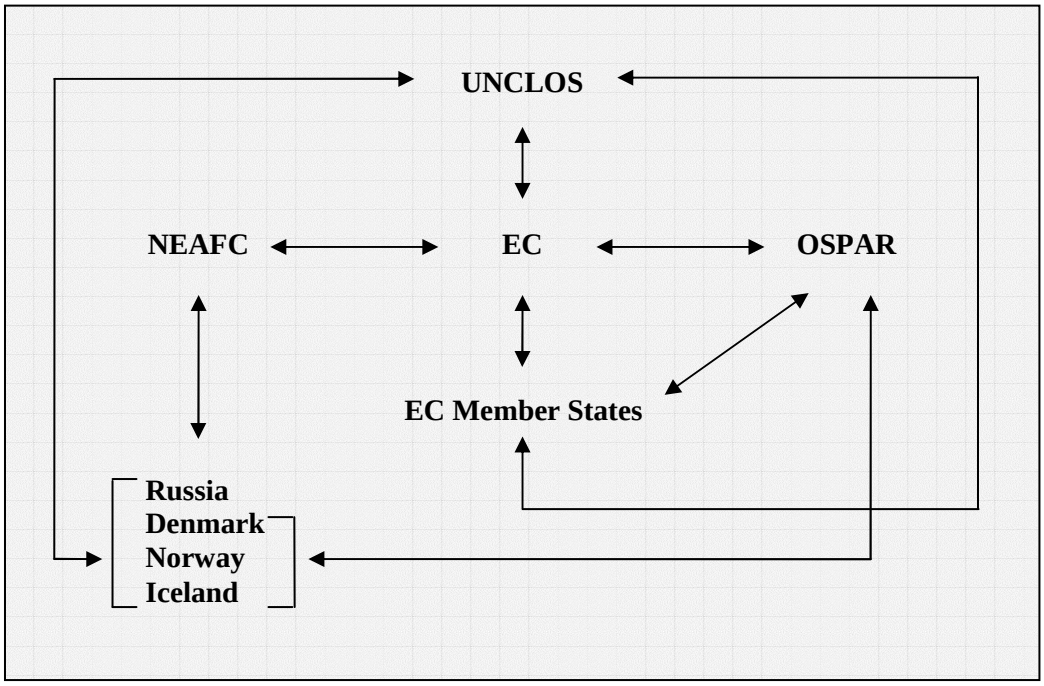

International regimes establish rules applicable to their members, leaving their implementation up to the members' domestic arrangements. As discussed in Chapter 2, in the European Community, environmental Directives are implemented by Member States through the establishment of national legislation, a process known as 'direct effect'. Consequently, the effectiveness of legislation implemented in this manner is dependent on the performance of Member States' national institutions, which is likely to vary between countries. Young (2002a, 2002b) identifies three sets of factors that play a key role in the interaction between international regimes and national implementation: competence, compatibility, and capacity. *Competence* relates to the political and legal authority needed to implement commitments made at the international level.

*Compatibility* describes the fit or congruence between institutional arrangements set up under international commitments and the social practices prevailing within individual states. *Capacity* estimates the potential a state has to successfully implement international obligations, measured by the availability of social and material capital. The recent expansion of the EC by ten members in 2004[8] and two more in 2007[9] will likely pose some additional challenges to implementing environmental legislation equally within the now 27 Member States, given the discrepancy between their individual levels of competence, compatibility and capacity.[10] The EC expansion process also entails a geographic shift away from the Atlantic and towards continental Europe, with the new Member States' maritime activities focusing on the Baltic, Mediterranean and Black Seas (Suárez de Vivero and Rodríguez Mateos, 2006). How this shift will affect the developing EC maritime legislation remains to be seen.

As outlined in Chapter 2, both the EC and several Member States are parties to UNCLOS, NEAFC and OSPAR[11], and recent ECJ case law[12] has held that under certain circumstances, a provision in an international agreement concluded by the EC may be directly applicable in its Member States (see Chapter 2, section 2.4.5). It can inferred from these rulings that Member States are obliged to treat Conventions to which the EC is a Party as Community law. In May 2006, an ECJ ruling[13] on the dispute between Ireland and the UK regarding a nuclear (MOX) plant in Sellafield clarified that the whole of UNCLOS is EC law and forms an integral part of the EC's legal order. Figure 7.3 provides a diagrammatic representation of these institutions and their participants.

[8] Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia joined the EC in May 2004.
[9] Bulgaria and Romania joined the EC in January 2007.
[10] The European Commission released a communication in 1998 specifically addressing environmental challenges of enlargement with regard to candidate countries in Central and Eastern Europe. In particular, the Commission focused on the following areas of environmental management as the most lacking for integration with European standards: air pollution, water pollution and waste management [COM(98) 294 final].
[11] See Chapter 2, Table 2.1.
[12] Case C-213/03, *Syndicat professional coordination des pêcheurs de l'Etang de Berre et de la region v Électricité de France* of 15 July 2004; and Case C-239/03, *Commission of the European Communities v French Republic* of 7 October 2004.
[13] Case C-459/03, *Commission of the European Communities v Ireland* of 30 May 2006, at paragraph 82.

***Figure 7.3 Example of institutional interactions in the North East Atlantic***




Given that the EC is a signatory to UNCLOS and OSPAR, following the recent ECJ rulings, it appears that all Member States can be held accountable for marine protection issues stipulated by these conventions whether or not they themselves are parties. The diagram above also illustrates that although Norway and Iceland are not members of the EC, their activities in the North East Atlantic are governed by their commitments to NEAFC, OSPAR and UNCLOS.[14]

The OSPAR network of MPAs described earlier (Chapter 2 section 2.3.2) currently under development will initially be based on Natura 2000 sites already designated or in the process of being designated as SACs under the Habitats Directive. This relationship can be seen as synergistic, as the OSPAR site

[14] Norway, Iceland and Lichtenstein participate in the European Economic Area (EEA) Agreement which entered into force in 2004 and allows these countries to participate in the EC Internal Market without assuming the full responsibilities of EU membership (see Chapter 2, note 81). The EC has three fisheries agreements with Norway: (i) bilateral (in the North Sea and the Atlantic), (ii) trilateral (with Denmark, Sweden and Norway in the Skagerrak and Kattegat), and (iii) a neighboring agreement covering the Swedish fishery in the Norwegian waters of the North Sea. Council Regulation (EEC) No 2214/80 of 27 June 1980 on the conclusion of the Agreement on fisheries between the European Economic Community and the Kingdom of Norway, OJ L 226, 29.08.80, p.47.

selection criteria, being newer, will include features not present in the annexes to the Habitats Directive. However, during the interview process different perspectives emerged on the potential for OSPAR to promote offshore marine conservation. Members of the regulatory community often seemed skeptical of OSPAR's potential, even referring to OSPAR as *"a ginger group"* [RC-09] for testing out ideas, and emphasizing its limitations given *"it doesn't have a remit [i.e. competence] in relation to fishing"* [RC-03]. There was also uncertainty from the regulatory community as to what exactly an OSPAR network of MPAs will entail, not only in its definition (*i.e.* they may simply be *"double-badging"* [RC-04] existing Natura 2000 sites) but also regarding enforcement:

> *"The OSPAR network is simply a declaration. OSPAR doesn't take any disciplinary measures on the network. OSPAR only declares that this zone is part of the OSPAR network of protected areas, and they can even propose a management regime but they cannot implement it by themselves. That will be for Member States to – well, if they feel bound by this sort of recommendation, if they feel bound by an OSPAR decision which is not binding"* [RC-01].

OSPAR parties will likely determine the management regime for protecting any MPAs designated within the OSPAR network themselves, according to their national legislation. However there is concern from the regulatory community that it will take a lot of work to prevent OSPAR sites becoming *"paper parks"* [RC-04], as there is no mechanism currently in place for monitoring or enforcing a network of MPAs set up under the OSPAR convention by a third party. For sites already designated under Natura 2000, accountability is clearer and Member States are held responsible under their commitment to the Habitats Directive. For areas beyond national jurisdiction, however, there is as of yet no mechanism for monitoring and enforcing these sites, though OSPAR *"will probably look to NEAFC to propose sites"* [RC-04]. This may be a non-issue however, as one NGO representative commented:

> *"I know the UK has put forward a stack [of Natura 2000 sites for the OSPAR network]. Most of these sites are going to be in the 0-12nm and then there'll be a scattering of sites beyond 12nm and virtually none beyond that"* [NGO-04].

While the OSPAR network offers an opportunity to designate sites involving species and habitats not included in the Habitats Directive annexes, and to designate sites on the high seas within the OSPAR area, this potential opportunity is perceived by some in the regulatory and NGO communities as lacking a strong mechanism for enforcement, compared with European Directives. Legally however, the OSPAR Commission has the power to adopt binding decisions[15], which its predecessors did not, and it also establishes the right of access to information about the maritime area of the Convention.[16] Legal experts interviewed also emphasized OSPAR's broader approach to marine conservation, incorporating both the precautionary principle and an ecosystem approach, as well as having more flexibility than the Habitats Directive, *e.g.* including multiple-use areas [LC-04].

The oil and gas industry had an interesting perspective on OSPAR, finding it a more accessible forum for addressing marine issues related to their activities than, for example, going to Brussels. As one representative put it:

> *"The beauty of OSPAR is that if I have a problem or the UK has a problem, we can go there and have direct input and change things if we can persuade others. The EU is a much bigger, more amorphous organization and I can lobby through the government and there's the UK representation over there but they're trying to lobby on millions of topics"* [UCI-03].

There is some suspicion in the oil and gas industry that OSPAR will eventually be superseded by the European Maritime Policy and Marine Strategy Directive, *i.e.* that *"OSPAR will come to an end and the EU will take over"* [UCI-03]. That, however, would leave out non-EC Member States currently accountable under the OSPAR Convention, namely Norway and Iceland, who would then only be bound by their commitments under UNCLOS and participation in NEAFC (*i.e.* in the same position as Russia). Representatives from the oil and gas industry also expressed concern over the plethora of site protection designations in the marine environment and questioned whether having SACs,

[15] Art 10(3) and 13(2) OSPAR Convention.
[16] Art 9 OSPAR Convention.

SPAs, SSSIs, MNRs and now OSPAR MPAs was an efficient way forward [UCI-03]. The greatest concern from the oil and gas industry, however, and one that was repeated frequently during interviews, was an exasperation that the fishing industry continues to operate with so few restrictions on their activities compared to the oil and gas industry, which views itself as highly regulated and extremely compliant with environmental protection measures in comparison. An example of this sentiment follows:

> *"We don't say it in public because we have a very good relationship with the fishing industry now […] it's annoying and very frustrating that every other sector, particularly oil and gas, has to go through such a rigorous environmental assessment procedure and the fishing industry doesn't. A lot of people say that the fishing industry is far more damaging than any other industry"* [UCI-01].

Nevertheless, OSPAR does not include fishing activities within its regulatory sphere; this issue is left to the governance of the CFP within EC waters and UNCLOS and NEAFC within and beyond Member States' EEZs/EFZs. Compared with other Regional Fisheries Management Organizations (RFMOs), NEAFC is perceived by members of the NGO and epistemic community as *"old fashioned and not transparent"* [NGO-07], and moving only slowly towards having a role in biodiversity protection and mitigating fishing impacts on habitats [NGO-01].

> *"Since the Darwin Mounds […] the only other thing that's come through is this NEAFC development and that's almost coming through another route, because of international pressure in general on bottom trawling as an ecosystem impact issue rather than specifically protecting coral"* [EC-13].

One NGO representative commented that they are modernizing *"in terms of at least the wording they're using"* [NGO-07] as they recently revised their statute to formally include the ecosystem approach, however they only accepted some of the closed areas originally proposed by the EC in 2005, based on recommendations from ICES, and these were all reduced in size before NEAFC parties agreed to closing them. As one scientist remarked:

> *"They actually rejected one of the areas where we know there's coral because that was one of the areas where a lot of fishing was going on. […] They left out the coral areas around the Rockall and Hatton Banks or at least a good part of it because of fishing interest. More or less saying they're quite happy to conserve areas as long as there's no fishing going on there"* [EC-13].

Thus it can be said that the NEAFC, while it may be doing more than some other RFMOs, is still viewed as only doing *"the absolute minimum"* [NGO-07].

In analyzing different perspectives on the complex institutional situation in the North-East Atlantic, several underlying issues emerged during the interview process. In addition to confusion regarding the way parties to overlapping institutions will manage their obligations, there is also concern that the non-EC countries fishing in the area are not under enough surveillance by their participation in UNCLOS and NEAFC alone. One exception to this latter concern is the fact that Norway has a strong history of protecting *Lophelia pertusa* in its own waters.[17] UNCLOS and its potential role in managing the offshore environment came up very rarely during interviews, aside from its emphasis[18] on the role of RFMOs in fisheries management. Given that the Maritime Policy and Marine Strategy Directive are still under development, the most pertinent European legislation currently in force in the region is the Habitats Directive and the CFP. However the bifurcation between nature conservation and fisheries management in the EC creates a situation of tension that upsets the developing regime for offshore MPAs.

## 7.2 IMPLICATIONS FOR EUROPEAN OFFSHORE MARINE CONSERVATION

The remainder of this chapter reflects on the limitations of applying environmental regime theory to the developing regime for offshore MPAs. An issue of particular concern to many interviewees was whether/how an ecosystem

[17] See Chapter 2 (section 2.4.1.2) at note 91 for a listing of Norway's cold water coral closures.

[18] Article 61 of the LOSC, on the conservation of living resources in the EEZ requires coastal States to *'ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over exploitation'* and that *'the coastal state and competent international organizations (regional fisheries organizations) shall cooperate to this end'*.

approach is being implemented in the European marine environment. This discussion then explores some further tensions that have not yet been directly addressed in the developing regime, but which emerged during the interview process and have the potential to impact the development of marine conservation policy. These issues include the impact of devolution on the UK marine environmental policy and the role of third parties (such as Russia) in European fishery politics.

### *7.2.1 An emerging framework*

When examined within the context of political realities, the regime analysis theoretical framework set out in Chapter 3 does not answer a key question posed by this thesis: why did the Darwin Mounds closure succeed while the pair-trawl ban did not. For the most part, scholars of environmental regimes take a *post hoc* approach, examining outcomes and processes of regimes that are already in place and have produced some results. In the case of offshore marine conservation, while international commitments and a legislative framework exists, major components are still in various stages of development, both on the regional (*i.e.* the EC Maritime Policy and Marine Strategy Directive) and local (*i.e.* the UK Marine Bill) level. Consequently, taking a purely theoretical approach to examining the potential for offshore MPAs in the North-East Atlantic is not sufficient, and inclusion of the human element through the methodologies employed in this analysis (*i.e.* semi-structured interviews and participant observation) provided a wealth of useful information and allowed a greater understanding of issues affecting the developing regime.

Given the difficulty in applying regime effectiveness criteria to a developing regime, it may be useful to focus on progress towards a stated goal as a means of assessing the potential for future European marine conservation initiatives. This thesis has already drawn attention to the emphasis put on attaining an ecosystem approach to managing the marine environment within the developing regime. Whether this goal is being met is worth exploring further, based on evidence (both positive and negative) distilled in the interview process and from participation in regional meetings on the subject.

### *7.2.2 Evaluating RACs and MSP as the way forward*

During the interview process it became apparent that different stakeholders had varied perspectives on whether an ecosystem approach was appropriate and/or being properly applied in the offshore environment. As a member of the NGO community remarked, *"developing an ecosystem-based approach, that just isn't happening and […] it should be. It's got a hell of a lot to do with the relationship between DG Fisheries and DG Environment"* [NGO-04]. This tension between the DGs and the bifurcation between fisheries management and marine nature conservation were explored in more depth in the previous chapter, but it is worth noting again here that this lack of synergy has led to confusion and mistrust, from many perspectives. A member of the epistemic community commented that:

> *"All the talk in this new Marine Strategy that's coming out is on ecosystem management and sustainable development but nobody knows what that means. It's not managing ecosystems, it's managing human impact on ecosystems, that's what they're talking about and it's fundamentally different things. And I don't think anyone really knows how to do that"* [EC-06].

The bifurcation between marine nature conservation and fisheries management poses a serious challenge to the implementation of an ecosystem approach in the marine environment. As a member of the regulatory community commented:

> *"We are of the view that either under the Habitats Directive you give powers to control fishing – which I simply don't think will happen – or fisheries authorities have a responsibility to do what they say when they say they're going to adopt the ecosystem approach. And we're firmly in the latter camp and we want to bring in necessary protections"* [RC-08].

In addition, there may also be a *"lurking suspicion"* [NGO-04] among fishermen that by helping to identify the best areas for their fishing activity, these areas will be the first to be designated for protection and closed off. This sentiment of mistrust regarding management was evident when a representative of the fishing industry described the worse case scenario of an MPA to be one with *"… no*

*tangible management objectives, [which] doesn't get monitored, and then gets left in place even though it's not having its desired effect. And that again just gives people very little confidence in the system"* [UCF-02].

Oil and gas industry representatives also expressed suspicion and worry over the designation of offshore sites, citing the potential for areas to be *"sterilized by either SACs or MPAs"* [UCI-01]. This representative went on to explain:

> *"Every potential habitat is treated as a candidate area and the operations are perhaps having to spend more time and money than they should need to in operating in these areas. JNCC have been in particular taking a very precautionary approach to this. The industry would like some certainty and it's not happening at the moment"* [UCI-01].

Another member of the oil and gas industry commented from a similar perspective:

> *"I do have a slight concern that when you actually add all the different habitats together, essentially the whole sea floor is of conservation interest. Whilst I am strongly in favor of a better understanding of the seabed environment and therefore the threats to it and therefore how you can mitigate those threats, I don't think we could say that 100% of the seabed must be protected from either some or all activities. Because if you applied that thinking to the land, then where would we go? What would we do? And the answer is nothing"* [UCI-02].

And a third representative from the oil and gas industry spoke along the same lines: *"[my concern] is that you don't tie things up so much you make life impossible everybody, or for industry. I think we do probably need significant protected areas but striking the balance [is difficult]"* [UCI-04].

Not surprisingly, many interviewees pointed to the development of the Marine Spatial Planning (MSP) concept and the role of Regional Advisory Councils (RACs) as the best means for achieving an ecosystem-based approach. As set out earlier in Chapter 3, current legal and institutional approaches to offshore marine conservation are embracing these two mechanisms for implementing an ecosystem approach.

The RAC process for integrating stakeholder involvement in marine environmental decisions in the North East Atlantic has met with mixed reviews. While representatives from the fishing industry and regulatory community were optimistic about the RACs' potential, some members of the epistemic and NGO community were concerned that their effectiveness may already be hampered by an inability to incorporate an ecosystem-based approach:

> *"The RACs aren't going to take on board an ecosystem-based approach, they see it as kind of like wallpaper I think, a backdrop for what they do, but they don't see it as something they should be putting any effort into – partly because they think it's a horizontal issue and that shouldn't be something they should be too worried about with a regional seas approach. But I would argue that it should be much more in the core of the RACs, something they should think about in the work that they take forward"* [NGO-04].

As one representative from an environmental NGO put it, if the RACs don't take forward an ecosystem-based approach, *"we're always going to be reliant on DG Fisheries to spearhead efforts, so we need the European Commission to be strong on this"* [NGO-04]. Understandably, representatives from the fishing industry had the most positive views on RACs as means of access to the policy process. One interviewee elaborated:

> *"If you look down at the regional, participatory, co-management models – they tend to work a lot better than the top-down sort of remote bureaucracy that typifies the CFP in the last 20 years. And RACs have to be the first step towards that. Hopefully eventually they'll take on more of an advisory function"* [UCF-01].

Another representative of the fishing industry described RACs as *"a body through which […] regional interests can propose alternative solutions or new solutions and fresh ways of thinking"* [UCF-02]. However, an NGO representative personally involved in the RACs commented that although there is progress being made from the fishing industry's perspective, it is:

> *"[…] very much from the point of view of them protecting their own interests rather than from them inserting fisheries into this gamut of human activities that have the potential to be ecosystem-*

> *damaging activities. They're not doing this in the spirit of an ecosystem-based approach, they're doing it to protect fishing from things that could damage their fishing interests"* [NGO-04].

Interviewees from the NGO community expressed stronger support for the Marine Spatial Planning (MSP) approach, with one representative even calling it *"a portal into the ecosystem-based approach to managing the seas"* [NGO-04]. Representatives of the fishing industry, on the other hand, were less supportive of the MSP approach and expressed concern that it could evolve into a land-based system being applied to the marine environment, as *"it's just trendy, in vogue"* and *"a double edged sword"* [UCF-01]. From this interviewee's perspective, while MSP *"could be useful to protect something vulnerable"* such as spawning areas, *"the government's track record on spatial planning tends to be focused on cash directions, wind farms, oil and gas"* [UCF-01].

A member of the NGO community pointed to the fishing industry's support for RACs as being a result of their concern about competition with other industries:

> *"The reason that the fishermen not only welcomed that proposal initially but also were happy to make an environmental NGO chair of the working group, which was a surprise in some ways […], was because the fishermen are very very concerned about the encroachment of other human activities such as wind farms, aggregate extraction, all the things we know happen in those waters […] the encroachment of those activities on their fishing activities"* [NGO-04].

At the same time, there is some optimism in the fishing community, as another representative put it: *"this is quite an unusual phase and a positive one as well because at least we're now being involved in the decisions and having a direct input to shape and develop policy in some cases"* [UCF-02].

For European marine conservation legislation currently under development, the Marine Strategy Directive does not take a MSP approach *"other than identifying eco-regions"* [NGO-07]. The draft Directive *"does not prevent Member States from using a spatial tool to implement protective measures in their national waters, but it also doesn't explicitly encourage them to do that"* [NGO-07]. It is

likely that MSP will be more tightly integrated within the European Maritime Policy, a logical assumption given the different economic activities being integrated within it.

The duty of coordinating a MSP approach may eventually fall to a Marine Management Organisation (MMO), which is one reason why the discussions over creating a MMO both on the international and domestic levels (*i.e.* within the context of developing European legislation as well as the UK Marine Bill) continues. A MMO may be "*essential if we're going to have a system of marine planning"* and "*will probably take over the coordinating role but not finding, promoting, or managing sites"* [EC-07]. This coordinating role would have key functions, "*overseeing Marine Spatial Planning"* [EC-07], provided it's a successful strategy. Yet there is still concern within the oil and gas industry that the fishing industry will not take MSP regulations seriously if they place constraints on their activities. As one oil and gas industry representative put it:

> *"I've heard them say at public meetings, fishermen's representatives will talk about marine spatial planning for example, which is now looking like a prospect, 'erect your plans, make your laws, we won't have anything to do with them, we'll go where we need to [in order] to find fish and catch them'. And I think that's true"* [UCI-03].

At a May 2007 Coastal Futures conference on the ecosystem approach[19], which examined the concept generally, a questionnaire was distributed by the conference organizers in order to gain participants' opinions on the topic. Sixty participants (*i.e.* members of the regulatory, user and epistemic communities) completed and returned questionnaires. Table 7.1 lists the key questions and percentages of positive and negative responses.

[19] Coastal Futures Conference "Implementing the Ecosystem Approach", 17 May 2007, held at the School for Oriental and Asian Studies (SOAS), University of London, London, UK.

**Table 7.1 Coastal Futures conference participants' perception of the ecosystem approach**

| Question | Agree | Disagree | Undecided |
|---|---|---|---|
| **1.** A hierarchy of policies, ideas and objectives exists in our approach to the management of the environment. | 92% | 7% | 1% |
| **2.** Sustainable development has primacy and is the overarching conceptual framework being applied in the UK. | 70% | 20% | 10% |
| **3.** The ecosystem approach is an important concept / 'principle' but like other 'principles' (*e.g.* the precautionary principle, freedom of information, participation) it informs sustainable development. | 67% | 18% | 15% |
| **4.** The ecosystem approach can provide a way/mechanism for delivering sustainable development in the marine/coastal/other environments. | 92% | 0% | 8% |
| **5.** The ecosystem approach can provide a way/mechanism for delivering sustainable development that is particularly appropriate/relevant to the marine environment. | 68% | 12% | 20% |
| **6.** Do we need a clearly defined methodology for translating sustainable development into practice in the marine environment? (Yes/No) | 84% | 16% | --- |
| **7.** Do you agree that the CBD-coherence model provides the basis for implementing the ecosystem approach? | 54% | 10% | 36% |
| **8.** Do you think that applying one or more of the ecosystem concepts to routine management is the way the ecosystem approach should be applied? | 60% | 30% | 10% |
| **9.** Perhaps its not either/or but both? Do you think that both these have utility and can be utilised in appropriate situations? | 76% | 0% | 24% |
| **10.** Management by objectives, using an iterative process with feedback loops, indicators, targets and monitoring etc, is a given; do you: | 86% | 9% | 5% |
| **11.** Adaptive management is no different to the fundamental approach to the management systems approach outlined above? Do you: | 52% | 33% | 15% |
| **12.** Would a Government / Agency guidance protocol help clarify this terminology and its application? (Yes/No) | 76% | 24% | --- |

The results of this exercise can be seen as providing a general barometer for assessing how the ecosystem approach is being perceived within the UK marine community as of 2007. Interestingly, there appears to be rather widespread optimism regarding the potential for implementing this concept in maritime activities, as well as its contribution towards sustainable development. For example, most respondents (68%) were positive about the ecosystem approach as a 'way/mechanism for delivering sustainable development that is particularly appropriate/relevant to the marine environment' (question 5).

A majority of respondents (76%) was also in favour of having a government/agency guidance protocol to help clarify the approach and its application (question 12). This large proportion is in contrast to the opinion of the fishing industry gathered during the interview process, and may be a result of the fact that the Coastal Futures meeting attracted a higher number of regulatory authorities than other sectors. A representative of the fishing industry commented negatively in an interview about the plethora of government guidance documents, and a perceived lack of targeted time scales and outcomes:

> *"I think the focus from the government department to date, or at least from the last 18 months, has been to produce these glossy documents on 'this is our vision on it' but they are seldom followed up in an appropriate time scale to my mind with dates for action and dates for meetings and dates to get the process rolling. So I think all of the strategies are very laudable in what they say but we want to know well when is it going to make a difference to people's lives and when are these things actually going to be put into place. That's the gap in the system at the moment from everybody's perspective"* [UCF-02].

During the conference itself, however, one presentation (by the Crown Estate) focused on the issue of whether the ecosystem approach was simply 'reinventing the wheel' of sustainable development. There also appeared to be some confusion in the discussions following the presentations on the actual definition of taking an ecosystem approach, *i.e.* whether this means addressing environmental protection on an ecosystem by ecosystem basis, versus taking a holistic approach whereby the policies reflect the complexity and

interdependency of the system being protected. For example, one participant asked a question on 'how do we determine ecosystem boundaries' – which shows that the mechanisms for pursuing an ecosystem approach need to be better clarified and disseminated throughout the marine management community.

### *7.2.3 Unaddressed tensions*

Of the themes that emerged during the interview process, two areas of tension were worth noting in the context of both present stalemates and future challenges. These issues were (i) the role played by devolution in complicating the UK's ability to simultaneously address marine nature conservation and fisheries management, and (ii) the potential impact of third party (*i.e.* non-EC nations') fishing activities in the North-East Atlantic, such as Russia. While not directly addressed in the developing marine conservation and fisheries management legislation, these issues have already affected the policy process and will continue to do so. It is for this reason that they are explored in this final section of this chapter.

It can be argued that the process of devolution that began in 1999 further slowed the implementation of the UK's Conservation (Natural Habitats, etc.) Regulations offshore following the Greenpeace judgment, which was already complicated by the underlying tension between fisheries management and marine nature conservation. Mirroring the European-level jurisdictional situation, within the UK nature conservation is devolved while fisheries is not.[20] As a result, when the UK sends delegates to Brussels to discuss fisheries measures, it is the Whitehall representative that has bargaining power, while the Scottish (and other devolved governments') representatives have observer status. Not surprisingly, devolution and its effects were of a greater concern to members of the regulatory community interviewed in Scotland than their English counterparts. In particular, Scottish regulatory authorities emphasized that since *"all fisheries legislation is decided at Europe practically, […] DEFRA or the relevant Whitehall department reserves the sole right to act at the European*

[20] This was touched upon earlier in the thesis. See Conclusion of Chapter 2, section 2.6, at note 146.

*level"* [RC-05] resulting in the Scottish authorities feeling unable to act or even withheld from acting at the European Council level. When speaking about the Darwin Mounds closure, a Scottish representative emphasized that its achievement was *"a high priority politically"*, and:

> *"[It had to be delivered] before the resolution of the tensions between the Habitats Directive and environmental protection and fisheries policy got resolved to our disadvantage, because if you're adopting the ecosystem approach to fisheries management and you decide to institute a whole load of fisheries legislations under environmental powers, and those are held by London, then actually the primary issue of devolution to Scotland of fisheries management becomes redundant"* [RC-08].

Certainly devolution will complicate the UK's implementation of future EC legislation on the marine environment, *i.e.* the developing Marine Strategy Directive and Maritime Policy. Devolution already poses challenges to the developing UK Marine Bill, as a member of the NGO community remarked:

> *"One of the biggest challenges for the Marine Bill and MSP is going to be the extent to which the devolved country issues can be addressed and resolved […] we're beginning to see different layers of governance and different waters in what was formerly just UK waters, and that poses quite significant problems of jurisdiction and governance for the Marine Bill"* [NGO-04].

Another area of concern that emerged in interviews with members of the regulatory community and representatives from the fishing industry, was the role currently being played by Russian fishery interests in the North-East Atlantic through its participation in NEAFC. Several members of the regulatory community commented that Russia is a *"law unto itself"* [RC-08] and blocks agreement regarding technical conservation measures, resulting in TACs being set according to levels that will *"buy off"* [RC-05] Russian fishery interests, which have a history of overfishing areas with inappropriate gear until stocks disappear, and then moving onto other areas. As a member of the regulatory community involved in enforcement commented:

> *"Unfortunately they [NEAFC] can't reach agreement on certain issues including technical conservation measures so Russians are in the NEAFC area are using mesh sizes that we would throw our hands up in horror at"* [RC-02].

A member of the regulatory community involved in NEAFC spoke plainly:

> *"If it wasn't going to cause such ruptions, we'd throw them out of NEAFC because they are right now behaving appallingly"* [RC-08].

Representatives from the UK fishing industry indicated they feel constrained by their obligations under NEAFC and resent Russian activities in the area, which from their perspective "*make absolute nonsense of the system*" [UCF-02]. As shown in Figure 7.3 above, Russia's legal obligations with respect to marine conservation in the North East Atlantic are bound only through UNCLOS and NEAFC. Consequently, without a UN moratorium on destructive fishing practices, and given the way Russia has been lobbying within NEAFC, any constraint on its behavior seems unlikely. In addition, as Russia does not have a VMS agreement with the EC, its vessels are not visible to enforcement authorities responsible for monitoring EC waters. As one explained:

> *"A Russian vessel is not normally visible to us because the EU doesn't have any VMS agreement with Russia in the NE Atlantic, they have one in the Baltic but not the NE Atlantic. VMS only works across countries where you have a data sharing agreement"* [RC-07].

Consequently, enforcement authorities "*would not expect to have any communications directly with the Russians in that regard because they've no fishery rights in EC waters*" [RC-02] and "*if they're fishing illegally in EC waters they're invisible to us*" [RC-07]. However, as far as I could tell in conversations with enforcement authorities, no infringements of the Darwin Mounds closure by Russian trawlers have occurred, as one commented: "*to be fair, I've just brought them up as a risk – they haven't actually caused us any problems in the Darwin Mounds area*" [RC-07]. Nevertheless, if the enforcement authorities do not have access to Russian VMS data within EC

waters, how can they be certain that vessels are not operating in MPAs within the 200nm EFZs/EEZs of Member States? An interviewee from the regulatory community appeared confused about the availability of information on Russian fishing vessels, and pointed to the enforcement authorities' reliance on the observations of EC fishermen, who have an incentive to report sightings of non-EC vessels from a competition perspective: *"our boats are always complaining about them, we send the plane out, it sees them there and we send the protection vessel out"* [RC-08].

Some Russian trawlers are licensed to operate in the Faeroese zone (north-west of Scotland) and Russians are also *"active in the NEAFC area"* [RC-07]. Several interviewees involved in offshore fishery monitoring and/or NEAFC complained about Russian fishery practices. As one member of the regulatory community that interacts with them put it, "*Russia catches the same TAC every year regardless of what the science advice is"* [RC-05]. And:

> *"Russia just completely ignores all environmental legislation, it fishes with tiny mesh size, lifting bags, blinders, a whole list of various things we've banned in the UK in the name of conservation and they've just totally ignored [them] and they're just fishing and fishing and fishing"* [RC-05].

According to this interviewee, NEAFC is not strong enough to control Russian fishing behavior, *i.e. "you can't really take strong enforcement activity, like you couldn't ban Russia from the NEAFC area, that's not going to happen"* [RC-05]. A key concern that arises from watching Russia's behavior within NEAFC is how offshore MPAs beyond EC waters will be protected. While NEAFC has managed to put forward some fishery closures in recent years (see Chapter 2, section 2.3.4), these areas were reduced in size and number from the original proposals. A member of the regulatory community summarized well the challenge of implementing international marine conservation in the offshore zone when they said:

> *"How on earth do you close a fishery in international waters? That is going to be even more complex than the Darwin Mounds and god knows the Darwin Mounds were not a simple closure.*

> *That's the problem with managing fisheries in international waters, you cannot take unilateral action. There's a common cry out from the British, UK [and] Scottish fishing industry to withdraw from the CFP, repatriate the waters and manage it – ours alone*" [RC-05].

The idea of withdrawing from the CFP was encountered only in interviews with members of the Scottish regulatory community, and only when discussing the tensions caused by devolution. These interviewees did not speak about the issue of seceding as their own perspective, but that of fishing industry representatives.

## CONCLUSION

This chapter has explored the limitations of using regime theory to predict the potential effectiveness of marine conservation initiatives in European waters. In examining the institutional framework set out in Chapter 2 within theoretical constructs of regime interactions, it is unclear how the different initiatives will co-exist, as they are still in a developmental stage. The analysis of different interviewee perspectives sheds more light on how these initiatives are moving towards achieving their goal of implementing an ecosystem approach in the marine environment. In particular, the establishment of RACs through the revised CFP and the implementation of MSP on a national level within European Member States should improve stakeholder engagement (in the case of the former) and better inter-agency integration with a more accurate ecological approach (though the latter). However, these mechanisms must be implemented carefully and with repeated opportunities for feedback, *i.e.* through an adaptive management mechanism as outlined earlier in the thesis in Chapter 3 (section 3.3.1).

Some additional areas of potential concern have not been directly addressed in the developing regime, namely the impact of the political process of devolution within the UK and the role of non-EC member fishing industry activity in the North-East Atlantic. With regard to the impact of devolution on the UK's capacity for implementing nature conservation measures that intersect with fisheries management issues, it is evident that this policy has already resulted in complications, *e.g.* the delayed implementation of the UK's Conservation

(Natural Habitats, etc.) Regulations offshore. Whether this will continue to be a complicating factor in the UK's participation in European marine conservation, or whether the process can be streamlined in some way, remains to be seen. In addition to the challenge posed by the bifurcation between fisheries management and marine nature conservation in European waters, the irresponsible fishing activity of third parties such as Russia in the North-East Atlantic does not bode well for future offshore MPA development. Already, NEAFC compromised on the size, number and locations of its recent fishery closures. The lobbying power of less cautious fishing nations within NEAFC is not dissimilar to the politics within the European Commission, a result of which was seen in the outcome of the UK's attempt to ban EC vessels from pair-trawling within its territorial waters.

The next and final chapter summarizes key arguments and draws the thesis together, while pointing out areas of potential future research.

# 8

## CONCLUSIONS

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*"There are as many opinions as there are experts"*
*(Franklin D. Roosevelt)*

### OVERVIEW

This thesis explores opportunities and challenges for the developing regime of offshore marine conservation in the North-East Atlantic. Several key issues arose during the legal review and the interview process, which have been examined in light of theoretical approaches to international environmental governance and legal obligations associated with marine nature conservation and fisheries management. Chapter 1 set out the following research questions, which this thesis has sought to address:

- What are the challenges to the developing regime of offshore Marine Protected Areas?
- What are the problems, gaps and issues with the current regime?
- What role is played by the relevant actors and their regulators and what are their perspectives?
- What is the potential impact of legislative reform currently underway?
- How does the UK's situation differ from that of other EU states under the same legal obligations?
- What lessons are to be learned for offshore MPAs as a whole? Recommendations?

This final chapter examines inter-related and overarching themes that emerged from the exploration of these questions, and highlights where further research would be beneficial.

## 8.1 OPPORTUNITIES AND CHALLENGES

The legal framework outlined in Chapter 2 offers significant potential for synergy in the future development of offshore marine nature conservation measures in European waters. At the same time, there is an underlying challenge posed by the legislative divide between fisheries management and marine nature conservation. The designation of offshore MPAs is going forward: the UK has compiled a list of potential sites under the Habitats Directive and these, in combination with sites put forward by other Member States, will likely form the first batch of OSPAR MPAs (see Tables 2.2 and 2.3 in Chapter 2).

Given the ramifications of the Greenpeace judgment and subsequent ECJ case law discussed in Chapter 2, all EC Member States are (i) required to implement the Habitats Directive out to the 200nm extent of their EFZs/EEZs (Case C-06/04); and (ii) obliged to treat Conventions to which the EC is a Party as Community law (de Berre Case), including UNCLOS (MOX Case). Consequently, as the OSPAR MPA network develops, this legal precedent may provide an opportunity for ensuring EC Member State compliance. As a result, while the potential tension between OSPAR and EC designations poses a challenge for offshore MPAs, it also presents an opportunity for OSPAR to push the EC process forward.

Having designated the EC's first offshore MPA around the Darwin Mounds, the UK is in a position of leadership compared with other Member States. Yet, following the outcome of the UK's attempt to ban pair-trawling for sea bass, it is evident that fisheries politics continue to pose a serious obstacle to the successful implementation of marine conservation measures in European waters. This difficulty will only be magnified further offshore, and of course in international waters. As a representative of the NGO community commented:

> *"Certainly the UK is further ahead than other EU Member States (other than Denmark and Germany who have managed to move faster), but generally across the European scene the situation for offshore protection is really still quite weak and poor"* [NGO-04].

From a legal standpoint however, there is some potential for future stakeholder involvement in environmental decision-making through the provisions of the Aarhus Convention (discussed in Chapter 2). If viewed within the ramifications of the Wadden Sea judgment, which stipulates *inter alia* that fishing activities can be considered a 'plan or project' under the Habitats Directive, there may be increased potential for NGOs and the public to have a greater participatory role and affect decision-making in situations where fisheries management and marine nature conservation overlap. Increased stakeholder participation is an objective of the developing European legislation for marine nature conservation, as evidenced by the recent establishment of RACs under the revised CFP. However if these initiatives do not live up to the high expectations placed upon them, it is worth noting that legal action through the Aarhus Convention may eventually provide a back-up mechanism for ensuring this aim.

Regarding a primary aim of the legislative framework currently under development, namely the implementation of a precautionary and ecosystem-based approach to managing European marine waters, this thesis has demonstrated that meeting these goals is a significant challenge. Indeed, the appropriateness of the revised CFP emergency closure mechanism as a precautionary approach can be questioned, given the Commission's rejection of the UK proposal to ban pair-trawling in the English Channel. This is not to say that the revised CFP is incapable of preventing damage to habitats and species resulting from fishing activities. Rather, this rejection demonstrates that it is relatively inflexible in the face of scientific uncertainty and does not require the shift in the burden of proof to the fishing industry necessary to fully implement the precautionary principle and the Habitats Directive. A representative from the NGO community raised a serious concern about the way the UK is addressing marine conservation objectives:

> *"The UK government is looking to find areas that simultaneously provide conservation and fisheries benefit. And […] the reason for doing that is that they're trying to get more bang for their buck, it's clearly an extremely expensive issue to manage a site network, whether it be Natura 2000 or OSPAR or whatever. It's pretty clear to me that the UK has been trying to find areas which will*

> *deliver multiple benefits so that they can get the nature conservation and the fisheries benefits and tie it up in one parcel and get better value for money. So that in itself shows you just the sort of constraint […] that begins to puts the policy-making through a bottle-neck immediately"* [NGO-04].

From a theoretical standpoint, given the complex adaptive nature of the marine environment, having a complex institutional framework mirroring the nature of the environment it is designed to address may be the most flexible and effective means of ensuring successful protection. Complexity allows for co-evolutionary processes and adaptive co-management. The type and reliability of the science used in decision-making plays a key role in the successful establishment of protective measures, especially given the role of precaution in environmental decision-making. While it can be argued that 'precaution' has been misinterpreted in some circumstances, it is nevertheless a key concept that has been integrated into the legislative framework governing marine conservation. In cases where it may appear that precaution is not being taken into account in the decision-making process, it is up to the policy-makers and the stakeholder community to ensure that a precautionary approach is prioritized.

With regard to institutional blockages versus synergy, this thesis has explored the framework of legislation and institutions governing the marine environment in the North-East Atlantic, and has attempted to identify areas and issues that seem likely to pose challenges for implementing offshore MPAs. The delay in the offshore extension of the UK's national legislation implementing the Habitats Directive shows quite clearly the difficulty inherent in revisiting legislation that was drafted in a different policy environment, at a different time. The remainder of this concluding chapter addresses overarching themes and areas for future research.

## 8.2 Improving the Policy Process: Bridging the Gap Between Marine Nature Conservation and Fisheries Management

The implications of the offshore application of the Habitats Directive should not be underestimated; the UK has already been prosecuted by the ECJ for delaying

the extension and implementation of its Conservation (Natural Habitats, etc.) Regulations. In terms of designating offshore MPAs, the UK has *"the largest area of offshore waters"* compared with other Member states and "*if we're going to go about it in a systematic way it's going to take us longer to come up with actual areas"* [RC-10]. As a result, it is unlikely that the process of designating Natura 2000 and/or OSPAR sites will be completed for the UK's EFZ quickly. As a representative from the NGO community put it, "*we don't expect to see Natura 2000 completed for UK waters for well into the next decade, probably 2015 or something"* [NGO-04].

Another constraint on the UK policy process was highlighted by a member of the scientific community, who commented that *"in the UK, marine research is not policy driven at all. […] Conservation is almost a dirty word"* [EC-13]. This feeds into the issue of 'whose science' which was addressed earlier in Chapter 6, *i.e.* if there is greater emphasis put upon science originating from, for example, ICES than from other sources, this may result in a situation where the actual conservation needs are not being addressed. As a member of the NGO community remarked:

> *"ICES is largely dominated by fisheries scientists and it will just fundamentally be different to advice for the inshore for example that are led by ecologists, marine biologists. I think in terms of effectiveness that has got to be a key issue, the basic standards and the ability to protect will be determined by very different sets of views"* [NGO-03].

From an institutional effectiveness perspective and in examining the interactions between institutions currently addressing marine conservation issues in the North-East Atlantic, there are several areas of potential conflict that need to be addressed in order to facilitate the policy process. While OSPAR will benefit from the Habitats Directive, by using the latter's Natura 2000 network as a starting point for its own network of MPAs, there needs to be a concerted effort to make sure that the OSPAR network goes above and beyond the Habitats Directive and includes habitats and species not currently included in the Directive's Annexes, as these are not likely to be amended in the near future.

Geographical issues with regard to the expansion of Europe and consequent strain on the monitoring of protected areas should also be taken into account, as should the destructive behavior of non-EC countries that operate fishing activities in the North-East Atlantic. There is some potential for action from the UN towards a moratorium on deep-sea bottom trawling (although this initiative has already been delayed), however the current situation whereby Russia is perceived as a negative force within NEAFC and a threat to marine conservation in the offshore North-East Atlantic needs to be addressed. There may be potential for other parties of both NEAFC and UNCLOS to take Russia to the International Tribunal for the Law of the Sea (ITLOS) if it is indeed not taking its responsibilities seriously and using inappropriate gear, as well as compromising the goals and TACs operating in NEAFC. Regional Fisheries Management Organisations (RFMOs) must improve their capacity to integrate fisheries management and marine ecosystem protection. In the words of a member of the epistemic community: *"whether or not [RFMOs] are actually competent to deal with the ecosystem impacts of deep sea fishing or to actually manage conservation areas [is questionable]. For the moment they probably aren't"* [EC-13].

The lack of communication between DG Fisheries and DG Environment must also be addressed, and their work should be joined in a more visible manner. Although they engage in consultations, the fact that the Marine Strategy Directive and Maritime Policy are institutionally separated during their development could prove problematic. The fisheries sector in Europe needs to accept more responsibility for implementing an ecosystem approach, and to learn from ICES in that regard, as the latter have gone through a major restructuring recently which several interviewees commented was a progressive change they would also welcome seeing occur in DG Fisheries.

The bifurcation between fisheries management and nature conservation must be formally addressed despite the inherent political difficulties in approaching this topic, as fisheries are no longer simply an agricultural product when activities

associated with the fishing industry are causing negative impacts on the marine environment on such a wide scale (compared with agriculture). Although many interviewees agreed that this bifurcation was a serious issue, none offered suggestions on how to resolve it. We have already seen some positive interaction between the CFP and Habitats Directive in the designation of the Darwin Mounds MPA, whereby the emergency closure mechanism available in the revised CFP was invoked and allowed for the protection of the Darwin Mounds where the Habitats Directive could not. However, as discussed in Chapter 6, the subsequent attempt to use the CFP emergency closure mechanism to protect dolphins in the English Channel met with less success. As a member of the epistemic community remarked:

> *"Realistically, the CFP itself is in the early stages of developing its distinctly 'environmentalist' credentials and one dodgy call does not necessarily mean an abandonment of these principles, but in truth the failure to support the UK proposal does not augur well"* [EC-03].

This does not bode well for the future converging of fisheries management and marine nature conservation interests. The developing Maritime Policy and Marine Strategy Directive provide an opportunity to resolve some of the tensions inherent in this bifurcation, but do not appear to be taking this path. Although fisheries legislation has a long history of being viewed within the economic (*i.e.* agricultural) priorities of states, and has only recently been integrated with environmental concerns, there is room for improvement, and whether this will be part of the developing Maritime Strategy for Europe and the Marine Strategy Directive remains to be seen. Even with these two initiatives, however, the disconnect is present, with the Maritime Strategy under the auspices of DG Fisheries, while the Marine Strategy Directive is being drafted within DG Environment. Also, as pointed out by interviewees from the NGO community, there is a risk that these initiatives are being driven by economic rather than environmental concerns, following the Lisbon Agenda, with significant ramifications for the evolution of sustainable development and an ecosystem approach with regard to marine environmental management.

Nevertheless, the Darwin Mounds closure is a unique case, and hopefully not the only time that the revised CFP will be used successfully to implement an offshore closure for nature conservation purposes. As a member of the regulatory community involved in enforcement put it, *"I think if ten years ago you said to somebody that a conservation measure would be enforced through legislation that was introduced via the CFP, they would have laughed at you"* [RC-02]. A representative from the NGO community remarked that:

> *"The Darwin Mounds is a fantastic step forward but it also throws into sharp relief all the challenges to the sector and engaging in the process. I've heard that particularly from the French who did a lot of fishing out there – the Darwin Mounds really shook them to the core really, they thought my God, is this the start of a trend?"* [NGO-04].

Increasing the role of stakeholder engagement during the development of the institutions described in this thesis should improve their addressing issues of overlapping interest, despite being drafted by separate DGs with limited willingness to collaborate. It may be that the EC's obligations as a Party to OSPAR will help push forward a more symbiotic approach to marine nature conservation in areas subject to threat by fishing activities. This is not a certainty, however, given that OSPAR does not include fisheries within its remit. Rather, the CFP and NEAFC remain the primary management bodies for fishing activities in the North-East Atlantic. Given the political situation within NEAFC discussed in Chapter 7, it seems unlikely that this RFMO will provide more than the bare minimum with regard to fisheries conservation measures. With Russia pushing NEAFC in a negative direction and the French fishing lobby pushing the Commission on the use of the CFP emergency measures, one might think that the future for reconciling marine conservation with fisheries management has its hands tied.

Further research comparing the performance of different RFMOs with regard to marine nature conservation, as well as how to address the tension between fishing and conservation on the high seas would be useful. It would also be interesting to explore options for UN-based moratoria on the high seas, and

whether this is a feasible (or desirable) route. While RFMOs may not be making great strides in the conservation of marine living resources, they are the only bodies currently affecting fishing on the high seas, and may provide the only means for controlling fishing in areas beyond national jurisdiction (in the absence of UN-based rules).

### 8.3 A LEVEL PLAYING FIELD

The quest for 'a level playing field' was an overarching theme that emerged during the interview process. For the cases analyzed in this thesis, this issue involves not only the UK's role within the EC, but also the ramifications of devolution within the UK. Members of the regulatory community based in Scotland were predictably the most vocal about their sense of disconnect from the policy process due to the fact that fisheries management now lies within the remit of the Commission on the European level, and Whitehall on the UK level.

Interviewees from the oil and gas industry expressed disappointment that they were held more visibly accountable for marine environmental protection in the public eye than the fishing industry, especially given the fact that the Darwin Mounds themselves were discovered by the AFEN industry-science partnership. As one representative from the oil and gas industry remarked:

> *"It's a shame [Greenpeace] cant find a way to reconcile their policy of no oil, it's impractical, as a long-term aim I can understand – but if you shut off oil tomorrow you'll get lynched in the streets, there would be civil unrest. They say they need aims. What they need are sustainable, measurable, achievable, realistic, targeted aims. We're trying to have 10% renewables by 2010, 20% by 2020, that's the way to do it"* [UCI-03].

The epistemic community voiced concern over the role of science in policy-making, particularly with regard to the appropriate interpretation of their results without, for example, political priorities dictating which science to use in decision-making. This is a complex issue that warrants further study, but it is interesting to highlight here that the scientists' perspective can, like that of industry, be viewed as a quest for a 'level playing field' with regard to the use of

their work. With stakeholder participation and public access to information on decision-making increasing, the further incorporation of NGO and public perspectives into the policy process may provide a more balanced approach towards gaining 'a level playing field'.

Members of the fishing industry expressed resentment that their livelihood was restricted, in comparison with that of other Member States, particularly with regard to the domestic ban on pair-trawling for sea bass in the English Channel. Interestingly, while UK fishing representatives expressed optimism that their involvement in the policy process was increasing through mechanisms like the newly-formed RACs under the revised CFP, it was also clear that had they had more access to information at the time, they may have voiced dissent about the Darwin Mounds closure. As one representative put it, the closure was *"done and dusted"* [UCF-02] before they had a chance to voice their opinion. This raises the question: did the fishing industry (in particular, the French) learn a lesson from the relatively quick and efficient policy process that went into the Darwin Mounds closure that caused them to lobby so strongly and successfully against the UK attempt to ban pair-trawling for sea bass in the English Channel? While French interests pushed for the boundaries of the Darwin Mounds closure to be altered, this was largely a symbolic maneuver as it occurred late in the process and did not amount to a large area in which to allow the continuation of fishing efforts, however much or little may have been going on there.

Representatives from the NGO community were also quite positive about their increased participation in the policy process, with one remarking that they felt their inclusion as observers within the OSPAR Commission since the adoption of Annex V in 1998 had given them a voice [NGO-02]. An interesting related issue is that of political synergy within the NGO community. In the case of the Darwin Mounds closure, Greenpeace ignited the issue through its Atlantic Frontier Campaign and the subsequent Greenpeace judgment, and the campaign was then shepherded by WWF through the development of its North-East Atlantic Programme, lobbying for closures, with the Institute for European Environmental Policy (IEEP) working more behind the scenes in Brussels.

While this worked well for the Darwin Mounds closure, there was less success for the NGO coalition that pushed for a ban on pair-trawling on sea bass. Could this be because in the case of the Darwin Mounds, the NGOs were acting more independently (*i.e.* not as a formal coalition), or perhaps because the political process in Brussels (including lobbying by the fishing industry) was strong enough forces to outweigh the benefits of having an NGO consortium behind the issue?

## 8.4 Recommendations for Future Research

This thesis has sought to address the potential opportunities and challenges for offshore marine conservation in European waters through an interdisciplinary synthesis. This approach highlighted the limitations of taking a purely theoretical regime effectiveness approach to understanding a developing regime, such as is the situation in the European marine environment. It would be useful to continue to examine the development of regional initiatives, *i.e.* the Marine Strategy Directive and European Maritime Policy, to see whether they will adapt in order to alleviate the tension between fisheries management and marine nature conservation. Equally, it will be important to gauge the development of the OSPAR network of MPAs. Comparing the progress of individual Parties and Member States towards their commitments under the Habitats Directive and OSPAR would also be useful, especially with the recent (and future) expansion of European Community membership.

Further consideration of the effects of the Aarhus Convention on European environmental politics and decision-making would be valuable, including the role of stakeholder participation in the development of marine environmental legislation and whether this differs from terrestrial examples. The continued development of the RAC consultation process may provide a comparative framework, especially as some regions are likely to be more active than others. In addition, an examination of how European expansion is affecting its environmental record with respect to marine conservation would also be interesting.

The uncertainty inherent in the complex nature of the marine environment is further complicated by political uncertainties. A more in-depth examination of fisheries politics versus offshore marine conservation is an area that must be explored as more cases present themselves. This examination should extend beyond Europe, comparing the EC's legal and political situation with that of other regions (*e.g.* the Americas, South East Asia, *etc.*) in order to better understand tensions on the high seas and weaknesses within RFMOs.

It would also be interesting to evaluate the actual monetary value of deep-sea fisheries and how this is changing as fishermen move offshore following the depletion of fish stocks closer to shore. It would be particularly useful to examine stakeholder perspectives on how fuel prices affect fishing behavior, if at all, and how the fishing industry's shift offshore has affected politics and decision-making in Brussels.

As a result, a two-fold approach to understanding the interaction between fisheries and conservation in the offshore marine environment should be taken. On the one hand, the economic incentives for deep-sea fishing should be assessed, with a sense of how consumer demand (or lack thereof) can potentially affect this destructive practice. On the other end of the spectrum, a closer analysis of how fisheries politics is affecting marine environmental politics in Brussels is necessary, as well as whether or not the mechanisms for incorporating stakeholder perspectives (*e.g.* RACs) are achieving their goals.

Recalling the international initiatives towards networks of MPAs set out at the beginning of the thesis, it will also be key to monitor international progress towards the 2012 goal set by the WSSD, IUCN and CBD in order to assess international political will for offshore marine conservation. This thesis has focused on UK scenarios, and given the UK is widely viewed as a leader in marine environmental affairs, the disparate outcome of the Darwin Mounds and attempted pair-trawl ban does not bode well for European-wide marine conservation initiatives. However, as detailed in this study, legal mechanisms and practice are supportive of conservation, as long as the political will is in

place. It would therefore also be worthwhile to examine this situation from the opposite direction, *i.e.* whereas this thesis has taken a top-down approach to assessing the perspectives of players in the process and untold stories, a bottom-up analysis of stakeholder perspectives might be a useful compliment for monitoring the developing regime.

In addition to telling the story of the Darwin Mounds offshore MPA, this thesis has sought to address issues of underling tension and potential opportunities for future offshore marine conservation initiatives. It is hoped that the issues highlighted in this study will be of value to the future designation of MPAs in EC offshore waters, and even the high seas. Establishing a representative network of MPAs in offshore waters and beyond is scientifically and legally feasible – whether the political will is in place is a different story, and given the economic weight given to fishing activities (and the resultant lobbying power the industry holds in the political arena), achieving progress from a conservation perspective will be difficult. The enforcement of offshore MPAs also poses challenges, but advancements in satellite VMS tracking technology are making continued improvements. Whether this technology can be harnessed to enforce high seas MPAs will depend on international political will and compromise.

As the story of the Darwin Mounds has shown, compromise in conservation measures to appease the fishing industry can find a middle ground. However, protecting a sedentary habitat versus a mobile species (such as cetaceans or fish) clearly poses a different set of challenges and political/economic circumstances. As a member of the regulatory community remarked:

> *"For the High Seas and Exclusive Economic Zone, we have to learn the lesson of history – effectively, acting before it's too late. Especially for the High Seas. And being fooled that species are plentiful"* [RC-04].

The developing UK Marine Bill's role in addressing some of the challenges of marine conservation is also worth exploring. Further research on these issues as the regime for offshore MPAs continues to develop will be crucial, especially

given the fact that the regime does not lend itself easily to a systematic theoretical analysis. Rather, the examination of individual successes and failures will offer the most value for determining ways forward and solutions to underlying tensions.

While the developing legislative framework for offshore marine conservation in the North-East Atlantic is complex, it is also providing opportunities to address the issues raised in the case studies explored in this thesis, namely a better integration of the regulatory activities of DG Fish and DG Environment, and provision for EC policies and decisions that are consistent with the precautionary principle. Perhaps, with future hindsight, we will be able to look back and consider the catalytic role of these initiatives to be among their greatest achievements (De Santo and Jones, 2007a).

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## APPENDIX I: SAMPLE LETTER OF INTRODUCTION TO INTERVIEWEES

The following letter was sent to potential interviewees, with specific information tailored to the individual included as appropriate.

[ADDRESS OF INTERVIEWEE]

[DATE, 2005]

Dear [NAME],

I am a PhD candidate at UCL working under the supervision of Dr. Peter Jones (Department of Geography) and Prof. Philippe Sands (Faculty of Laws). My research focuses on the development of an offshore marine protected area regime around the Darwin Mounds area of deep-sea coral off the coast of the UK. Please see the enclosed summary of my project, *The Darwin Mounds - From Undiscovered Coral to the Emergence of an Offshore Marine Protected Area Regime: a History of Interactions and Consequences.*

To date I have completed an in-depth review of the legal and policy issues involved in this regime. I am currently in the second phase of my research, interviewing members of the scientific, regulatory and user communities to gain insight and add personal histories to my analysis. Given your [INSERT PERSONAL EXPERTISE/RELEVANCE] I would be very interested in meeting with you in person for an informal discussion about some of the issues I am exploring, which are set out in the attached research outline.

UCL enforces rigorous ethical guidelines for research and therefore any information we discuss will be treated in strictest confidence and your anonymity is assured unless you agree otherwise.

[ASK FOR RECOMMENDATION OF ANOTHER PERSON IF RELEVANT]

Thank you very much for your time and interest, and I look forward to hearing from you soon and hopefully meeting you in the near future.

Yours sincerely,

Elizabeth De Santo
PhD Candidate

Email: e.santo@ucl.ac.uk
Telephone: 0207 679 5527
Mobile: 078 34 32 14 73

## APPENDIX II: UK REQUEST FOR EMERGENCY MEASURES

The following correspondence from July 2004 lays out the UK request to the European Commission for an emergency closure of the sea bass pair-trawl fishery in the Western Channel under Article 7 of the revised CFP (Regulation 2371/2002).

**COUNCIL OF THE EUROPEAN UNION**

**Brussels, 30 July 2004**

**GENERAL SECRETARIAT**
**DG B III - Fisheries**

***By e-mail***

***URGENT***

**NOTE TO DELEGATIONS 302/04**
**(Working Party on Internal Fisheries Policy)**

**Subject: Cetaceans emergency measures**
- **UK request under Article 7 of Regulation (EC) n° 2371/2002**

Delegations will find enclosed a copy of a UK request that the Commission takes emergency measures to tackle cetacean bycatch. This request has been communicated to the Commission today, 30 July 2004.

Member States are kindly reminded that under Article 7(2) of the said Regulation, "*they may submit their written comments to the Commission within five working days of receipt of the request*".

Klavs SKOVSHOLM

30 July 2004

Jörgen Holmquist Esq
Director-General for Fisheries
European Commission
Rue de la Loi 200
1049 Brussels

**By fax and post**

United Kingdom
Permanent Representation
To the European Union

Avenue d'Auderghem 10
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Dear Director-General,

**TACKLING CETACEAN BYCATCH: UK REQUEST FOR EMERGENCY MEASURES UNDER ARTICLE 7 OF THE CFP REGULATION**

My authorities have concluded that current levels of cetacean bycatch in the Western Channel pair trawl fishery for bass may constitute a threat to the common dolphin population and that Commission action to close this fishery is needed under Article 7 of Council Regulation EC (No) 2371/2002.

The UK Government has been concerned for a number of years about levels of bycatch of common dolphins in the bass pair trawl fishery prosecuted off the south west coasts of the UK. My authorities have been committed to making progress on reducing these bycatch levels and have undertaken considerable research to identify the fisheries concerned and to seek mitigating measures which will allow those fisheries to continue whilst at the same time protecting this species.

My authorities' call for action is based on the grounds that bycatch levels may be above 1.7% of the relevant abundance estimate for the species. ASCOBANS and ICES consider such a level to be unacceptable level since any higher take is seen as inevitably leading to population decline. Alongside these serious levels of bycatch, it has become clear to my authorities from their most recent research that mitigation methods are not currently sufficiently developed to reduce bycatch to more acceptable levels. Until such time as a proven means of reducing bycatch has been identified, my authorities believe that other more radical options to reduce bycatch in this fishery are needed. This is why a request is being made to take action under Article 7 of Council Regulation 2371/2002. Such action would address the bycatch problem in this fishery with immediate effect.

My authorities have considered the use of other powers available under the CFP framework regulation to address this problem but have concluded that

action under Article 7 would provide the most effective means in the short term to tackle this bycatch problem.

You may question why the UK Government now sees the need for immediate action in a fishery which has existed for a number of years and which it has been closely observing over recent years. In the first instance, it is precisely because my authorites have investigated this fishery that they have, they believe, sufficient information to justify concern at the levels of bycatch observed. This has been re-iterated by the most recent report from this research, which also conveyed the disappointing news that the mitigation measures trialled by my authorities have not been as successful as we had hoped and will not provide a solution to the problem in the near future. This is new data and the need for immediate action is dictated by the nature of the fishery. It has now closed and will remain so until November this year. There is therefore a window of opportunity in which the Commission can take action to protect common dolphins.

You may also question why there is a need for action on a Community level. This is because vessels from another Member State, namely France, prosecute the fishery. This is why the UK has for many years, in the light of the research findings, pressed for meaningful action at an EU level to address the problems identified. Furthermore, my authorities do not believe that the implementation of the recent Council Regulation (EC) No 812/2004 provides an effective response to the threat now faced since this only requires increased observer coverage and would not be in line with the application of the precautionary approach to fisheries management.

The UK government believes the data detailed in the attached case at Annex A substantiate its concern that the current levels of bycatch in this fishery would lead to population declines as defined by ICES and the Agreement on Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS). Such declines would also contravene the Ministerial Declaration of the Fifth International Conference on the Protection of the North Sea (the 'Bergen Declaration') of March 2002 which urged competent fisheries authorities to take all necessary measures to minimise incidental catches and, on a precautionary objective, to reduce bycatch of marine mammals to less than 1% of the best available population estimate. In these circumstances my authorities consider that the Commission should take action to close fishing for bass through the use of pelagic pair trawls in ICES area VIIe for the forthcoming season while permanent measures are considered.

I am copying this letter, with the kind assistance of the Council Secretariat, to all Member States to enable them to make any comments in line with the provisions of Article 7. I am also copying this letter to your colleagues John Farnell, Armando Astudillo and Jean Weissenberger.

Yours sincerely,

Gareth Baynham-Hughes
First Secretary (Fisheries)

**ANNEX A**

**BASS FISHERY RESEARCH**

1. The UK funded the Sea Mammal Research Unit (SMRU) in 2000 to carry out a 3 year project into cetacean bycatch which included widening observer coverage of fisheries to target pelagic fisheries which had not been monitored previously. In observations made during 190 days at sea, no bycatch was seen in the fisheries for herring, mackerel, sprat, pilchard, blue whiting and anchovy. However, a significant bycatch was identified from surveys carried out in the offshore pelagic pair trawl fishery for bass off the South West coast of England: in observations made from 2001 to 2003 during 313 hauls, a total of 91 common dolphins were observed caught.

**Table One**

**Sea Mammal Research Unit: Observations on board bass trawlers 2001-2003**

| Year | | Days at Sea | No of hauls | Dolphin bycatch |
|---|---|---|---|---|
| 2001 | Total | 72 | 116 | 53 |
| 2002 | With exclusion grid | 4 | 9 | 0 |
| | Without exclusion grid | 33 | 57 | 8 |
| | Total | 37 | 66 | 8 |
| 2003 | With exclusion grid | 49 | 82 | 2 |
| | Without exclusion grid | 35 | 49 | 28 |
| | Total | 84 | 131 | 30 |
| **Combined total** | | **193** | **313** | **91** |

2. As a result of the level of bycatch observed in the offshore pair trawl fishery for bass, the focus of Defra research shifted to the identification and trialling of mitigation measures for this fishery. Trials of an exclusion grid designed to reduce common dolphin bycatch, undertaken by SMRU on Defra's behalf, demonstrated that grid performance had a minimal effect on the levels of bass entering the net, but that dolphins should be able to escape the net.

3. In this season's trial various designs of grids were tested, but bycatch remained high throughout. A total of 169 dolphin casualties were observed, of which the larger part were bycaught while the grids were being deployed. The research also revealed a higher rate of bycatch in November (prior to the deployment of the grid), compared both to previous years and to any previously monitored month. Of 22 hauls observed in November, 7 were dolphin bycatch hauls with a total of 31 animals taken. The trial has demonstrated clearly that there is no easy, or early technical solution to reducing the bycatch in this fishery through the use of mitigation devices. Bycatch levels across the whole fishery, including the majority French element, may constitute a threat to the conservation of common dolphin populations.

**Table Two**

**Sea Mammal Research Unit: Observations on board bass trawlers 2003-2004**

| Time period | Recorded effort (hauls) | Hauls observed | Observed bycatch rate | Tow rate* | Estimated mortality for UK fleet | % effort observed |
|---|---|---|---|---|---|---|
| Mid Nov to April | 382 | 155 | 1.04 | 3.6 | 397 | 40 |

**No of hauls in which one haul had a bycatch*

4. Based on observations made during the 2003/4 fishery, dolphin bycatch for the UK element of the bass offshore pair trawl fishery is estimated at approximately 400 animals. On the assumption that bycatch rates are equivalent in the larger French element of the fishery, and on the basis of an abundance estimate of 75,000 (SCANS 1994) or 120,000 (Source: Michel Goujon 1996, Captures Accidentalles du Filet Maillant Dérivant et Dynamique des Populations de Dauphins au Large du Golfe de Gascogne), it is estimated that bycatch of the common dolphins could be 2% or over. This is clearly in excess of the objective of reducing bycatch to below 1% of the best available population estimates accepted by North Sea Ministers in 2002 at the 5th North Sea Conference.

## APPENDIX III: RESPONSE FROM THE COMMISSION

The following letter from August 2004 outlines the European Commission's response to the UK request for an emergency closure of the pair-trawl fishery operating in the English Channel.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
FISHERIES

The Director General

Brussels, 24.08.2004
D(2004) - 8120

His Excellency Mr John GRANT
Ambassador
Permanent Representation of the
United Kingdom to the European
Union
Avenue d'Auderghem, 10
1040 Bruxelles

**Subject: UK request for an emergency measure to close fishing for bass through the use of pelagic pair trawls in ICES division VIIe.**

Sir,

I refer to the UK request expressed in the letter of Mr Gareth Baynham-Hughes of 30 July 2004 for a Commission emergency measure on the basis of Article 7 of Council Regulation (EC) No 2371/2002[1] to close fishing for bass through the use of pelagic pair trawls in ICES division VIIe, on the grounds that current levels of by-catch in the Western Channel pair trawl fishery for bass may constitute a threat to the common dolphin population.

The Commission has scrutinised the request of the UK authorities and the background information accompanying it carefully.

The Commission acknowledges the considerable efforts made by the United Kingdom authorities and scientists to find a solution to the problem of cetacean by-catch in pelagic trawls. It shares the views of the UK authorities that the present overall by-catch of small cetaceans in these fisheries may be too high and is fully committed to reduce cetacean mortality in fishing. The Commission agrees that by-catch of small cetaceans in fishing activities is to be considered as a serious threat to the conservation of cetacean populations, that excessive by-catch of small cetaceans in fisheries will lead to population decline, and that the information available, although only partial, raises particular concerns for certain populations of dolphins or porpoises.

However, the Commission believes that the legal requirements justifying recourse to the emergency procedure foreseen in Article 7 of Regulation 2371/2002 are not fulfilled in this case, in particular regarding the need for immediate action.

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[1] Council Regulation (EC) No 2371/2002 of 20.12.2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, OJ EU L 358, 31.12.2002, p. 59.

The sea bass pair trawl fishery is a seasonal fishery that takes place during the winter (between November and May) with a marked concentration of effort in February and March. Whatever the merits of the case presented by the United Kingdom (to be discussed below), immediate closure of this fishery by way of a Commission emergency procedure does not appear justified, given that normal procedures, such as the adoption of the annual TAC and Quotas Regulation or an amendment thereof following consultation of scientific experts and all interested parties, would allow the adoption of any necessary measure before the main period of this fishery.

Moreover, the background information accompanying the UK request, which refers to the observations and by-catch estimates for common dolphin made during the 2003/2004 fishery, does not provide radically new evidence on the level of threat to the conservation of common dolphins as a result of the sea bass fishery using pair trawls, and is not sufficient to motivate an immediate ban of this fishery.

Furthermore, the immediate action proposed by the United Kingdom is in the Commission's view inappropriate and unlikely to achieve the desired goal.

The issue of cetacean by-catch in pelagic pair trawling for bass was specifically addressed as part of the comprehensive scientific review and advice given by the International Council for the Exploration of the Sea (ICES) in 2002 on cetacean by-catch in fisheries, further reviewed and completed in 2003. ICES considered that a "*ban on pelagic pair trawling for bass*" would be an "*arbitrary measure, unlikely to achieve the desired goal*". ICES also indicates that "*other fisheries than pair trawling for bass also catch dolphins*", and "*there is a need for a comprehensive monitoring of the numerous trawl fisheries active in this region before we can be precise about mitigation requirements*"[2].

ICES advice served as the basis for the Commission proposal made last year for a Regulation laying down measures concerning incidental catches of cetaceans in fisheries which was endorsed by the Council in March 2004 and formally adopted in April this year in Regulation (EC) No 812/2004[3].

The Commission also considers that a prohibition on the use of pair trawl to target sea bass in ICES division VIIe could result in a redistribution of fishing effort either into other fisheries (whether defined by gear or target species) in the same area or into adjacent areas, without necessarily reducing the by-catch of common dolphins. This reason was also mentioned by ICES for not recommending spatial or temporal closure on a small scale as an effective mitigation strategy at this stage.

In substantiating their request with evidence on the threat to the conservation of common dolphins as a result of the sea bass fishery using pair trawls, the UK authorities indicate that the trials using exclusion grids during the last fishing season have not been as successful as hoped earlier and will not provide a solution to the by-catch problem in the

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[2] 2002 Report of the Advisory Committee on Ecosystems (ACE), available on http://www.ices.dk/iceswork/ace.asp (see in particular its chapter 2.3.3). See also the 2003 ACE report (in particular chapter 4.1.2).

[3] Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending regulation (EC) No 88/98, OJ EU L150, 30.4.2004, p. 12.

near future. The Commission considers that disappointing results or slow developments in the search for a solution to the cetacean by-catch problem are not a reasonable justification for proposing alternative solutions that will not necessarily achieve the desired objective.

In view of the elements above, the Commission concludes that there is at this stage insufficient justification to prohibit sea bass fishing using pair trawls in ICES division VIIe with immediate effect by way of an emergency procedure and has decided to reject the UK request presented according to Article 7 of Council Regulation 2371/2002.

This being said, the Commission services share the concern of the UK authorities to take appropriate measures to limit cetacean by-catch and are ready to consider any evidence which may serve to define effective measures in this regard. I would therefore like to invite you to provide my services with any scientific reports on cetacean by-catch in fisheries that may have been finalised recently within the United Kingdom and that were not taken into account in the most recent advice from ICES. Such data may provide a basis for ICES to review its previous advice.

My services are also ready to organise a technical meeting that would allow the UK competent authorities to present the findings referred to in your request to all interested parties and to discuss possible measures to mitigate cetacean by-catch in pelagic pair trawling. We would also propose to discuss with the Member States concerned the possibility of examining as early as possible in 2005 the information to be collected from the monitoring of pelagic fisheries that is to be put in place as from 1 January 2005 under Regulation 812/2004 and from the preliminary results of EC-funded studies that are being carried out at present. We believe that this early review of monitoring results may help to improve our knowledge of the spatial and seasonal patterns of by-catch of the most important fisheries concerned.

The Commission is committed to working towards a solution of this problem in close cooperation with the authorities of the United Kingdom and of the other Member States concerned.

Yours faithfully,

Jörgen HOLMQUIST

c.c.: Permanent Representations of all Member States

## APPENDIX IV: UK REQUEST FOR EXTENSION OF DOMESTIC BAN

The following letter from January 2005 shows the UK's request to the European Commission to extend the application of its domestic ban to vessels from other Member States, under Article 9 of the revised CFP (Regulation 2371/2002).

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Permanent Representation
To the European Union

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26 January 2005

Jörgen Holmquist Esq
Director-General for Fisheries
European Commission
Rue de la Loi 200
1049 Brussels

**By fax and post**

**TACKLING CETACEAN BYCATCH: UK REQUEST FOR EXTENSION OF A DOMESTIC BAN ON PAIR TRAWLING FOR BASS IN INSHORE WATERS**

My authorities have taken action to close the pair trawl fishery for bass to United Kingdom vessels within 12 miles of the south-west coast of England and now request that the Commission acts under Article 9 of Council Regulation EC (No) 2371/2002 to extend this closure to vessels of other Member States who have access to this area.

The UK Government has been concerned for a number of years about levels of bycatch of common dolphins in the bass pair trawl fishery prosecuted off the south west coast of the UK. The UK has been committed to making progress on reducing bycatches and has undertaken considerable research to identify the fisheries concerned and to seek mitigating measures which will allow those fisheries to continue whilst at the same time protecting this species.

My letter of 30 July 2004 set out the levels of bycatch in the bass pair trawl fishery in the Western Channel, together with the results of UK research into mitigation measures. It also requested that the Commission take emergency action under Article 9 of Council Regulation EC (No) 2371/2002 to close this fishery.

In the light of the Commission decision to reject the UK case for an emergency closure, my authorities have been considering what other powers are available to member states to take action for the protection of cetaceans from fishing activities. They have concluded that the use of powers under Article 9 of the CFP framework regulation would now be an appropriate response.

My authorities are aware that a large proportion of the effort in this fishery occurs outside the 12 mile zone. However, the closure is seen as an interim step, using the full extent of powers available to member states

under the CFP, until more effective, co-ordinated action at a Community level is possible. The results of the research programme 'NECESSITY' and the observer programmes set up under Council Regulation (EC) No 812/2004 will be highly relevant in this regard.

Some informal consultation on this measure has already take place. Notably, my authorities met Commission officials and representatives from some other member states at a technical meeting on 17 November 2004 to discuss cetacean bycatch in pelagic trawls. The UK referred to its intention to introduce a 12 mile closure at that meeting. Separately, UK Fisheries Minister Ben Bradshaw MP has written to the French Government setting out plans to ban this fishery within the UK 12 mile limit and explaining that, for reasons of equity, the UK would also be applying to have this ban extended to all pair trawlers fishing for bass in the 12 mile zone. UK legislation introducing the ban was made in December.

It may be helpful to give an explanation of how the prohibition has been drawn up. Article 3(2)(a) allows pair trawling for other pelagic species to continue. My authorities understand that a bass pair trawl net is characterised by very large meshes in the forward wings of the net, and have used this to allow demersal pair trawl fisheries using the same mesh sizes in the cod-end as the bass fishery to continue (Article 3(2)(b)).

I am directly addressing this letter in tandem to those member states (France and Belgium) with access to the relevant area to enable them to make any comments in line with the requirements of Article 9. My authorities understand that there is little activity by French vessels in this area, possible only two pairs enter this zone. This action would therefore have little impact overall on the French pair trawl fishery for bass. In addition, I am copying this letter to all other Member States as well as your colleagues John Farnell, Jean Weissenberger and Maja Kirchner.

Gareth Baynham-Hughes
First Secretary (Fisheries)