The Mid-Atlantic Ridge: A Case Study on the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction

Marine Series No. 3

IUCN Environmental Policy and Law Papers online

Universiteit Utrecht

The Mid-Atlantic Ridge:
A Case Study on the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction

The Mid-Atlantic Ridge:
A Case Study on the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction

Harm Dotinga and Erik Jaap Molenaar
Netherlands Institute for the Law of the Sea, Utrecht University, School of Law, The Netherlands

IUCN Marine Law and Policy Paper No. 3

This publication has been made possible in part by funding from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Dutch Ministry of Agriculture, Nature and Food Quality.

Published by: IUCN, Gland, Switzerland in collaboration with the IUCN Environmental Law Centre, Bonn, Germany

Citation: Harm Dotinga and Erik J. Molenaar (2008). *The Mid-Atlantic Ridge: A Case Study on the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction.*. IUCN, Gland, Switzerland. x + 22

ISBN: 978-2-8317-1052-5

Cover design by: IUCN Environmental Law Centre

Cover image: IUCN Photo Library © Sarah Gotheil

Layout by: DCM, Druck Center Meckenheim GmbH

Produced by: IUCN Environmental Law Centre

Download from: IUCN Environmental Law Centre website at www.iucn.org/law

A catalogue of IUCN publications is also available from:

IUCN (International Union for Conservation of Nature)
Publications Services
Rue Mauverney 28
1196 Gland
Switzerland
Tel +41 22 999 0000
Fax +41 22 999 0010
books@iucn.org
www.iucn.org/publications

Contents

Executive Summary

Introduction

In April, 2008, the United Nations *Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction* (UNWG BBNJ) will convene to discuss a range of topics critical to the health of the 64% of the world ocean that lies in areas beyond national jurisdiction (ABNJ). One of the key items on the agenda will be "Whether there is a regulatory or governance gap, and if so, how it should be addressed."

This paper contains a case study on the conservation and sustainable use of marine biodiversity in the part of the Mid-Atlantic Ridge (MAR) that is located in ABNJ. The purpose of this paper is to review the scope and functioning of applicable regional regimes and to identify if, and what kind of, regulatory and/or governance gaps exist. The case study complements and should be read in conjunction with the two studies that identify general regulatory and governance gaps at a global and regional level ('Gap Analysis') and options to address these gaps ('Options Paper') as well as with the background paper on Elements of a Possible Implementation Agreement to UNCLOS.

The MAR has been selected for this case study, because it is largely situated in ABNJ and those parts of it which are known are rich in marine biodiversity and/or high in biological productivity due to the growth conditions provided by underwater features such as seamounts and hydrothermal vents to e.g. cold water corals and deep-sea sponge aggregations. For the purpose of this paper, the MAR is defined to comprise the entire mid-oceanic ridge in the Atlantic Ocean. The case study covers activities on the seabed beyond national jurisdiction and the water column above it. Fishing activities currently have the biggest impact on marine biodiversity in the area of the MAR. The impact of other existing maritime activities around the MAR appears limited for some, but is still largely unknown for others.

In addition to the relevant global instruments and organizations discussed in the Gap Analysis paper, that part of the MAR that lies in ABNJ is covered by various relevant regional instruments and bodies. In this regard, the main differences between the North East Atlantic on the one hand and the South and Central Atlantic on the other hand, are that the latter are not (fully) covered by regional seas agreements and that much of the high seas area is not covered by RFMOs and their constitutive instruments. The situation in the South and Central Atlantic is more representative of other oceanic regions (apart from the Antarctic and the Mediterranean) than the North East Atlantic.

North East Atlantic

The North East Atlantic has a 100% spatial coverage of ABNJ by a regional seas agreement (the OSPAR Convention) and by three RFMOs (NEAFC, NASCO and ICCAT), which are supported by scientific advisory organizations such as ICES, with complementary mandates and increasing cooperation. Participation in the OSPAR Convention is currently dominated by the coastal states bordering the North East Atlantic, but wider participation is possible. In relation to the part of the MAR that is located in the North East Atlantic the following issues have been considered in this paper:

- **Application of modern conservation principles:** Modern conservation principles such as the ecosystem approach and the precautionary principle are explicitly incorporated or implicitly applied under the relevant regional instruments, but they still require further operationalization and consistent application by all organizations involved.
- **Regulation of maritime activities:** Most of the maritime activities that are or may be conducted in this section of the MAR can be regulated by competent global international governmental organizations (ISA, IMO, ICAO, etc), the OSPAR Commission or through the competent RFMOs (NEAFC, NASCO, ICCAT). The OSPAR

Commission has the broadest competence and can also function as an authority by default for new and emerging maritime activities. Thus far, the OSPAR Commission has made limited use of its powers to regulate currently unregulated activities in ABNJ. An exception is the non-legally binding code of conduct for marine scientific research that is under development.

- **Application of modern conservation tools:** The OSPAR Commission pursues the establishment of a network of MPAs that also extends to ABNJ. It has developed a procedure for the identification, selection and management of OSPAR MPAs with a broad scope that can also be applied to the MAR. The relevant RFMOs are either explicitly or implicitly competent to adopt area-based measures for fisheries in ABNJ. The principal gap appears to lie in the limitations on the regulatory competence of the OSPAR Commission with regard to certain activities and the absence of mechanism to coordinate the regulation of all maritime activities by the relevant competent global and regional organizations. None of the regional regimes have a specific requirement on EIA or SEA.
- **Compliance and enforcement:** Under the OSPAR Convention this is mainly targeted at a contracting party's own vessels, aircraft or nationals. Outside the area of fisheries, port-state and other measures aimed at ensuring compliance with regulatory measures by vessels or other nationals of non-contracting parties has not been sufficiently considered. Coordination of compliance and enforcement efforts among the relevant organizations could be further improved.
- **Cooperation and coordination:** Between most of the relevant organizations this is increasing through MOUs, other forms of formalized cooperation and reciprocal granting of observer status. A mechanism to ensure full cooperation and coordination within and across all sectors and all regional and global organizations is not at present available.

South and Central Atlantic

The South and Central Atlantic does not have something similar to the OSPAR Commission, ICES and their constitutive instruments and much of the high seas area is not covered by non-tuna-like RFMOs and their constitutive instruments. As regards RFMOs, the South and Central Atlantic are covered by ICCAT and SEAFC. There are no RFMOs with competence over non-tuna-like species in the Central and South West Atlantic. As the competence of SEAFC is limited to the regulation of fisheries, there is no regional regulation of other maritime activities. On all other aspects, it seems that the competence of SEAFC, the regulatory tools available to it and the objectives and principles enshrined in the SEAFC Convention are largely similar to those of NEAFC pursuant to the new NEAFC Convention. SEAFC has also actually used these regulatory tools.

List of Acronyms

ABNJ	areas beyond national jurisdiction
CBD	Convention on Biological Diversity
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources
CECAF	Fishery Committee for the Eastern Central Atlantic
CFP	(EC) Common Fisheries Policy
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of the Parties
EC	European Community
EIA	Environmental Impact Assessment
EU	European Union
FAO	United Nations Food and Agriculture Organization
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IMO	International Maritime Organisation
ISA	International Seabed Authority
IUU	Illegal, unreported and unregulated (fishing)
JAMP	Joint Assessment and Monitoring Programme
MOPs	Meetings of the Parties
MoU	Memorandum of Understanding
MPA	Marine Protected Area
NAMMCO	North Atlantic Marine Mammal Commission
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North-East Atlantic Fisheries Commission
OSPAR Convention	Convention for the Protection of the Marine Environment of the North-East Atlantic
PSSA	Particularly Sensitive Sea Area
RFMO	Regional Fisheries Management Organisation
SEA	Strategic Environmental Assessment
SEAFC	South East Atlantic Fisheries Commission
UNCLOS	United Nations Convention on the Law of the Sea
UNFSA	United Nations Fish Stocks Agreement
UNGA	United Nations General Assembly
UNICPOLOS	United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea
UNWG BBNJ	United Nations Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction
WECAFC	Western Central Atlantic Fishery Commission

1 Introduction

1.1 Background and purpose of the study

This paper contains a case study on the conservation and sustainable use of marine biodiversity in the part of the Mid-Atlantic Ridge (MAR) that is situated in areas beyond national jurisdiction (ABNJ).[1] The case study complements and should be read in conjunction with *PAPER 1: Analysis of the Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction* ('Gap Analysis'), *PAPER 2: Options for Addressing Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction* ('Options paper') and *PAPER 4: Elements of a Possible Implementation Agreement to UNCLOS for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction.* The four papers are intended to facilitate discussions at the second meeting of the United Nations *Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction* (UNWG BBNJ). One of the key items on the agenda will be "Whether there is a regulatory or governance gap, and if so, how it should be addressed."

The purpose of this paper is to review the scope and functioning of applicable *regional* regimes and to identify if, and what kind of, regulatory and/or governance gaps exist in relation to the conservation and sustainable use of marine biodiversity in the part of the MAR that is situated in ABNJ. The paper is in principle not aimed at identifying regulatory and governance gaps at the global level, which are identified in the Gap Analysis. The terms "regulatory and governance gaps" are in this paper, as in the two other papers, understood to mean the following**:**

> *Regulatory gaps:* substantive and/or geographical gaps in the international legal framework, i.e. issues which are currently unregulated or insufficiently regulated at a global, regional or sub-regional level.
>
> *Governance gaps:* gaps in the international institutional framework, including the absence of institutions or mechanisms at a global, regional or sub-regional level and inconsistent mandates of existing organizations and mechanisms.

The MAR has been selected for this case study, because it is largely situated in ABNJ and those parts of it which are known are rich in marine biodiversity and/or high in biological productivity due to the growth conditions provided by underwater features such as seamounts and hydrothermal vents to *e.g.* cold water corals and deep-sea sponge aggregations. Specific sections of the MAR with such natural characteristics and features have already been identified, for example the areas surrounding the Charlie Gibbs Fracture Zone in the North East Atlantic.[2]

For the purpose of this paper, the MAR is defined to comprise the entire mid-oceanic ridge in the Atlantic Ocean from 87°N to 54°S, including relevant parts of the Arctic Ocean and Southern Ocean. This case study covers activities on the seabed beyond national jurisdiction and the water column above it. It does not address questions related to those parts of the MAR that fall within the jurisdiction of relevant coastal states, including (potential) rights over the continental shelf beyond 200 nm.[3]

---

1 These are the high seas and the 'Area' (the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction). *Cf.* articles 1(1)(1) and 86 of UNCLOS.

2 See the proposal presented by WWF and the Netherlands for the nomination of an OSPAR MPA: Mid-Atlantic Ridge/Charlie Gibbs Fracture Zone (OSPAR doc. BDC 08/04/9-E and the revised version in BDC 08/04/9 Add.3).

3 See for an analysis, *inter alia*, D. Owen, *The Powers of the OSPAR Commission and coastal State parties to the OSPAR Convention to manage marine protected areas on the seabed beyond 200 nm from the baseline*, Report for WWF Germany, 2006, pp. 32-45.

1.2 Outline of the case study

Section 2 provides some general information on the MAR, including on its location, marine biodiversity in the area and the (potential) impact of maritime activities. Section 3 briefly identifies relevant global legal instruments and organizations and their relationship with regional regimes. Section 4 examines the key regional legal instruments and organizations and available regulatory and governance tools for the conservation and sustainable use of marine biodiversity in the North East Atlantic and identifies whether there are regulatory and/or governance gaps and what they entail. Section 5 does the same in somewhat less detail for the South and Central Atlantic.

2 General information

2.1 The Mid-Atlantic Ridge

The MAR is a mid-oceanic ridge that forms part of the global mid-oceanic ridge system. It extends from 87°N in the Arctic Ocean to Bouvet Island at 54°S in the Southern Ocean. Other islands of this enormous mountain range include Iceland, the Azores and Ascension Island. Near the equator, the MAR is divided by a narrow submarine trench into the North Atlantic Ridge and the South Atlantic Ridge.[4] At the South end near Bouvet Island, the MAR turns into the Atlantic-Indian-Ridge and continues further east through the Crozet Plateau to the Southwest Indian Ridge, while in the west it is followed by the Scotia Ridge (see Figure 1). Like other ocean ridges, the MAR is essentially a linear, segmented volcano which has led to the formation of various submarine features such as seamounts and hydrothermal vents. The MAR is mostly located in ABNJ, but parts of it lie within national jurisdiction (the islands and their maritime zones).

Figure 1: Mid-Atlantic Ridge[5]

Publication of map pending until permission is granted by copyright holder.

2.2 Marine biodiversity in the area of the MAR

As much of the MAR is unexplored, little is known about marine biodiversity in the area. Several research projects are currently being conducted to fill this knowledge gap. The MAR-ECO project (Patterns and Processes of the ecosystems of the northern mid-Atlantic), that is part of the global Census of Marine Life program, currently investigates life on and around the MAR, in particular in the North East Atlantic between Iceland and the Azores.[6] The project mainly focuses on ecosystem processes, determining abundance and distribution of fish, cephalopods (squids) and plankton (crustaceans, and a wide range of gelatinous animals such as jellyfish) living in the water column above the MAR, as well as observations of top predators such as seabirds and cetaceans. The benthic fauna was investigated intensively by camera tows and bottom trawls and longlines.

Recent MAR-ECO expeditions have investigated sites to the north and south of the Charlie-Gibbs Fracture zone, a major topographical feature at around 52°N which coincides with the Sub-Polar Front. During these expeditions many species were found that are rare and some that were unknown to science. In this area seamount clusters form rich structures which extend more or less in North-South direction. The rough topography provides for regular cold water coral occurrence. The MAR also constitutes a biogeographical barrier for East-West dispersal, whereas the Charlie-Gibbs Fracture zone creates a North-South divide for benthic and fish species. The biological productivity is particularly elevated in the vicinity of the Sub-Polar Front, enhancing the turnover in the food web up to

[4] Section 5 on the South and Central Atlantic therefore applies to a part of the North Atlantic Ridge as well.
[5] Source: <www.washington.edu/burkemuseum>.
[6] For further information see <www.mar-eco.no>.

whales and seabird consumers. The area appears to be an important whale feeding area.

Other relevant research projects include the OASIS project (OceAnic Seamounts: an Integrated Study), the first European scientific seamount study integrating physical, biogeochemical and biological research. Its primary goal is to assess the ecosystem at and around two selected seamounts in the Northeast Atlantic, one of which is the Sedlo Seamount north of the Azores.[7] Specific parts of the MAR in the North and South Atlantic are currently also the subject of InterRidge research expeditions.[8]

2.3 (Potential) impacts of maritime activities

The main maritime activities that are currently conducted in the area of the MAR include fishing, shipping, overflight, the laying of (communication) cables and marine scientific research. Some deep sea tourism appears to have been conducted in conjunction with scientific research.[9] Other maritime activities such as mining activities, the construction of artificial islands, installations or structures, and the laying of pipelines do not yet appear to occur there. Dumping of sewage sludge, industrial waste, radioactive waste and redundant munitions occurred in the North Atlantic at certain locations (mostly not near the MAR) until 1986, but is now generally prohibited for most substances (see below). Few assessments have yet been made of old dump sites and their impact on biological communities.

There is still a considerable lack of publicly available information on the actual and potential impacts of existing activities around the MAR, possible cumulative impacts, and the impacts of global stressors such as climate change. The potential impacts of some activities are being assessed for the North East Atlantic in general (see below). The OSPAR Quality Status Report 2000 for the Wider Atlantic identifies fisheries as the primary overall concern for this (sub-)region. High seas fishing, in particular trawling, has been conducted in the area of the MAR since the 1970s and bottom trawling has led to overexploitation of several demersal deep sea fish species. The MAR-ECO expeditions have documented damage to benthic habitats resulting from bottom trawling.

While certain activities such as overflight probably have no impact, the effects of other activities such as shipping (operational pollution, introduction of harmful aquatic organisms through ballast water, etc.) is not well known. The impact of marine scientific research that is currently conducted on the MAR is probably small considering the scale at which scientific sampling currently takes place and the overall size of the MAR. Significant effects can, however, result if many scientific research activities are focused on the same site.

---

7 For further information see <www.rrz.uni-hamburg.de/OASIS>.

8 For further information see <www.interridge.org>.

9 Deep sea tourism is reported to have been conducted in the Rainbow hydrothermal vent field in conjunction with international/Russian research.

3 Global legal instruments and organizations

The key existing global legal instruments and competent organizations for the conservation and sustainable use of marine biodiversity in ABNJ are identified, together with regulatory and governance gaps at a global level, in the Gap Analysis. As the focus of this paper is on regional regimes, this section will only briefly identify the most relevant existing global treaties and international governmental organizations. The paper assumes that all actions taken within the framework of the regional legal instruments and organizations are consistent with the United Nations Convention on the Law of the Sea (UNCLOS) that provides the overarching international legal framework for all human activities in or affecting ABNJ.

Global treaties that are (potentially) relevant (directly or indirectly) for the conservation and sustainable use of marine biodiversity in the part of the MAR that is situated in ABNJ include: the Convention on Biological Diversity (CBD), the UN Fish Stocks Agreement, the Compliance Agreement, the International Convention on the Regulation of Whaling (ICRW), the Convention on the Conservation of Migratory Species (CMS), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and global treaties dealing with specific sources of marine pollution.

International governmental organizations that can regulate specific activities conducted on or above the MAR include: the International Seabed Authority (ISA) for the exploration and exploitation of mineral resources in the Area; the meeting of parties (MOP) to the 1972 London Convention and its 1996 Protocol for dumping of wastes; the International Whaling Commission for commercial whaling (currently subject to a moratorium); the International Maritime Organization (IMO) for maritime shipping; and the International Civil Aviation Organization (ICAO) for aviation issues.

Implementation of global framework treaties through regional legal instruments and organizations in ABNJ: Regional fisheries management organizations (RFMOs) are firmly recognized as the primary international vehicles for high seas fisheries governance in accordance with UNCLOS and UNFSA. Regional seas agreements can serve as important vehicles for the implementation of the general obligations contained in part XII of UNCLOS and applicable provisions of the CBD in ABNJ. UNCLOS calls on States to cooperate "on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features."[10] The CBD also requires contracting parties to cooperate with each other "directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity."[11] Regional agreements dealing with specific migratory species adopted within the framework of the CMS can also cover ABNJ.

[10] UNCLOS, article 197.
[11] CBD, article 5.

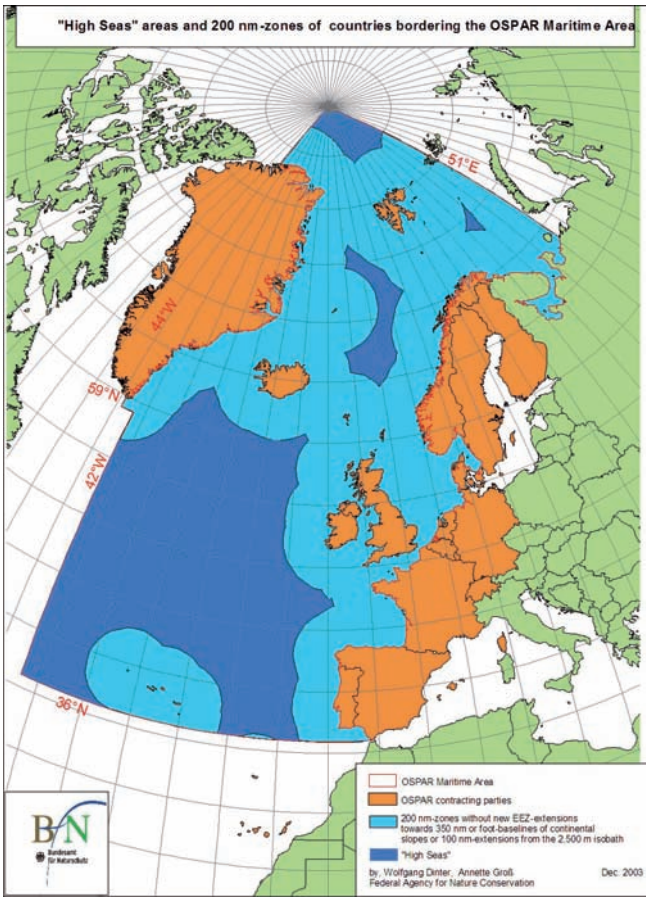
4 Regional regimes: the North East Atlantic

4.1 Key regional legal instruments and organizations

The OSPAR Convention. The key regional legal instrument is the 1992 Convention on the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). It applies geographically to the OSPAR Maritime Area which includes areas within and beyond national jurisdiction (see Figure 2).[12] The North Atlantic part of the MAR is located in OSPAR Regions I (Arctic Waters) and V (the Wider Atlantic).

The OSPAR Convention contains a set of basic rules and principles which are elaborated in its 5 Annexes and 3 accompanying Appendices. The four Annexes that were adopted together with the Convention deal with pollution from land-based sources (Annex I), pollution by dumping or incineration (Annex II), pollution from offshore sources (Annex III) and the assessment of the quality of the marine environment (Annex IV). Annex V on the Protection and Conservation of Ecosystems and Biological Diversity of the Maritime Area was adopted in 1998, together with Appendix 3 containing criteria for identifying human activities for the purpose of Annex V, and entered into force in 2000. The main pillars to guide the implementation of the OSPAR Convention and its Annexes are the six strategies that were reaffirmed and updated in 2003, including the Biological Diversity and Ecosystems Strategy (hereafter OSPAR Biodiversity Strategy).[13]

Figure 2: OSPAR Maritime Area[14]



Participation. There are currently 16 parties to the OSPAR Convention: all coastal states bordering the North East Atlantic except the Russian Federation, two states (Luxemburg and Switzerland) that are located upstream on watercourses reaching the maritime area and the European Community (EC). Other states, such as coastal states outside the maritime area or states whose vessels or nationals are engaged in activities in the region, can be invited by the contracting parties by unanimous vote to accede to the Convention and the maritime area can even be redefined for this purpose.[15]

[12] OSPAR Convention, article 1(a).

[13] Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, Chapter I (OSPAR Agreement 2003-21; Summary Record OSPAR 2003, OSPAR 03/17/1-E, Annex 31).

[14] Source: Bundesamt für Naturschutz. The map is only intended for illustrative purposes. It does not display (potential) claims of coastal States to the continental shelf beyond 200 nm.

[15] OSPAR Convention, article 27(2).

Other states can also obtain observer status.[16] This has thus far not occurred.

The overall objective of the OSPAR Convention is "to prevent and eliminate marine pollution and to achieve sustainable management in the region, that is, the management of human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations".[17] In accordance with this general objective, the OSPAR Biodiversity Strategy provides that a specific objective of the OSPAR Commission is "to protect and conserve the ecosystems and the biological diversity of the maritime area which are, or could be, affected as a result of human activities, and to restore, where practicable, marine areas which have been adversely affected, in accordance with the provisions of the Convention, including Annex V and Appendix 3."[18]

The OSPAR Convention and Annex V in particular provide a comprehensive legal framework for the implementation of part XII of UNCLOS and the CBD and its work program on marine and coastal biodiversity at a regional level. Annex V explicitly states that it serves to fulfill the obligation under the CBD to "develop strategies, plans or programmes for the conservation and sustainable use of biological diversity".[19] It requires contracting parties to "take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected" and to "cooperate in adopting programmes and measures for those purposes for the control of the human activities identified by the application of the criteria in Appendix 3."[20] These programs and measures are to be developed, adopted and reviewed by the OSPAR Commission and its subsidiary bodies. The OSPAR Commission can adopt measures and programs in the form of legally binding decisions, non-legally binding recommendations[21] and other agreements[22] for all activities except fisheries and with some limitations for other activities (see below under "regulation of maritime activities"). These measures and programs can apply to the entire Maritime Area or to a specific (sub)region such as the Wider Atlantic.[23]

Three competent RFMOs. The three RFMOs whose regulatory scope extends to the North East Atlantic are: the North-East Atlantic Fisheries Commission (NEAFC; for regulatory area see Figure 3), the North Atlantic Salmon Conservation Organization (NASCO) and the International Commission for the Conservation of Atlantic Tunas (ICCAT). Current participation in these RFMOs is different from that in the OSPAR Commission, as it includes flag state participation as well.

16 OSPAR Convention, article 11.
17 OSPAR Convention, Preamble.
18 OSPAR Agreement 2003-21, Chapter I, paragraph 1.1.
19 OSPAR Convention, Annex V, article 2.
20 Ibid.
21 It should be noted that recommendations carry in practice almost the same weight as legally binding decisions and they are often endowed with similar features such as deadlines and reporting requirements.
22 OSPAR Convention, articles 10(3) and 13.
23 OSPAR Convention, article 24.

As a general rule, the EC participates on behalf of European Union (EU) member states in the three RFMOs. However, Denmark, France and the United Kingdom participate in one or more of these RFMOs on behalf of one or more of their overseas territories. The formal mandates of the RFMOs extend solely to the regulation of fisheries (one of the issues that is excluded from the regulatory scope of the OSPAR Commission), including wider environmental concerns (NEAFC) or more narrowly focused on the conservation and sustainable utilization of the target species involved (NASCO and ICCAT). In conformity with UNCLOS, the NASCO Convention prohibits salmon fishing on the high seas. This does not necessarily mean, however, that no illegal, unreported and unregulated (IUU) salmon fishing occurs on the high seas at all.

Figure 3: NEAFC Regulatory Area[24]

Publication of map pending until permission is granted by copyright holder.

Objectives and scope of the constitutive instruments of NASCO, NEAFC and ICCAT. The extent to which other competent organizations have the ability to adopt measures that are consistent with the broad objectives of the OSPAR Convention relies first of all on their constitutive instruments. As far as fisheries management is concerned, the constitutive instruments of the relevant RFMOs differ considerably in this respect. In 2004 and 2006, amendments to the NEAFC Convention were adopted to take account of progressive developments in international fisheries law. These amendments are currently applied on a provisional basis pending their entry into force. The new NEAFC Convention provides that its objective is "to ensure the long-term conservation and optimum utilization of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits."[25] Fishery resources are defined to include "resources of fish, molluscs, crustaceans and including sedentary species, excluding, in so far as they are dealt with by other international agreements, highly migratory species listed in Annex I of the United Nations Convention on the Law of the Sea of 10 December 1982, and anadromous stocks."[26] This definition is meant to avoid an overlap with the mandates of NASCO and ICCAT. The objectives of NASCO and ICCAT on the other hand are more restrictively defined in their constitutive instruments to embrace only the conservation and sustainable utilization of the target species involved: salmon (NASCO) and tuna and tuna-like fishes (ICCAT).

Other relevant regional organizations and instruments. The International Council for the Exploration of the Sea (ICES) coordinates and promotes marine scientific research and provides scientific advice with respect to the North Atlantic. The North Atlantic Marine Mammal Commission (NAMMCO) provides a framework for cooperation among its four parties for the conservation, rational management and study of marine mammals in the North Atlantic. Neither of these organizations has regulatory powers. Part of the North East Atlantic is covered by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), adopted under the framework of the CMS.

[24] Source: www.neafc.org/about/ra.htm
[25] New NEAFC Convention, article 2.
[26] New NEAFC Convention, article 1(b).

The role of the EC. The EC Common Fisheries Policy (CFP) is applicable to fishing vessels of EU member states operating in ABNJ and allows for the adoption of measures that aim to promote ecosystem-based fisheries management. Important recent developments include the proposal presented by the European Commission for a new Council Regulation on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears that is also relevant for the MAR.[27] This proposal has been introduced as a follow-up to UNGA Resolution 61/105 of December 2006. The proposed regulation is aimed at high seas areas not yet covered by RFMOs (such as parts of the South and Central Atlantic discussed below), for which the Commission proposes an innovative scheme that will require fishermen to obtain authorization to operate in a defined area prior to starting their fishing campaign. These fishing permits may be issued by the member state concerned only if it has been ascertained that the planned fishing activities will not have significant adverse impact on fragile habitats. In addition, fishing at depths of more than 1,000 meters would also be prohibited to EU vessels. The Commission has announced to work within existing RFMOs to ensure that analogous measures are implemented to ensure the protection of vulnerable deep sea ecosystems on the basis of a precautionary approach and prior impact assessment. These measures may take the form of regulations agreed by RFMOs or interim arrangements between parties to future RFMOs.[28]

The EC has not yet adopted measures outside the CFP (i.e. for activities other than fisheries) aimed at environmental protection in ABNJ, which is a shared competence of the EC and the members States. EC environmental instruments such as the Birds and Habitats Directives, the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) Directives, and the Marine Strategy Framework Directive apply only to marine areas that fall within the jurisdiction of EU member states.

Main conclusions and gaps

The North East Atlantic has a 100% spatial coverage of ABNJ by a regional seas agreement and by three complementary RFMOs and in this respect there are no gaps. The OSPAR Convention provides a comprehensive legal framework for the entire North East Atlantic, including the part of the MAR that is located in ABNJ in this region. Participation in the OSPAR Convention is currently dominated by the coastal states bordering the North East Atlantic, but wider participation is possible. Its objectives are comprehensive, including conservation of marine ecosystems and biodiversity. The OSPAR Commission has a general competence to develop, adopt and review the programs and measures that are required to achieve these objectives with the exception of fisheries and with some limitations for other activities.

The three competent RFMOs have complementary mandates that cover all types of fisheries on or above the MAR. NEAFC has the broadest mandate and objectives; it is the competent RFMO to regulate bottom-trawling fisheries on the MAR in ABNJ. The role of the other regional organizations and instruments is generally complementary, but the EC has a more influential role through its participation in the OSPAR Commission next to the EU member States, its participation on behalf of the EU members states in the three RFMOs and the more stringent measures adopted within the framework of the CFP such as the (proposed) measures to protect vulnerable marine habitats.

4.2 Regulatory and governance tools for conservation and sustainable use of marine biodiversity

4.2.1 Application of modern conservation principles

The OSPAR Convention requires the application of the precautionary principle.[29] In the context of pollution, the OSPAR Convention also requires the application of the polluter pays principle, the use of best available techniques and best environmental practice, including,

[27] COM/2007/605/FINAL.
[28] See the Communication from the Commission contained in COM/2007/604/FINAL.
[29] Article 2(2)(a) of the OSPAR Convention.

where appropriate, clean technology.[30] The OSPAR Convention does not explicitly refer to the ecosystem approach, but the OSPAR Commission has agreed to apply it and to further develop the measures necessary for its implementation. It defines an ecosystem approach as:

> The comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.[31]

The OSPAR Biodiversity Strategy refers to the precautionary principle as a central part of the ecosystem approach.[32] The application and further development of the ecosystem approach by the OSPAR Commission currently consists of four main elements:

(a) promoting understanding and acceptance by all stakeholders of the ecosystem approach to the management of human activities, and collaboration among the various management authorities in the North East Atlantic in implementing that approach;

(b) monitoring the ecosystems of the marine environment, in order to understand and assess the interactions between and among the different species and populations of biota, the non-living environment and humans;

(c) setting objectives for environmental quality, underpinned by monitoring, in support both of the formulation of policy and of assessments; and

(d) assessing the impact of human activities upon biota and humans, both directly and indirectly through impacts on the non-living environment, together with the effects on the non-living environment itself.[33]

The OSPAR Commission has already developed a set of ecological quality objectives that (can) serve as a tool to implement the ecosystem approach (to date only applied to the North Sea, but their application to other parts of the North East Atlantic is being considered). Other tools such as marine spatial planning are under consideration, but not yet operational. While the application of an ecosystem approach is promoted by the OSPAR Commission for the entire North East Atlantic, the extent to which this will be successful depends on the extent in which all other competent international organizations (global and regional) and non-parties cooperate (see below under "cooperation and coordination"). The OSPAR Commission encourages other authorities whose actions impact upon the North East Atlantic to adopt management measures and strategies that are consistent with an ecosystem approach. This includes promoting cooperation in marine spatial planning between competent authorities.

NEAFC is not exclusively focused on conserving and managing target species, but also extends to minimizing by-catch of fish and non-fish species and other impacts on the broader marine environment (e.g. regulating fishing practices such as bottom-trawling). When making recommendations, NEAFC is specifically required to:

(a) ensure that such recommendations are based on the best scientific evidence available;

(b) apply the precautionary approach;

(c) take due account of the impact of fisheries on other species and marine ecosystems, and in doing so adopt, where necessary, conservation and management measures that address the need to minimize harmful impacts on living marine resources (which are broadly defined to include all living components of marine ecosystems) and marine ecosystems; and

(d) take due account of the need to conserve marine biological diversity.[34]

---

30 OSPAR Convention, articles 2(2)(b) and 2(3).

31 Statement on the Ecosystem Approach to the Management of Human Activities (Joint Meeting of the Helsinki & OSPAR Commissions 2003, Record of the Meeting, Annex 5), paragraph 5.

32 Ibid. See also article 2(2)(a) of the OSPAR Convention and article 3(1)(b)(ii) of Annex V.

33 Ibid, paragraph 15 and following.

34 New NEAFC Convention, article 4.

There is no specific reference to the ecosystem approach or the precautionary principle in either the NASCO Convention or the ICCAT Convention. However, the NASCO Council has adopted resolutions on, *inter alia*, the application of a precautionary approach to salmon management, on protection and restoration of salmon habitats and on minimization of by-catch of salmon in pelagic fisheries. ICCAT, on the other hand, has not adopted any recommendations or resolutions on the ecosystem approach or the precautionary principle. However, some of its most recent recommendations and resolutions acknowledge the need to take account of ecosystem considerations and relate specifically to by-catch of sharks, turtles and seabirds and even the availability of nutrients and habitats (pelagic *Sargassum*) for target species.

Main conclusions and gaps

Modern conservation principles are explicitly incorporated or implicitly applied under the relevant regional instruments, but they still require further operationalization and consistent application by all other organizations involved. The OSPAR Convention requires the application of the precautionary principle and other modern conservation principles. The Commission has also agreed to apply an ecosystem approach to the management of all human activities and has taken the first steps towards operationalization through the development of a set of ecological quality objectives (not yet available for the North East Atlantic as a whole). The general principles which NEAFC is required to take into account are, arguably, *de facto* an ecosystem approach to fisheries management. There is no specific reference to the ecosystem approach or the precautionary principle in either the NASCO Convention or the ICCAT Convention, even though their main regulatory bodies have acknowledged the need to take account of relevant ecosystem considerations.

4.2.2 Regulation of maritime activities[35]

General: The OSPAR Convention covers the regulation of all human activities which can have an adverse effect on the ecosystems and the biodiversity in the North East Atlantic with the explicit exception of fisheries management and with certain limitations for the regulation of "maritime transport" (hereafter shipping).[36] These limitations only affect the competence of the OSPAR Commission to adopt programs or measures for these activities. Both maritime activities are given due consideration in the context of the assessment of the quality status of the marine environment in the region conducted in accordance with article 6 and Annex IV to the OSPAR Convention. These assessments are holistic in scope and include data on all human activities, including the effects of fisheries and shipping. Currently, a new Quality Status Report for the entire North East Atlantic is under preparation to be completed by 2010.

Fishing: The three competent RFMOs (NEAFC, NASSCO and ICCAT) cover all types of fisheries on or above the MAR in the North East Atlantic. NEAFC is of particular importance, because it covers the bottom trawling fisheries that have resulted in overexploitation of several demersal deep sea fish species and damage to benthic habitats found on the MAR. The OSPAR Commission can bring questions to the attention of the RFMOs (and other competent authorities and relevant international bodies), if it considers that action is desirable, and cooperate with them if supplementary action is required.[37] The OSPAR Commission has already drawn several issues to the attention of NEAFC and is working towards closer cooperation and coordination (see below).

Shipping: While competence for the regulation of shipping in the area of the MAR lies first of all with IMO, action under the OSPAR Convention is not entirely precluded. As with fisheries, the OSPAR Commission must first bring questions to the attention of the IMO, if it considers that action is desirable. Contracting Parties who are members of the IMO must endeavor to cooperate "in order to achieve an appropriate response, including in relevant cases that Organisation's agreement to regional or local

---

35 See for a detailed analysis of the regulation of four maritime activities (cable laying, mining for mineral resources, scientific research and Bioprospecting): D. Owen, *supra* note 3, pp. 12-31.

36 OSPAR Convention, Annex V, article 4.

37 OSPAR Convention, Annex V, article 4(1).

action …".[38] The OSPAR Commission has already taken some supplementary action. This includes for example the development of regional voluntary guidelines to reduce the risk of the introduction of non-indigenous species through ships' ballast water, as an interim measure pending the entry into force of the Ballast Water Management (BWM) Convention in accordance with its Article 13(3).[38] These guidelines recommend all vessels that fall within the scope of the BWM Convention entering the North East Atlantic to have a Ballast Water Management Plan, to record all ballast water operations and to exchange ballast water at least 200 nautical miles from the nearest land in water at least 200 meter deep. These voluntary guidelines are recommended for all vessels, including those of non-contracting parties.

Dumping and pollution from offshore sources: The regulation of pollution by dumping and pollution resulting from offshore sources that may potentially be conducted in the area of the MAR is covered by articles 4 and 5 of the OSPAR Convention and its Annexes II and III. Annex II provides that dumping (and incineration) of all wastes or other matter is prohibited in the maritime area, except for the listed substances.[40] Annex III prohibits any dumping of wastes or other matter from offshore installations in the maritime area and provides the legal basis for the measures that have been adopted for the prevention and elimination of pollution from offshore sources. It also prohibits the dumping of disused offshore installations and disused offshore pipelines without a permit obtained from the competent authorities.

Carbon dioxide storage: Annexes II and III were amended in 2007 to allow the storage of carbon dioxide (CO_2) streams in geological formations under the seabed, combined with a decision to ensure environmentally safe storage and guidelines for risk assessment and management of this activity.[41] At the same time, the OSPAR Commission has adopted a decision prohibiting the storage of CO_2 streams in the water column or on the seabed.[42] These measures are consistent with those adopted in relation to CO_2 storage within the framework of the London Convention and its 1996 Protocol. The decisions dealing with CO_2 storage adopted by the OSPAR Commission leave room for interpretation whether they also apply to ABNJ. Some concerns were expressed with regard to the possible implications that would have for the powers of ISA. This was resolved by leaving interpretation of the text open to individual contracting parties.[43]

Marine scientific research and bioprospecting: A non-legally binding code of conduct for marine scientific research is currently being developed within the framework of the OSPAR Convention. A first proposal for a set of principles for responsible marine research has been prepared and is currently being reviewed. The question whether these principles should also apply to bioprospecting has been raised, but no conclusions have yet been drawn on that issue. More technical documents focused on research into particular deep sea features are foreseen.

Other existing, new or emerging activities: Annex V allows the OSPAR Commission to adopt programs and measures to safeguard against harm to marine ecosystems and biodiversity resulting from all other existing or new activities. A variety of human activities has been identified by the OSPAR Commission on the basis of the criteria contained in Appendix 3 for assessment purposes, but most of these occur only in areas within national jurisdiction. Identified activities that might also be conducted in the MAR include: the exploration for oil, gas and solid minerals; the placement of structures for the exploitation of oil and gas; the construction or placement of artificial islands, artificial reefs, installations and structures; the placement of cables and pipelines; the introduction of alien or genetically modified species, whether deliberately or unintentionally; and sea-based

38 OSPAR Convention, Annex V, article 4(2).
39 Draft general guidelines on the voluntary interim application of the D-1 Ballast Water Exchange Standard in the North-East Atlantic (Summary Record OSPAR 2007, OSPAR 07/24/1-E, Annex 9).
40 OSPAR Convention, Annex II, article 3(1).
41 See, *inter alia*, OSPAR Decision 2007/2 and OSPAR Guidelines for Risk Assessment and Management of Storage of CO_2 Streams in Geological Formations.
42 OSPAR Decision 2007/1.
43 OSummary Record OSPAR 2007, OSPAR 07/24/1-E, paragraph 2.8(b).

tourism.[44] These activities are currently the subject of assessments with attention also given to underwater noise and marine litter. The aim of these assessments is to identify the impact of these activities on the marine environment, what is already being done and to provide the basis for decisions on the development of programs and measures for specific human activities.

Main conclusions and gaps

Most of the maritime activities that are or may be conducted in this section of the MAR can be regulated by competent global international governmental organizations (ISA, IMO, ICAO, etc), the OSPAR Commission or through the competent RFMOs (NEAFC, NASCO, ICCAT). The OSPAR Commission has the broadest competence to adopt more detailed international rules and standards for unregulated activities (existing, new or emerging). The OSPAR Convention emphasizes the need to avoid duplication of action which is already prescribed by other international conventions and the subject of appropriate measures by other international organizations.[45] However, the construction of artificial islands, reefs, installations and structures, the placement of cables and pipelines, sea-based tourism, marine scientific research and/or bioprospecting are all maritime activities that are currently not regulated by a global convention or organization. They are only subject to the applicable general rules and principles contained in the relevant global instruments.[46] The OSPAR Commission is therefore currently the only competent international organization for the international regulation of these maritime activities in the North East Atlantic. So far, however, the OSPAR Commission has hardly exercised the competence to fill these regulatory gaps and is currently also not preparing to do so. An exception is the non-legally binding code of conduct for marine scientific research that is under development.

4.2.3 Application of modern conservation tools

Area-based measures

Area-based measures for the MAR in the North East Atlantic can be adopted within the framework of the OSPAR Convention and through applicable sectoral organizations (NEAFC, ICCAT, IMO, ISA, the International Whaling Commission (IWC), etc.) and associated instruments. However, there are no areas closed to mining activities by ISA, whale sanctuaries adopted through the IWC, and particularly sensitive sea areas (PSSAs) or special areas under MARPOL 73/78 adopted through the IMO that apply to ABNJ in the North East Atlantic.

OSPAR Network of MPAs. Annex V requires the OSPAR Commission "to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to specific species or habitats."[47] It thus provides a legal basis for the adoption of area-based measures in the entire North East Atlantic, including both for areas within and beyond national jurisdiction. This is affirmed by the OSPAR Biodiversity Strategy and more specifically by OSPAR Recommendation 2003/3 that requires the OSPAR Commission to develop and evaluate by 2010 an ecologically coherent network of well-managed protected areas in the maritime area (the "OSPAR Network of MPAs"). The OSPAR Network of MPAs is to include areas identified by a contracting party within its jurisdiction together with "any other area in the maritime area outside the jurisdiction of the contracting parties which has been included as a component of the network by the OSPAR Commission."[48] The aims of the OSPAR Network of MPAs are:

(a) to protect, conserve and restore species, habitats and ecological processes which have been adversely affected by human activities;

---

44 OSPAR Agreement 2003-21, Chapter I, paragraph 2.2

45 OSPAR Convention, Annex V, Preamble.

46 For cable laying the 1884 Cables Convention for the Protection of Submarine Telegraph Cables is (potentially) relevant. See D. Owen, *supra* note 3, p. 15.

47 OSPAR Convention, Annex V, article 3(1)(b)(ii).

48 OSPAR Recommendation 2003/3, paragraph 1.1.

(b) to prevent degradation of, and damage to, species, habitats and ecological processes, following the precautionary principle; and

(c) to protect and conserve areas that best represent the range of species, habitats and ecological processes in the Maritime Area.[49]

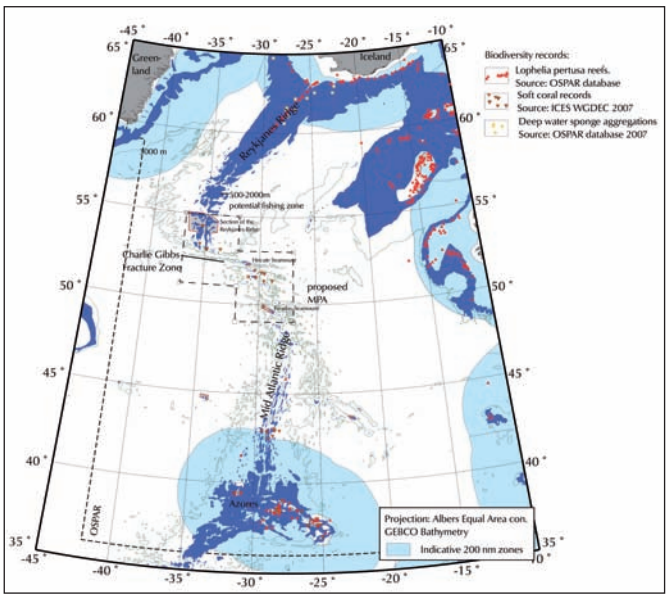
Identification and establishment of integrated MPAs. Under the OSPAR Convention a process has been developed for the identification and selection of components (individual MPAs) of the OSPAR Network of MPAs. This process is contained in the OSPAR Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area (OSPAR MPA Guidelines), which include ecological and practical criteria/considerations for identification of possible sites, prioritization of sites for designation and guidance on which criteria should be used to select areas as components in order to meet the aims of the OSPAR Network of MPAs.[50] One of the ecological criteria/considerations is whether there are threatened and/or declining species and habitats in the area. For this, the point of reference is the Initial OSPAR List of Threatened and/or Declining Species and Habitats that was adopted in 2004 and updated in 2006 (OSPAR List).[51] The list was developed on the basis of the Texel/Faial criteria for identification of species and habitats in need of protection adopted in 2003.[52]

The procedure for the identification and selection of possible components of the OSPAR Network of MPAs in ABNJ is contained in the OSPAR Biodiversity Strategy, which requires the OSPAR Commission to:

> consider reports and assessments from contracting parties and observers on possible components of the OSPAR network and on the need for protection of the biodiversity and ecosystems in the maritime area outside the jurisdiction of the contracting parties, in order to achieve the purposes of the network as described in […] OSPAR Recommendation 2003/3;[53] and
>
> if appropriate, and in accordance with UNCLOS, [to] consider, in consultation with the international organisations having the necessary competence, how such protection could be achieved for areas identified […] and how to include such areas as components of the network;[54]

Thus far, no MPAs in ABNJ have been designated as OSPAR MPAs. However, WWF, with the recent support of the Netherlands, has proposed a section of the MAR for designation as the first OSPAR MPA in ABNJ (see Figure 4 and the Annex).[55] This proposal is seen as a good test case for the identification of sites for potential MPAs in ABNJ and an opportunity to test the process on a pilot basis. Parties have agreed on a speedy follow-up of the proposal, including a scientific review. The OSPAR Intersessional Correspondence Group on MPAs (ICG-MPA) has been encouraged to present an initial map of ecologically significant and vulnerable features in ABNJ at the next ICG-MPA meeting in early April 2008.

Figure 4: Proposal for OSPAR MPA in ABNJ[56]



[49] OSPAR Recommendation 2003/3, paragraph 2.1.
[50] OSPAR Agreement 2003-17.
[51] OSPAR Agreement 2004-06.
[52] OSPAR Agreement 2003-13.
[53] OSPAR Agreement 2003-21, Chapter I, paragraph 4.4(d).
[54] Ibid., paragraph 4.4(e).
[55] See *supra* note 2.
[56] Source: WWF Sabine Christiansen

Management of OSPAR MPAs. Once a specific area has been identified as an area that meets the OSPAR selection criteria/considerations and has been designated by the OSPAR Commission as an OSPAR MPA, the next step would be to determine what protective measures are suitable. The OSPAR MPA Guidelines provide practical guidance on how to develop a management plan, including ways to monitor human activities that may need to be regulated.[57] Regulatory action may in this respect be sought through other competent global and regional organizations.[58] It is unclear at this point if and what kind of protective measures will be adopted by the OSPAR Commission itself. The areas could for example be designated through a decision or agreement adopted by the OSPAR Commission with associated protective measures similar to PSSAs.

Area-based measures adopted by RFMOs. NEAFC has the competence to adopt area-based measures (e.g. closed areas) in the North East Atlantic and has already prohibited bottom-trawling and fishing with static gear in certain areas to protect vulnerable deep-water ecosystems, including seamounts and deep-water corals. While neither ICCAT nor NASCO bodies are explicitly authorized to adopt area-based measures by their constitutive instruments, this has not stopped ICCAT in adopting an area/season closure for an area in ABNJ in the Central Atlantic.[59] Also, it should be recalled that (directed) fishing for salmon on the high seas is prohibited under the NASCO Convention.

Main conclusions and gaps

Both the OSPAR Commission and the relevant RFMOs are either explicitly or implicitly competent to adopt area-based measures for ABNJ. The limited purposes of the area-based measures that can be adopted by RFMOs are consistent with their overall competence. The OSPAR Commission pursues the establishment of a network of MPAs that also extends to ABNJ. It has developed a procedure for the identification, selection and management of OSPAR MPAs with a broad scope that can also be applied to the MAR. The principal gap appears to lie in the limitations on the regulatory competence of the OSPAR Commission with regard to certain activities and the absence of mechanism to coordinate the regulation of all maritime activities by the relevant competent global and regional organizations.

Species conservation measures

OSPAR Convention. On the basis of Annex V to the OSPAR Convention, some action other than area-based measures has been taken for the protection of species occurring in the OSPAR Maritime Area. Priority is currently given to the species on the OSPAR List, which includes also several species found in the area of the MAR. The OSPAR Biodiversity Strategy calls for the assessment of species identified in the OSPAR List and the adoption of appropriate measures for the protection of those species and habitats by the OSPAR Commission itself within the sphere of its competence or to draw the attention of the competent authorities to the need for such measures. However, the OSPAR List merely serves to guide the OSPAR Commission in setting priorities for its further work on the conservation and protection of marine biodiversity. It currently has no legal status and the inclusion of species thereon also does not entail any direct requirements for the contracting parties (for example to maintain them at favorable conservation status).

RFMOs. All the relevant RFMOs are obviously empowered to adopt conservation and management measures for specific target species, whether by means of catch and effort limitations, seasonal and area-based measures or technical measures (e.g. fishing gear restrictions). The relevant RFMOs are also increasingly regulating by-catch of fish and non-fish species (aside from the already mentioned impacts on benthic habitats).

Main conclusions and gaps

The OSPAR List contains a wide range of threatened and/or declining species in the North East Atlantic, but it currently has no legal status and does not directly entail conservation measures. The competence of the RFMOs to conserve and manage species is subject to

---

57 OSPAR Agreement 2003-18.

58 See also the Briefing on OSPAR's Work on the Protection of the Marine Environment of the High Seas (Summary Record OSPAR 2006, OSPAR 06/23/1-E, Annex 6), paragraph 18.

59 ICCAT Recommendation 04-01, at paragraphs 8-9.

limitations, for instance types of species, spatial scope and sectoral competence.

Environmental impact assessment and strategic environmental assessment

OSPAR Convention. The OSPAR Convention contains a general obligation to collaborate in regular joint monitoring and assessment of the quality of the marine environment in the North East Atlantic.[58] Annex IV to the Convention elaborates this by providing specific requirements for the Contracting Parties concerning cooperation in monitoring programs, joint quality assurance arrangements, the development of scientific assessment tools, such as modeling, remote sensing and risk assessment strategies, and the preparation of assessments. These requirements are closely linked to the monitoring and assessment requirements for the maritime activities that are covered by each of the other Annexes to the Convention. The Strategy for the Joint Assessment and Monitoring Programme (JAMP) sets out the basis on which the OSPAR Contracting Parties will work together in fulfilling these obligations over the period until 2010.[59] The OSPAR Biodiversity Committee is currently conducting a review of existing arrangements to establish whether they adequately cover transboundary and cumulative impacts other than environmental impacts. The monitoring and assessment programs of the OSPAR Convention are not formally environmental impact assessment (EIA) and strategic environmental assessments (SEA),[60] but they do clearly contribute to assessing whether existing and new activities have significant adverse impacts on marine biodiversity in the North East Atlantic.

RFMOs. The new NEAFC Convention does not refer specifically to EIA or SEA, but it *does* explicitly incorporate the precautionary approach and implicitly an ecosystem approach to fisheries management. NEAFC's 2004 request to ICES for advice on the distribution of cold-water corals indicates that the rationale of EIA is also actually applied in practice, even if not necessarily consistently and comprehensively. ICCAT's discretion is far greater in this respect, even though its willingness to take account of ecosystem considerations seems to be growing.

Main conclusions and gaps

None of the regional regimes have a specific requirement on EIA or SEA.

4.2.4 Compliance and enforcement

The OSPAR Convention contains general reporting and compliance provisions directed towards the contracting parties.[61] On the basis of the periodical reports, the OSPAR Commission assesses compliance and can "when appropriate, decide upon and call for steps to bring about full compliance with the Convention, and decisions adopted thereunder, and promote the implementation of recommendations, including measures to assist a Contracting Party to carry out its obligations."[62] In relation to ABNJ, compliance and enforcement will be mainly targeted at a contracting party's own vessels, aircraft or nationals.

Unlike the relevant RFMOs, however, the issue of non-compliance with regulatory measures by vessels or other nationals of non-contracting parties has been considered only to a limited extent within the framework of the OSPAR Convention. One example of port-state enforcement that is applied under the OSPAR Convention is the obligation contained in Annex II, article 10(1)(b) that applies to dumping or incineration on the high seas. This requires a contracting party to ensure that all vessels loading in its territory waste to be dumped or incinerated comply with the provisions of the Annex.[63] The possible use of port State measures where necessary for other activities is not yet applied in the context of the other Annexes to the Convention. The possibility of the OSPAR Commission to use trade-related measures

60 OSPAR Convention, article 6.

61 OSPAR Agreement 2003-22.

62 Strategic environmental assessment is the formalized, systematic and comprehensive process of identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making on a par with economic and social considerations, while environmental impact assessment is a process of evaluating the likely environmental impacts of a proposed project or development (CBD COP decision VI/7).

63 OSPAR Convention, articles 22 and 23.

64 OSPAR Convention, article 23(b).

65 See on this also the Briefing on OSPAR's Work on the Protection of the Marine Environment of the High Seas (Summary Record OSPAR 2006, OSPAR 06/23/1-E, Annex 6), paragraph 8.

against third states in order to promote compliance with environmental protection measures has also been suggested.[66]

Main conclusions and gaps

Compliance and enforcement under the OSPAR Convention is mainly targeted at a contracting party's own vessels, aircraft or nationals. Outside the area of fisheries, port-state and other measures aimed at ensuring compliance with regulatory measures by vessels or other nationals of non-contracting parties has not been sufficiently considered. Coordination of compliance and enforcement efforts among the relevant organizations could be further improved.

4.2.5 Cooperation and coordination

Cooperation among the key regional and global organizations and instruments exists and has been formalized between some organizations. The OSPAR Commission has formalized cooperation with ICES by means of a Memorandum of Understanding (MOU) and with IMO through an Agreement of cooperation.[67] The MOU by which NEAFC and ICES cooperate has recently been renewed. Cooperation also occurs between the organizations by granting each other observer status to participate in relevant meetings. Organizations that have such observer status within the OSPAR Commission include NEAFC, NAMMCO, ICES and IMO.

The OSPAR Commission and NEAFC have held over the past three year joint Heads of Delegations (HOD) meetings and currently, both organizations are exploring ways to further intensify cooperation on a technical expert level. A draft OSPAR/NEAFC Memorandum of Understanding (MoU) was discussed at the last joint HOD meeting and finalization is anticipated in 2008. A proposal for co-operation between NEAFC and OSPAR on fisheries measures and establishment of MPAs in areas beyond national jurisdiction was introduced to the HOD meeting in November 2007. The involvement of other competent authorities (IMO, ISA) in the development of MPAs in ABNJ is currently being promoted within the OSPAR ICG-MPA.

Main conclusions and gaps

Cooperation and coordination between most of the relevant organizations is increasing through MOUs, other forms of formalized cooperation and reciprocal granting of observer status. A mechanism to ensure full cooperation and coordination within and across all sectors and all regional and global organizations is not at present available.

---

66 See D. Owen, *supra* note 3, pp. 17-18.

67 OSPAR Agreement 1999-15 and IMO Doc. A 21/26 of 17 July 1999.

5 Regional regimes: the South and Central Atlantic

5.1 Key regional legal instruments and organizations

For the purpose of this study, the main differences between relevant regional instruments and international organizations in the North East Atlantic on the one hand and the South and Central Atlantic on the other hand, are that the latter does not have something similar to the OSPAR Commission, ICES, NAMMCO and their constitutive instruments and that much of the high seas area is not covered by non-tuna-like RFMOs and their constitutive instruments (see Figure 4). Another difference is that the area where the MAR is located in the South and Central Atlantic is much larger than the North East Atlantic.

While the Regional Seas Programme of the United Nations Environment Programme (UNEP) has led to the establishment of two relevant conventions - namely the Abidjan Convention for the West and Central African Region and the Cartagena Convention for the Wider Caribbean Region - they do not apply to ABNJ. No regional seas conventions or action plans have been established for the South West Atlantic and for the area between the OSPAR Maritime Area and the West and Central African Region (on Antarctica see below). There are also no regional CMS agreements,[68] whale sanctuaries, PSSAs or special areas under MARPOL 73/78 that apply to ABNJ in the South and Central Atlantic.

Figure 5: Gaps in high seas coverage of the South and Central Atlantic with RFMOs[69]

Publication of map pending until permission is granted by copyright holder.

As regards RFMOs, the South and Central Atlantic are covered by ICCAT (see above) and the South East Atlantic Fisheries Commission (SEAFC). There are no RFMOs with competence over non-tuna-like species in the Central and South West Atlantic. The two United Nations Food and Agriculture Organization (FAO) regional fishery advisory bodies, namely the Fishery Committee for the Eastern Central Atlantic (CECAF) and the Western Central Atlantic Fishery Commission (WECAFC), do not qualify as RFMOs due to their predominantly advisory functions and their inability to impose legally binding conservation and management measures on their members. While reform of these FAO bodies has been under consideration for at least a decade, there are no indications that they will be upgraded to, or replaced by, RFMOs or Arrangements in the foreseeable future. At the same time, fishing activity for other than tuna-like species in the relevant high seas areas has been argued as fairly insignificant in CECAF's geographical area, although this claim is currently unsubstantiated.[70]

[68] However, the AEWA Agreement under the CMS applies to part of the South and Central Atlantic.

[69] Source:FAO, further edited by E. J. Molenar

[70] This has influenced the debate on reform of CECAF and has led to the 2004 CECAF Resolution urging members and non-members to report catches of non-tuna-like in CECAF's geographical area to CECAF. At the time of writing the CECAF Secretariat had not yet received any report.

The South West Atlantic was covered by a FAO regional fishery advisory body prior to its abolishment in 1997. Attempts to establish an RFMO or Arrangement will have to address the territorial dispute between Argentina and the United Kingdom over the Falkland Islands/Islas Malvinas. Both South Korean and Spanish vessels appear to be engaged in bottom fisheries in the high seas of the South West Atlantic.[68] It should also be observed that the MAR seems to lie predominantly within the Eastern part of the South Atlantic.

The most southern part of the MAR lies within the regulatory area of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR Commission). The CCAMLR Convention, by which this Commission was established, is part of the Antarctic Treaty System; a body of instruments of which the Antarctic Treaty is the core. However, as the spatial scope of the Antarctic Treaty and thereby the competence of its annual Antarctic Treaty Consultative Meetings only extends south of 60°S, it does not cover the southernmost tip of the MAR. Consequently, this southernmost tip cannot benefit from the holistic regime of the ATS and its conduciveness to ecosystem-based management.

In this region the EC also plays a role through relevant measures adopted within the framework of the CFP. The proposal presented by the European Commission for a new Council Regulation on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears is specifically aimed at high seas areas not yet covered by RFMOs.[72]

5.2 Regulatory and governance tools for conservation and sustainable use of marine biodiversity

The discussion in Section 5.1 has revealed that apart from SEAFC and its constitutive instrument, there are no other relevant regional instruments or organizations. No further attention will be devoted to CCAMLR and its constitutive instrument as it only governs the southernmost tip of the MAR and a full analysis would distort the discussion. It should not be left unmentioned, however, that CCAMLR is widely regarded as a pioneer in ecosystem-based fisheries management.

As the competence of SEAFC is limited to the regulation of fisheries, there is no regional regulation of other maritime activities. On all other aspects, it seems that the competence of SEAFC, the regulatory tools available to it and the objectives and principles enshrined in the SEAFC Convention are largely similar to those of NEAFC pursuant to the new NEAFC Convention.

Moreover, SEAFC has also actually used these regulatory tools, for instance by its 2006 Conservation Measures on the closure of 10 areas around seamounts to fishing for SEAFO species, on the conservation of sharks and on reducing incidental by-catch of birds as well as by its 2006 Resolution on reducing sea turtle mortality. It should also be noted that a lack of data seriously undermines SEAFC's ability to pursue science-based management. The observations on EIA in relation to NEAFC apply more or less equally to SEAFC. However, it should be noted that SEAFC follows the practice of CCAMLR of allowing only small-scale and carefully monitored exploratory fisheries prior to expansion of fishing activity.

[71] Information provided by Y. Takei to the authors.
[72] See *supra* note 27.

Annex

Mid-Atlantic Ridge / Charlie-Gibbs Fracture Zone -
Proposal for an OSPAR MPA in Areas Beyond National Jurisdiction
Executive Summary*

Location

The proposed area covers the northern part of the Mid-Atlantic Ridge (MAR) between 55° N and 49° N, including the Charlie-Gibbs Fracture Zone (Fig. 1). The proposed boundaries reflect the scientific agreement reached at OSPAR ICG MPA in April 2008, acknowledging that the enclosed area will fully incorporate representative sections of the MAR north and south of the Charlie-Gibbs Fracture Zone, adjacent abyssal plain and the meandering subpolar front which separates cool northern from warmer southern waters and sustains a relatively high abundance and biomass across the foodweb. The boundaries include also a variety of seamount communities of different types and depths, including Faraday and Hecate Seamount, as well as a section of the Reykjanes Ridge where bottom trawling and fishing with static gear, including bottom set gillnets and longlines, has been prohibited since 2004 (NEAFC Recommendation VII, 2008).

Aim of MPA

1. protect, conserve and restore species, habitats and ecological processes which are adversely affected as result of human activities;
2. prevent degradation of and damage to species, habitats and ecological processes following the precautionary principle;
3. protect and conserve areas that best represent the range of species, habitats and ecological processes in the OSPAR area.

Legal status of the location

The Mid-Atlantic Ridge is located in OSPAR region V, beyond the limits of national jurisdiction of the coastal states in the OSPAR maritime area. The site proposed is also beyond the potential Outer Continental Shelf of Iceland, Greenland and Portugal (Part IV, Art. 76 UNCLOS).

According to Article 134 (2) UNCLOS, activities in the Area (sea-bed, ocean floor and subsoil thereof) shall be governed by the provisions of Part XI. According to Article 137 (2) UNCLOS "All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act. These resources are not subject to alienation. The Minerals recovered from the Area, however, may only be alienated in accordance with this Part and the rules, regulations and procedures of the Authority."

According to Article 86 et seq. UNCLOS the superjacent waters are considered as High Seas, which are open to all States, including the freedom of scientific research.

According to Article 238 UNCLOS all States have the right to conduct marine scientific research.

Boundaries proposed

The coordinates proposed for the boundaries of the MPA enclose ca. 306000 km^2 (latitude/longitude):

55° N	37° W
55° N	32° W
53.5°N	32° W
53.5°N	27° W
49° N	27° W
49° N	32° W
51° N	32° W
51° N	37° W

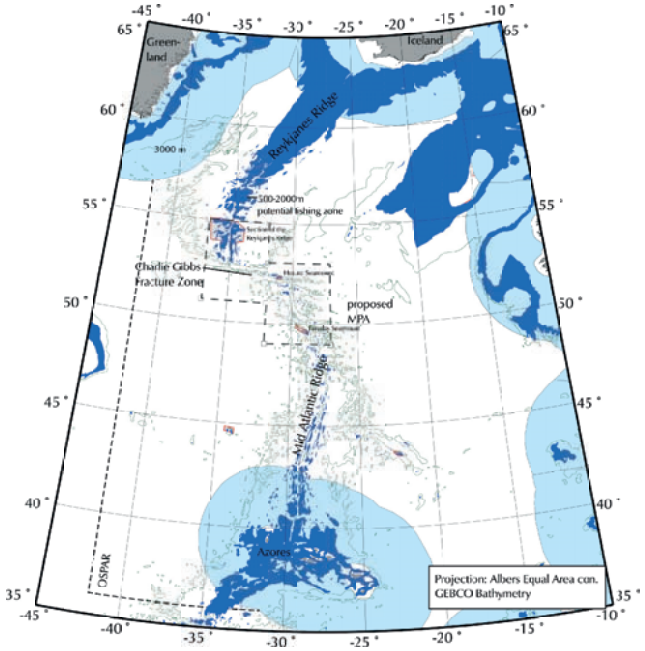


Fig. 1: Location of the proposed MPA on the Mid-Atlantic Ridge. In blue the area potentially suitable for deep water bottom fishing. The NEAFC closures within the proposed area are outlined in red (Hekate, Faraday Seamounts and Reykjanes Ridge).

Characteristics of the area

The Mid-Atlantic Ridge is the only mid-ocean ridge in the OSPAR maritime region and is representative of this type of geological feature. The area is nominated for its importance as a section of the northern Mid Atlantic Ridge, including a major biogeographic east-west and north-south divide. The Mid Atlantic Ridge provides the only hard substrate and relatively shallow depths in the otherwise sedimentary abyssal plains of the North Atlantic.

The proposed MPA is representative of an especially complex section of the Mid-Atlantic Ridge, including a large number of identified seamounts with shallower than 1500 m summit depth, and a permanent front. At 52° N, a major fracture zone, the Charlie-Gibbs Fracture Zone, offsets the ridge by 5° to the east and opens a deep sea connection between the northwest and northeast Atlantic.

The proposed MPA provides an important functional habitat to deep water fish like orange roughy and deepwater sharks, marine mammals, deep-sea corals and sponge aggregations listed as priority threatened and/or declining species/habitats by OSPAR (2003, last revisions accepted by BDC 2008). The same and more species and habitats qualify as "Vulnerable Marine Ecosystems" in relation to high seas fisheries according to draft criteria developed by FAO (FAO 2008, Rogers *et al*, 2008). It also contains seamount communities, coral and sponge aggregations, a frontal area (the subpolar front) and potential areas of upwelling, which are habitats listed as examples of ecologically or biological significant marine areas according to draft criteria developed by CBD for identifying candidate sites for protection on the high seas (UNEP 2007).

* source: merged MAR/CGFZ MPA proposal based on independant WWF/NL and University of York proposals for the same area http://www.ngo.grida.no/wwfneap/Publication/subm.htm#Ospar08

OSPAR ecological selection criteria

1. Is the area important for threatened and/or declining species and habitats on the OSPAR List?

Yes, several of the species and habitats listed occur in the proposed area and depend on its ecological features:

Orange roughy *(Hoplostethus atlanticus)*

Orange roughy is considered to be an obligate seamount associated fish, depending on the seamount topography-induced hydrographic patterns for spawning aggregations and spawning. Due to its life history traits, ICES (2002) considers orange roughy to be one of the most sensitive species to impacts from deep water fishing. A ridge like the MAR with numerous seamount-like peaks suitable for orange roughy aggregations, may have a special importance for maintaining the global population of orange roughy.

Blue Whale *(Balaenoptera musculus)*

Blue whales are roaming all oceans. As plankton feeders, they particularly depend on zones of rich plankton production during their migrations. Blue whales were sighted in the vicinity of the Mid-Atlantic Ridge and the Charlie Gibbs Fracture Zone during the MAR-ECO. It is likely that blue whales spend some time in the subpolar frontal area with its increased pelagic biomass, such as observed for sei and sperm whales.

Deepwater sharks

Among the 44 species of deep water sharks known from the area, portuguese dogfish (*Centroscymnus coelolepis*), gulper shark (*Centrophorus granulosus*), and leafscale gulpershark (*Centrophorus squamosus*) were accepted for the OSPAR List in 2008. Generally, deepwater sharks are confined to the upper 2000 m of the ocean, all within fishing depth, and extremely sensitive to overfishing due to their life history traits. They require a high energy environment such as around seamounts, the peaks of the ridge and near the subpolar front.

Deepwater sponge aggregations

Recent video dives and sampling in the proposed area revealed rich hexactinellid sponge communities or 'gardens' around the Charlie Gibbs Fracture Zone and the associated seamounts down to 3000 m depth.

***Lophelia pertusa* reefs**

Within the area proposed, living *Lophelia pertusa* and 40 taxa of other corals have been observed at all depths and locations surveyed although not in the extensive reef-type structures found off the coast of Norway . The MAR provides otherwise scarce hard substrate and suitable current and feeding conditions to be an important stepping stone in the regional dispersal of cold water corals.

Seamounts

Seamounts as a "habitat" is a substitute for the multitude of habitats seamounts provide vertically and horizontally to a range of taxa including to migratory species. The MAR provides the most extensive habitat for the reproduction of seamount-aggregating deepwater fish species (roundnose grenadier, alfonsino, orange roughy, redfish) off the continental shelves in the OSPAR maritime area.

2. Is the area ecologically significant?

Yes. Due to its relatively high faunal biomass and probably elevated pelagic productivity near the subpolar front, the area is of particular importance as a feeding area for marine mammals, such as blue, sei and sperm whales. The ridge structure is important for deep water sharks, its topographically induced hydrographic conditions enhance deepwater teleost fish aggregations, and it is an important reproduction area for roundnose grenadier, orange roughy and bathypelagic fish. The diversity of corals is assumed to be higher than on the northern continental shelves.

3. Is the diversity particularly high?

Yes. The benthic and pelagic species diversities recorded so far, and the range of habitats found within the proposed MPA are extensive. The inclusion of at least two faunal biogeographic provinces raises the diversity above similar or smaller areas comprising fewer habitats and e.g. only a single province.

4. Is the area representative for OSPAR Region V?

Yes. The area proposed is large enough to represent all functional habitats and communities of the northern Mid Atlantic Ridge around the Charlie Gibbs Fracture Zone and adjacent abyssal plains.

5. Does the area host a high proportion of sensitive fauna?

Yes. Although an elevation compared to the surrounding abyssal plains, the MAR still is a deep sea environment. In particular deep water species and biogenic habitats are considered vulnerable, as often fragile, and slow (if at all) to recover due to slow growth, retarded maturity, irregular reproduction and high generation length of the fauna, as well as community characteristics of high diversity at low biomass. This is an adaptation to stable, low food environments. Propagation and dispersal of larvae is largely unknown and therefore little can be said about a possible recovery of neither invertebrates nor fishes.

6. Is the area pristine?

No. Past fishing has been the most significant impact, todays fishing effort being significantly reduced. Since the 1970s, a Soviet/Russian-dominated multinational fishing effort has exploited all and depleted some of the predominant seamount-aggregating populations of demersal deepwater fish (roundnose grenadier, redfish, orange roughy, sharks) in the area with decreasing effort and catch, in particular since the early 1990s. Though no direct destruction on the seafloor from trawls was documented yet, the frequency of lost longlines entangled in corals observed during video transects points to a possibly longlasting significant impact.

7. What value does the area have for science?

Very high. The Mid Atlantic Ridge is one of the last frontiers of science, being subject to several multinational research efforts until at least 2010 (MarEco, ECOMAR). The recently published results of the first MarEco phase and in particular the invaluable comments and additions of experienced scientists have enabled this MPA proposal.

IUCN Environmental Law Programme
Environmental Law Centre

Godesbergerallee 108-112
53175 Bonn, Germany

Phone: ++ 49 228 / 2692 231
Fax: ++ 49 228 / 2692 250

elcsecretariat@iucn.org
www.iucn.org/law

agriculture, nature
and food quality

Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety