UNITED
NATIONS

EP

United Nations
Environment
Programme

UNEP (DEPI)/RS.12 /INF.6.RS

Original: ENGLISH

12th Global Meeting of the Regional Seas Conventions and Action Plans

Bergen, Norway, 20th – 22nd September 2010

HIGH SEAS MPAs

Regional Approaches and Experiences

SIDE EVENT

WWF for a living planet®

Background document for the

HIGH SEAS MPAS

regional approaches and experiences

side event at the 12th UNEP Global Meeting of the Regional Seas Conventions and Action Plans, 20th of September 2010

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Content

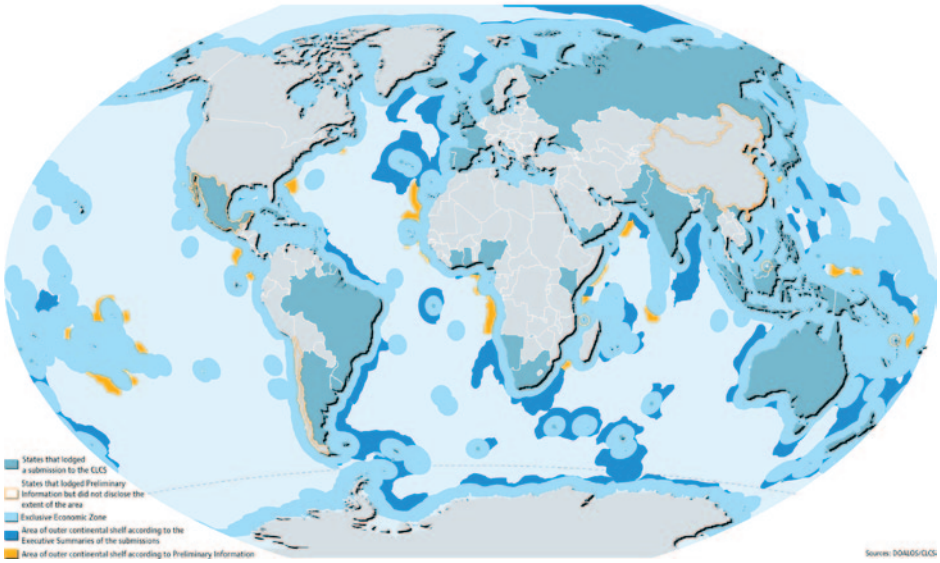
Preface

From meter long tubeworms dwelling near black smokers to turtle hatchlings clinging to Sargassum weed, from millions of tons of tuna in open waters to billions of tons of manganese nodules on the deep sea floor: the high seas still host to mankind every surprise and every treasure conceivable – and beyond.

But with shipping and fishing leaving ever-growing footprints beyond the limits of national jurisdiction over many decades and deep-sea mining re-appearing on the horizon, high seas biodiversity and ecosystems are under serious threat. In addition, with rising atmospheric carbon dioxide levels, the impacts from ocean acidification and ocean warming are set to further aggravate these footprints, reducing the resilience of vulnerable ecosystems and species. Recognition of the need for protection of ocean biodiversity and processes is growing, and networks of marine protected areas are considered a central tool to aid in providing this protection.

While the protection targets set by the international community have been moderate, progress towards achieving them has been painfully slow. Today, less than one percent of the oceans has been designated as protected, while science is considering up to 40 % necessary to ensure long-time conservation and recovery. Ecologically representative networks of marine protected areas, well managed and coherent, are slowly emerging and regional bodies are playing a pivotal role in their creation.

WWF is dedicated to supporting those active for the conservation of marine ecosystems and works towards achieving global networks of marine protected areas which help protect ocean ecosystems. With this background document we wish to highlight progress in regional high seas marine protected area establishment and make experiences available to, and encourage, those committed to the conservation of marine biodiversity within and beyond countries' waters.



Global distribution of high seas and outer continental shelf

Fig. 1: Summary chart of all areas included in submissions (dark blue) and preliminary information (yellow) to the UN Commission on the Limits of the Continental Shelf as of 31 May 2009, and the remaining areas of the High Seas and the Area (light blue). source: UNEP/GRID-Arendal

I. A brief overview of the global ocean governance framework

The overarching framework for ocean governance is set by the United Nations Convention on the Law of the Sea (UNCLOS, in force since 1994), which provides rights and duties to coastal states in a set of differentiated legal zones. The sovereign rights afforded include the exploration and exploitation of living and non-living resources in waters and seafloor under national jurisdiction. On the contrary, the general duty established by UNCLOS for all states to "preserve and protect the environment" (Art. 192), in particular those which are "rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other form of marine life" (Art. 194 (5)) is not limited to any legal zone and includes waters and seafloor in areas beyond national jurisdiction.

Areas beyond national jurisdiction (ABNJ) are the open ocean waters beyond the coastal states´ Exclusive Economic zones (200 nm), and the seafloor seawards of the (extended) continental shelf boundaries ("the Area"), as of the decisions taken by the UN Commission on the Limits of the Continental Shelf. Currently, a large number of states have filed submissions to the Commission[1] which have not yet been finally decided upon (see figure 1). Therefore, some uncertainty exists as to whether and to what extent national sovereignty exists with respect to the seafloor included in the submissions, and how potential marine protected areas with dual legislation, the seafloor under national, the water column under international legislation could operate (see chapter V). First experiences have been made already in the North East Atlantic and Mediterranean (chapter II and IV).

While the "solid, liquid or gaseous mineral resources in or beneath the seabed" are "the common heritage of mankind", and therefore have to be administered to the benefit of all nations (Art. 136, 140), the living resources do not have such an ownership; their exploitation is one of the high seas freedoms (Art. 87). The freedom of fishing in the high seas has only been limited by multilateral agreements, such as the 1995 UN Fish Stocks Agreement[2], and regional fisheries conventions, to cooperate on taking the necessary measures for the conservation of the resource. The FAO Compliance Agreement[3] (1993) sets out responsibilities for flag states to ensure that any fishing vessel flying its flag and operating in the high seas complies with international conservation and management measures. To further urge contracting parties to exercise fishing in a more responsible and sustainable way, the voluntary FAO Code of Conduct for Responsible Fisheries was agreed in 1991, and supplemented in 2001 by the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated fishing (IUU) which urges contracting parties to cooperate through regional fisheries management organisations. The FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (2009[4]) particularly address the vulnerability of open ocean and deep sea ecosystems to fishing activities and provide a set of rules, including the closure of areas to fishing, for minimising environmental damage.

[1] http://www.un.org/Depts/los/clcs_new/commission_submissions.htm

[2] Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

[3] 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas

[4] FAO, 2009. International guidelines for the management of deep-sea fisheries in the high seas Food and Agrigulture Organization of the United Nations Rome, pp. 1-73.

The Convention on Biological Diversity (CBD 1992) provides the global framework for biodiversity conservation, sustainability of natural resource use and benefit sharing from genetic resources. Among other measures, CBD contracting parties commit to implement the World Summit of Sustainable Development's 2012 target for the completion of an effectively managed, ecologically representative network of marine and coastal protected areas[5]. Although CBD provisions do not apply directly to areas beyond national jurisdiction, the Conference of Parties in 2008 has adopted a set of criteria designed to apply to open ocean and deep seabed areas, including marine areas beyond national jurisdiction[6], which will allow for the identification of "ecologically and biologically significant areas (EBSAs)". In order to help meet the network criteria of representativity, connectivity, replication and size of the network, the EBSA criteria have been complemented by further guidance as well as a a global bioregionalisation scheme[7]. There is currently no agreed mechanism to decide upon the establishment of protected areas in areas beyond national jurisdiction, however the UN BBNJ working group[8] has the mandate to explore options for cooperation for the establishment of marine protected areas beyond the limits of national jurisdiction.

Several international conventions are applicable to the conservation of marine wildlife. The International Convention for the Regulation of Whaling (1946) applied to all waters where whaling is carried out and has to ensure the effective conservation of whale stocks by various instruments. Endangered species can receive additional protection by global trade restrictions according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, in force since 1987). The Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention, in force since 1983) particularly seeks to encourage contracting parties to cooperate on protection measures for wide ranging species, including the establishment of protected areas in critical habitats.

The International Seabed Authority (ISA) has been established in 1994, under the UNCLOS and the 1994 Implementing Agreement on the Area[9]. Through the authority, contracting parties to UNCLOS organize and control the exploration and exploitation of "solid, liquid or gaseous mineral resources in or beneath the seabed" in ABNJ. Among specific regulations for the exploration and exploitation of resources, the ISA can designate areas no mining is allowed.

The International Maritime Organization (IMO) is responsible for developing rules and regulations concerning maritime safety, the efficiency of navigation and the prevention and control of marine pollution from ships (International Convention for the Prevention of Pollution from Ships, MARPOL 1978) and all other sources (London Convention, 1972, Protocol 1996). The IMO provides the mechanisms enabling the cooperation among governments which adopt these minimum standards for their fleets in all waters. In addition to the globally applicable fleet regulations, IMO contracting parties can designate areas where particular regulations apply to protect the marine environment from impacts arising from navigation and marine pollution, Particular Sensitive Sea Areas (PSSAs), such as the Western Europe Seas, and MARPOL (1978) "Special Areas", such as the Mediterranean.

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[5] WSSD, 2002. Report of the World Summit on Sustainable Development. A/CONF.199/20.

[6] Convention on Biological Diversity, 2008. Marine and coastal biodiversity. COP 9 Decision IX/20, Bonn, 19 - 30 May 2008.

[7] UNESCO, 2009. Global Open Oceans and Deep Seabed (GOODS)- Biogeographic Classification. UNESCO-IOC (IOC Technical Series, 84).

[8] 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

[9] Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982

II. The North-East Atlantic
II.1 The Regional Governance Framework

Several regional conventions and management mechanisms are operational in the North-East Atlantic. The **Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention, since 1992), superseding the prior Oslo and Paris Conventions** for the prevention of environmental pollution by dumping and land-based sources, respectively (1972 and 1974, resp.), aims at regional action to prevent and eliminate pollution, and to take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected[1]. The Convention has 16 Contracting Parties, including all coastal states of the North-East Atlantic, the European Community and three land-locked states connected via the river catchments. The Convention is implemented through a hierarchy of decisions (legally binding for Contracting Parties), recommendations and other agreements. Overall, the work of the OSPAR Commission is guided[2] by the ecosystem approach to an integrated management of human activities in the marine environment. This is supported by a general obligation of Contracting Parties to apply the precautionary principle, the polluter pays principle and the best available techniques (BAT) and best environmental practice (BEP), including clean technology. The Convention's five current annexes are made operational by means of a thematic strategy each, addressing the main threats from eutrophication, hazardous substances, offshore industry, radioactive substances and to biodiversity and ecosystems[3]. The impacts of climate change are addressed as a cross-cutting issue.

Annex V to the Convention (1998) on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area, supplemented by Criteria for Identifying Human Activities for the Purpose of Annex V are the basis for extending the cooperation of the Contracting Parties to cover all human activities that might adversely affect the marine environment of the North-East Atlantic. However, where the Commission considers **action desirable in relation to fisheries management and shipping**, the Commission shall draw that question to the attention of the relevant competent authorities and international bodies and endeavour to cooperate with them (Annex V, Art. 4). In the case of maritime transport, OSPAR Contracting Parties shall endeavour to cooperate within the International Maritime Organisation to achieve an appropriate response (Annex V, Art. 4.2).

The OSPAR Convention area covers all waters of the Atlantic and Arctic Ocean north of 36° N latitude and 42° W longitude (north of 59° N, 44° W) and 51° E longitude, except the Mediterranean Sea and the Baltic Sea. This **includes waters beyond national jurisdiction**, currently assessed to amount to approximately 40 % of the Convention area[4]. However, several Contracting Parties have filed submissions to the UN Commission on the Limits of the Continental Shelf, UNCLCS with respect to the outer limits of their continental shelf, which will lead to a significant reduction of the seafloor beyond national jurisdiction ("the Area", UNCLOS Part XII) in the Convention area. The current status as in the submissions of coastal states is reflected in figure 2.

[1] OSPAR Convention, Art. 2.1 (a)

[2] see http://www.ospar.org/content/content.asp?menu=00320109000066_000000_000000

[3] http://www.ospar.org/html_documents/ospar/html/Revised_OSPAR_Strategies_2003.pdf#nameddest=biodiversity

[4] BDC 10/2/1 Add.5-E(L) Draft 2010 Status Report on the OSPAR Network of Marine Protected Areas

Fig. 2: Limits of the extended continental shelves of coastal states in the North-East Atlantic as applied for in submissions made by May 2009 to the UN Commission for the Limits of the Continental Shelves (EEZs and equivalent in light blue)[5]. The Norwegian boundary has been adopted in 2009. The OSPAR and NEAFC Convention areas are indicated within the hatched line.

OSPAR's measures taken involve a comprehensive system of periodic assessment and monitoring, culminating in Quality Status Reports. Since the adoption of Annex V, and in particular since the Ministerial Meeting in 2003, OSPAR is committed to a holistic ecosystem approach to the management of human activities, including a set of Ecological Quality Objectives, and the **establishment of an ecologically coherent network of well-managed MPAs** by 2010[6]. Based on a set of identification criteria[7], a priority list of species and habitats under threat and/or decline in the OSPAR area[8] has been adopted and adapted since 2003, with a view to seeking to reduce threats and improve the conservation status by either national measures of Contracting Parties or regional measures by e.g. regional fisheries bodies. This also holds for the habitats listed, including deep sea habitats, which have been mapped among others as a communication tool with the relevant fisheries management bodies where habitats are threatened by fishing activities[9]. As of 2010, the conservation status of most listed species and habitats, and in parallel, the ecological impacts of defined human activities and underwater noise have been assessed individually and the methodology for cumulative assessments is being developed[10]. Biological monitoring and comprehensive measures to improve the conservation status of priority species and habitats are yet to be adopted and implemented.

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[5] http://www.un.org/Depts/los/clcs_new/commission_submissions.htm

[6] Recommendation 2003/3 on a network of marine protected areas, see http://www.ospar.org/documents/DBASE/DECRECS/Recommendations/or03-03e.doc

[7] http://www.ospar.org/documents/DBASE/DECRECS/Agreements/03-13e_Texel_Faial%20criteria.doc

[8] http://www.ospar.org/documents/DBASE/DECRECS/Agreements/08-06e_OSPAR%20List%20species%20and%20habitats.doc

[9] http://www.ospar.org/content/content.asp?menu=00180302000132_000000_000000

[10] see www.ospar.org Biological Diversity Publication Series, 2010

All Contracting Parties to OSPAR except Iceland, Norway and Switzerland are **also members of the European Union, and as such are committed to implementing the EU Maritime Policy** including spatial planning, the Marine Strategy Framework Directive with its aim to establish "Good Environmental Status" in all regional seas by 2020, and the conservation directives for the protection of wild birds and natural habitats and wild fauna and flora, which together are instrumental to create the ecologically coherent Natura 2000 network of protected areas (EC 2007[11]). OSPAR is therefore one of the regional fora where Contracting Parties work towards a common approach for the implementation of the EU Marine Strategy Framework Directive, and the integration with non-European policies into a common regional strategy takes place.

Focussing on the conservation of **small cetaceans**, the Agreement on the Conservation of Small Cetaceans of the Baltic, North-East Atlantic, Irish and North Seas (ASCOBANS, 1991) aims to facilitate among its 10 Contracting Parties the cooperation on implementing conservation measures, however does not have legal power by itself. In addition, the North Atlantic Marine Mammal Commission (NAMMCO, 1992), signed by Norway, Iceland, Greenland and the Faroe Islands is an international body for cooperation on the conservation, management and study of all marine mammals in the North Atlantic in order to provide for "rational use".

The management of fisheries within the 200 nm EEZs or equivalent in the North-East Atlantic is in the competence of the national/regional governments of Iceland, Norway, the Faroes and Greenland, and the European Union[12]. In the high seas, all fishing other than for the highly migratory tuna species (ICCAT) and salmon (NASCO) is managed by the 1982 Convention on the Future Multilateral Cooperation in North-East Atlantic Fisheries, implemented through the **North-East Atlantic Fisheries Commission (NEAFC)**. NEAFC has currently five Contracting Parties (Denmark in respect of the Faroe Islands and Greenland, Iceland, Norway, the Russian Federation and the EU, representing the EU Member States). The 2006 revised NEAFC Convention aims at the long-term conservation and optimum utilisation of the fishery resources of the North-East Atlantic area, while safeguarding the marine ecosystems in which the resources occur, and to encourage international cooperation and consultation with respect to these resources. Accordingly, NEAFC has adopted a series of conservation measures for the protection of cold water coral habitats and "vulnerable marine ecosystems"[13], covering a total of 330000 km^2 on the Mid Atlantic Ridge[14], and a further circa 20000 km^2 on the Hatton and Rockall Banks[15] (see also figure 4).

The International Council for the Exploration of the Seas (ICES) is the advisory body for both OSPAR and NEAFC, as well as the European Commission, on issues related to the impacts of fishing activities as well as ecosystem conservation and the ecosystem approach to management of human activities.

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[11] European Commission, 2007. Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives. European Commission, Brussels, p. 112.

[12] (EC) N° 2371/2002 of 20/12/2002

[13] transposing UN General Assembly Resolution 61/105 in line with requirements recommended by FAO 2009. International guidelines for the management of deep-sea fisheries in the high seas. Food and Agriculture Organization of the United Nations Rome, pp. 1-73.

[14] http://www.neafc.org/page/3239

[15] http://www.neafc.org/system/files/rec-viiil+-+Hatton+extension+corrected+rev4.pdf

II.2 The approach towards establishing a network of Marine Protected Areas

OSPAR Recommendation 2003/3, adopted at the OSPAR Ministerial Meeting 2003 in conjunction with the Biodiversity Strategy and a common workplan together with the Helsinki Convention (HELCOM), forms the basis for all subsequent efforts to establish an "ecologically coherent network of well-managed marine protected areas by 2010". OSPAR MPAs individually and collectively aim to *"protect, conserve and restore species, habitats and ecological processes which are adversely affected as a result of human activities", "prevent degradation of and damage to species, habitats and ecological processes following the precautionary principle" and "protect and conserve areas that best represent the range of species, habitats and ecological processes in the OSPAR area."* (OSPAR 2003-17). The OSPAR Network should take into account the linkages between marine ecosystems and the dependence of some species and habitats on processes that occur outside the MPA concerned, taking account of needs of, in particular, highly mobile species, such as certain birds, mammals and fish, to safeguard the critical stages and areas of their life cycle (such as breeding, nursery and feeding areas).

Several guidance documents have been adopted, representing the agreed minimum consensus on the process of submission and identification, as well as selection criteria to be used by OSPAR MPAs[16]. In the **first phase of MPA identification, a set of ecological criteria should be applied**, which focus among others on the areas of importance for threatened or declining species and habitats/biotopes, its functional ecological significance, naturalness, its sensitivity to disturbance, or it being representative for the OSPAR maritime area. To meet the aims of the OSPAR MPA network representativity of natural characteristics is an important first order aspect in site selection (OSPAR 2006-3[17]). An **agreed biogeographic regionalisation**[18] (see figure. 3) serves to check the biogeographic spread of the MPAs in the OSPAR database. Several tools enable the assessment of the comprehensiveness of the national and regional MPA networks, such as a background document on assessment of ecological coherence and a scorecard to assist with MPA network design[19]. Nomination of sites to the OSPAR network does not require that management measures are already in place, but here the philosophy pursued is also up to national strategies.

However, all OSPAR MPAs have to be accompanied by a **management plan, in accordance with the management guidelines**[20], to document how the conservation aims for which the area has been selected shall be achieved. In the case of Natura 2000 sites these can be reported and managed as OSPAR MPAs without further obligations. A scorecard approach helps Contracting Parties and OSPAR to assess the effectiveness of MPA management in view of achieving the aims of the OSPAR MPA network[21]. A preliminary overview

[16] Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area (Reference number: 2003-17), see www.ospar.org

[17] Guidance on developing an ecologically coherent network of OSPAR marine protected areas (Reference number 2006-3), see www.ospar.org

[18] Dinter, W. (2001). Biogeography of the OSPAR Maritime Area. German Federal Agency for Nature Conservation, Bonn. 167 pp.

[19] OSPAR Commission 2007. Background document to support the assessment of whether the OSPAR Network of Marine Protected Areas is ecologically coherent. Biodiversity Series, Publ. Nr. 320/2007, 54 pp.
Guidance for the design of the OSPAR Network of Marine Protected Areas: a self-assessment checklist (Reference number: 2007-6), see www.ospar.org

[20] Guidelines for the Management of Marine Protected Areas in the OSPAR Maritime Area (Reference Number: 2003-18), see www.ospar.org

[21] Guidance to assess the effectiveness of management of OSPAR MPAs: a self-assessment scorecard (Reference number: 2007-5), see www.ospar.org

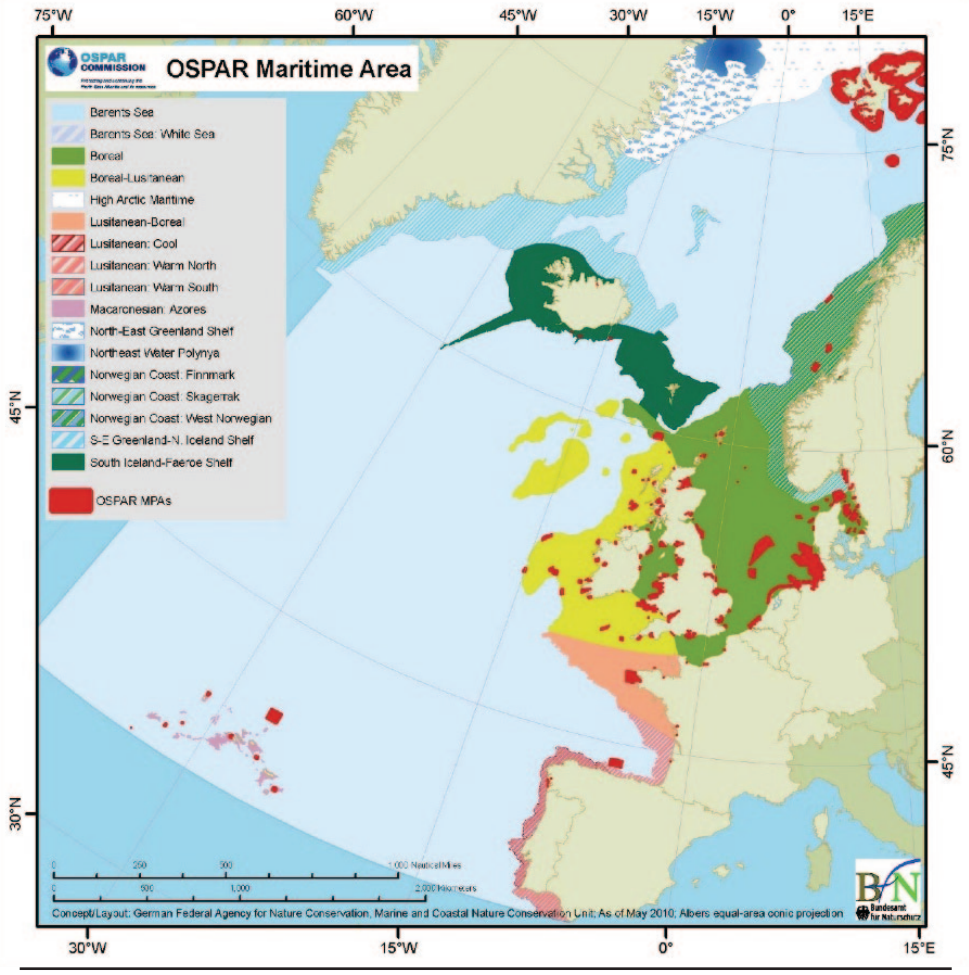
on the management regimes in MPAs all over the OSPAR area highlights that in many cases, management is still in preparation, and that no detailed information on management effectiveness was available.

Since 2006, the state of the OSPAR MPA network is being reviewed and assessed on an annual basis. The 2010 report concludes[22] that the current inventory of MPAs does not provide for an ecologically coherent network of sites, with some biogeographic regions not being represented at all, the maximum absolute MPA coverage is 5.8 % in the Barents Sea, the highest relative coverage is 6.6 % of boreal shelf waters, i.e. the North and Irish Seas. However, in most sites no management measures are in place yet. Overall, only about 1 % of the OSPAR maritime area is covered by MPAs.

Marine protected areas established by EU Member States under Natura 2000 form an integral part of the OSPAR Network, and by 2010 constitute the overwhelming majority of nominations covering about 45 % of the area included. Whereas Norway and Iceland can implement fisheries measures on a national basis, EU Member States have to apply for measures in the context of the EU Common Fisheries Policy. Whereas the Natura 2000 sites in the EEZs of Ireland, Spain, the Azores and the partly the UK have such European fisheries measures in place, for other countries, e.g. Germany, the Netherlands and Denmark, processes are underway to determine the fisheries measures required to achieve the conservation goals of the MPAs.

OSPAR Maritime Area

Fig. 3: Progress towards establishing an ecologically coherent network of well-managed MPAs in the OSPAR maritime area to be concluded in 2010. State of nominations plotted on the biogeographic provinces (see footnote 23) to be adequately represented. It is clear that the current state does not provide ecologically coherent effect (OSPAR Commission 2010; by courtesy of BfN Germany).



[22] OSPAR Commission (2010). Draft 2010 Status Report of the OSPAR Network of Marine Protected Areas. Biodiversity Series 2010. 63 pp. In BDC 10/2/1 Add.5-E(L)

II.3 Progress towards establishing a network a network of Marine Protected Areas in the high seas, including a case study on the Charlie Gibbs MPA

The process of designation of the Charlie Gibbs MPA has been pivotal in OSPAR's efforts towards a network of MPAs in areas beyond national jurisdiction. Therefore, we include the case study in this chapter.

OSPAR Recommendation 2003/3 explicitly refers to the need for establishing a network of MPAs in areas beyond national jurisdiction, complementing the national efforts within the 200 nm zones. Proposals for sites to be protected as OSPAR MPAs in areas beyond national jurisdiction can also be made by observers, i.e. non-governmental organisations, however, the support of at least one Contracting Party is required for taking the proposal forward. The formal procedure involves the approval of a proposal by several technical fora within OSPAR, based also on advice from the International Council for the Exploration of the Seas (ICES).

Supplementing a series of proposals made to OSPAR Contracting Parties for MPAs within Exclusive Economic Zones (EEZ), WWF has presented proposals for MPAs to be designated in areas beyond national waters since 2000[23]: The sites proposed illustrate different MPA selection criteria, such as representativity (BIOTRANS abyssal plain research area), uniqueness (Rainbow hydrothermal vent field), importance for threatened species/habitats (Rockall Bank), vulnerability to the impacts of human activities (Josefine Bank, and Charlie Gibbs Fracture Zone).

The proposal for an MPA covering the Rainbow hydrothermal vent fields was considered most suitable for taking it forward as a pilot case under OSPAR, and therefore WWF launched a full-scale formal nomination according to OSPAR´s procedures in 2005. The vent fields are located immediately south of the EEZ of the Azores/Portugal on the Mid Atlantic Ridge, at that time considered to be "the Area". However, the nomination coincided with the initiation of Portugal´s efforts to map the boundaries of its extended continental shelf, including in relation to the Azores on the Mid Atlantic Ridge (Ribeiro 2010[24]). Although the process of delineating Portugal's outer boundaries was only beginning, data indicated that the Rainbow vent fields would clearly be *situated on the sea-bed of the natural submerged prolongation of the landmasses of the Archipelago of Azores, at an approximate distance of 235 nautical miles from the baselines ... (or) 35 miles beyond the outer limits of the exclusive economic zone (EEZ) and within the juridical continental shelf generated by the Azores Islands*[25]. Therefore, in early 2006, the Portuguese government formally announced Rainbow to be subject to its jurisdiction and later nominated the site as an MPA to OSPAR[26]. With this step, Portugal has taken responsibility for the site prior to the final conclusions of the UN Commission for the Limits of the Continental Shelves (UNCLCS), recognizing its obligations under Article 192 UNCLOS to protect and preserve the marine environment, and the precautionary principle. The Contracting Parties to OSPAR unanimously accepted the Portuguese nomination of the Rainbow MPA in 2007 as part of the OSPAR MPA network status report (see chapter V for more in depth discussion on continental shelf-related questions).

[23] Christiansen, S., 2006. Marine Protected Areas in areas beyond national jurisdiction. Proposed High Seas MPAs in the North-East Atlantic by WWF 1998 – 2006. WWF North-East Atlantic Programme, Hamburg, pp. 1-38. http://www.ngo.grida.no/wwfneap/Projects/Reports/WWF_NEA_HSMPA_Proposals.pdf

[24] Ribeiro, M.C., 2010. The "Rainbow": The first national marine protected area proposed under the high seas. The International Journal of Marine and Coatal Law 25, 183-207.

[25] MASH 06/5/10

[26] OSPAR MASH 06/5/4-E, ANNEX 6

In order to present a representative and ecologially significant proposal to OSPAR for an MPA which to the extent known would not straddle national jurisdictions, WWF submitted the formal **nomination for an MPA on the Mid Atlantic Ridge, including the Charlie Gibbs Fracture Zone** in 2006. As a pilot MPA establishment in areas beyond national jurisdiction, it was meant to be instrumental to testing and developing further the selection process and all related OSPAR procedures as well as international governance and management issues in the OSPAR maritime areas beyond national jurisdiction. Due to support afforded by the Netherlands since 2007, as well as France and Portugal since 2008, the proposal passed all technical levels in OSPAR and two scientific reviews by ICES, and was "*approved in principle as a potential MPA in areas beyond national jurisdiction (ABNJ) as a component of the OSPAR network of MPAs, encompassing the seabed and the superjacent water column*" by OSPAR 2008. Collectively, Contracting Parties agreed that a comprehensive scientific case had been established for the site, and they expressed substantial political support for further work on the Charlie Gibbs MPA proposal.

OSPAR 2008 and 2009 also agreed consecutive **'road maps' with a view to considering the possible adoption of the Charlie Gibbs MPA** at the OSPAR Ministerial Meeting in 2010[27]. **The roadmaps have outlined several parallel strands of work to be completed** before the final decision on the adoption of the site as part of the OSPAR network could be made:

1. Re-consider the scope of **mandate** of OSPAR with respect to establishing and managing MPAs in areas beyond national jurisdiction by OSPAR Jurists and Linguists (JL). The advice was presented in 2009[28] and confirms the view that OSPAR is the competent body to designate and establish a network of MPAs in ABNJ within its maritime area, including the identification of features to be protected, adoption of conservation objectives and measures within its competence. The OSPAR Convention provides OSPAR with a wide mandate when it comes to identifying and assessing specific areas within the OSPAR Maritime Area in need of protection. JL consider the integrating role of OSPAR to be very important, *since no other international organisation has the mandate for setting in place an integrated process for the protection of an area in ABNJ having regard to human activities and their cumulative impacts on the basis of the ecosystem approach (including i.a. the assessment of the status of the environment, the identification of features to be protected, the establishment of objectives and monitoring measures)*. OSPAR also has the competence to regulate human activities such as scientific research, cable-laying, dumping, construction of installations and artificial island, and deep-sea tourism (within the prescriptions of UNCLOS[29]). However, where competent global or regional management organisations exist, OSPAR has to cooperate with these on developing measures to achieve the conservation objectives for the MPA (see below). This also applies to international organisations which have a mandate in the respective field that may also bind Non-Contracting Parties. OSPAR Jurists and Linguists highlighted that there is no agreement among Contracting Parties whether the institution of measures was a legal requirement for the establishment of an MPA, but that the institution of such measures, before or at the same time as the establishment of an MPA, was desirable.

2. Compile known **human activities** and pressures in the area[30].

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[27] OSPAR 2008 Summary Record, Annex 10, OSPAR 2009 Summary Record Annex 8, see www.OSPAR.org

[28] OSPAR 2009 Summary Record, Annex 6, see also Dotinga, E.J., Molenaar, E.J., 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, pp. 1-22.

[29] see also Owen, D., 2006. 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. A report for WWF Germany. WWF Germany, Hamburg, p. 46.

3. Define and adopt **conservation objectives**. OSPAR 2009 endorsed the conservation vision as well as the general and specific objectives for the Charlie Gibbs MPA, now integrated into the site nomination proforma[31].

4. Initiate **communication** and exchange of views with relevant competent management organisations such as e.g. NEAFC, IMO, FAO, NATO, NAMMCO, NASCO, ISA, DOALOS. These authorities were informed of OSPAR's consideration of the Charlie Gibbs Area as a potential MPA and requested to provide information on activities, existing management measures and available management options in the Charlie Gibbs Area under their regulatory powers. In addition, the draft conservation objectives for the site (see above) were circulated. As the OSPAR Secretariat notes[32], the work on MPAs in ABNJ has provided a boost to OSPARs links with other multi-lateral Conventions and international organisations, resulting among others in several memoranda of understanding (e.g. NEAFC, ISA, IMO). In 2010, a stakeholder workshop was organised in order to update competent authorities and other interested stakeholders on progress made by OSPAR with respect to MPAs in ABNJ, for an exchange of views on potential management measures for the proposed MPAs and, if possible, agreement to a set of joint management principles in MPAs in ABNJ (see further below).

5. Compile and agree a comprehensive document outlining **management** options a) to be taken by OSPAR, b) which could be drawn to the attention of other Competent Authorities. A first comprehensive hierarchy of management options vs. the agreed conservation vision and objectives for the Charlie Gibbs MPA has been tabled by WWF in 2009, including an inventory of existing management measures, and identifying responsible management bodies[33]. Based on this detailed document, the broad management actions that would be required from other competent authorities or OSPAR have been outlined and put for consideration and adoption at the informal stakeholder workshop in 2010 (see above). The participants agreed on a set of joint management principles, and the outlines for a draft agreement on general and specific management measures to be taken in relation to biodiversity conservation in MPAs in ABNJ, in particular the Charlie Gibbs MPA[34]. These will be further negotiated and put for adoption within the respective organisations. Management measures within the competence of OSPAR are covered by a draft OSPAR Recommendation (2010[35]) which will be subject to adoption by OSPAR Ministers during their Meeting in Bergen, September 2010.

6. Scope initial considerations on possible **monitoring** requirements

7. Explore potential **external funding** possibilities. As of 2009, the Charlie Gibbs MPA has been tentatively considered among four potential pilot projects under the new draft Focal Area Strategy for International Waters under the 5th replenishment scenario GEF-5 of the Global Environment Fund's (GEF[36]) Objective 4 "Promote effective management of Marine Areas Beyond National Jurisdiction (ABNJ) directed at preventing fisheries depletion". OSPAR needs to give further consideration to funding required to establish a management plan, systems needed for monitoring and enforcement of any measures, communication and dissemination of protective measures and any specific further targeted scientific research.

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[30] see BDC 09/5/9 and Agence des aires-marine-protégées (2009). Cross-checking high Seas issues. 27 pp. http://www.aires-marines.fr/images/stories/evenement/AIRES_MARINE_HSBD.pdf

[31] OSPAR 09/6/5-E

[32] OSPAR 09/13/1-E

[33] MASH 09/5/5-E

[34] Madeira Stakeholder Workshop 10/7/1-E, Annex 3

[35] OSPAR BDC 2010 Summary Record, Annex 8

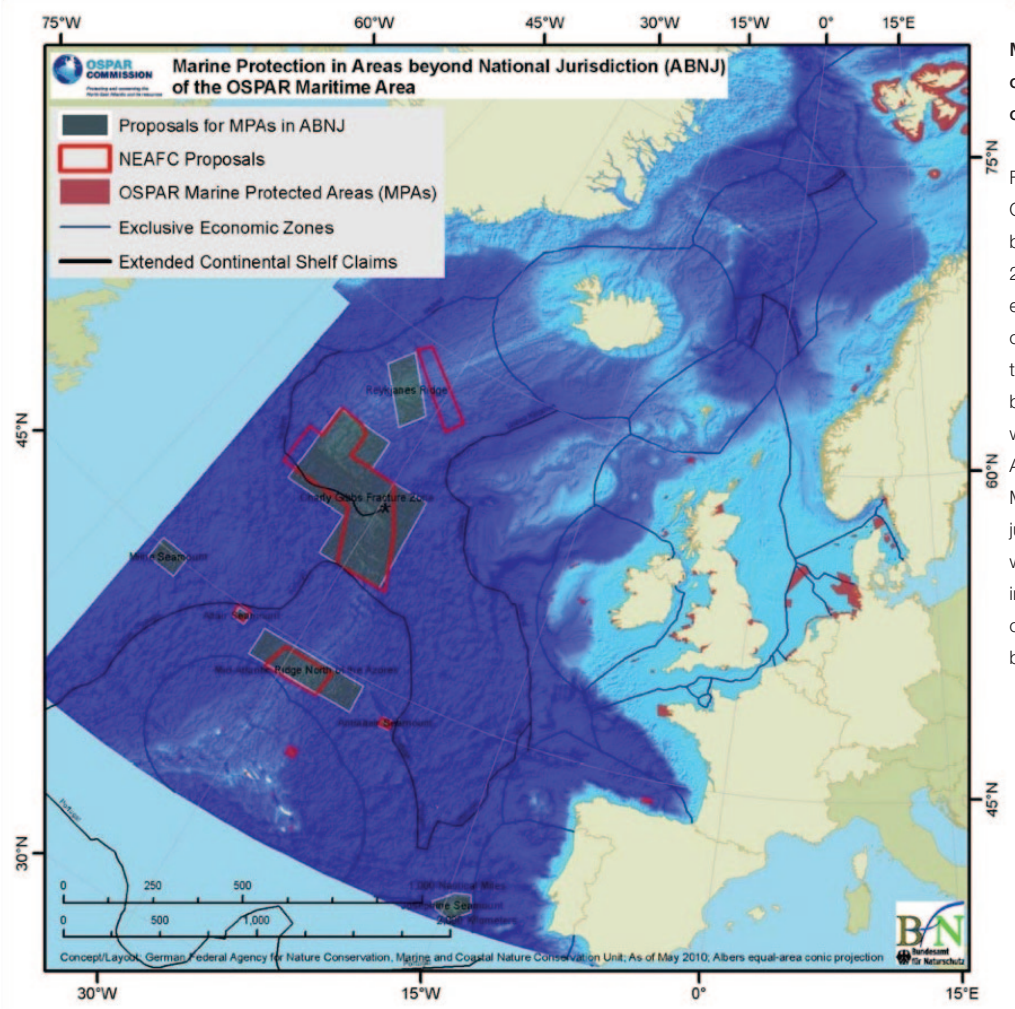
[36] see BDC 09/5/6-E

Subsequent to the initiation of the discussion around the Charlie Gibbs MPA proposal, a **suite of further MPA proposals have been developed** with a view for OSPAR to designate all of them as marine protected areas in areas beyond national jurisdiction to collectively form a network of sites covering essential parts of the different biogeographic regions and provinces of the Wider Atlantic (OSPAR Region V)[37]. The selection of the sites follows a knowledge-based approach, aiming to complement the representation of the Mid Atlantic Ridge (one site to the north and south of the Charlie Gibbs area), open ocean seamounts (three sites to the east and west of the Mid Atlantic Ridge, and Josefine Bank off Portugal), as well as large offshore banks (Rockall and Hatton Banks). The last site proposal has been stalled until legal clarification exists on the jurisdiction of the area (see chapter V). So far, only one of the two relevant OSPAR region has been considered, and within this region, abyssal plains and other structures beyond fishing depth, as well as the the pelagic realm are clearly inadequately represented, so the network will have to be complemented over time with such elements to become ecologically coherent and representative.

The 2010 status of nominations for the OSPAR network of MPAs in areas beyond coastal states' EEZs is shown in figure 4. Each site proposal is supported by a scientifically reviewed nomination proforma providing general and specific information on the site and the reasons for selection, conservation objectives, as well as a list of actual or potential human activities taking place in the area that will or might need regulation through a management plan. As indicated in figure 6, all of the MPAs proposed as being in areas beyond national jurisdiction prior to 2009, now have to be considered as having a seabed falling partly (Charlie Gibbs Area) or fully under national jurisdiction (see further discussion in chapter V). Therefore, and in line with the prior decision to take responsibility for the Rainbow hydrothermal vent site, Portugal decided to designate and manage the seabed within the boundaries proposed for the MPAs at Josefine Bank, Southern Mid Atlantic Ridge, Altair, and Antialtair seamount complexes. Portugal proposes that the OSPAR Commission should establish as an OSPAR Marine Protected Area the waters superjacent to the these four MPAs[38]. Iceland on the other hand, has not yet taken a final decision on its position with respect to the Charlie Gibbs area, where the section north of and including the Charlie Gibbs Fracture Zone is included in Icelands submission to UNCLCS with respect to its extended continental shelf. All MPAs in areas beyond national jurisdiction are expected to be adopted in some form by the OSPAR Ministerial Meeting in Bergen, September 2010. MPAs will be established by an OSPAR Decision, the management framework will be adopted as an OSPAR Recommendation for each site.

[37] OSPAR 2010, see footnote 27

[38] OSPAR 10/5/8 -E



Marine protection in areas beyond national jurisdiction (ABNJ) of the OSPAR Maritime Area

Fig. 4: State of nominations to the OSPAR network of MPAs in areas beyond coastal states´ EEZ in 2010. The boundaries of potential extended continental shelves of coastal states, as submitted to UNCLCS are indicated (thick black line), indicating those sites which will partly (Charlie Gibbs Area) or fully (all other except Milne Seamounts) have national jurisdiction on the seafloor, but with an international jurisdiction in the water column above. The current bottom fisheries closures by NEAFC are outlined in red.

III. The Mediterranean Sea
III.1 The Regional Governance Framework Sea[1]

Building on the first Mediterranean Action Plan (MAP) adopted by 16 Mediterranean States and the European Community in 1975, these parties adopted the **Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention)** in 1976, creating the first regional seas agreement under the auspices of UNEP. Both frameworks were updated in 1995, the Barcelona Convention now being supported by 22 Contracting Parties (all Mediterranean coastal states) and renamed to "Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean". The Convention operates through a series of environmental protocols and applies to all of the Mediterranean, regardless of the jurisdiction. Currently, most Mediterranean coastal states either have not declared a 200 nautical miles (nm) Economic Exclusive Zone, or they do not enforce them. Hence, the high seas extends seaward of the territorial waters (12 nm, except Greece and Turkey with 6 nm). However, several countries have established different types of fishing or environmental protection zones beyond their territorial waters (figure 5). None of these claims has been agreed by all riparian countries.

Mediterranean Sea
Maritime jurisdictions and freedom of navigation

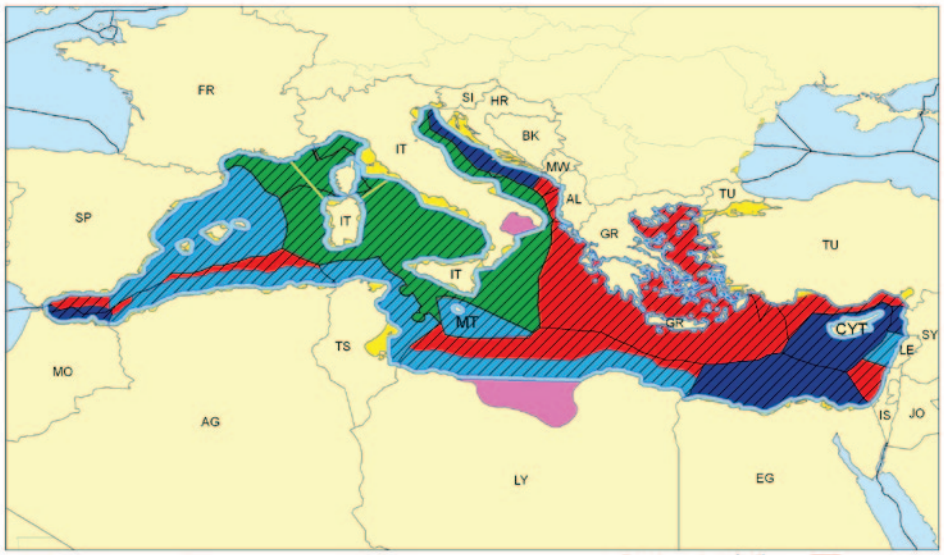


Fig. 5: One potential representation of the maritime jurisdictions in the Mediterranean Sea by Suárez de Vivero, Juan L: "Atlas de la Europa marítima. Jurisdicciones, usos y gestión". Barcelona, Ediciones del Serbal, 2007, p. 39.

- Inland waters
- Territorial sea
- Fishing zone
- High seas
- Historical Bay
- EEZ
- Ecological protection zone
- Sanctuary of cetaceans
- Freedom of navigation

The **conservation of biodiversity, among others by establishing protected areas**, has been agreed in the 1995 Protocol of the Barcelona Convention Concerning Mediterranean Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol, in force since 1995), which is applicable to all marine waters of the Mediterranean. Given the potential for legal disputes among neighbour countries, two disclaimer clauses (Art. 2, § 2 and 3) state that neither should the international cooperation initiated prejudice any unsettled political or legal question, nor should these issues prevent or delay the adoption of measures necessary for the preservation of the ecological balance of the Mediterranean. In addition, the Strategic Action Plan for Biological Diversity (SAP-BIO), adopted in 2003 by the Contracting Parties to the Barcelona Convention, states in particular that "setting up of protected areas offshore (including the high seas) to protect pelagic ecosystem and sensi-

[1] follows Scovazzi, T., 2003. Marine protected areas on the high seas: some legal and policy considerations. World Parks Congress, Governance Session "Protecting marine biodiversity beyond national jurisdiction", Durban, South Africa, 11 September 2003, pp. 1-17. and
UNEP, 2010a. International legal instruments applied to the conservation of marine biodiversity in the Mediterranean Region and actors responsible for their implementation and enforcement. RAC/SPA. UNEP, Istanbul, Turkey, pp. 1-37.

tive species and important and partially unknown benthic areas such as the “white coral community”, seamounts and submarine canyons should be a priority“. Measures enabling the establishment of a comprehensive and coherent Mediterranean network of coastal and marine protected areas by 2012 have only been adopted in the 2008 Almeria Declaration, reinforced by the 2009 Marrakech Declaration.

Spain, France, Italy, Malta, Slovenia, Cyprus and Greece are **also members of the European Union** and therefore legally obliged to implement the Natura 2000 network of protected areas in their waters, in principle also outside territorial waters (EC 2007). European Community law relative to the conservation of natural resources applies in all maritime areas where Member States exercise their sovereign rights to exploit the natural resources or other sovereign rights (e.g. establishing fishing protection zones, environmental protection zones; EC 2007[2]). Where no EEZ has been declared, and no rights are exercised, the soil and subsoil which are covered by Community law, are lying under an international water column. Here only those provisions of the European Habitats Directive[3] apply which concern benthic habitats and sedentary species. Member States have agreed to delegate their national responsibilities in fisheries management to the Community establishing the Common Fisheries Policy[4] as an exclusive Community competence. Any action aiming at the regulation of fisheries activities beyond territorial waters should be taken in line with the policy declaration of the “Declaration of the European Community ministerial conference for the sustainable development of fisheries in the Mediterranean” (2003). The European Union adopted several measures for the protection of vulnerable marine ecosystems in the Mediterranean Sea[5].

Accordingly, the coordination and regulation of fisheries for regionally shared fish stocks other than tuna and tuna-like species in the Mediterranean is in the responsibility of **the General Fisheries Commission for the Mediterranean** (GFCM, in force as revised 2004), with coastal states and the European Union being Contracting Parties. The International Commission for the Conservation of Atlantic Tunas (ICCATT) is responsible for the scientific assessment and management of tunas and tuna-like fishes. In 2006, the GFCM adopted the recommendation to prohibit trawling in three ecologically important deep-sea areas which have been identified as sites of particular ecological interest[6]. However these areas cannot be considered as strictly speaking MPAs so far. Among the three deep sea sites the chemosynthesis-based ecosystem offshore from the Nile Delta, and the Eratosthenes seamount south of Cyprus, are located outside territorial waters.

The Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas (ACCOBAMS, in force since 2001), signed in 2008 by 21 states seeks to facilitate the cooperation of coastal states on measures to improve the conservation status of cetaceans. Among other measures, 18 areas have been recommended by ACCOBAMS to be designated and managed for the conservation of marine mammals. Two protected areas have already been established: the Pelagos Mediterranean Mammals Sanctuary (2002), and the Losinij Dolphin Reserve (2006).

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[2] European Commission, 2007. Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives. European Commission, Brussels, p. 112.

[3] COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

[4] (EC) N° 2371/2002 of 20/12/2002

[5] Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea
Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing Council Regulation (EC) No 734/2008 of 15 July 2008 on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears

[6] Recommendation GFCM/2006/3

III.2 The approach towards establishing a network of marine protected areas

The SPA/BD Protocol (1995) provides for the establishment of a **List of Specially Protected Areas of Mediterranean Interest (SPAMI List)**, according to criteria set out in Annex I of the protocol. In addition, a list of endangered or threatened species and a list of species whose exploitation is regulated were adopted as Annex II and III, respectively, in 1996. Among the criteria and procedures set out for establishing the protected areas, those areas located wholly or partly in the high seas (beyond what the coastal states consider to be under their national jurisdiction), have to be proposed by two or more neighbouring parties concerned, and can only be adopted by consensus of all contracting parties. Upon inclusion in the SPAMI list, all contracting parties commit to implement the agreed measures for the site nationally and jointly in the framework of international or regional conventions.

The operational criteria for identifying SPAMIS in areas of open seas, including the deep sea, set out an explicit regional value (uniqueness, representativeness, diversity, naturalness, criticalness for threatened or endangered species) as a basic condition for designation of a SPAMI. Further criteria used for prioritisation address the scientific, educational or aesthetic interest, as well as sustainability- strengthening effects and feasibility (Annex II and III). The criteria set by the European Birds and Habitats Directives (Annexes) for the establishment of the Natura 2000 network of protected areas can be accommodated with the SPAMI criteria above, in particular in relation of the importance for threatened and endangered species and habitats. Among the species and habitats to be conserved by, among others, Marine Protected Areas according to the annexes of the Habitats Directive are the deepwater coral reefs of the Mediterranean, hydrothermal vents, and in relation to the pelagic fauna loggerhead turtles, several species of cetaceans and the monk seal. The operational criteria for SPAMIS as presented above are also comparable to the global selection criteria agreed under the Convention on Biological Biodiversity (CBD 2008, Annex I[7]), with the exception of the criterion “natural representativeness”. Whereas the SPAMI network in the Mediterranean aims at representing the full range of ecosystems and diversity of the Mediterranean as a first order selection criterion, the CBD criteria use representativity only as an additional criterion for supplementing a set of ecologically and biologically significant areas (EBSAs) towards a network of MPAs.

Following the Almeria declaration 2008, the UNEP-MAP “Regional Activity Centre for Specially Protected Areas” (RAC/SPA) implemented a project to promote the **creation of a representative ecological network of protected areas in the Mediterranean through the SPAMI system, including areas that lie in the open seas**, including the deep sea, with a view to enhancing the conservation of Mediterranean marine habitats and their resources in the pelagic, bathyal and abyssal fields[8]. As of 2010, the first phase of the project has elaborated the bioregionalisation framework for the Mediterranean Sea, identifying 8 biogeographic regions. Applying the criteria set out in the SPAMI Protocol, 10 large scale ecologically or biologically significant areas were highlighted, with 12 priority conservation areas being selected based on scientific criteria, agreed by the Contracting Parties, and covering in total about 500000 km^2 or roughly 20 % of the Mediterranean Sea (see figure 6).

[7] Convention on Biological Diversity, 2008. Marine and coastal biodiversity. COP 9 Decision IX/20, Bonn, 19 - 30 May 2008.

[8] UNEP, 2010b. Identification of potential sites in open seas including the deep sea that may satisfy SPAMI criteria RAC/SPA. UNEP, Extraordinary Meeting of the Focal Points for SPAs, Istanbul, Turkey, 1st June 2010, UNEP(DEPI)/MED WG.348/3 rev.1, 1-28.

Fig. 6:
Priority conservation areas in the open seas, including the deep sea, as agreed by the RAC/SPA Contracting Parties, and the Pelagos Sanctuary (green).
1: Alborán Seamounts
2: Southern Balearic
3: Gulf of Lions shelf and slope
4: Central Tyrrhenian
5: Northern Strait of Sicily (including Adventure and nearby banks)
6: Southern Strait of Sicily
7: Northern and Central Adriatic 8: Santa Maria di Leuca
9: Northeastern Ionian
10: Thracian Sea
11: Northeastern Levantine Sea and Rhodes Gyre
12: Nile Delta Region
(Green area: Pelagos Sanctuary declared as SPAMI in 2001)
(source: UNEP 2010b, Fig. 5).

The second phase of the RAC/SPA project aims at facilitating the designation of the priority areas or parts thereof as SPAMIs. This will involve the creation of a coordination and consultation process between neighbouring countries. In 2010, an Extraordinary Meeting of Focal Points for Specially Protected Areas examined the results of the first phase of the project and provided guidance with regard to the implementation of the second phase[9]. Only a few of the contracting parties have signalled their willingness to pursue the implementation of SPAMIs in the waters adjacent to their national jurisdiction. Despite of the hesitance to implement the results of the first phase of the project, the RAC/SPA initiative is remarkable and may overcome governance issues which characterise the Mediterranean. However, stronger political willingness and clear national commitments are crucial in moving forward the protection of such areas.

III.3 Progress towards establishing a network of Marine Protected Areas in the high seas

To date, the **Pelagos Sanctuary for Mediterranean Marine Mammals is the only Marine Protected Area including waters beyond national jurisdiction** in the Mediterranean Sea. France, Monaco and Italy created the sanctuary covering the Ligurian Sea between Toulon, Sardinia and Fosso Chiarone by multilateral agreement in 1999 (see figure 6). In 2001, the three states jointly proposed the sanctuary for inclusion in the SPAMI List which makes that all contracting parties to the Barcelona Convention have to abide the regulations adopted for the Sanctuary. Management responsibility rests with the parties of the original Agreement, France, Italy and Monaco. As first example of Mediterranean MPA BNJ, the Pelagos Sanctuary paved the way for the regional RAC/SPA initiative of applying the SPA/BD Protocol as a tool to create offshore and transboundary MPAs. Moreover it was one of the few Mediterranean examples of marine spatial planning based on an ecosystem approach, where different stakeholders were engaged to address conflicts between utilisation and conservation objectives.

[9] UNEP, 2010c. Report of the extraordinary meeting of the focal points for SPAs RAC/SPA. UNEP, Mediterranean Action Plan, Extraordinary Meeting of the Focal Points for SPAs, Istanbul, Turkey, 1st June 2010, pp. 1-23.[6] Recommendation GFCM/2006/3

Setting out from the difficulties with establishing measures in the Pelagos Sanctuary, but considering the future needs of the network of MPAs as envisaged by the Almeria Declaration (2008), Notarbartolo di Sciara raises the question "whether a management mechanism appropriate for MPAs in the Mediterranean ABNJ can be envisaged within the existing legislative framework, or whether there is a need for more advanced juridical creativity which will account for the likely multi-national nature of such protected areas"[11]. This question was addressed by Scovazzi (2003, see footnote 1) in the context that most coastal states in the Mediterranean have not (yet) claimed an Exclusive Economic Zone which would entitle them to take measures for the protection of the environment (UNCLOS Art. 65). Of course, Contracting Parties to the Barcelona Convention have to enforce their flag state responsibilities in implementing regulations concerning maritime traffic; however Scovazzi (2003) discusses whether they could enforce measures on ships flying a foreign flag. Interpreting the Pelagos Sanctuary Agreement as the signatories exercising only one of the rights and duties involved in claiming an EEZ as provided by UNCLOS, he argues that they indeed could enforce measures also on foreign ships.

The regulation of fishing activities rests with the regional fisheries management organisations, including the European Union, and the regulation of maritime traffic and related issues is in the responsibility of the International Maritime Organisation (IMO), which could also grant a "Particularly Sensitive Sea Areas" (PSSA) status to areas particularly at risk from maritime activities, the only measure which would have a global effect.

III.4 Case Study Pelagos Sanctuary for Mediterranean Marine Mammals

Compared to Mediterranean pelagic environment, the Ligurian Sea is a unique high productivity area due to a permanent frontal system fuelling the pelagic biomass production which attracts migratory species of all kind. The Pelagos Sanctuary (see figure 6) was designated because the entire spectrum of cetacean species regularly occurring in the Mediterranean can be found here at some time, it is functionally important in terms of foraging and breeding habitats, and it supports large resident, genetically distinct cetacean populations. It can be expected that protection measures for cetaceans will also benefit other marine predators in the area such as sharks, many species of large pelagic fishes and potentially the critically endangered Mediterranean monk seal, all of which spend different phases of their life cycle in this area.

Already in the 1980s, the original motivation for the designation of the Pelagos Sanctuary arose from an exponential increase in the use of drift nets and invoked mammal casualties, as well as significant pollution from land-based sources, and disturbances from seismic investigations, maritime traffic and tourism. The aim of the 1999 multilateral Agreement creating the Pelagos Sanctuary is to **adopt measures to ensure a favourable conservation status of each of the marine mammal species frequenting the area**, and to protect them and their habitat from all types of direct and indirect negative impacts. Therefore, the objective of the sanctuary goes far beyond the prohibition of "whaling", or any other deliberate "taking" as enacted already with the Sanctuary Agreement. It aims to reconcile the necessary protection of the habitats and species with socio-economic development.

A **joint management plan was approved in 2004, and an international management office and permanent secretariat have been created** and are operational since 2006 and 2007, respectively. Some measures have been agreed quite soon. Voluntarily, the Italian Navy has refrained from conducting naval exercises (involving the use of ordnance or sonar) in the Sanctuary area, and the Italian Ministry of the Environment decided to discontinue the

discharge in Sanctuary waters of the toxic mud dredged from the area's harbours. Some provisions of the Agreement (e.g., the prohibition of offshore high-speed motor races; the adoption of rules and codes of conduct to regulate whale watching) have introduced immediate further improvements in the animals' environment. General Fisheries Commission of the Mediterranean (GFCM) has closed the Pelagos sanctuary to fishing with towed dredges and bottom trawlnets in 2006 (REC-GFCM/30/2006/3). However, there are no particular regulations for pelagic fishing in the area.

Notarbartolo di Sciara et al.[10] highlight **four main challenges for the management towards conservation of the cetaceans and their environment in the Pelagos Sanctuary**: illegal driftnet fishing, noise and other disturbances from military exercises, bureaucratic obstacles which hamper the effective implementation of the agreed measures, and the not yet identified clear ecosystem-level objectives for the area.

Achieving efficient management of human activities in the sanctuary therefore has to take place on several different governance levels: 1. Nationally (i.e. flag state responsibilities, whale watching regulations, monitoring, surveillance, enforcement), 2. Tri-laterally (the coordination and ideally harmonisation of measures among the three states in line with the management plan) and 3. Regionally through other competent authorities and advisory bodies. With respect to action requested from other organisations and intergovernmental agreements such as ACCOBAMS, CISEM (International Commission for the Scientific Exploration of the Mediterranean Sea), the General Fisheries Commission (GFCM) and the UNEP Regional Activity Center (RAC/SPA), communication is coordinated between France, Italy and Monaco.

A clearer and stronger management plan, with clear conservation objectives, detailed conservation targets and a roadmap of actions by different players would certainly help to overcome the complex governance and management problems of an area like the Pelagos Sanctuary. A stronger integration with the objectives of other conservation and management initiatives, such as ACCOBAMS and the SPA/BD Protocol of the Barcelona Convention, and fisheries and coastal zone management programmes, under an ecosystem approach to management would be required[10]. However, the current management plan and the provisions for a management authority do no fulfil these needs. Notarbartolo di Sciara et al. (2009[11]) relate the ineffectiveness of current management actions to the vagueness of mandate, competencies and resources of the executive secretariat as expressed in the original trilateral Agreement and propose to either alter the Agreement or to complement it with a Protocol providing a strong mandate. In this sense, they hope that the EU Maritime Policy with its focus on maritime spatial planning might act as a stimulus and outlook for the management of the Pelagos Sanctuary, by providing a framework for a regional zoning approach.

[10] Notarbartolo di Sciara, G., Aagardy, T., Hyrenbach, D., Scovazzi, T., van Klaveren, P., 2008. The Pelagos sanctuary for Mediterranean marine mammals. Aquatic Conservation: Marine and Freshwater Ecosystems 18, 367-391.

[11] Notarbartolo di Sciara, G., Aagardy, T., Scovazzi, T., 2009. Governance shift required for the world's first high seas MPA: the Pelagos Sanctuary for Mediterranean Marine Mammals. Poster. International Marine Conservation Congress, George Madison University, Fairfax, Virginia, May 17, 2009, George Madison University, Fairfax, Virginia, May 17, 2009, http://www.allacademic.com/meta/p395918_index.html.

IV. The Southern Ocean
IV.1 The Regional Governance Framework

The Southern Ocean marine environment is governed by the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Antarctic Treaty, two of the key pillars of the Antarctic Treaty System (ATS). Almost unique in the world, these two bodies possess the governance mechanisms to establish MPAs on the high seas – CCAMLR via the designation of CCAMLR protected areas[1] and the Antarctic Treaty via Antarctic Specially Protected Areas (ASMAs) and Antarctic Specially Managed Areas (ASMAs)[2]. Both CCAMLR and the Antarctic Treaty's Committee for Environmental Protection (CEP) have committed to the establishment of a representative network of MPAs as a priority[3] with CCAMLR recognised as the lead body within the ATS to progress the development of a representative network of MPAs[4].

CCAMLR entered into force in 1982 as part of the Antarctic Treaty System with the objective to conserve the Southern Ocean's marine living resources where conservation includes 'rational use' (re: fisheries) in line with conservation provisions of the Antarctic Treaty. The jurisdiction of CCAMLR attempts to mimic the ecological boundary of the Southern Ocean as defined by the Antarctic Convergence (see figure 8) and extends north of 60º south to 50º south in the Atlantic sector of the Southern Ocean, up to 45 south in the Indian Ocean sector of the Southern Indian Ocean. CCAMLR applies both a precautionary and ecosystem approach to the conservation of the marine living resources of the Southern Ocean. Management action is agreed by consensus amongst CCAMLR Member governments in the form of conservation measures agreed at its annual meetings.

The Antarctic Treaty, agreed in 1959, provides the governance framework for the management of activities in Antarctica and applies to the area south of 60º S. Under the Antarctic Treaty all Member governments have agreed that the area south of 60º south should not become the scene or object of international discord and questions of sovereignty do not apply while the Treaty is in force. Therefore activity in Antarctica is for peaceful purposes and primarily concerned with continuing scientific investigation and cooperation. The treaty functions through Parties' adherence to the terms of the original treaty and subsequent measures that further the principles and objectives of the treaty which include the preservation and conservation of living resources in Antarctica. All measures must be agreed by consensus.

The Madrid Protocol to the Antarctic Treaty gives effect to the preservation and conservation of the Antarctica environment. Under the Protocol, mining for mineral resources is banned, however commercial activity including tourism, bio-prospecting and commercial fisheries (fisheries are governed under CCAMLR) do operate in the region. The Protocol was agreed in 1991 and entered into force in 1998. The designation of protected areas is governed under the Protocol. Measures relating to protected areas enter into force automatically 90 days after agreement is reached.

Implementation of agreed measures for both CCAMLR and the Antarctic Treaty is via the national legislation of Antarctic Treaty Parties and non-contracting Parties and CCAMLR Members.

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[1] CCAMLR Convention, Article IX, 2. (g)

[2] Madrid Protocol to the Antarctic Treaty, Annex 5, Articles 3 and 4

[3] CCAMLR-XXIII Final Report, para 4.13 and CEP IX Final Report, paras 94 to 101

[4] Report of the Joint CEP/SC-CAMLR Workshop, CEP XII, WP 55 – para 7.7

IV.2 The approach towards establishing a network of Marine Protected Areas

Work in earnest to develop a representative network of Marine Protected Areas (MPAs) began at the 2005 CCAMLR Workshop on Marine Protected Areas. At this workshop CCAMLR Members agreed to establish a representative system of Marine Protected Areas[5].

At its 2005 MPA workshop CCAMLR agreed that **Southern Ocean MPAs could provide for the maintenance of biological diversity** via the designation of:

- representative areas;
- scientific areas to assist with distinguishing between the effects of harvesting and other activities from natural ecosystem changes as well as providing opportunities for understanding the Antarctic marine ecosystem without interference from human activity;
- areas potentially vulnerable to impacts by human activities, to mitigate those impacts and/or ensure the sustainability of the rational use of marine living resources; and
- the protection or maintenance of important ecosystem processes that are critical to the function of local ecosystems, in locations where those processes are amenable to spatial protection.

The 2005 CCAMLR MPA workshop also agreed that broad scale bioregionalisation could form the scientific basis for identifying areas in need of protection. Bioregionalisation is a process used to create a systematic environmental geographic framework that can classify the marine area using a range of biological, chemical and physical data. Through bioregionalisation a set of bioregions is defined, each reflecting a common set of major environmental influences which shape the occurrence of biota and their interaction with the physical environment.

Further CCAMLR has recognised that the **principles of comprehensiveness, adequacy and representativeness along with the precautionary approach** were fundamental to the development of protected areas in regional seas. The principle of comprehensiveness is achieved by including the full range of ecosystems across each bioregion. Adequacy is achieved by designating appropriately sized MPAs to ensure protection of ecological viability and integrity of populations, species and communities. Representativeness is achieved by selecting sufficient areas for protection that reflect the biotic diversity of marine ecosystems[6].

In 2006, WWF in partnership with the Australian Antarctic Climate and Ecosystem Cooperative Research Centre and Peregrine Adventures invited Antarctic experts to develop a 'proof of concept' of a circumpolar-scale bioregionalisation methodology to inform decisions on the development of Southern Ocean MPAs.

In 2007, the CCAMLR Bioregionalisation workshop agreed on a circumpolar Bioregionalisation based on the 'proof of concept' developed in 2006[7]. This was used by CCAMLR in 2008, **to identify eleven circumpolar scale priority areas for implementing MPAs** (see figure 7) and agreed to focus work within but not exclusively to these eleven priority areas[8]. In April 2009 the eleven areas were also recognised by the Antarctic Treaty. Both CCAMLR and the ATCM encouraged Member countries to proceed and collaborate on work towards the designation and implementation of Southern Ocean MPAs[9].

[5] SC-CAMLR XXIV Final Report, Annex 7, para 62(i)

[6] ANZECC (1998) Guidelines for Establishing the National Representative System of Marine Protected Areas. - http://www.environment.gov.au/coasts/mpa/publications/pubs/nrsmpa-establishing-guidelines.pdf

[7] SC-CCAMLR XXVI Final Report, Annex 9, Report of Workshop on Bioregionalisation of the Southern Ocean (Brussels, Belgium, 13 to 17 August 2007

[8] SC-CCAMLR XXVII Final Report, Annex 4, figure 12

[9] SC-CAMLR-XXVII, para 3.55, ATCM XXXII Final Report, para 97

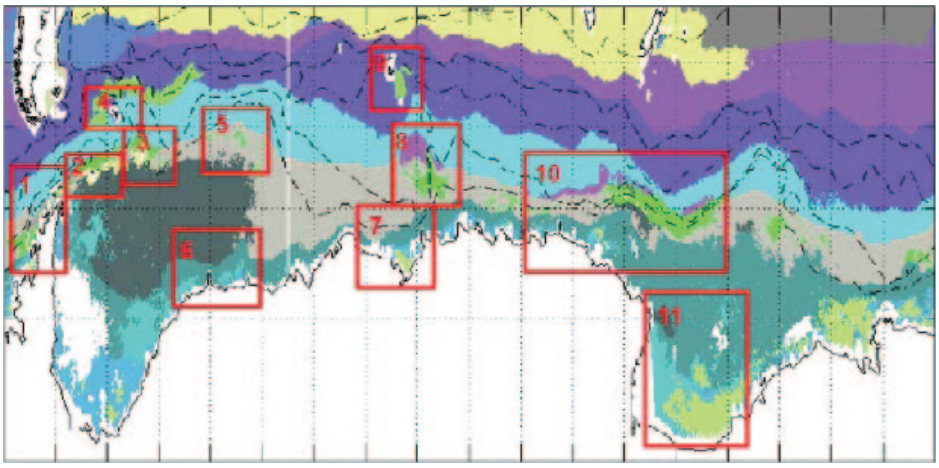


Fig. 7: Secondary regionalisation agreed by the 2007 CCAMLR Bioregionalisation Workshop based on 1) depth, 2) sea surface temperature, 3) silicate concentration, 4) nitrate concentration, 5) surface chlorophyll-a, & 6) ice concentration. Red boxes show areas of highest heterogeneity, which have been identified by the Working Group as priority areas for identifying MPAs as part of a representative system (numbers refer to area descriptions, and are not in any order of priority): 1 = Western Antarctic Peninsula, 2 = South Orkney Islands, 3 = South Sandwich Islands, 4 = South Georgia, 5 = Maud Rise, 6 = Eastern Weddell Sea, 7 = Prydz Bay, 8 = BANZARE Bank, 9 = Kerguelen, 10 = Northern Ross Sea / East Antarctica, 11 = Ross Sea shelf. (source: SC-CCAMLR XXVII Final Report, Annex 4, figure 12)

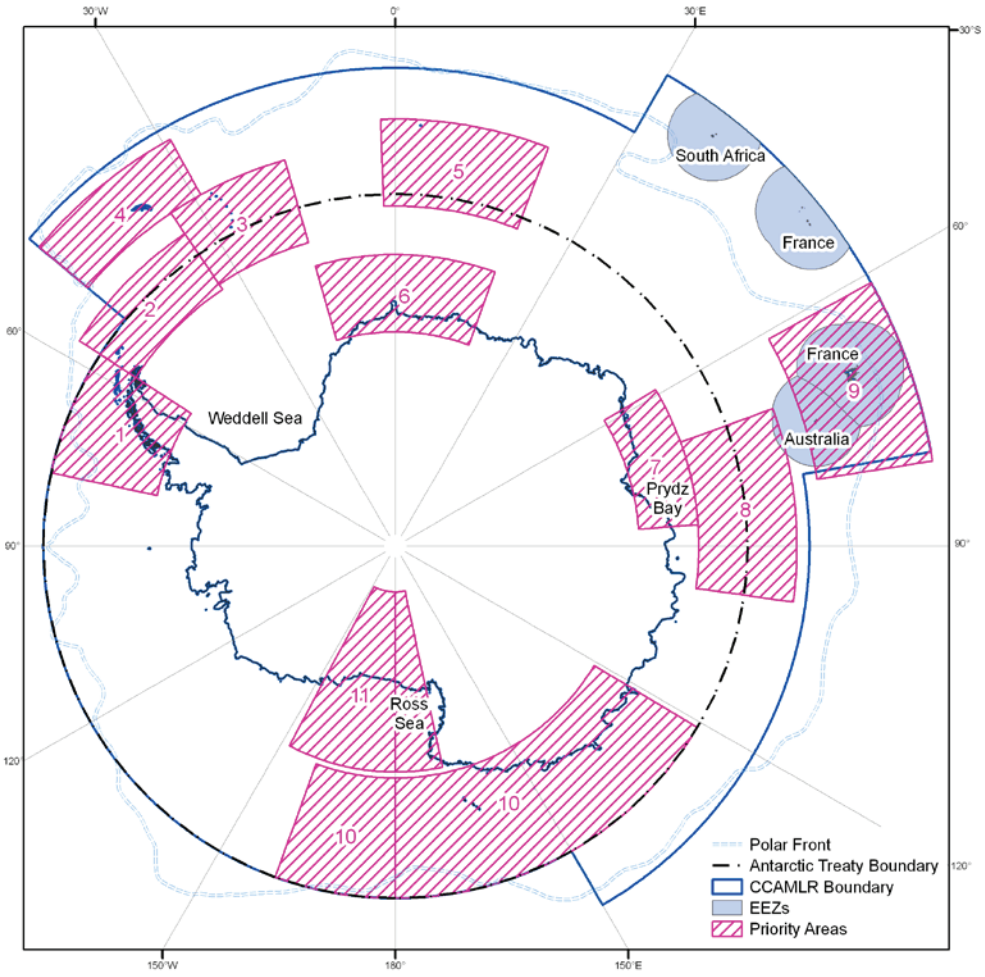


Fig. 8
Southern Ocean Study Area.

'Systematic conservation planning' was introduced at the 2007 CCAMLR Bioregionalisation Workshop as an appropriate method to identify, select and design an MPA network around important areas for conservation (SC-CAMLRXXVI/11). This process involves the definition of conservation objectives and targets, and uses spatial information on biodiversity patterns (such as provided by a bioregionalisation), ecosystem processes and human activities to identify the areas that should be included within a protected area system in order to achieve the defined objectives[10].

IV.3 Progress towards establishing a network of Marine Protected Areas in the high seas

As of mid - 2010, MPA planning initiatives appear to have been initiated for priority areas 1 (Western Antarctic Peninsula), 2 (South Orkney Islands), 7 (Prydz Bay), 10 (Northern Ross Sea), and 11 (Ross Sea Shelf). WWF has also developed a 'proof of concept' at applying a systematic conservation planning process at whole of Southern Ocean scale to complement these targeted initiatives[11].

In 2009, the first completely high seas Marine Protected Area was designated by CCAMLR in the South Orkneys region of the Southern Ocean[12] (area 2 in figure 7). Fishing is not allowed with the boundaries of the MPA and discharge and refuse disposal from fishing vessels are not permitted in the area. Perhaps even more importantly, CCAMLR also agreed to a work plan with specific milestones in order to ensure that the South Orkneys MPA is complimented by an extensive network of MPAs across but not limited to the 11 areas identified as priority regions for MPA designation by 2012[13].

The work plan that CCAMLR agreed to at its 2009 meeting is intended to facilitate CCAMLR meeting World Summit on Sustainable Development goal of implementing a representative system of MPAs by 2012. The work plan is structured as follows:

- by 2010, collate relevant data for as many of the 11 priority regions as possible (and other regions as appropriate), and characterise each region in terms of biodiversity patterns and ecosystem processes, physical environmental features and human activities;
- by early 2011, convene a workshop to review progress, share experience on different approaches to the selection of candidate sites for protection, and determine a work program for the identification of MPAs in as many of the priority regions as possible (and other regions as appropriate);
- by 2011, identify candidate areas for protection in as many of the priority regions as possible (and other regions as appropriate), based on the collated data and regional characterisations, and using appropriate selection methods;
- by 2011, submit proposals for areas for protection to the Scientific Committee;
- by 2012, submit proposals on a representative system of MPAs to the Commission.

If the commitments, made by CCAMLR and the Antarctic Treaty Parties, to deliver the work plan are met, then a significant advancement of the protection of the high seas will have been achieved setting a clear example for other regions of the global ocean to follow.

[10] Margules, C.R. & Pressey, R.L. 2000. Systematic conservation planning. Nature 405: 243-253.

[11] Beaver, D., Nicoll, R., Llewellyn, G., Harkness, P., Hellyer, C., Turner, J., 2010. Demonstrating proof of concept of the application of systematic conservation planning at the circumpolar scale CCAMLR WG-EMM-10/XX, pp. 1-19

[12] CCAMLR XXVIII Final Report, para 7.1, page 21, CCAMLR Conservation Measure 91-03

[13] SC-CAMLR-XXVIII, paragraph 3.28

IV.4 Case study: South Orkneys MPA

The South Orkney's MPA is located south of the South Orkney Islands and comprises the seabed and water column on the outer shelf and slope of the Scotia Arc at the confluence of the Scotia and Weddell Seas (see figure 11). The new MPA is intended to be the preliminary protected areas within one of the eleven areas prioritised by CCAMLR for work on developing and implementing a Southern Ocean MPA network[14]. The protected area is one of high biological productivity, a key habitat for krill and an important foraging area for Adelie penguins. Submarine shelves and seamounts within the area also contain important habitats for benthic (bottom dwelling) creatures. A recent comprehensive study recorded about 1000 marine species and concluded that the continental shelf of the South Orkney Island region down to 1500 m depth to hosts more species than known from the Galapagos Islands and Ecuador combined[15]. The protection of this area provides scientists a special opportunity to study the effects of climate change free from the influences of other forms of human activity.

The **South Orkney MPA resulted from the use of systematic conservation planning** carried out by UK scientists making use of the MARXAN conservation planning software. Systematic conservation planning has been endorsed by CCAMLR's Scientific Committee[16] and the Committee on Environmental Protection of the Antarctic Treaty[17] as one of the tools available for the selection of candidate areas for a network of MPAs in the Southern Ocean.

Apart from compiling and analysing available spatial data for the region, the crucial step in systematic conservation planning is setting of a hierarchy of conservation objectives and targets. The objective of CCAMLR is the conservation of marine living resources, including their rational use (CCAMLR Art. 2). MPA specific objectives to this end include the conservation of biodiversity and the maintenance of ecosystem function (see figure 9, from SC-CAMLR-XXVIII/14).

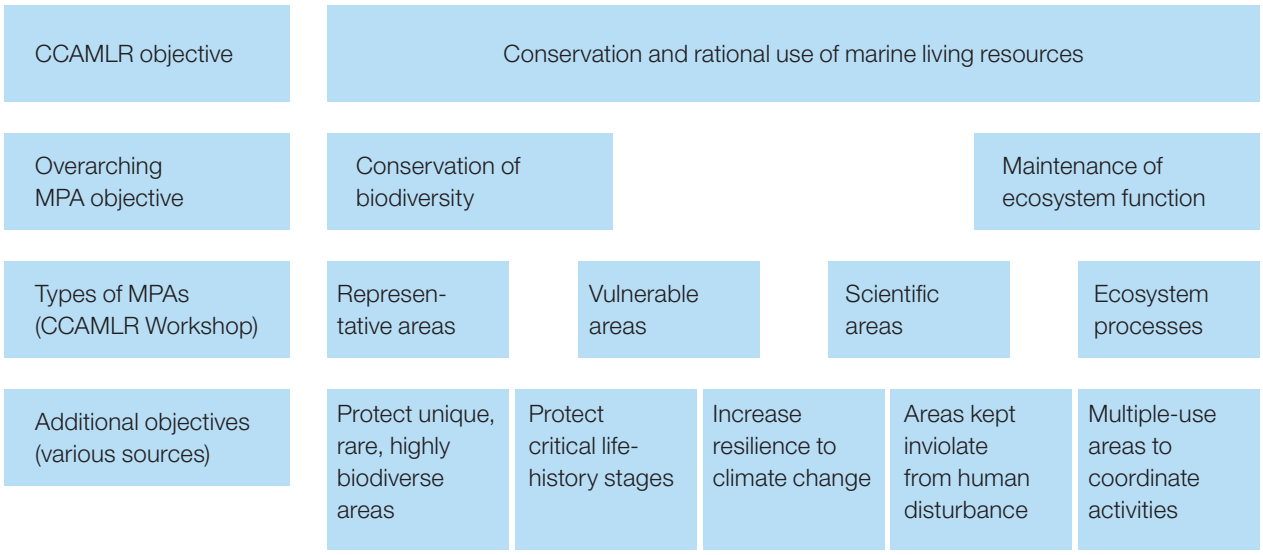


Fig. 9: Hierarchy of conservation objectives, from the overarching goal specified in CCAMLR Article II, to the more specific objectives set out by the CCAMLR Workshop on MPAs (2005) and the Protocol on Environmental Protection (source: SC-CAMLR-XXVIII/14, Fig. 1.)

[14] CCAMLR-XXVII Report, paragraph 7.2

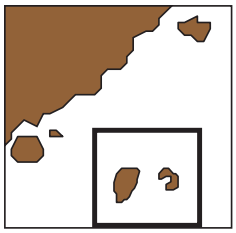
[15] Barnes, DKA. et al. 2008. Marine, intertidal, freshwater and terrestrial biodiversity of an isolated polar archipelago. Journal of Biogeography Volume 36 Issue 4, Pages 756 - 769

[16] SC-CAMLR-XXVII, paragraph 3.55

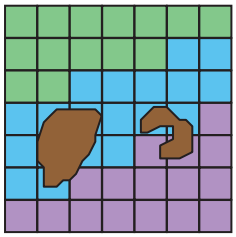
[17] CEP XII Report, paragraph 193

Building on the conservation objectives shown in figure 10, the following systematic conservation planning framework was applied to the waters surrounding the South Orkney Islands. The systematic conservation planning process can be summarized into six stages:

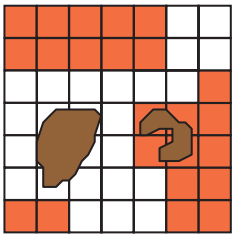
1. Define the planning region (broad area of interest in which the study will be undertaken), and divide this into a grid of 'planning units'



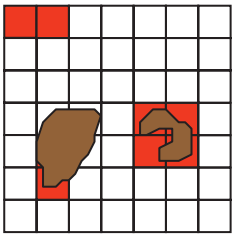
2. Compile relevant ecological data relating to biodiversity patterns and processes of the planning region based on a gird of 'planning units'



A) Pelagic Bioregions



B) Species
A: Predator foraging areas

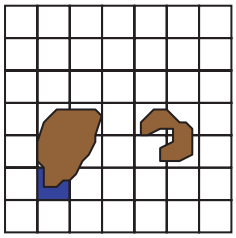


C) Species
B: Prey spawning areas

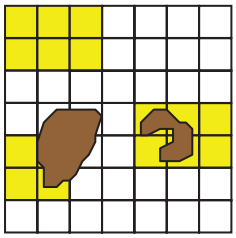
3. Set conservation targets by defining what features, species or processes are to be included with a network of protected or managed areas

For example include:
A) 30 % of each pelagic bioregion
B) 50 % of predator foraging areas
C) All of prey spawning areas

4. Review existing protected or managed areas within the planning region as existing protected or managed areas could be an important basis on which to build further protection



5. Select additional conservation areas through use of a decision support tool or other method to meet the targets set in Set 3



6. Implement conservation actions – Some areas require strict protection while other conservation actions can be applied to other areas

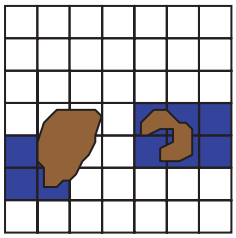


Fig. 10: adapted from Grant et al, 2008, **proposed approach for the identification of important marine areas for conservation**: using 'Marxan' software to support systematic conservation planning. Submitted to CCAMLR Ecosystem Monitoring and Management working group, July 2008

The output of this approach consists of a series of options indicating core regions of the qualities desired, and as such provides a starting point to inform further discussion and informed decision making which has to take account of further, non-spatially explicit values.

From the available options, **a preliminary candidate area was selected for consideration by the CCAMLR Scientific Committee** based on its predictable importance for penguin foraging and a reference area which will allow scientists to better monitor the effects of human activities and climate change on the Southern Ocean. CCAMLR adopted this recommendation and the South Orkneys MPA entered into force in May 2010 as the first high seas MPA in the Southern Ocean and the first part of a network of MPAs that will span the Southern Ocean. A fully developed management plan will be considered at the upcoming CCAMLR meeting in October 2010. Additional protection measures such as the regulation of tourism or scientific research may be sought in the future via the Antarctic Treaty System or CCAMLR.

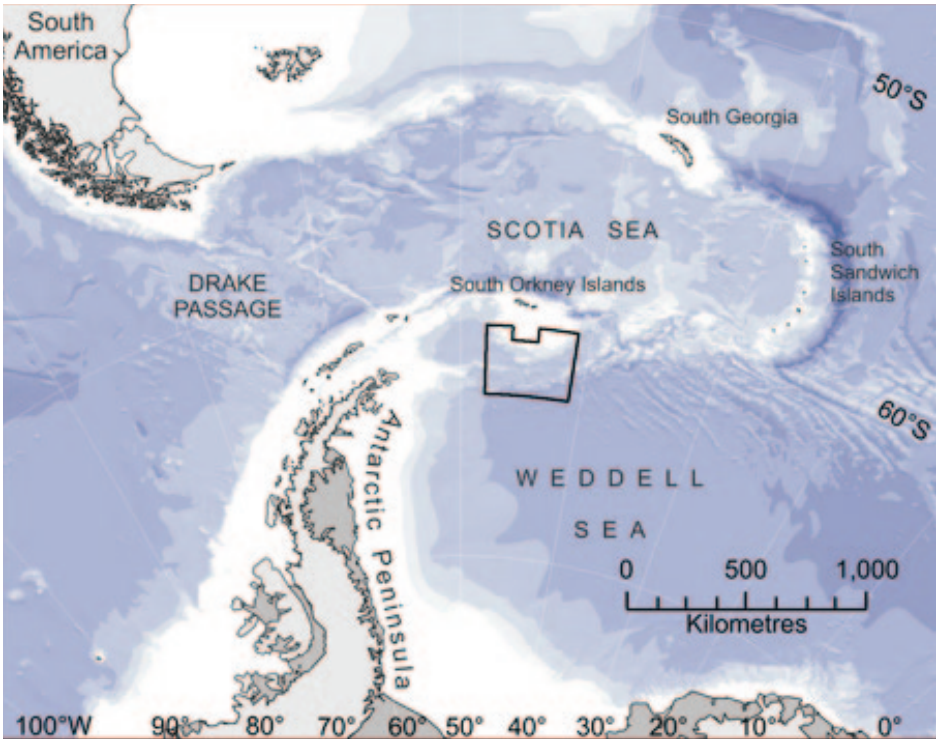


Fig. 11: Location of the South Orkneys marine protected area in the northern Weddell Sea (UK 2009, http://www.fco.gov.uk/en/news/latest-news/?view=News&id=21131014)

Pack ice and icebergs. Scotia Sea near South Orkneys. Antarctica (© Sylvia Rubli/WWF-Canon)

V. MPA designations in the context of coastal states' submissions to the UN Commission for the Limits of the Continental Shelf

V.1 Current situation

The UN Convention on the Law of the Sea (UNCLOS, 1982), legally binding for its 159 Contracting Parties and the European Community (as of December 2009), provides the basis for any sovereignty or other national jurisdiction over the maritime areas of the world oceans. In Part VI, the legal status of the seabed and water column of the continental shelf is defined, and Article 76 (4-6) in particular provides the criteria for defining the outer limits of the continental shelf beyond the 200 nm Exclusive Economic Zone (so-called outer or extended continental shelf) of coastal states. According to Article 76, these limits do not depend on a coastal states´ baseline, but are assumed to represent a natural prolongation of the states´ landmass extending as continental margin into the sea. Therefore, the delimitation of the boundaries depends on geophysical data describing depth and shape of the seafloor, as well as the thickness of the underlying sediment. The limits of the extended continental shelf shall not exceed either 350 nm distance from the baseline or 100 nm from the 2500 m depth isobath. On submarine ridges however, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines, except where plateaus, rises, caps banks and spurs are natural components of the continental margin (Art. 76(6)).

Contrary to the Exclusive Economic Zone, the *"rights of the coastal state over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation"* (Art. 77(3)), however coastal states have to secure their legal entitlement to the seabed by submitting scientific and technical information on the continental shelf beyond 200 nautical miles as defined in Article 76 of UNCLOS. The procedure requires coastal states which became Party to UNCLOS prior to 1999 to submit such information to the UN Commission on the Limits of the Continental Shelf (UNCLCS) until 13 May 2009; all others within 10 years after ratification of UNCLOS. This Commission will examine undisputed submissions in the light of Article 76 and make recommendations on the final limits of the extended continental shelves of coastal states[1]. In the case of disagreement between a State and the recommendations from the Commission, the State may – within a reasonable time – make a revised or new submission. Otherwise, the final and binding limits of the continental shelf beyond 200 nm can be established in national law.

As of 13 May 2009, the UNCLCS has received 51 full submissions and 44 preliminary submissions by 70 coastal states, covering 25 million km^2 and 4 million km^2, respectively[2] (see figure 1). The Parties to the Antarctic Treaty have agreed to freeze any claims to sovereignty with regard to the area south of 60° N for as long as the Treaty is in force, neither renouncing nor prejudicing any rights or claims and not prejudicing any Contracting Parties´ respective position (Art. IV). No submissions have been received for Mediterranean waters. In the North-East Atlantic, all coastal states with an EEZ bordering the open ocean have made individual, partial, joint and/or sometimes overlapping submissions to UNCLCS, with the final outer limit of the Norwegian extended continental shelf having been established in 2010. All of the areas included in the submissions are of significance to MPA designations, today most notably the ones of Iceland, Ireland, UK and Portugal (see below).

[1] for more details see e.g. International Seabed Authority, 2010. Non-living resources of the continental shelf beyond 200 nautical miles: speculations on the implementation of Artile 82 of the United Nations Convention on the Law of the Sea. International Seabed Authority, Technical Study No. 5, Kingston, Jamaica, p. 69 pp.

[2] Fabres, J., Halvorsen, Ø., Lønne, Ø., Poussart, J.-N., Pravettoni, R., Sørensen, M., Thygesen, K., 2009. Schoolmeester, T. and Baker, E. (eds.) Continental Shelf - The Last Maritime Zone. UNEP/GRID-Arendal, Arendal, Norway.

V.2 Conservation of biodiversity

UNCLOS provides coastal states with the exclusive sovereign right to explore and exploit the mineral and other non-living resources of the seabed and subsoil, together with living organisms belonging to sedentary species (Art. 77). The water column above remains high seas (i.e. beyond national jurisdiction (Art. 78) as defined in Part VII of UNCLOS.

"Sedentary species" are considered to be all those that *"organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil"*, however, the understanding of the species concerned is controversial[3]. It seems to be clear though that benthopelagic fishes are not "sedentary", and can be managed as a shared high seas natural resource by e.g. regional fisheries management organisations. Therefore, coastal states have the right to regulate activities in conjunction with exploration and exploitation of natural resources, but also to some extent scientific research, bioprospection, the laying of pipelines and the eventual fishing for sedentary species. In addition, a coastal state may challenge any fishing activity which causes damage to its sedentary species, for example when involving high by-catch[4].

These rights to coastal states are accompanied by the *'duty to protect and preserve the marine environment'* (UNCLOS Part XII, Articles 192, 193 and 194(5)[5]), thus to protect and preserve the species, habitats and associated ecosystems, notably through the creation of MPAs (Ribeiro 2010[6]). This is supported by various resolutions of the UN General Assembly regarding "Oceans and Law of the Sea". Ribeiro (2010) concludes that

... in terms of ... the protection of the ecosystems and biodiversity in general, the coastal State can and should exercise immediate power, utilising the precautionary principle. Notably, it can and arguably should create MPAs or propose their nomination within the framework of international instruments, as is the case for Annex V of the OSPAR Convention. In the extended areas of the continental shelf, it is the coastal State that has exclusive environmental jurisdiction, even at a stage where there is still no ultimate confirmation of the limits proposed.

In the high seas, programmes and measures to conserve biodiversity and ecosystems shall be elaborated jointly on a global or regional basis, as appropriate (Art. 197 (1)). Therefore, coastal states should act through regional conventions, where they exist, to conserve the living natural values of the water column above the extended continental shelf of a coastal state. In the case of an MPA being designated and managed by a coastal state on its extended continental shelf, where the functioning of the ecosystems protected depends on water column processes, the international community will have to ensure the conservation of the high seas waters' ecosystems above.

[3] see Owen, D., 2006. 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. A report for WWF Germany. WWF Germany, Hamburg, pp. 46. and Owen, D., 2010. Interactions between management of a water column marine protected area in the high seas of the OSPAR maritime area and the exercise of sovereign rights regarding subjacent outer continental shelf. A report for WWF Germany. WWF Germany, Hamburg, p. 55.

[4] see Owen, D., 2006, 2010

[5] to be read in conjunction with the similar obligation in relation to the Area, namely with the system established in Article 145(b), and Article 162(x), LOSC (in Ribeiro 2010).

[6] see footnote 24 in chapter II

There is no practical experience yet regarding dual legislation and management of composite MPAs on the extended continental shelf of a coastal state. However, Owen (2010) discusses the interaction between the management of a water column marine protected area in the high seas of the OSPAR maritime area and the exercise of sovereign rights regarding subjacent outer continental shelf[7]. The study discusses legitimate concerns with respect to potential infringements of the sovereign rights of a coastal state to undertake economic activities from the regulation of e.g. navigation by merchant shipping, fishing, or the prevention of pollution from seabed exploration and exploitation in the water column. Practically, however, the coastal state may also contribute to decisions taken on the management of the water column MPA as a Contracting Party to the regional or global mechanism undertaking to establish the high seas MPA.

V.3 The debate in the North East Atlantic

Since 2006, several aspects of establishing MPAs in the context of the delimitation of the extended continental shelf of Contracting Parties to OSPAR have arisen, highlighting the complexity of the legal environment in the North-East Atlantic.

1. EU Member States are legally obliged to designate Natura 2000 protected areas on their extended continental shelves[8,9]. European Community law relative to the conservation of natural resources applies in all maritime areas where Member States exercise their sovereign rights to exploit the natural resources or other sovereign rights (e.g. establishing fishing protection zones, environmental protection zones). On the extended continental shelves of Member States, the soil and subsoil will be covered by Community law, whereas the water column will be international (high seas). Therefore only those provisions of the European Habitats Directive apply which concern benthic habitats and sedentary species.

2. The Rockall and Hatton Banks are major submarine elevations to the west of Scotland and Ireland which are of high significance because of the fisheries resources and abundant and diverse benthic ecosystems. However, there is unsettled dispute about the delimitation of the limits of the extended continental shelf of Iceland, Ireland and United Kingdom in the region. Therefore, the proposal for establishing an OSPAR marine protected area was not explored further until legal clarification exists. Since 2007, NEAFC has closed several large areas on the banks to bottom fishing activities to protect cold water coral reefs[10].

[7] Owen (2010), see footnote 3

[8] COUNCIL DIRECTIVE 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

[9] European Commission (2007), see footnote 11 in chapter II

[10] see http://www.neafc.org/system/files/%252Fhome/neafc/drupal2_files/rec-viiil++-+Hatton+extension+corrected+rev4.pdf

[11] Ribeiro (2010), see also chapter II

[12] OSPAR 10/5/8 -E

3. Portugal maintains that based on Art. 77, coastal states should exercise immediate power with respect to the conservation of the marine environment, even prior to a legally binding delimitation of the outer limits of the extended continental shelf[11]. In that line, Portugal has designated the Rainbow hydrothermal vent fields as a seabed MPA, which was accepted as part of the OSPAR network of MPAs in 2007. In 2010, Portugal adopted the scientific proposals for four MPAs covering seamounts and the Mid Atlantic Ridge within the preliminary boundaries of its extended continental shelf, originally proposed as MPAs in areas beyond national jurisdiction, to become seabed MPAs under Portuguese jurisdiction[12]. Portugal invites OSPAR to establish MPAs protecting the water column for these four sites *"in a joint step with Portuguese protection of the seafloor, and to adopt corresponding measures for the establishment and management of these areas"*.

   Iceland, Norway and the United Kingdom question this interpretation of UNCLOS[13] arguing that *"the boundaries of the MPA may need to be amended in the future to reflect the national implementation of the final recommendation from the CLCS and the nomination proforma amended accordingly"*. These Parties regard the establishment of an MPA in the water column above a seabed MPA designated on a not yet legally determined extended continental shelf of a coastal state as being premature as it raises *"complex questions regarding division of jurisdiction, which would have to be further considered. These issues need consideration and clarification before any decision on such a solution should be considered."*. Therefore, they preclude any MPA designation in the waters superjacent to the MPAs on the Mid Atlantic Ridge which potentially fall on the extended continental shelves of Portugal and Iceland (northern part of the Charlie Gibbs MPA), until the final and binding outer limits of national jurisdiction have been established. This may take a long time and jeopardizes ongoing efforts to establish a network of MPAs in the OSPAR area[14].

   Taking into account advice from the OSPAR Jurists and Linguists on possible impacts of inclusion of the high seas on affected coastal states, OSPAR 2010 or Ministers meeting at the OSPAR Ministerial Meeting in Bergen, 2010, will have to decide how to take forward the establishment of the whole or parts of the proposed MPAs in waters overlaying the extended continental shelf of a coastal state[15].

[13] BDC 10/4/11-E(L)

[14] see for discussion OSPAR 09/6/Info.2-E, Dotinga, E.J., Molenaar, E.J., Oude Elferink, A.G., 2009. The CGFZ MPA Proposal: Implications of the Icelandic Submission to the CLCS. Utrecht University, School of Law, Netherlands Institute for the Law of the Sea (NILOS), Utrecht, Netherlands, pp. 1-18.

[15] see OSPAR 10/5/3 and OSPAR 10/5/8

VI. Conclusions

Pilot marine protected areas in areas beyond national jurisdiction (ABNJ) are important tools to advance regional cooperation and the specific legal instruments and institutional regimes in ABNJ.

Regional Seas Conventions and Action Plans can have the **mandate to identify and designate MPAs in areas beyond national jurisdiction** as components of regional networks of marine protected areas. MPAs' specific conservation objectives can address all current and potential threats and their possible cumulative impacts. Therefore, Regional Seas Conventions and Action Plans can have an integrative role between different sectors, facilitating the achievement of the conservation goals.

Through their Secretariats and Commissions, they provide a **powerful framework for cooperation and communication among Contracting Parties as well as with other Competent Authorities** for facilitating the establishment of regional MPA networks in the high seas.

A **strong commitment** is required of Contracting Parties to **collaborate and cooperate** on work to implement MPAs within the regional seas agreements to which they are members and to meet the targets set out in the Plan of Implementation of the World Summit on Sustainable Development (WSSD 2002) on "[…] *the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012* […]"[1]
Such a commitment to collaboration and cooperation can help set aside or overcome potential legal conflicts and unregulated boundary issues to advance implementing regional networks of MPAs, including in waters beyond national jurisdiction.

Uncertainties in high seas governance prevail, even in the most advanced regions. However, pilot MPA site selection and designation is achievable and supports advancing the regional governance processes, among others with respect to

- the **clarification of mandates**. To use the OSPAR example, jurists agreed that the organisation's mandate includes the designation and establishment of MPAs in ABNJ, including the adoption of conservation objectives. In conjunction, the mandate of other competent authorities was highlighted for implementing management actions to regulate human activities in the area towards achieving these conservation objectives
- the **sharing of legal responsibilities** for the conservation of biodiversity outside the Exclusive Economic Zones (or equivalent) of coastal states. As the water body of the world ocean outside 200 nm is a global common, more than one legal environment may apply for MPAs on the extended continental shelf and in the Area. So far no experience exists as to how the governance of such MPAs could operate. Portugal proposes that the OSPAR Commission should establish as an OSPAR Marine Protected Area the waters above the four MPAs nominated on Portugal's extended continental shelf[2]. In the Mediterranean, the Pelagos Sanctuary is administered as one entity by the sponsoring states.
- the initiation of a closer **dialogue between the environmental convention and the competent global and regional management authorities and bodies**. The intensified regional cooperation can provide the impetus for a **true regional ecosystem approach** to management of human activities and marine spatial planning, with the environmental convention taking an integrative role, in particular with regards to an adaptive management by identifying cumulative impacts and periodically reviewing the success of management measures.
- directing the attention on particular areas and problems, which may **prompt management action through other competent bodies** prior to site designation such as e.g. in the ban of

[1] WSSD Plan of Implementation, IV. Protecting and managing the natural resource base of economic and social development; § 31 (c)

[2] OSPAR 10/5/8 -E

the use of drift netting in the Pelagos Sanctuary or bottom fisheries closures on the Mid Atlantic Ridge.

The **potential extension of the continental shelves of coastal states currently creates a legal uncertainty** as to when a coastal state has to take responsibility for the conservation of sedentary species on the extended continental shelf, with the water column being under the high seas legal regime. However, Portugal showed, that based on Art. 77(3) of UNCLOS, a coastal state can, and is in fact the only body with the power to, take responsibility prior to the final recommendation of the UN Commission on the Limits of the Continental Shelf, and establish an MPA on its extended continental shelf in cooperation with the responsible regional convention, here OSPAR. This is based on the view that as soon as a coastal state enjoys the rights afforded by UNCLOS, these are accompanied by the "duties to protect and preserve the marine environment" (Art. 192 UNCLOS), and the precautionary principle.

Approaches towards establishing regional networks of marine protected areas, including beyond national jurisdiction, can be different. In the Southern Ocean, CCAMLR and the Antarctic Treaty aim to establish a biogeographically representative system of MPAs through the use of processes such as bioregionalisation and systematic conservation planning. **In the North East Atlantic and Mediterranean, OSPAR and the Barcelona Convention** set out from individual national or multilateral nominations, regardless of how these sites had been selected (hotspots/representative/systematic). This is in part due to the different legal situations All three regions follow stepwise processes to complete representative and ecologically coherent networks of MPAs.

The **scientific criteria and guidance for selecting areas** to establish a representative network of marine protected areas, including in open ocean waters and deep-sea habitats **adopted by the Convention on Biodiversity (COP9 Decision IX/20, 2008) can be helpful** to guide the process in regions where no provisions exist yet.

Nominations of MPAs in areas beyond national jurisdiction require particular scientific credibility for selection in order to convince all Contracting Parties of the urgency for the establishment of an MPA. In the case of the OSPAR Charlie Gibbs MPA, most important were

- the nomination of an area hosting species, habitats and ecosystems well communicable, meeting relevant criteria, representative for the wider Atlantic, in need for conservation, and challenging in terms of size and management action
- a scientifically comprehensive, up to date nomination according to the guidelines adopted easing scientific review. Recent scientific investigations including images of biodiversity in the area helped to communicate the message.
- the adherence to the precautionary principle, accepting limitations in data coverage and knowledge. This is essential, as the spatial scale of proposed MPAs in ABNJ, and the temporal scale of deep sea ecosystem processes is unlikely to be ever matched by adequate data coverage. Therefore, the scientific cases will have to be consolidated over time[3]

Several **instruments provide helpful technical tools** towards establishing an MPA network, and help ensuring transparent and repeatedly applicable procedures which are of vital importance:

- An agreement that the composition of the network of Marine Protected Areas reflects established international standards (comprehensiveness, adequacy, representativity, significance, connectivity, replication) and scientific advice
- An agreed purpose of the network (such as conservation of biodiversity, ecosystem integrity, threatened or vulnerable ecosystems and species, contribution to fisheries management, scientific references areas, areas to increase the resilience and adaptation capability of biodiversity to the effects of climate change and ocean acidification)

[3] see also WWF 2009, https://www.cbd.int/doc/meetings/mar/ewbcsima-01/other/ewbcsima-01-wwf-04-en.pdf

- A staged process and agreed guidelines for the selection of MPAs, such as the CBD EBSA criteria and guidelines, distinguishing between the selection of an area based on its inherent values and the later feasibility consideration for reaching political consensus.
- A regional biogeographic classification or zonation of ecological subregions which shall be represented in the MPA network.
- Clear proforma for the proposal of a candidate area are helpful, also an understanding on how to address data paucity. However paucity of data should not prevent work to identify areas requiring protection from moving forward.
- Depending on the availability and coverage of sufficient regional physiographic and biological data, conservation-planning and decision-support tools may provide valuable help in working towards networks of marine protected areas.

VI. WWF Recommendations

WWF considers the role of Regional Seas Conventions and Action Plans essential for establishing a truly comprehensive, multilaterally agreed conservation and management regime in regional waters in ABNJ, guided by the ecosystem approach.

WWF calls upon Regional Seas Conventions and Action Plans and other multilateral cooperation instruments to engage with their Member States to take responsibility for the conservation of water column and seafloor biodiversity and ecosystems in areas beyond national jurisdiction, or in a dual approach in cooperation with coastal states. Although sectoral efforts have granted selected areas with protection from certain activities, spatial protection of biodiversity in ABNJ is still patchy and incomprehensive.

WWF encourages Regional Seas Conventions and Action Plans to extend their area coverage to include adjacent areas beyond national jurisdiction. Again, this is the responsibility of member states.

WWF encourages Regional Seas Conventions and Action Plans to strengthen their cooperation with regional and international Competent Authorities, particularly Regional Fisheries Management Organisations, in order to generate a regional framework for the implementation of an ecosystem-based management of human activities.

WWF notes that where no such regional environmental governance mechanisms exist, other existing management bodies such as Regional Fisheries Management Organisations could extend their mandate to cover biodiversity conservation under an ecosystem approach to management.

WWF believes that coastal states are responsible for the conservation of biodiversity on the areas within the boundaries of their extended continental shelf, as soon as they benefit of the associated rights given in UNCLOS.

WWF calls upon coastal states to designate, where appropriate, MPAs on their extended continental shelf and to cooperate with international organisations regulating activities in the high seas water column.

WWF calls upon Contracting Parties of Regional Seas Conventions to set aside eventual conflicts on boundary limitations and legal regimes to achieve progress towards protection of biodiversity.

WWF calls upon states adjacent to high seas areas in need of conservation measures to initiate an internationally and regionally agreed process to achieve protection of the area.

WWF calls upon states to work towards a United Nations regime ensuring the recognition of all areas designated as MPAs in ABNJ by states or mandated regional organizations.

WWF invites Regional Seas Conventions and Action Plans to draw information from ongoing processes in high seas conservation, such as protective measures taken by regional fisheries management organizations in line with UN GA Decisions 61/105 and 64/72, and initiatives such as the Global Oceans Biodiversity Initiative and proposals from non-governmental organisations and science.

WWF considers that the progress with respect to establishing marine protected areas, including in areas beyond national jurisdiction is likely to be an iterative process depending on a strong commitment of coastal states.

Building on the experience gained in the three study regions, WWF recommends Regional Seas Conventions and Action Plans to engage with their Member States to adopt a transparent procedure for the designation of a MPAs in ABNJ, including

- clear mandates for the identification and nomination of areas, designation as MPA and regulation of activities,
- improved dialogue with stakeholders and relevant competent authorities formalized by Memoranda of Understanding and supported by joint work plans or roadmaps, particularly between the Secretariats or Commissions of Regional Seas Conventions and Action Plans and Regional Fisheries Management Organizations, but also with those of international competent authorities such as the IMO and ISA
- scientific review processes and input from stakeholder organisations. This can raise the credibility of a MPA/MPA network proposed. Where not yet in place, a scientific advisory body should be mandated.

WWF reiterates that adherence to the precautionary principle is essential to minimise threats to species, habitats and ecosystems in particular in the deep and high seas.

Fin whale: Balaenoptera physalus (© Emanuele Coppola/WWF-Canon)