



CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/WG-PA/1/INF/2
28 April 2005

ENGLISH ONLY

AD HOC OPEN-ENDED WORKING GROUP ON PROTECTED AREAS

First meeting
Montecatini, Italy, 13-17 June 2005

THE INTERNATIONAL LEGAL REGIME OF THE HIGH SEAS AND THE SEABED BEYOND THE LIMITS OF NATIONAL JURISDICTION AND OPTIONS FOR COOPERATION FOR THE ESTABLISHMENT OF MARINE PROTECTED AREAS (MPAs) IN MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION ^{1/}

Note by the Executive Secretary

1. In its decision VII/5, the Conference of the Parties noted that there are increasing risks to biodiversity in marine areas beyond national jurisdiction and that marine and coastal protected areas are extremely deficient in purpose, numbers and coverage in these areas. The Conference of the Parties agreed that there is an urgent need for international cooperation and action to improve conservation and sustainable use of biodiversity in marine areas beyond the limits of national jurisdiction, including through the establishment of further marine protected areas consistent with international law and based on scientific information, including areas such as seamounts, hydrothermal vents, cold water corals and other vulnerable ecosystems (decision VII/5, paras. 29 and 30).
2. In paragraph 29 of decision VII/28, the Conference of the Parties suggested that, as one of its tasks, the Ad Hoc Open-ended Working Group should explore options for cooperation for the establishment of marine protected areas in marine areas beyond national jurisdiction, consistent with international law, including the United Nations Convention on the Law of the Sea, and based on scientific information.
3. In order to assist the Ad Hoc Open-ended Working Group with its work on this issue, the Executive Secretary commissioned the following background study on the international legal regime of the high seas and seabed beyond the limits of national jurisdiction and options for cooperation for the establishment of marine protected areas in marine areas beyond the limits of national jurisdiction. The study was undertaken with generous funding from the European Union and prepared in collaboration with the IUCN Global Marine Programme and the Task Force on High Seas Marine Protected Areas of IUCN's World Commission on Protected Areas (WCPA). It was reviewed and comments provided by United Nations Division for Ocean Affairs and the Law of the Sea (DOALOS), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), and the Secretariat of the Convention on Biological Diversity.

^{1/} Decision VII/5 notes the following definition adopted by the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas: "Marine and coastal protected area' means any defined area within or adjacent to the marine environment, together with its overlaying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings."

/...

CONTENTS

I.	INTRODUCTION	4
II.	GLOBAL LEGAL INSTRUMENTS	5
A.	The 1982 United Nations Convention on the Law of the Sea (UNCLOS).....	5
1.	The high seas	6
2.	The Area	7
3.	The continental shelf beyond 200 nautical miles.....	7
4.	Marine environmental protection.....	8
5.	High-seas living resources.....	8
6.	Further development of UNCLOS provisions on marine environmental protection and conservation and management of high-seas living resources	9
7.	Regime for the Area.....	9
B.	The 1992 Convention on Biological Diversity	10
C.	The 1995 United Nations Fish Stocks Agreement and the 1993 FAO Compliance Agreement	11
1.	United Nations Fish Stocks Agreement.....	11
2.	The 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 1993 (FAO Compliance Agreement).....	13
D.	The 1946 International Convention on the Regulation of Whaling.....	13
E.	Protected-species conventions	13
1.	The 1979 Convention on the Conservation of Migratory Species of Wild Animals.....	14
2.	The 1973 Convention on International Trade in Endangered Species of Wild Flora and Fauna	14
F.	International Maritime Organization (IMO) instruments	15
1.	Special Areas – MARPOL 73/78.....	15
2.	Particularly Sensitive Sea Areas (PSSAs)	15
3.	Ballast water and sediments.....	16
4.	The 1972 Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)	17
G.	The 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage.....	18
III.	REGIONAL LEGAL INSTRUMENTS	18
A.	Regional seas conventions	19
1.	North-East Atlantic	19
2.	Mediterranean Sea	20
3.	South Pacific.....	21
4.	Antarctica and the Southern Ocean.....	21
B.	Regional fisheries management conventions.....	23
C.	Species conventions.....	24
1.	Agreements under the Convention on Migratory Species	24
2.	The 1972 Convention for the Conservation of Antarctic Seals (CCAS).....	25
IV.	THE ADEQUACY OF THE EXISTING LEGAL FRAMEWORK FOR ESTABLISHMENT OF MARINE PROTECTED AREAS IN MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION	26
A.	Issues relating to goals and scale	26
B.	The adequacy of the legal framework.....	28

1.	The adequacy of existing protections vis-à-vis different human activities: existing competence to regulate and existing regulations and their coverage of vulnerable areas and threats	29
2.	The adequacy of geographic coverage.....	30
3.	The adequacy of scope: a specialized and/or integrated approach to marine protected areas	31
4.	Participation by relevant States and high-seas freedoms: coordination between relevant international institutions	31
5.	The adequacy of high-seas enforcement.....	32
6.	The gaps.....	33
V.	COVERAGE OF EXISTING LEGAL INSTRUMENTS IN RELATION TO IDENTIFIED PRIORITY BIODIVERSITY AREAS	34
A.	Global instruments.....	34
B.	Regional instruments	34
C.	The gaps.....	36
VI.	OPTIONS FOR COOPERATION FOR THE ESTABLISHMENT OF MARINE PROTECTED AREAS IN MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION	36
A.	Options for cooperation under existing instruments: further use and improvement.....	37
1.	International shipping.....	37
2.	Fisheries conservation and management.....	37
3.	Regional seas agreements	38
4.	Area activities and scientific research.....	39
5.	Environmental impact assessment	39
6.	Collaborative initiatives among like-minded States	39
7.	Voluntary arrangements among private actors	40
8.	Emerging compliance and enforcement tools.....	40
B.	Integration and coordination among existing instruments.....	41
1.	Between international instruments and bodies	41
2.	At the interface between national and international areas	42
C.	New mechanisms and instruments.....	43
1.	High Seas fisheries.....	43
2.	Integrated Approaches to marine protected areas and networks and a biogeographic approach.....	43
<i>Annex I.</i>	MAJOR GLOBAL CONVENTIONS AND STATE PARTICIPATION	47
<i>Annex II.</i>	MAJOR NON-BINDING GLOBAL LEGAL INSTRUMENTS THAT REINFORCE OR SUPPLEMENT THE BINDING INTERNATIONAL LEGAL REGIME FOR MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION	48
<i>Annex III.</i>	REGIONAL LEGAL AGREEMENTS APPLICABLE TO MARINE AREAS BEYOND NATIONAL JURISDICTION	49
A.	Regional Seas Agreements	49
B.	Regional fisheries management organizations (RFMOs) and the conventions establishing them.....	50
C.	Convention on Migratory Species – Agreements - www.cms.int	51
D.	Other relevant regional agreements	51

I. INTRODUCTION ^{2/}

1. The international legal regime for marine areas beyond national jurisdiction is made up of a number of global and regional legal instruments. The comprehensive legal framework for all these instruments is the United Nations Convention on the Law of the Sea (UNCLOS). As an umbrella treaty covering all ocean uses, the Convention was designed to serve as a unifying framework for a growing number of more detailed international agreements that address one or more particular ocean use. That is, the zones it defines, and the principles, rights and obligations it specifies, provide the basic framework for these more detailed agreements, and the latter are complementary to the Convention and further develop and elaborate it. Most of the provisions of the Convention are considered to reflect customary international law, which applies to all States.

2. During the last half-century, more intensive human use of the oceans has produced numerous specialized international agreements applicable to one or another use. Many apply to areas both within and beyond national jurisdiction. In areas beyond national jurisdiction, specialized conventions for the most part cover international shipping, fisheries, and the deliberate disposal of wastes at sea (dumping). Underwater cultural heritage is also addressed. These and other agreements are considered below. They do not, either through their general provisions or those on protected marine areas beyond national jurisdiction, have a binding effect on non-parties to the agreement, except as specifically noted below. Many other human activities (table 1) are not yet the subject of more detailed, internationally agreed measures that apply in marine areas beyond national jurisdiction.

3. The term “marine protected area” in this study is not used to refer to any particular category or type of marine protected area. Rather, it refers to provisions in a variety of international agreements that, for a defined geographic marine area beyond national jurisdiction, have the effect that its biodiversity enjoys a higher level of protection than in the waters and/or seabed around the area. This is consistent with the definition noted in decision VII/5 of the Conference of the Parties to the Convention on Biological Diversity. ^{3/} Provisions of this type are currently found at the global level in agreements that govern a single activity (e.g., international shipping, mineral resources extraction in the seabed beyond national jurisdiction, and fishing).

^{2/} This study has been prepared in collaboration with IUCN’s Global Marine Programme and the Task Force on High Seas Marine Protected Areas of IUCN’s World Commission on Protected Areas (WCPA) by Lee A. Kimball, with special thanks to other members of the WCPA Task Force’s international law sub-group: Charlotte Breide, John Croxall, Kristina Gjerde, Susie Grant, Andrew Hurd, Sian Pullen, Tullio Scovazzi, and Dorothy Zbicz. Comments on the study received from the UN Division for Ocean Affairs and the Law of the Sea (DOALOS), the UN Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), and the Secretariat of the Convention on Biological Diversity were taken into account. This study is also informed by the following earlier reports on MPAs beyond national jurisdiction: D. Czybulka & P. Kersandt, *Legal Regulations, Legal Instruments and Competent Authorities with Relevance for Marine Protected Areas (MPAs) in the Exclusive Economic Zone (EEZ) and the High Seas of the OSPAR Maritime Area*, Federal Agency for Nature Conservation, Germany (BfN 2000); *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools such as MPAs – Scientific Requirements and Legal Aspects*, eds. H.Thiel & J.A. Koslow, Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 27 Feb. – 4 March 2001 (BfN 2001) and, specifically, “MPAs Beyond National Jurisdiction – Existing Legal Principles and Future Legal Frameworks” by R. Warner; K.M. Gjerde, “Current Legal Development: High Seas MPAs,” 16 *IJMCL* 515 (2001); L.A. Kimball, *International Ocean Governance: Using International Law and Organizations to Manage Marine Resources Sustainably* (IUCN, 2001, 2003); *Towards a Strategy for High Seas MPAs*, eds. K.M. Gjerde and C. Breide, Proceedings of the IUCN, WCPA and WWF Experts Workshop on High Seas MPAs, 15-17 January 2003, Malaga, Spain (IUCN 2003) and, specifically, its draft action plan at annex 5; *Proceedings of the Workshop on the Governance of High Seas Biodiversity Conservation*, 16-19 June 2003, Cairns Australia, and, specifically, “A Framework for Identifying and Responding to Gaps” by L.A. Kimball; T. Scovazzi, “MPAs on the High Seas: Some Legal and Policy Considerations,” 19 *IJMCL* 1 (2004).

^{3/} See footnote 1 above.

4. There is no global framework agreement for addressing threats posed by multiple activities to geographically-defined priority biodiversity areas ^{4/} apart from the general requirements under the United Nations Convention on the Law of the Sea for protection and preservation of the marine environment (see below). Nor is there a global agreement for identifying such areas on a scientific basis. At the regional level, some binding legal agreements provide for multiple-use marine protected areas beyond national jurisdiction, while ensuring that the regulation of particular activities is consistent with high-seas freedoms under the United Nations Convention on the Law of the Sea (see below).

5. This study outlines the UNCLOS framework and its application to marine areas beyond national jurisdiction, together with specific provisions in UNCLOS and other global and regional agreements that offer options for establishing marine protected areas in these areas (sections II and III). It then reviews the adequacy of the existing legal regime for establishing marine protected areas beyond national jurisdiction (section IV) and considers its adequacy with respect to the priority high seas areas identified in the scientific background paper, *Patterns of species richness in the high seas* (section V). The final section suggests further options for cooperation in establishing marine protected areas beyond national jurisdiction (section VI).

6. In addressing the adequacy of the existing legal regime, section IV first considers some issues relating to the goals and scale of protection required to maintain the structure and functioning of the full range of marine ecosystems, as called for in decision VII/5. Before concluding with a summary of the major gaps, it then reviews:

- (a) The adequacy of existing protections vis-à-vis different human activities: existing competence to regulate and existing regulations and their coverage of vulnerable areas and threats;
- (b) The adequacy of the geographic coverage of existing protective arrangements;
- (c) The adequacy of the scope of existing protective arrangements;
- (d) The adequacy of participation by all relevant States and coordination between relevant international institutions; and
- (e) The adequacy of high seas enforcement.

7. The options in section VI are arranged into sub-sections on (i) cooperation under existing instruments: further use and improvement; (ii) integration and coordination among existing instruments and bodies, including at the interface between national and international waters; and (iii) new mechanisms and instruments. Each section contains specific references to the priority high seas areas identified in section V of the study.

8. Annex I to this study lists the major conventions considered in this study and the number of States parties. Annex II identifies the major non-binding global legal instruments that reinforce or supplement binding legal agreements. Annex III lists regional legal agreements applicable to marine areas beyond national jurisdiction and the number of Parties.

II. GLOBAL LEGAL INSTRUMENTS

A. *The 1982 United Nations Convention on the Law of the Sea (UNCLOS)*

9. The United Nations Convention on the Law of the Sea lays down a comprehensive legal regime for the world's oceans and seas, establishing rules governing all uses of the oceans and ocean resources. The Convention divides marine space into a number of zones, both within and beyond the limits of

^{4/} The phrase “biodiversity hotspots” is used in this paper as a convenient shorthand to refer to the marine areas beyond national jurisdiction ultimately identified where biodiversity warrants a higher level of protection than in surrounding areas. The term “priority biodiversity area” is also used towards the same purpose. The values and criteria that may be used to identify these areas have not yet been agreed.

national jurisdiction. The limits of these zones are measured from baselines extending along the coast. The areas within national jurisdiction include: internal waters, archipelagic waters, the territorial sea, the contiguous zone, the exclusive economic zone (EEZ), and the continental shelf. UNCLOS sets out States' rights and responsibilities both in these defined zones subject to coastal State sovereignty (internal waters, archipelagic waters, territorial sea) and jurisdiction (namely, the EEZ and the continental shelf) and in areas beyond national jurisdiction.

10. UNCLOS is supplemented and elaborated by two implementing agreements, the 1994 Agreement relating to Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (the "1994 Part XI Agreement"), and the 1995 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 (the "United Nations Fish Stocks Agreement" or "UNFSA"). They are considered below.

11. UNCLOS provides that the areas beyond the limits of national jurisdiction include: (i) the water column beyond the EEZ, or beyond the territorial sea where no EEZ has been declared, called the "high seas" (article 86); and (ii) the seabed which lies beyond the limits of the continental shelf, established in conformity with article 76 of the Convention, designated as "the Area" (article 1 para.1). Parts VII and XI of the Convention, provide the legal framework for the high seas and the Area, respectively.

12. A number of institutions are created under UNCLOS for its implementation. These include the International Tribunal for the Law of the Sea, the Commission on the Limits of the Continental Shelf, and the International Seabed Authority. Furthermore, the United Nations General Assembly each year holds a debate on the question of ocean affairs and the law of the sea, including through the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea. ^{5/}

1. The high seas

13. UNCLOS provides that the high seas are open to all States; that is, all States are free to use them with due regard for other States' interests. High seas freedoms include navigation, fishing, marine scientific research, laying of undersea cables and pipelines, construction of artificial islands and other installations permitted under international law, ^{6/} and other unspecified activities (e.g., deployment of undersea vessel tracking and intelligence gathering devices). High seas freedoms are not a license for unrestrained use; they must be exercised under conditions laid down by the Convention, including general obligations to protect and preserve the marine environment (Part XII) and to conserve and manage high seas living resources (Part VII, Section 2), and other rules of international law. As considered below, numerous international conventions associated with UNCLOS set out more detailed conditions for international shipping and fishing exercised as high seas freedoms.

14. The enforcement of international legal regimes on the high seas is primarily the responsibility of the flag State vis-à-vis ships flying its flag. Under UNCLOS, flag States have exclusive jurisdiction over vessels flying their flag on the high seas, save in exceptional cases expressly provided for in international treaties. The duties of the flag State concerning ships flying its flag are spelled out in UNCLOS. ^{7/} Nevertheless, some flag States do not exert effective control over ships flying their flag ("flag of convenience" States); that is, they do not, as required by UNCLOS, take measures in conformity with generally accepted international regulations, procedures and practices nor take the steps necessary to secure observance of these measures by their flag ships. In view of this, UNCLOS provides for certain investigation and enforcement action by "port States" when a vessel is voluntarily within a port or at an

^{5/} General Assembly resolution 49/28.

^{6/} Article 87.

^{7/} Articles 91-92, 94, 216-17.

offshore terminal of the State – in relation to pollution discharges outside that State’s jurisdiction, or the seaworthiness of the vessel, in violation of applicable international standards. ^{8/}

15. Evolving regional and global arrangements strengthen the role of port States in promoting compliance with international shipping, fisheries, and labour-standards instruments. These include regional memoranda of understanding (MOUs) on port State control and efforts through the International Maritime Organization (IMO) and the Food and Agriculture Organization of the United Nations (FAO) to facilitate their effective application. ^{9/} Certain supplementary agreements have also been developed, especially in the area of international fisheries, which allow States other than the flag State to verify compliance with agreed international rules and, in some cases, take enforcement action on the high seas (section II.C).

2. *The Area*

16. As regards the seabed beyond the limits of national jurisdiction, Part XI of UNCLOS, as elaborated by the 1994 Part XI Agreement, provides that the Area and its resources (defined in article 133 as all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules) are the common heritage of humankind. The International Seabed Authority (ISA) is the organization through which States organize and control activities in the Area, particularly with a view to administering the resources of the Area and to sharing the benefits arising from activities thereof. Activities in the Area include all activities of exploration for and exploitation of the resources of the Area (article 1.3). The Authority exercises control over activities in the Area for the purpose of securing compliance with Part XI and the 1994 Part XI Agreement, while States parties are responsible for taking all necessary measures to ensure compliance by those subject to their jurisdiction or control. The Authority is further charged with establishing a staff of inspectors to determine compliance. ^{10/} (Additional information on the regime of the Area is provided below.)

3. *The continental shelf beyond 200 nautical miles*

17. It is important to note that where a coastal State’s continental shelf (defined by the Convention to include the physical continental shelf, slope and rise together comprising the continental margin) extends beyond 200 nautical miles, the coastal State has sovereign and exclusive rights to explore and exploit the natural resources in these portions of the shelf, including living organisms belonging to sedentary species. ^{11/} Sovereign rights to conserve these resources are not expressly included. In these cases, the seabed beyond national jurisdiction (i.e., the Area) begins at the outer limit of the shelf, sometimes well beyond 200 nautical miles. The water column above this extended shelf is high seas, since the high seas normally begin at the edge of the 200-nautical-mile EEZ. Thus, the water column beyond national jurisdiction may commence at a different distance from shore than the Area. (Where the coastal State has not claimed a 200-nautical-mile EEZ, the high seas may begin closer to shore, at the edge of the 12-nautical-mile territorial sea, as is the case, for example, in many parts of the Mediterranean.)

^{8/} Articles 218-219.

^{9/} See, for example, Kimball, *International Ocean Governance*, note 1 at 14-15; D. Anderson, “Port States and Environmental Protection,” *International Law and Sustainable Development* (Oxford University Press 1999); Report of the Expert Consultation to Review Port State Measures to Combat IUU Fishing, 4-6 November 2002, FAO Fisheries Report No. 692.

^{10/} Articles 139, 153(4), 162(2)(z).

^{11/} Articles 76-77. The rights of the coastal State over the continental shelf are inherent and do not require any express proclamation, as does the EEZ; but the outer limit must be determined in accordance with article 76. Article 77.4 defines sedentary species as “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”.

4. *Marine environmental protection*

18. The United Nations Convention on the Law of the Sea provides the legal framework for the protection and preservation of the marine environment. It contains a general obligation for States to protect and preserve the marine environment, which applies both within and beyond national jurisdiction (article 192). States must take, individually or jointly as appropriate, all necessary measures to prevent, reduce and control pollution from any source, including land-based sources, pollution from or through the atmosphere, pollution from vessels, pollution by dumping, and pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil and other installations and devices operating in the marine environment. Also covered is pollution resulting from the use of technologies, and the intentional or accidental introduction of species that are alien or new to a particular part of the marine environment, which may cause significant and harmful changes thereto. ^{12/} While the Convention does not explicitly call for establishment of marine protected areas, the measures States include required to take are those necessary to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened, or endangered species and other forms of marine life (article 194, para.5).

19. The Convention also covers responsibility and liability for damage caused by pollution of the marine environment, including in areas beyond national jurisdiction, and that caused by marine scientific research. ^{13/} In addition, it provides for monitoring and environmental assessment. In particular, States are required to monitor the risks or effects of marine pollution and publish resulting reports, and to assess the potential effects of planned activities under their jurisdiction or control that may cause substantial pollution or significant and harmful changes to the marine environment, and report on assessment results. ^{14/}

5. *High-seas living resources*

20. The freedom of fishing on the high seas is qualified by the Convention's provisions on the conservation and management of high-seas living resources (Part VII, section 2). These require all States to take such measures for their nationals as may be necessary to conserve high-seas living resources. Furthermore, States must cooperate in the conservation and management of these resources; in particular, States whose nationals exploit the same living resources, or different living resources in the same area, must enter into negotiations with a view to taking the measures necessary for the conservation of the resources concerned. To this end, they must cooperate to establish subregional or regional fisheries organizations.

21. The conservation measures envisaged must be designed on the basis of the best scientific evidence available. They reflect knowledge emerging during the 1970s on inter-species and environmental relationships, subsequently refined as the more comprehensive ecosystem approach. That is, in determining the allowable catch and establishing other conservation measures for high seas living resources, the measures taken are to maintain or restore populations of harvested species at levels that can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors and taking into account, *inter alia*, the interdependence of stocks. In addition, in determining the allowable catch and establishing other conservation measures, States must take into consideration the effects upon species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened. ^{15/} By implication, conservation measures contemplate a suite of options that include regulations on seasons

^{12/} Articles 194-96, 207-212.

^{13/} Articles 139, 235, 263.

^{14/} Articles 204-06.

^{15/} Article 119. See also *The Ecosystem Approach to Fisheries*. FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2. Rome, FAO (2003).

and areas for fishing. ^{16/} The Convention also provides for stricter measures to prohibit, limit, or regulate the exploitation of marine mammals, adopted through a competent international organization. ^{17/}

6. *Further development of UNCLOS provisions on marine environmental protection and conservation and management of high-seas living resources*

22. Both for marine environmental protection and high seas living resources, the Convention contemplates that further global and regional standards, rules and/or recommended practices and procedures will be adopted through other bodies, and it builds on earlier agreements. ^{18/} Moreover, it obliges States to cooperate with each other and through appropriate global and regional organizations in formulating and elaborating these international measures. ^{19/} Regarding pollution from land-based sources and seabed activities subject to national jurisdiction, States are to endeavour to harmonize their policies at the appropriate regional level. ^{20/} As more detailed measures are progressively developed, the Convention incorporates them by reference, and its framework obligations may be interpreted and applied in light of this evolving body of law. In some cases, international measures adopted through other bodies set minimum international standards for UNCLOS parties. ^{21/}

7. *Regime for the Area*

23. The regime of the Area is set forth in UNCLOS (Part XI) and the 1994 Part XI Agreement. The latter is to be applied and interpreted together with UNCLOS as a single instrument. This regime expressly governs exploration and exploitation (“activities in the Area”) regarding Area resources (as defined in the Convention), ^{22/} including related environmental impacts and marine scientific research in the Area. ^{23/} In addition to general rules of international law applicable to the conduct of all States, several other principles apply to the Area. These include that the Area and its resources are the common heritage of mankind and that no State may claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor may any part be appropriated by a State or natural or juridical person. All rights in the resources are vested in humankind as a whole. Moreover, all humankind is to benefit from activities in the Area, from marine scientific research carried out in the Area, and from objects of an archaeological and historical nature found in the Area. Additional principles call for necessary measures to ensure protection of the marine environment from harmful effects of these activities and liability for damage from activities in the Area. High-seas freedoms must be exercised with due regard for rights under the Convention with respect to activities in the Area, and, conversely, activities in the Area are to be carried out with reasonable regard for other activities in the marine environment. ^{24/}

^{16/} Specific conservation measures are not listed in articles 116-119. Nevertheless, article 62.4 contains a list of items to which national EEZ measures may relate, including (c) “regulating seasons and areas of fishing”.

^{17/} Article 120, with reference to article 65.

^{18/} Article 237 addresses the relationship between UNCLOS and obligations under other conventions related to protection and preservation of the marine environment.

^{19/} Articles 197, 207.4, 208.5, 209.1, 210.4, 211.1, 212.3, and 117-118. In enclosed and semi-enclosed seas like the Mediterranean, special emphasis is placed on cooperation among states bordering these areas, including in relation to living resources conservation, environmental protection, and scientific research. Articles 122-23.

^{20/} Articles 207.3 and 208.4.

^{21/} For vessel-source pollution, dumping, and activities in the Area, national laws and regulations must be as effective as international rules and standards adopted under the IMO Conventions, London Convention, and by the International Seabed Authority, respectively. Articles 211.2, 210.6, and 209.2.

^{22/} “Activities in the Area” means all activities of exploration for, and exploitation of, the resources of the Area (article 1.3), with “resources” subject to Part XI (and the 1994 Part XI Agreement) further defined as all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed (Article 133.a).

^{23/} Articles 143, 145.

^{24/} Articles 136-149, 87.

24. The Convention establishes the International Seabed Authority (ISA) as the organization through which States parties to the Convention organize and control activities in the Area, particularly with a view to administering the resources of the Area. Where the Convention sets out the framework and principles, the Authority through its Council and Assembly gives effect to them. It adopts general policies and detailed rules and regulations governing activities in the Area and oversees their implementation and enforcement. Thus, it is the responsibility of the International Seabed Authority to adopt the necessary measures on environmental protection such as rules, regulations and procedures *inter alia* to prevent, reduce and control pollution, to protect and conserve the natural resources of the Area, and to prevent damage to the flora and fauna of the marine environment. 25/

25. The Authority has completed rules and regulations governing prospecting and exploration for polymetallic nodules and is currently considering draft regulations for prospecting and exploration of polymetallic sulphide and cobalt-rich crust deposits. Sulphide deposits are found at hydrothermal vent sites, while crusts normally occur on seamounts. Commercial activities in the Area are not yet viable, but some initial prospecting and exploration has taken place and research is ongoing in order to assess potential environmental impacts.

26. Among the rules and regulations called for in the Convention, and reflected in the rules and regulations so far adopted, is a requirement that the Authority disapprove areas for minerals exploitation “in cases where substantial evidence indicates the risk of serious harm to the marine environment”. 26/ The rules and regulations on polymetallic nodules require that when a contractor applies for exploitation rights, it must propose areas to be set aside and used exclusively as “preservation reference zones” in which no mining shall occur, so that representative and stable biota of the seabed remain in order to assess any changes in the flora and fauna of the marine environment due to mining. 27/ Furthermore, contractors are required to gather environmental baseline data, to establish environmental baselines against which to assess the likely effects of their activities on the marine environment, and to establish a programme to monitor and report on such effects. 28/ Similar provisions are under consideration in the draft regulations for sulphide and cobalt-crust deposits. 29/

B. The 1992 Convention on Biological Diversity

27. The Convention on Biological Diversity and UNCLOS are complementary instruments with respect to the conservation and sustainable use of marine biodiversity. UNCLOS sets out the general framework for all ocean uses and resources, and Parties to the Convention on Biological Diversity are required to implement that Convention consistently with the rights and obligations of States under the law of the sea. In areas beyond national jurisdiction, the provisions of the Convention on Biological Diversity apply only to processes and activities carried out under a Party’s jurisdiction or control which may have adverse impact on biodiversity. They do not apply to the components of biodiversity *per se*, as they do within national jurisdiction. For this reason, the Convention on Biological Diversity underlines the need for cooperation among Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biodiversity, either directly or through competent international organizations. 30/ This

25/ Article 145.

26/ Article 162.2.x.

27/ Regulation 31.7, Regulations for Prospecting and Exploration for Polymetallic Nodules in the Area, 19 July 2000. See Document ISBA/6/A/18 for official text. This regulation also requires the contractor to set aside an “impact reference zone,” representative of the environmental characteristics of the Area, to be used for assessing the effect of that contractor’s activities in the Area on the marine environment. Available at www.isa.org.

28/ Regulation 31.4, Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, note 24. In 2001, the Authority’s Legal and Technical Commission adopted recommendations for the guidance of the contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area, Document ISBA/7/LTC/1/Rev.1, 13 February 2002.

29/ Regulation 33, ISBA/10/C/WP.1, 24 May 2004, available at www.isa.org.

30/ Articles 3-5.

is reinforced in paragraph 30 of decision VII/5 of the Conference of the Parties to the Convention on Biological Diversity, which addresses protected areas in marine areas beyond national jurisdiction and expresses an agreement that there is an urgent need for international cooperation and action to improve conservation and sustainable use of biodiversity in these areas.

28. Thus, each Party to the Convention on Biological Diversity is responsible for applying Convention provisions to processes and activities undertaken by its nationals (or other entities under its jurisdiction or control) that may adversely impact biodiversity in areas beyond national jurisdiction. This includes identification and monitoring of these processes and activities (including activities within national jurisdiction that may have impacts beyond) as well as environmental impact assessment of proposed projects likely to have significant adverse impacts on biodiversity. This is explicitly recognized in paragraph 56 of decision VII/5, which invites States to identify activities and processes under their jurisdiction or control which may have significant adverse impact on deep seabed ecosystems and species beyond national jurisdiction. In addition, States are responsible for ensuring that activities within their jurisdiction or control do not cause damage to the environment of areas beyond the limits of national jurisdiction. To this end, the Parties are to promote reciprocal arrangements for notification, exchange of information, and consultation on any activities likely to have significant adverse effects on biodiversity in areas beyond national jurisdiction and to notify potentially affected States in cases of imminent or grave danger. ^{31/} These provisions on monitoring and assessment and State responsibility complement those of UNCLOS and supplement them in highlighting specific effects on biodiversity.

C. The 1995 United Nations Fish Stocks Agreement and the 1993 FAO Compliance Agreement

1. United Nations Fish Stocks Agreement

29. The 1995 United Nations Fish Stocks Agreement (UNFSA), as noted above, is an implementing agreement of UNCLOS. It is to be interpreted and applied in the context of UNCLOS and consistent with it. It applies to two types of fish stocks identified in UNCLOS (straddling fish stocks and highly migratory fish stocks), and it applies primarily beyond national jurisdiction although certain key provisions also apply within areas under national jurisdiction (general principles, precautionary approach, compatibility of measures within national jurisdiction and on the adjacent high seas). ^{32/} The objective of the United Nations Fish Stocks Agreement is to ensure the long-term conservation and sustainable use of these stocks. Like UNCLOS, it envisages cooperation through regional (including subregional) fisheries management organizations or arrangements as the primary mechanism for implementing its provisions. Nevertheless, its general principles and the precautionary approach govern all States parties fishing for straddling stocks and highly migratory stocks on the high seas.

30. The United Nations Fish Stocks Agreement strengthens in particular two aspects of UNCLOS: it requires fisheries management to be based on precautionary and ecosystem approaches, and it enhances means for monitoring, control, and enforcement both by flag States and through international cooperation, especially at the regional level.

31. With respect to fisheries management, the approaches specified in the United Nations Fish Stocks Agreement draw on the full suite of principles and measures provided in UNCLOS, which have been further elaborated through a number of regional fisheries management organizations (RFMOs). These include the obligation to cooperate in the conservation and management of high-seas living resources, the requirement of best scientific evidence available, and the importance of exchanging scientific information. They also include measures such as catch and effort requirements, closed areas/seasons, selective gear, and controls over new or exploratory fisheries. Although the United Nations Fish Stocks Agreement does not refer explicitly to the ecosystem approach, its article 5 on general principles requires that States:

^{31/} Articles 7.c and 14.1.a-d.

^{32/} Articles 5-7.

- (a) Take into account the interdependence of stocks in conservation and management measures;
- (b) Assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon target stocks;
- (c) Adopt, where necessary, conservation and management measures for species related to target stocks;
- (d) Minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species (both fish and non-fish) and impacts on associated or dependent species, in particular endangered species; and
- (e) Protect biodiversity in the marine environment.

32. In implementing the precautionary approach set out in article 6, the United Nations Fish Stocks Agreement requires States to develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and to adopt plans necessary to ensure the conservation of such species and to protect habitats of special concern. 33/

33. In relation to monitoring, control, and enforcement, the United Nations Fish Stocks Agreement provides several innovative approaches: 34/

(a) First, it requires States fishing in the area of a regional fisheries management organization, even if they are not a party to the arrangement, to cooperate in observing the conservation and management measures established by that body (for straddling fish stocks and highly migratory fish stocks); otherwise, they may not authorize vessels flying their flag to fish for stocks covered by these measures.

(b) Second, it provides for at-sea boarding and inspection arrangements in areas covered by the regional fisheries management organization to verify compliance with the its conservation and management measures. While the vessel undertaking the inspection must be a member of the organization, the vessel inspected need not be, although it must be a party to the United Nations Fish Stocks Agreement. Further provisions of the United Nations Fish Stocks Agreement require the flag State either to investigate and, if warranted, take enforcement action, or to authorize the inspecting State to take further actions while informing the flag State of all developments. Moreover the United Nations Fish Stocks Agreement requires States to establish through regional fisheries management organizations boarding and inspection procedures in accordance with its provisions. If they have not done so, by default the provisions in the United Nations Fish Stocks Agreement apply (among parties to the United Nations Fish Stocks Agreement);

(c) Third, the United Nations Fish Stocks Agreement provides for port State inspection of fishing vessels. If the port State establishes that the catch on a vessel has been taken in a manner undermining the effectiveness of regional or global measures for high seas conservation and management, and if authorized by national legislation, the port State may prohibit landings and transshipments of the catch.

34. In addition, the United Nations Fish Stocks Agreement complements the FAO Compliance Agreement in setting forth duties of the flag State to ensure that vessels flying its flag comply with conservation and management measures adopted at the regional level and do not undermine the effectiveness of such measures.

33/ Article 6.3.d. Guidelines for application of the precautionary approach are set out in Annex II of the United Nations Fish Stocks Agreement.

34/ Articles 17-23.

2. *The 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 1993 (FAO Compliance Agreement)*

35. Improved monitoring, control and enforcement by flag States is one of the main purposes of the FAO Compliance Agreement, which applies to all fishing vessels that are used or intended for fishing on the high seas. It sets out flag State responsibilities to ensure that a fishing vessel flying its flag and engaged in high seas fishing complies with international conservation and management measures. The flag State must authorize its vessels to fish on the high seas and it may only do so if it can effectively exercise its responsibilities under the Agreement. Restrictions are placed on issuing an authorization for high-seas fishing to any vessel that has undermined international conservation and management measures. The Agreement also provides for arrangements whereby port States may take investigatory measures to establish whether a fishing vessel voluntarily in its ports has violated the Agreement's provisions. ^{35/}

36. Each flag State must maintain a record of vessels entitled to fly its flag and authorized by it to fish on the high seas, and this information must be made available to FAO which shall circulate it to all Parties. The Agreement also requires States Parties to cooperate in exchanging information on fishing vessel activities in order to assist flag States to identify any of their vessels engaged in activities that undermine international conservation and management measures. ^{36/} FAO has established a High Seas Vessel Authorization Record in order to develop a comprehensive, centralized database on vessels authorized to fish on the high seas.

D. *The 1946 International Convention on the Regulation of Whaling*

37. The purpose of the International Convention on the Regulation of Whaling is to ensure proper and effective conservation and development of whale stocks. It applies to factory ships, land stations, and whale catchers under the jurisdiction of Parties to the Convention, and to all waters in which whaling is prosecuted. The International Whaling Commission (IWC) established by the Convention and composed of States parties, may organize scientific studies and investigations related to whales and whaling and collect, analyse and disseminate relevant statistical and other information. The Commission is also charged with amending the "Schedule" of applicable regulations. It can fix the limits of open and closed waters, including the designation of sanctuary areas, as well as prescribe seasons, catch and effort limits, and prohibited methods of capture for particular whale species. ^{37/} A moratorium on whaling established by the Commission took effect in 1985/86.

38. The Commission has established two large-scale high-seas sanctuaries where commercial whaling is prohibited -- in the Indian Ocean in 1979 and the Southern Ocean in 1994. Both prohibitions were established for ten years, subject to review. The Indian Ocean Sanctuary was extended indefinitely in 1992, and the Southern Ocean Sanctuary was extended for another ten years in 2004. There is no ongoing commercial whaling in these areas, although the taking of whales for purposes of scientific research is permitted under conditions specified in the Convention. ^{38/} These sanctuary measures are of course only applicable to States Parties to the Convention.

E. *Protected-species conventions*

39. This section covers briefly two global conventions, the Convention on the Conservation of Migratory Species of Wild Animals, and the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). Their relevance to the international legal regime for marine areas beyond national jurisdiction stems primarily from the Parties' obligations to protect and conserve listed marine

^{35/} Articles II, III, V.
^{36/} Articles IV-VI.
^{37/} Article V.1.
^{38/} Article VIII.

species found in these areas, with particular reference to their habitat under the Convention on Migratory Species. These conventions elaborate general obligations under UNCLOS on high seas living resources as well as UNCLOS article 194.5 on rare or fragile ecosystems and the habitat of depleted, threatened, or endangered species.

1. *The 1979 Convention on the Conservation of Migratory Species of Wild Animals*

40. A number of migratory marine species are listed in one or both of the appendices to the Convention on Migratory Species. These include migratory seabirds, small cetaceans, and marine turtles. The Parties agree to take, individually or in cooperation, appropriate and necessary steps to conserve migratory species and their habitat. For species in danger of extinction throughout all or a significant portion of their range (appendix I), the “range States” must take immediate action to protect them. For species in unfavorable conservation status (appendix II), range States are urged to conclude binding Agreements on the full range of threats in order to improve unfavorable status. The Convention provides guidelines for the Agreements and serves as an umbrella mechanism for their review.^{39/} Several Agreements on marine species have been concluded at the regional level (see section III.C below).

41. Regarding areas beyond national jurisdiction, the Convention defines “range States” to include States whose vessels are engaged in taking the species beyond the limits of national jurisdiction and requires them to prohibit the taking of appendix I species. Moreover, to the extent that activities undertaken within national jurisdiction may endanger the species beyond national jurisdiction (e.g., chronic or accidental pollution from offshore oil rigs, introduction of alien species), the range States should control these effects. In addition, appendix I range States are to conserve and restore important habitats, prevent and remove obstacles to migration, and prevent and control factors that may endanger the species, including introduction of alien species. Agreements on appendix II species should encompass habitat protections and provide for maintaining a network of suitable habitats appropriately disposed in relation to the species’ migration routes.^{40/}

2. *The 1973 Convention on International Trade in Endangered Species of Wild Flora and Fauna*

42. CITES concentrates on measures to curtail global trade in threatened and endangered species listed in three appendices. Among the marine listings are many species of cetaceans, marine turtles, and corals. In 2002, for the first time, the Parties agreed to list (appendix II) 30 important commercial marine fish species – basking sharks, whale sharks and all 28 species of seahorses.^{41/} At the 13th conference of the parties in October 2004, the Parties decided to list two additional fish species on appendix II: the great white shark and the humphead wrasse, both of substantial commercial value.^{42/}

43. For appendix II marine species subject to an earlier treaty than CITES, the trade restrictions in CITES do not apply if the species is taken in conformity with the relevant convention by flag ships of a State party to both.^{43/}

44. Regarding marine areas beyond national jurisdiction, the CITES provisions on “introduction from the sea” cover transportation into a State of any species taken in the marine environment outside the jurisdiction of any State.^{44/} This entails prior grant of approval by the State into which a species listed either in appendix I or II is introduced, subject to certain conditions.

^{39/} Articles II, III, IV, V, VI, VII.

^{40/} Article I.1.h, III.4, and V.4.e, f, g, i.

^{41/} The specific listings referred to may be found at the CITES’ secretariat website (<http://www.cites.org/eng/cop/index.shtml>; click “Amendments to Appendices I and II adopted at COP 12”), and its species database (<http://www.cites.org/eng/resources/species.html>).

^{42/} A/60/63, para. 153.

^{43/} Articles XIV.4 and 5.

^{44/} Articles I.e, III.5, and IV.6 and 7.

45. The recent designations of certain fish species, and proposals that others be included in the CITES appendices, have led to two expert consultations convened by FAO in May and June 2004 on the relationship between CITES and regional fisheries. At the thirteenth meeting to the Conference of the Parties to CITES, in October 2004, there was no agreement on proposals to clarify Convention provisions on “introduction from the sea”, including the role of decisions of regional fisheries management organizations, ^{45/} and the Parties agreed to undertake a further workshop on this issue.

F. International Maritime Organization (IMO) instruments

46. The shipping instruments are generally global, because uniformity of international measures facilitates navigation and ensures a level playing field for worldwide shipping. They are developed under the auspices of the International Maritime Organization (IMO), whose mandate is to ensure “safe, secure and efficient shipping on clean oceans”. Its rules and standards are widely recognized as minimum standards applicable to all States’ vessels both within and beyond national jurisdiction. IMO is considered the competent international body to establish special protective measures in defined areas where shipping presents a risk. These apply uniformly to all ships (non-discriminatory) and include routing and discharge restrictions and reporting requirements.

1. Special Areas – MARPOL 73/78

47. Discharges from ships, both accidental and intentional, are regulated by the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). MARPOL 73/78 regulates vessel design, equipment, and operational discharges from all ships both within and beyond national jurisdiction. It also provides for the designation of “Special Areas” where more stringent discharge rules apply in respect of oil, noxious liquid substances, and garbage (marine debris), ^{46/} and for defined SO_x emission control areas for air pollution. ^{47/} Special Areas are defined as “areas in which, for technical reasons relating to their oceanographical and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required.” Proposals for Special Areas are strengthened if the States concerned are taking or intend to take measures to curtail pollution from sources other than shipping that contribute to stress in the area; and/or if there is an active regime to manage the area’s resources. Two sea areas that include areas beyond national jurisdiction have already been designated as Special Areas: the Antarctic and Southern Ocean (south of latitude 60 degrees south) and the Mediterranean. That in the Mediterranean has not yet taken effect due to lack of adequate waste reception facilities.

2. Particularly Sensitive Sea Areas (PSSAs)

48. In addition to Special Areas, the IMO has adopted a resolution providing for the designation of “Particularly Sensitive Sea Areas” (PSSAs). ^{48/} They are defined as “areas which need special protection through action by IMO because of their significance for recognized ecological, socio-economic or scientific reasons, and which may be vulnerable to damage by maritime activities”. The process of

^{45/} See CITES document CoP13 Doc. 41.

^{46/} It is now widely recognized that offshore and high seas discharges can give rise to mass concentrations of marine debris in oceanographic “sink” areas, such as gyres, eddies or convergence zones (e.g. the equatorial convergence zone). In some such areas, rafts of assorted debris, including various plastics, ropes, fishing nets, cargo-associated wastes like dunnage, pallets, wires and plastic covers, drums and shipping containers along with accumulated slicks of various oils, often extend for many kilometers. There are also some areas (e.g. parts of the Northern Atlantic and Northern Pacific) where the volume and frequency of shipping is such that there is virtually a continuous presence of concentrations of ships, thereby constituting a potentially chronic source of pollution. “Maritime Transport & High Seas Governance—Regulation, Risks and the IMO Regime”, S. Raaymakers, Cairns Workshop, note 1, at 4 and 9.

^{47/} IMO Guidelines for the Designation of Special Areas under MARPOL 73/78, IMO Assembly Resolution A. 927 (22), Annex I, 29 November 2001. These detail the criteria and procedures for acceptance of Special Area status.

^{48/} IMO Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, IMO Assembly Resolution A. 927 (22), Annex II.

designating a PSSA offers a means for IMO and the States proposing the designation to select the most appropriate mechanisms available through IMO instruments to reduce or eliminate risks posed by shipping to the area or a specific portion thereof.

49. As the PSSA guidelines do not contain any restrictions on the marine areas where a PSSA may be designated, a PSSA could therefore include areas of the high seas. ^{49/} A proposal for a PSSA must fulfil three conditions: the area must (i) meet at least one of the ecological, socio-economic and scientific criteria contained in the PSSA guidelines; (ii) be at risk from international shipping; and (iii) need protective measures that are within the competence of IMO to adopt or approve.

50. There are currently seven PSSAs, all of which lie within national jurisdiction. Their associated protective measures include ships' routing measures, such as areas to be avoided, traffic separation schemes, and no anchoring areas; mandatory reporting requirements; special discharge restrictions consistent with those applicable in Special Areas; and compulsory pilotage. With the exception of compulsory pilotage, these measures are available either under the International Convention for the Safety of Life at Sea (SOLAS 1974) or MARPOL 73/78, and each PSSA protective measure must be approved in accordance with the procedure specified in the relevant convention. ^{50/} Compulsory pilotage schemes are suggested as a possible measure under the PSSA guidelines. ^{51/}

51. A proposed PSSA may include within its boundaries a buffer zone; that is, an area contiguous to the site-specific feature (core area) for which specific protection from shipping is sought. "Consideration should also be given to the potential for the area to be listed on the World Heritage List, declared a Biosphere Reserve, or included on a list of areas of international, regional, or national importance, or if the area is already the subject of such international, regional, or national conservation action or agreements." ^{52/}

52. PSSAs are an interesting mechanism for protecting particular areas beyond national jurisdiction. They have no separate legal status; rather, their value lies in a combination of the international recognition of the designated area's values and the adoption of protective measures associated with the site based on existing IMO conventions or other IMO competencies and consistent with UNCLOS. As considered in section VI below, a PSSA could serve as a geographic reference point for the application of binding and recommended measures provided for under existing IMO instruments and, possibly, other agreements. ^{53/}

53. It should be noted that the PSSA guidelines are currently under review within the IMO Marine Environmental Protection Committee (MEPC). A correspondence group is actively considering proposals to clarify and, where appropriate, strengthen them, for example, regarding criteria, size and roles. This issue will be taken up again at the 53rd session of the MEPC, to be held from 18 to 22 July 2005.

3. *Ballast water and sediments*

54. The goals of the recent International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004, not yet in force) are to prevent, minimize and ultimately eliminate the transfer of harmful aquatic organisms and pathogens due to ballast water exchange. It requires ships to

^{49/} Article VIII.

^{50/} Routing measures and mandatory reporting are approved under SOLAS, chapter 5, Regulations 8 and 8-1; discharge restrictions are approved under MARPOL 73/78, which must be consistent with Special Area standards and operational procedures.

^{51/} To date compulsory pilotage has been applied in the territorial sea, pursuant to UNCLOS, Article 21.1.

^{52/} IMO Resolution A.927 (22), 29 November 2001 at para. 6.2. As noted in Section VI of this paper, inscription of an area beyond national jurisdiction on the World Heritage List under the Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) would require amendment of that Convention.

^{53/} L. de La Fayette, "The Marine Environment Protection Committee: The Conjunction of the Law of the Sea and International Environmental Law," in 16 IJMCL 158 (2001).

conduct exchanges at least 200-nautical-mile from the nearest land and in waters deeper than 200 metres, wherever possible. ^{54/} If a party or parties determine that additional measures are necessary in certain areas, they may require ships to meet a specified standard or requirement consistent with international law; if such party(ies) intend the measure to apply in areas beyond national jurisdiction to ships other than their own, IMO approval would be necessary. ^{55/} Current awareness of marine debris as a vector for transporting non-indigenous species from one area to another, and studies in the north Atlantic that indicate more frequent occurrence of mid-ocean algae blooms in areas where open ocean exchange takes place, ^{56/} suggest that concentrating ballast water discharges beyond national jurisdiction may result in a growing number of introductions harmful to high-seas species and ecosystems.

4. *The 1972 Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)*

55. The purpose of the London Convention is to prevent marine pollution caused by the deliberate disposal of wastes or other matter at sea, including in areas beyond national jurisdiction. ^{57/} It will be replaced by a 1996 Protocol, expected to enter into force in 2005. Although the Protocol is much more restrictive than the earlier Convention, historical dumping under the Convention and before it was concluded has created a substantial wastes legacy in areas beyond national jurisdiction, including various chemicals and nuclear wastes. Scientific study and monitoring of historic dump sites could increase knowledge of impacts in deep-sea areas. ^{58/}

56. The 1996 Protocol strives to eliminate pollution caused by dumping or incineration of wastes at sea, requires Parties to apply a precautionary approach, and encourages “polluter pays” implementation. Unlike the “black- and grey-list” approach ^{59/} of the 1972 Convention, the 1996 Protocol adopts a much more restrictive “reverse list” whereby all wastes dumping is prohibited except for materials listed in annex I, which requires a special permit. In addition, the Protocol prohibits waste storage in the seabed and the export of wastes for the purpose of dumping or incineration at sea.

57. Before a permit for annex I materials can be issued, the responsible State must undertake an assessment provided for in annex II. This must include specified information on the selected dump site (water column and seabed), including amenities, values and other uses, and indicate the scale and duration of potential effects. Environmental monitoring plans are required. If the assessment reveals that adequate information is not available to determine the likely effects of the proposed disposal option, then it should not be considered further.

58. In order to enforce restrictions on dumping, including in areas beyond national jurisdiction, the 1996 Protocol, like the earlier Convention, requires each Party to implement its provisions for: (i) all vessels and aircraft registered in its territory or flying its flag (wherever located); (ii) all vessels and aircraft loading wastes or other matter in its territory which are to be dumped or incinerated at sea; and (iii) all vessels, aircraft and platforms or other man-made structures believed to be engaged in dumping or incineration at sea in areas within which the Party is entitled to exercise jurisdiction in accordance with international law. ^{60/}

^{54/} Regulation B-4, Annex “Regulations for the Control and Management of Ships’ Ballast Water and Sediments”.

^{55/} Regulation C-1.3.3, Annex.

^{56/} S. Raaymakers, note 44 at 12.

^{57/} This includes any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures.

^{58/} S. Raaymakers, note 44 at 12, citing IAEA 1999.

^{59/} This approach classifies waste materials according to the hazard they present to the environment. It prohibits dumping of blacklist materials, requires a special permit for greylist materials from a designated national authority under strict controls and provided certain conditions are met, and requires issuance of a general permit for dumping of all other materials or substances.

^{60/} Article 10.1; see also UNCLOS, Article 216.

G. *The 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage*

59. The UNESCO Convention on the Protection of the Underwater Cultural Heritage covers underwater cultural heritage both within and beyond national jurisdiction and gives preference to preserving such heritage on site. ^{61/} Though not in force, it is meant to further develop UNCLOS and strengthen the protection of underwater cultural heritage. (The positions of States on this Convention differ, with some States strongly opposed to it.) ^{62/}

60. It should be noted that the definition of “marine and coastal protected area” noted in decision VII/5 of the Conference of the Parties to the Convention on Biological Diversity, states that the area may include historical and cultural features, with the effect that the area’s biodiversity enjoys a higher level of protection than its surroundings. It is also useful to recall that shipwrecks and other “introduced” objects of a historical or cultural nature serve to attract the settlement of species and can lead to the development of high biodiversity areas.

61. For underwater cultural heritage found in the Area, under UNCLOS these objects are to be preserved or disposed of for the benefit of mankind as a whole, with particular regard for the preferential rights of the State(s) of origin, of cultural origin, or of historical and archaeological origin. ^{63/} Under the UNESCO Convention, when such objects are found, notifications must go to the Director-General of UNESCO and the Secretary-General of the International Seabed Authority. The Director-General notifies States parties to the UNESCO Convention. States with a verifiable link to the heritage are to be consulted on how to ensure its effective protection. The Director-General of UNESCO invites these States Parties to consult, and to appoint one Party to coordinate the consultations, in which the International Seabed Authority may also participate. ^{64/} The coordinating State is responsible for implementing agreed measures of protection, including issuing all necessary authorizations. That State is also responsible for conducting any necessary preliminary research on the heritage, reporting to the Director-General of UNESCO on research results, and acting for the benefit of humanity as a whole. An annex contains rules concerning activities directed at underwater cultural heritage, but the application of these rules to objects found in the Area is not explicit. The rules require study of the environmental characteristics of the site, and an environmental policy “adequate to ensure that the seabed and marine life are not unduly disturbed”. ^{65/}

III. REGIONAL LEGAL INSTRUMENTS

62. The regional agreements considered below are incorporated by and elaborate and supplement the UNCLOS regime in their respective regions. On a relatively large scale, each establishes a series of conservation and/or environmental protection measures for defined geographic areas beyond national jurisdiction. The regional seas agreements and regional fisheries management organizations also provide for special areas where a higher level of protection can be established, while the Agreements under the Convention on Migratory Species specifically call for habitat protection. The regional rationale for both the regional fisheries management organizations and the Agreements is the geographic range of the stocks or species concerned. For the regional-seas arrangements, the geographic rationale originally reflected some combination of proximity, land/sea configuration and political affinity. Today, they increasingly strive to incorporate ecosystem parameters into their programming at large and small scales.

^{61/} Article 2.5; Rule 1, Annex “Rules concerning activities directed at underwater cultural heritage”.

^{62/} Some States dispute that the UNESCO Convention is fully consistent with UNCLOS. To date only three countries have ratified it, and twenty ratifications are necessary for it to enter into force.

^{63/} Articles 149 and 303.

^{64/} Articles 11, 12.

^{65/} Rules 10(a) and (l); 14, 15 and 29, annex.

A. Regional seas conventions

63. Many of the regional-seas agreements have been established under the auspices of the United Nations Environment Programme (UNEP). Others have their origins in agreements that preceded the establishment of UNEP, as in the North-East Atlantic and the Antarctic. In a few regions, non-binding action plans form the basis of cooperation, whereas most regions have adopted a binding framework convention. These conventions are usually supplemented by protocols and annexes addressing different sources of marine degradation, such as land-based activities or offshore oil and gas development. Several have protocols on specially protected areas and wildlife and/or biodiversity. There is substantial variation from region to region in the degree of specific and detailed commitments agreed by governments. Only four of these regional conventions explicitly cover areas beyond national jurisdiction and are considered here. The non-binding arrangements are not considered in this paper. Of these, it appears that only the Arctic Environmental Protection Strategy (AEPS 1991) covers areas beyond national jurisdiction.

64. The regional protocols/annexes on marine protected areas typically specify the types of activities subject to regulation and that establishment of protected areas shall not affect the rights of other Parties or third States under international law; that is, measures taken by the coastal State(s) Parties to the regional instrument must be consistent with high-seas freedoms under UNCLOS in areas beyond national jurisdiction. ^{66/} As considered in sections IV.A.4 and VI.B below, this may be undertaken through coordination with other relevant international bodies and/or by encouraging non-regional States active in the region to accede to the agreement. The more recent of the protocols on marine protected areas (specifically, in the North-East Atlantic and the Mediterranean) incorporate many elements from the Convention on Biological Diversity, thus effectively serving as a regional vehicle for implementing the Convention on Biological Diversity in respect of marine and coastal biodiversity.

1. North-East Atlantic

65. The 1992 Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention) applies throughout the “OSPAR Maritime Area”. This extends from the shores of its contracting Parties to a substantial adjacent high seas area and includes the seabed. The 1992 Convention constitutes a major update of earlier regional agreements on dumping and controlling marine pollution from land-based sources.

66. Annex V on ecosystems and biodiversity conservation was adopted in 1998. It calls for Parties, individually and jointly, to take the necessary measures to protect and conserve the ecosystems and biological diversity of the maritime area, which are, or could be, affected as a result of human activities, and to restore, where practicable, marine areas which have been adversely affected. Annex V also specifies that no measures relating to fisheries management may be adopted pursuant to it. In relation both to fisheries and maritime transport, it calls for drawing attention to relevant actions needed in the competent international fisheries body or IMO. The Sintra Ministerial Declaration, also adopted in 1998, specifically calls for the establishment of a network of marine protected areas to ensure the sustainable use, protection and conservation of marine biological diversity and ecosystems.

67. In a joint ministerial declaration of June 2003, the parties to the OSPAR Convention, together with the Parties to the regional convention on the Baltic Sea, recommended the establishment of a network of well managed and ecologically coherent marine protected areas by 2010 for the purpose of protecting and conserving species, habitats, ecosystems or ecological processes of the marine environment. The elements of a network strategy were also agreed in 2003, together with guidelines for

^{66/} Marine protected areas within national jurisdiction must also respect high-seas freedoms consistent with the rights and obligations of coastal States and other States as set forth in UNCLOS.

identifying and selecting sites, and for managing marine protected areas. ^{67/} The strategy calls for consultation with the competent international organizations on how to achieve protections in the OSPAR area beyond national jurisdiction. Under the guidelines, identification is based on ecological criteria, and priority for designation is based on status or importance of species or habitat, its condition, and practical considerations. The management guidelines contain useful elements for a marine-protected-areas site-management plan, including ways to track human activities and impacts that may need to be regulated in order to achieve the objectives of protection through marine protected areas.

68. In 2004, at the annual meeting of the OSPAR Working Group on Marine Protected Areas, Species and Habitats, the Government of the United Kingdom reported on the results of a scoping study on how protection of high seas and deep oceans biodiversity could best be achieved. The study recognized that measures to designate marine protected areas on the high seas under instruments such as the Convention on Biological Diversity and regional conventions would take considerable time to develop. It recommended that in the shorter term, in order to enable action to reduce impacts, attention would best be focused on supporting the identification of locations of important biodiversity on the high seas, identifying their sensitivity and vulnerability to human-induced impacts, and necessary management measures, including possible revisions to the mandates of relevant authorities. The OSPAR parties were invited to consider, before the group's next meeting in late 2005, which high seas areas should be proposed to the OSPAR Commission for inclusion in the OSPAR network of marine protected areas. It was noted that proposals from Parties or non-governmental organizations for high-seas protected areas should ideally seek the agreement of all Parties on the proposal.

69. Under its work in relation to the protection of coral reefs within the OSPAR area (i.e., cold-water corals), the OSPAR Commission has written to the North East Atlantic Fisheries Commission (NEAFC) drawing attention to the need to protect the biodiversity of cold-water coral reefs on the western slopes of the Rockall Bank (see sections III.B and V.B below for further information on NEAFC). In addition, the OSPAR parties agreed to provide data on the distribution of lophelia reefs, in order to produce an up-to-date distribution of these habitats in the OSPAR region, and to provide this map to fisheries management authorities.

2. *Mediterranean Sea*

70. The high seas of the Mediterranean generally begin at the edge of the 12-nautical-mile territorial sea, since most coastal States have not declared exclusive economic zones due to the many maritime boundaries yet to be settled between opposite and adjacent States. ^{68/} Four coastal States (Algeria, Malta, Spain, and Tunisia) have established exclusive zones for the conservation and management of marine living resources that extend beyond the territorial sea but fall well short of 200 nautical miles. ^{69/} As for the seabed of the Mediterranean, all areas lie within national jurisdiction; that is, because the legal continental shelf under the United Nations Convention on the Law of the Sea extends to a distance of 200 nautical miles the rights of the coastal State over the continental shelf do not depend on any express proclamation, as noted above, and there is no point in the Mediterranean that is located more than 200 nautical miles from the nearest land or island. ^{70/}

71. The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1976, amended in 1995, applies throughout the Mediterranean Sea. Its protocol concerning specially protected areas and biological diversity is applicable not only to all the sea but includes also the

^{67/} 2003 Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic (Reference number: 2003-21); Guidelines for the Identification and Selection of MPAs in the OSPAR Maritime Area (Reference number: 2003-17), and Guidelines for the Management of MPAs in the OSPAR Maritime Area (Reference number: 2003-18). Available at www.ospar.org.

^{68/} Morocco (1981), Egypt (1983), Syria (2003) and Cyprus (2004) have established EEZs in the Mediterranean.

^{69/} C. Chevalier, *Governance in the Mediterranean Sea: Legal Regime and Prospectives*, IUCN 2004.

^{70/} UNCLOS, articles 76-77.

seabed and subsoil. It specifically distinguishes “specially protected areas” in areas subject to national jurisdiction from the establishment of a list of specially protected areas of Mediterranean interest (SPAMI list). The SPAMI list may include sites that “are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; or are of special interest at the scientific, aesthetic, cultural or educational levels”. ^{71/} The procedures for establishment and listing of SPAMIs are specified in detail. For areas located partly or wholly on the high seas, the proposal must be made by two or more neighboring Parties concerned, and the decision to include the area in the SPAMI list is taken by consensus among the Parties.

72. Once an area is included in the SPAMI list, all Parties to the Protocol agree to recognize the particular importance of the area for the Mediterranean. They must comply with measures applicable to the SPAMI and neither authorize or undertake any activities that might be contrary to the objectives for which the SPAMI was established. Annex I to the protocol sets out common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI list. With respect to the relationship with third countries, the Parties shall “invite States that are not Parties to the Protocol and international organizations to cooperate in [its] implementation.” ^{72/} There is currently one SPAMI that includes international waters, the Pelagos Sanctuary for marine mammals (approximately 53 per cent of its 87,000 km² lies in international waters). Initially established by a tripartite agreement among France, Italy and Monaco in 1999, it was accepted as a SPAMI in 2001. ^{73/}

3. *South Pacific*

73. The 1986 Convention for the Protection of Natural Resources and Environment of the South Pacific Region includes certain areas beyond national jurisdiction that are completely enclosed by 200-nautical-mile exclusive economic zone. While no protocol on protected areas has been adopted, the Convention itself provides for establishment of specially protected areas and protection of wild flora and fauna, either individually or jointly by the Parties. Parties are to prohibit or regulate any activity likely to have adverse effects on the species, ecosystems or biological processes that such areas are designed to protect. ^{74/}

4. *Antarctica and the Southern Ocean*

74. The 1959 Antarctic Treaty comprises a vast area of ice-covered continent and surrounding seas south of latitude 60 degrees south. Some States parties claim Antarctic territory (and offshore zones) and other States parties do not recognize these claims, but under the Antarctic Treaty decisions taken by the Parties do not prejudice either view. Thus, different parties hold different views as to the extent of marine areas beyond national jurisdiction, with some believing that these begin at the edge of the continent and its ice shelves. States essentially deal with activities on a flag-State basis, with oversight by meetings of the Parties.

75. A Protocol on Environmental Protection was adopted in 1991, which is supplemented by five annexes. Annex I establishes environmental impact assessment procedures applicable to each Party’s activities under the Antarctic Treaty, such as scientific research, tourism, and related logistic support. If the activity is deemed likely to have more than a minor or transitory impact, a comprehensive environmental evaluation is subject to review at a meeting of the Parties before the activity may proceed. Annex II deals with conservation of Antarctic fauna and flora.

^{71/} Article 8.2.

^{72/} Article 28.1.

^{73/} T. Scovazzi, note 1 at 10-15; G.N. di Sciara, T. Scovazzi & P. van Klaveren, “The International Sanctuary for Mediterranean Marine Mammals,” *Towards a Strategy for High Seas MPAs*, note 1 at annex 6.

^{74/} Article 14.

76. The system of protected areas in Antarctica, initiated by the 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora, was consolidated and expanded in annex V (Area Protection and Management). Provisions for establishing *marine* protected areas were first agreed in 1987 ^{75/} and form part of this system. Annex V provides for two categories of protected areas, Antarctic “specially protected areas” (ASPAs) to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, or ongoing or planned scientific research; and Antarctic “specially managed areas” (ASMAs), to assist in the planning and coordination of activities in congested areas where conflicts of use may arise, or to minimize cumulative environmental impacts. ASMAs may contain one or more ASPA. Marine areas may be included in either category, but no marine area may be designated without the prior approval of the Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), the decision-making body under the Antarctic regional fisheries management organization. (The Commission may also propose areas for either protected status.) A management plan approved by the parties sets out the area description and objectives of designation, and it identifies zones within the area in which activities are to be prohibited, restricted, or managed in order to achieve the objectives.

77. Annex V lays the groundwork for a comprehensive system of marine protected areas, including baseline preservation areas, representative areas, scientific research sites, unique habitats, and other areas with outstanding values. According to article 3.2, Parties are to seek to identify, within a systematic environmental-geographical framework, and to include in a series of ASPAs:

- (a) Areas kept inviolate from human interference;
- (b) Representative examples of major terrestrial and marine ecosystems;
- (c) Areas with important or unusual assemblages of species, including major colonies of breeding native birds or mammals;
- (d) The type, locality or only known habitat of any species; and
- (e) Other areas of outstanding value or of particular interest to ongoing or planned scientific research, and examples of outstanding geological, glaciological or geomorphological features.

78. To date, six ASPAs have been established that are fully marine. In addition there are ten partially marine ASPAs and one partially marine ASMA. One partially marine site and a second marine site are also protected by CCAMLR conservation measures and form part of CCAMLR’s ecosystem monitoring program. Of the fully marine ASPAs, the two largest are in Western Bransfield Strait (900 km²) and Eastern Dallman Bay (580 km²). Both these sites have benthic fauna of particular scientific interest that are accessible to scientists for benthic trawling. ^{76/} Further study of the management plan for each area would be needed to analyse the specific protections applied.

79. As noted above, the Antarctic and Southern Ocean has been designated a Special Area under MARPOL 73/78. Annex IV of the Protocol incorporates the more stringent discharge restrictions of Special Area designation with respect to pollution from oil, noxious liquid substances, and plastics and garbage. The Parties to the Protocol are committed to ensuring consistency with MARPOL 73/78 as it is amended or new regulations are adopted. Annex IV governs not only ships flying the flags of States Parties to the Protocol but also, through the Parties, any other ship engaged in or supporting the Antarctic operations of a Party while that ship is operating in the Treaty area. In addition, annex III contains strict requirements regarding waste disposal at sea in the Antarctic Treaty area, prohibiting disposal of certain materials that must be removed from the Treaty area.

^{75/} ATCM Recommendation XIV-6.

^{76/} S. Grant, “Summary Table of Current and Proposed Antarctic Marine Protected Areas,” Scott Polar Research Institute, University of Cambridge, January 2004, smg40@cam.ac.uk. An additional multiple use planning area in the Palmer Archipelago adopted voluntarily in 1991 (app. 1532 km²) has no current status as a protected area.

B. Regional fisheries management conventions

80. The regional fisheries management conventions generally establish a commission or organization of States parties to administer the agreement, known as regional fisheries management organizations (RFMOs). ^{77/} There are 15 regional fisheries management organizations with full responsibility to agree on binding conservation and management measures (see annex III below). ^{78/} Most cover only areas beyond national jurisdiction, although a few cover also areas within national jurisdiction, and three cover only areas within national jurisdiction. Five of these bodies have competence over most or all living marine resources within their area of application, while the others have competence only with respect to particular species like tuna or salmon. In some high-seas areas where fisheries take place there is no regional fisheries management organization (e.g., the South-Western Indian Ocean).

81. The scope of each regional fisheries management organization's conservation responsibility varies with the terms of the corresponding agreement; that is, where some are mandated to develop measures based on an ecosystem approach (e.g., CCAMLR ^{79/}), others focus more narrowly on managing target fishery resources without express concern for effects on non-target species or habitat or for other stresses on the resources. The more recently concluded agreements like those for highly migratory species of the western and central Pacific and for the South-East Atlantic tend to reflect the forward-looking ecosystem and precautionary approaches of the United Nations Fish Stock Agreement. The Convention for the Establishment of an Inter-American Tropical Tuna Commission (IATTC) was revised in 2003 to incorporate many of the principles and the precautionary approach of the United Nations Fish Stock Agreement for the Establishment of the General Fisheries Commission for the Mediterranean, revised in 1997, also provides for application of the precautionary approach of the United Nations Fish Stocks Agreement. Other early agreements predate UNCLOS and do not even reflect its incipient ecosystem approach, let alone the ecosystem and precautionary approaches of the United Nations Fish Stocks Agreement.

82. A full summary of the specific conservation and management measures adopted by each regional fisheries management organization is beyond the scope of this paper, but several points should be highlighted:

(a) Most regional fisheries management organizations are subdivided into smaller geographic zones (fisheries management units) for purposes of regulation, which means that requirements, for example, to use or prohibit certain types of gear, to restrict harvesting at certain depths, or to undertake carefully managed exploratory fishing (see below) may be confined to these subdivisions and thus, *de facto*, protect particular marine areas from certain types of fishing activities;

(b) Conservation measures available to regional fisheries management organizations include closed areas and seasons; that is, areas placed off limits to fishing ("no-take") on a permanent or temporary basis, or off limits either for particular target species or for all target species. Some measures may be temporary until, for example, further surveys are carried out and scientific advice is received, or

^{77/} There are some 30 regional fishery bodies, some of which have been established under the FAO Constitution and others independently by States Parties. Some of these agree on conservation and management measures, while others provide scientific and management advice only. The FAO bodies may be established either under Article VI or Article XIV of the FAO Constitution.

^{78/} General obligations for the conservation and management of marine living resources under UNCLOS and the United Nations Fish Stocks Agreement are also binding, but it can be difficult to challenge national measures as inadequate without reference to more specific measures such as catch and gear restrictions.

^{79/} Article II.3 of CCAMLR establishes certain principles with which any harvesting and associated activities within the Convention area must accord. These include maintaining ecological relationships between harvested, dependent and related populations of Antarctic marine living resources; restoration of depleted populations to defined levels; and preventing changes or minimizing the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem, and the effects of environmental changes.

to allow stock recovery. Others may be long-term, for example to protect fish spawning grounds and/or juvenile life-history stages. Under CCAMLR, closed seasons/areas have also been used to avoid by-catch of seabirds ^{80/} or fish ^{81/} by particular fisheries, including “move on” rules - when vessels have to leave a particular small-scale research unit within a larger area once they reach a specified fish by-catch limit;

(c) Some regional fisheries management organizations, for example CCAMLR, provide more explicitly for the designation of special areas for protection and scientific study. ^{82/} As noted in the discussion of the Antarctic Treaty’s protected areas system, two marine sites have been designated as part of the CCAMLR ecosystem monitoring programme;

(d) A number of regional fisheries management organizations in recent years have adopted measures to avoid incidental impacts on seabirds, marine turtles, marine mammals, and non-target fish species. These include CCAMLR requirements that longlines be set at night or offal discharge prohibited during line-setting because it attracts seabirds, the IATTC Agreement to reduce and ultimately eliminate dolphin bycatch in purse seine fisheries, as well as bycatch measures to protect sharks and marine turtles; and ICCAT measures regarding bycatch of seabirds and sea turtles;

(e) In order to protect seafloor ecosystems, CCAMLR has prohibited use of bottom trawls in certain demersal fisheries. In November 2004, the NEAFC closed five seamounts and a section of an oceanic ridge on the high seas to bottom trawling and other types of bottom fishing for three years, in order to protect vulnerable deepsea habitats; ^{83/}

(f) CCAMLR pioneered the concept of new and exploratory fisheries. The goal is to carefully design and monitor these fisheries so that they develop gradually and only as sufficient information becomes available to make well-founded judgments about potential sustainable yield and the potential impacts of the fishery on other ecosystem components. Such fisheries are authorized pursuant to a detailed data-collection plan prepared by the Scientific Committee, which identifies information necessary for well-founded advice on appropriate catch and effort limits and any gear restrictions. A precautionary catch limit is set that is not substantially above that necessary to obtain the required information, and a scientific observer is required on each vessel. Restrictions may be placed on catch, fishing location and fishing effort, and the fishery may be controlled to test different fishing models like particular gear and practices or closed areas and seasons. ^{84/} In order to develop information on seafloor species, the data collection plan may specify that samples be taken in the vicinity of the commercial trawl track; and in order to reduce seafloor impacts it may limit the total number of bottom trawls, the number per location, and the distance separating bottom-trawl locations. ^{85/}

C. *Species conventions*

1. *Agreements under the Convention on Migratory Species*

83. Four of the regional Agreements developed under the Convention on Migratory Species (CMS) cover areas beyond national jurisdiction. Two focus on small cetaceans and the other two on migratory waterbirds and seabirds, respectively. Two additional non-binding memoranda of understanding (MOUs) cover marine turtles but are not considered here (see annex III below).

^{80/} For example, CCAMLR Conservation Measures 41-02 and 41-09 (2002), available at www.ccamlr.org.

^{81/} For example, CCAMLR Conservation Measures 33-01 (1995) and 33-02 and 33-03 (2002), all for toothfish fisheries.

^{82/} Article IX.2.g.

^{83/} NEAFC Press Release, 15 November 2004, available at www.neafc.org.

^{84/} Conservation Measure 21-02 (2002), first adopted in 1993 as Measure 65/XII.

^{85/} Conservation Measure 43-04 (2003), as referenced in M. Gianni, *High Seas Bottom Trawl Fisheries and Their Impacts On the Biodiversity of Vulnerable Deep-Sea Ecosystems*, (WWF, CI, NRDC, IUCN, 2004) at note 221, available at www.iucn.org/themes/marine.

84. The general scope of these Agreements is described in the section above on global legal instruments. In terms of protecting marine areas beyond national jurisdiction, their value lies in the obligations of range States to protect any high seas habitat of the migratory species concerned. This is likely to be relevant primarily for small cetaceans and seabirds, as waterbird habitat is generally closer to shore, within national jurisdiction. For this reason, and because its habitat obligations refer to areas within national territory, the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) is not considered further in this study.

85. In decision VII/28, annex, activity 1.3.7 of the programme of work on protected areas under the Convention on Biological Diversity suggests that the Executive Secretary should review the potential for regional cooperation under the Convention on Migratory Species with a view to linking protected area networks across international boundaries and potentially beyond national jurisdiction through establishment of migratory corridors.

86. ASCOBANS: The Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS) covers some areas beyond national jurisdiction in the North Sea. The Parties agree to cooperate to achieve and maintain a favourable conservation status for small cetaceans in the region. An annex contains the conservation, research, and management measures to be applied by Parties, in conjunction with other competent international bodies. These include investigations to locate areas of special importance to the breeding and feeding of small cetaceans, study of habitat requirements and interactions with other species, and studies of the effects of pollution, disturbance, and interactions with fisheries and means to reduce such interactions. 86/

87. ACCOBAMS: The Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) undertake to adopt measures prohibiting large-scale driftnets on their fishing vessels. This effectively bans Parties from using this equipment in the whole of the regional area to which the Agreement applies. The Parties must also endeavour to establish and manage specially protected areas that serve as habitat or provide important food resources for cetaceans. These should be established with the framework of the Mediterranean Regional Sea agreement and protocol (see section III.A above) or other appropriate instruments. 87/

88. ACAP: Under the Agreement on the Conservation of Albatrosses and Petrels (ACAP), both foraging and migratory habitat is to be conserved in support of the species, including ensuring the sustainability of marine living resources that are their food sources and avoiding harmful pollution (and debris) from ships and other sources in these areas. 88/ The Agreement is meant to cover 25 range States of the Pacific and Southern oceans.

2. *The 1972 Convention for the Conservation of Antarctic Seals (CCAS)*

89. Although sealing does not currently take place in the Antarctic Treaty area, the 1972 Convention for the Conservation of Antarctic Seals governs sealing there and provides for closed seasons, closing of six zones during the sealing season, and establishment of three seal reserves off limits to any sealing because they are breeding areas or the site of long-term scientific research. 89/

86/ Annex (Conservation and Management Plan).

87/ Annex 2 (Conservation Plan).

88/ Annex 2 (Action Plan).

89/ Annex to the Convention, articles 4 and 5.

IV. THE ADEQUACY OF THE EXISTING LEGAL FRAMEWORK FOR ESTABLISHMENT OF MARINE PROTECTED AREAS IN MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION

90. In considering the adequacy of the existing legal framework for establishing marine protected areas beyond national jurisdiction, it is useful to put this in the context of decision VII/5 of the Convention on Biological Diversity. This calls for effectively managed and ecologically based marine protected areas that contribute to a global network, building on national and regional systems. The marine protected areas are to include different levels of protection where human activities are managed through national legislation, regional programmes and policies and international agreements. Their purpose is to maintain the structure and functioning of the full range of marine and coastal ecosystems. Specifically in relation to marine protected areas in areas beyond national jurisdiction, the Conference of the Parties, in paragraphs 29-31 of that decision:

(a) Noted that there are increasing risks to biodiversity in marine areas beyond national jurisdiction and that marine protected areas are extremely deficient in purpose, numbers and coverage in these areas;

(b) Agreed that there is an urgent need for international cooperation and action to improve conservation and sustainable use of biodiversity in these areas, including establishment of further marine protected areas consistent with international law, and based on scientific information, including areas such as seamounts, hydrothermal vents, cold-water corals and other vulnerable ecosystems; and

(c) Recognized that the law of the sea provides a legal framework for regulating activities in marine areas beyond national jurisdiction and requests the Executive Secretary of the Convention on Biological Diversity to support any work of the United Nations General Assembly in identifying appropriate mechanisms for the future establishment and effective management of marine protected areas beyond national jurisdiction.

91. It is recognized that marine protected areas are a tool to help achieve conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction, and that in any decision to establish marine protected areas their utility would first have to be evaluated in relation to other available tools.

92. In view of the recognition by the Parties to the Convention on Biological Diversity that marine protected areas beyond national jurisdiction are extremely deficient in purpose, numbers and coverage, the present section first raises certain questions relating to goals and scale that may need to be considered in establishing marine protected areas and networks beyond national jurisdiction. It then reviews the adequacy of the legal framework for their establishment.

A. Issues relating to goals and scale

93. The goal of marine protected areas is generally to conserve the biological diversity and productivity (including ecological life support systems) of the oceans. Effectively managed marine protected areas contribute to the protection of biodiversity, especially critical habitat and genetic diversity. They are generally viewed as an important component in an ecosystem approach to fisheries. In addition, marine protected areas can safeguard representative types of marine ecosystems of adequate size to ensure their long-term viability. They can also contribute to increased knowledge through scientific research and help protect cultural diversity.

94. The term “marine protected area” in the present study, as noted in the introduction, conforms with the definition referenced in paragraph 10 of decision VII/5 of the Conference of the Parties to the Convention on Biological Diversity and reproduced in footnote 1 above. It refers to provisions in a variety of global and regional agreements that, for a defined geographic marine area beyond national jurisdiction, afford a higher level of protection to its biodiversity than in the waters and/or seabed surrounding the area. The protection may be in relation to one particular type of threat such as fishing, or in relation to more than one type of threat. Decision VII/5 also notes that this definition incorporates all

of the IUCN categories of protected areas, which provide for different levels of protection and represent a continuum from stricter protection to regimes designed for sustainable resources use. These are:

- Category Ia – Strict nature reserve (managed mainly for science);
- Category Ib – Wilderness area (managed for wilderness protection);
- Category II – National park (managed mainly for ecosystem protection and recreation);
- Category III – Natural monument (managed mainly for conservation of specific natural or cultural features);
- Category IV – Habitat/species management area (managed mainly for conservation through management intervention);
- Category V – Protected landscape/seascape (managed mainly for landscape/seascape conservation and recreation); and
- Category VI – Managed resource protected area (managed mainly for sustainable use of ecosystems).

95. The definition noted in decision VII/5 also refers to a marine area, together with its overlying waters and associated flora, fauna, and historical and cultural features. It may be reserved by legislation or other effective means, including custom. ^{90/} This means that the marine protected area should cover not only the seabed but also at least some of the water column above with its flora and fauna, and that marine protected areas are not just relevant for natural features but may also protect cultural features such as wrecks and their associated biodiversity. Moreover, while a marine protected area usually has some form of legal protection, there are other options such as custom. ^{91/}

96. The scale of designations of marine protected areas is affected by two challenges arising from their aquatic environment. The first is the mobility of threats; that is, pollution or other threats arising from activities outside the marine protected area may have harmful effects within it. For marine protected areas beyond national jurisdiction, these effects may arise from: (i) activities within national jurisdiction subject to coastal state authority, including activities on the continental shelf beyond 200 nautical miles (e.g. oil development); (ii) the exercise of certain high-seas freedoms by all States within zones subject to coastal State jurisdiction (e.g., pollution from ships); ^{92/} or (iii) activities beyond national jurisdiction.

97. The second challenge is the mobility of marine species. While some species like sea turtles, marine mammals and certain fish are highly migratory, others may disperse larvae at a certain stage of their life cycle that range far from later feeding and breeding areas. Both require a systematic approach to habitat protection throughout their range, linking different habitat areas into networks and corridors of larger, often regional scale. ^{93/} For many species found beyond national jurisdiction, this will involve also areas within national jurisdiction.

98. In moving from individual marine protected areas to establishing networks of such areas, two approaches have been suggested within national jurisdiction, both of which are meant to occur within an effective programme of ecosystem management. Networks may comprise either many relatively small

^{90/} This draws on an IUCN definition of an MPA as “any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment”. See *Guidelines for Protected Area Management Categories*. IUCN Commission on National Parks and Protected Areas with the assistance of the World Conservation Monitoring Centre, IUCN (1994), Cambridge, UK and Gland, Switzerland. See also IUCN General Assembly Resolutions 17.38 (1988) and 19.46 (1994).

^{91/} See also *Guidelines for Marine Protected Areas*, G. Kelleher, ed., IUCN, Gland, Switzerland, and Cambridge, UK, WCPA (1999) at xviii.

^{92/} In the EEZ, all States enjoy freedoms of navigation and overflight, the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms; subject, of course, to the relevant provisions of UNCLOS (UNCLOS, Article 58).

^{93/} C.V. Barber, Action Guide to the COP-7 Programme of Work on Protected Areas (Draft for Comment), November 2004, available at www.biodiv.org/doc/reports/pow-guide-draft-en.pdf.

sites, each strictly protected; or fewer large-scale multiple-use areas encompassing a complete marine ecosystem or a large part thereof and containing strictly protected areas within them. Thus, different degrees of protection may be provided within a single area; indeed, most large marine protected areas are of necessity zoned into areas of different impact and usage. In addition, in view of the inter-connectivity of the oceans and land/sea linkages, marine protected areas should be integrated within other management regimes that deal with all human activities affecting marine life. ^{94/} The ecosystem approach provides a framework for integrating marine protected areas into broader surrounding seascapes and regulatory environment(s), including in areas beyond national jurisdiction.

99. Several questions arise in contemplating the establishment of systems and networks of marine protected areas beyond national jurisdiction:

(a) First, in considering the risks to marine biodiversity in areas beyond national jurisdiction, what criteria and procedures are in place to evaluate which are the most appropriate tools and mechanisms for the conservation and sustainable use of biodiversity in these areas and to determine priorities?

(b) Are the goals of marine protected areas for areas beyond national jurisdiction adequately defined? What is the biogeographic framework within which marine protected area designations should take place? A single articulation of goals for marine protected areas beyond national jurisdiction is likely to facilitate their establishment -- through the existing legal framework and any new developments. Goals and criteria established for the Mediterranean SPAMIs or under OSPAR may already be sufficient, ^{95/} but there may be some benefit in developing an agreed set of goals and criteria for marine protected areas beyond national jurisdiction at the global level;

(c) Does the definition of a marine protected area need to be refined to better encompass open ocean areas and the deep seabed often miles below the surface; for example, in what circumstances may it be appropriate to designate areas where protections may apply solely to the seabed, solely to the water column, or solely to the water column to a certain depth? For example, within national jurisdiction Australia has closed specific seamount areas to fishing below a certain depth. The General Fisheries Commission for the Mediterranean decided in February 2005 to permanently close the Mediterranean and Black seas below 1000 metres to bottom trawling, effective June 2005. Most of the closure applies to Mediterranean high seas; ^{96/}

(d) Should these goals be accomplished through numerous small-scale designations, fewer large-scale designations, or a combination of the two?

(e) Should temporal protection apply? That is, may protective measures be applied on a seasonal basis, or for defined periods of time subject to renewal, if that adequately accomplishes defined goals? Can dynamic marine protected areas, whose boundaries shift with the movement of oceanographic features or migratory species, be feasibly designed, monitored, and protected?

(f) How could the IUCN categories contribute to the development of marine protected area systems beyond national jurisdiction that build on national and regional systems?

B. The adequacy of the legal framework

100. In order to develop options for cooperation for the establishment of marine protected areas in marine areas beyond national jurisdiction that realize the goals of decision VII/5 for effectively managed and ecologically based marine protected areas that contribute to a global network, building on national and regional systems, it is first necessary to identify gaps and inadequacies.

101. The present section considers:

^{94/} G. Kelleher, G., note 96 at xi.

^{95/} Guidelines and criteria for the evaluation and establishment of MPAs developed under regional conventions that do not cover high seas areas, or under non-binding arrangements, may also be useful for the development of an agreed set for MPAs beyond national jurisdiction; for example, guidelines developed for the Caribbean, OSPAR region or the Arctic.

^{96/} *MPA News*, Vol. 6, No. 9 (April 2005) at 4.

- (a) The adequacy of existing protections vis-à-vis different human activities: existing competence to regulate and existing regulations and their coverage of vulnerable areas and threats;
- (b) The adequacy of the geographic coverage of existing protective arrangements;
- (c) The adequacy of the scope of existing protective arrangements;
- (d) The adequacy of participation by all relevant States and coordination between relevant international institutions; and
- (e) The adequacy of high seas enforcement.

102. It concludes with a summary of the major gaps.

- 1. *The adequacy of existing protections vis-à-vis different human activities: existing competence to regulate and existing regulations and their coverage of vulnerable areas and threats*

103. The adequacy of existing instruments for identifying and protecting priority biodiversity areas may be considered: (i) vis-à-vis current human activities/threats and (ii) vis-à-vis emerging human uses and new activities. Moreover, as considered in the preceding sections, while the mandate to identify and protect such areas generally exists in some form under these instruments, effective measures to give effect to this mandate in areas beyond national jurisdiction are limited. In most cases, protected-area designations have been reactive rather than proactive; that is, the effort to identify priority biodiversity areas beyond national jurisdiction, and the scientific means to do so, are relatively recent. At the same time, growing concern over impacts on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction has only emerged during the last few years.

104. Existing protected areas in marine areas beyond national jurisdiction, as discussed in the preceding sections, cover specific activities. They are limited to two whaling sanctuaries in the Indian and Southern oceans under the International Whaling Convention; with respect to vessel-source pollution, two Special Areas under MARPOL 73/78 in the Southern Ocean and the Mediterranean (although the Mediterranean Special Area is not in effect); one SPAMI serving as a marine mammal sanctuary under the Mediterranean regional seas convention; six fully marine protected areas under the Antarctic Treaty (and, in some cases, CCAMLR) and additional sites that are partially marine; three seal reserves under the Antarctic Seals Convention and additional seasonal closings; and an unknown number of closed areas and seasonal closures, as well as other types of area-based conservation measures, under various of the regional fisheries management organizations.

105. Regarding mandates, of the list of activities in the table on page 46 below, international shipping, whaling, and activities in the Area ^{97/} are already covered by detailed global instruments. There is also a global Convention on the Protection of the Underwater Cultural Heritage (not yet in force). All provide for a higher level of protection in particular, defined geographic areas. This does not mean that steps taken to identify and protect vulnerable areas and ensure the conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction are adequate, just that legal frameworks and mechanisms exist. With respect to fisheries, although detailed global and regional instruments exist, there are also certain gaps, as noted below.

106. The mandate of the International Seabed Authority is noted above. It must adopt appropriate rules and regulations before activities in the Area proceed. This includes regulations to control pollution and to protect and conserve natural resources of the Area and prevent damage to flora and fauna of the marine environment from minerals activities. Whether the regulations already adopted will be effective in these respects has not yet been adequately tested.

^{97/} Even though the International Seabed Authority has not yet adopted rules and regulations for the exploitation phase of minerals activities, or for all types of minerals activities, it has the mandate to do so if and when interest emerges in their development.

107. High seas freedoms like fishing or shipping may proceed in the absence of any regulations; the activities only become subject to conservation and management or environmental protection measures as these are agreed internationally (or are imposed by flag State authorities on ships flying their flag). As discussed in section III.B above, regional fisheries management organizations have not yet been established in certain high seas areas where fisheries take place, so no agreed conservation and management measures are in place. Moreover, the measures adopted by certain existing regional fisheries management organizations do not yet reflect a broader ecosystem approach. In addition, there is growing awareness of discrete high seas fish stocks associated, for example, with seamounts. This was not well known when UNCLOS and the United Nations Fish Stocks Agreement were concluded. While all high-seas living resources are covered by UNCLOS provisions, the United Nations Fish Stocks Agreement covers only straddling stocks and highly migratory stocks, not discrete stocks. ^{98/}

108. The new IMO Convention on ballast water and sediments (see section II.F.3 above), by concentrating ballast water discharges in areas beyond national jurisdiction, may increase alien species introductions harmful to high-seas species and ecosystems. Further initiatives may be needed in order to identify and protect priority biodiversity areas before potentially damaging activities proceed.

109. Cultural heritage locations beyond national jurisdiction remain subject only to the general obligations of UNCLOS until the UNESCO Convention enters into force. ^{99/} According to deep-sea explorer Robert Ballard, “The deep sea is a museum. It contains more history than all of the museums of the world combined and yet there’s no laws covering a vast majority of it....We need...international cooperation to preserve ...the cultural history of our cultures through time.” ^{100/}

110. Potential threats posed by anthropogenic noise, marine scientific research, the laying of undersea cables, and bioprospecting have not yet been addressed at the global level except under the general UNCLOS obligations to protect and preserve the marine environment. Because these emerging activities are not yet subject to more detailed regulation in areas beyond national jurisdiction, there is no agreed means for establishing special protections for defined geographic areas from these activities. ^{101/} Some emerging threats, such as noise pollution from ships, may fall within the regulatory competence of an existing organization (IMO); ^{102/} for others, the competent international organization is not clear. Any consideration of measures to address these activities should take into account the time frame in which they are likely to intensify and the relative magnitude of the threats and risks posed by each.

2. *The adequacy of geographic coverage*

111. The instruments governing shipping and activities in the Area are applicable to all areas beyond national jurisdiction. To date there have been few actual designations of protected marine areas beyond national jurisdiction under the shipping instruments, and none by the International Seabed Authority because exploitation activities have not yet commenced.

112. The regional-seas agreements cover very limited areas beyond national jurisdiction. As noted above, there have been a few marine protected area designations in the Antarctic Treaty area and one in the Mediterranean that include areas beyond national jurisdiction.

^{98/} The non-applicability of the United Nations Fish Stocks Agreement to discrete high seas fish stocks is noted in a recent FAO paper on Deep Sea Fisheries (COFI/2005/6) at para. 23.

^{99/} See note 58 above.

^{100/} NOAA Media Briefing at G8 Summit, World Oceans Day, Savannah, Georgia at <http://fpc.state.gov/33310pf.htm>.

^{101/} Under the 2003 OSPAR Strategy for Protection of the Marine Environment, note 66, the section on biological diversity and ecosystems calls for assessment of the placement of cables and pipelines, including “an assessment of the scope for action under other international laws” (I.2.2.d.vi).

^{102/} IUCN’s Third World Conservation Congress in November 2004 adopted Resolution 53 calling for IMO members to work through MARPOL 73/78 and other relevant instruments to develop mechanisms for the control of undersea noise.

113. As for regional fisheries management organizations, while together they cover large areas beyond national jurisdiction, much of this coverage is limited to particular target species like tuna and salmon. Only five conventions cover all or most species within their geographic area, which excludes the Pacific and Indian oceans and a large section of the southern Atlantic Ocean. As noted, many of these instruments do not provide for non-target species and associated habitat conservation based on an ecosystem approach. While a complete study of the regional fisheries management organizations' conservation and management measures is beyond the scope of this study, it appears that even where a broader mandate exists, few measures have been adopted to give effect to it. A survey of closed areas/seasons and their many uses, and the extent of their geographic coverage, remains to be done. A further geographically-based analysis of area-based restrictions on fishing activities would be useful.

3. *The adequacy of scope: a specialized and/or integrated approach to marine protected areas*

114. At the global level, the existing legal framework for conserving biodiversity in defined geographic areas beyond national jurisdiction is restricted to specialized agreements that address specific activities such as shipping, fishing, or activities in the Area. Beyond the general mandate of UNCLOS, there is no global agreement encompassing the broader concept of protecting these vulnerable marine areas *per se* in order to achieve the marine protected area and network goals ^{103/} noted above. Nor, outside the general obligations of UNCLOS, is there a means to identify and assess potential threats to these areas from high seas activities (as opposed to activities in the Area) in advance, in order to protect the areas *before* the activities pose threats (with the exception of the London Convention, see section II.F.4 above).

115. Under the regional seas agreements that provide for establishing marine protected areas beyond national jurisdiction, several activities may be subject to regulation in order to safeguard marine protected area values. This facilitates a more integrated approach to protecting these values and allows for designation of multiple-use marine protected areas that can encompass also emerging activities that may threaten the area in the future. Yet the regional-seas agreements cover only limited areas beyond national jurisdiction.

116. The availability of specialized regimes that allow certain areas to be designated for a higher level of protection is useful if an area is especially threatened by only one activity. The value-added of multiple-use marine protected areas lies in areas threatened, or likely to be threatened, by more than one activity. Moreover, by identifying priority biodiversity areas early on, their ecological and representative values and their contributions to a global network can be ensured even as the intensity and range of human activities beyond national jurisdiction continues to grow. At the same time, coordination among different legal instruments will likely remain necessary, as considered in paragraphs 118-122 below.

117. From the perspective of each type of user (e.g., fishers, ship operators, cable layers), it will likely be preferable to have a unified set of measures and the areas in which they apply, which can be easily and quickly accessed. A single, specialized instrument could draw together relevant measures and areas in a unified code linked to nautical charts. This would include measures affecting that particular use in any multiple-use marine protected areas beyond national jurisdiction.

4. *Participation by relevant States and high-seas freedoms: coordination between relevant international institutions*

118. Most States are parties to the global instruments governing shipping (IMO) and activities in the Area (UNCLOS and the 1994 Part XI Agreement). Participation in the United Nations Fish Stocks Agreement and FAO Compliance Agreement is more limited (see annex I below). In the case of regional instruments regulating fishing activities and regional fisheries management organizations, some States have not adhered to the relevant instruments in areas where they are fishing and do not conduct their

^{103/} T. Scovazzi, note 1 at 10.

fishing operations in a manner that is consistent with the measures adopted by the regional fisheries management organization, as required by the United Nations Fish Stocks Agreement. This is “unregulated” fishing as defined in the FAO International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (see annex II below). (For non-compliance with applicable rules (“illegal” activities), see paragraphs 119-121 below.) When some of the States fishing a particular stock do not observe these measures, they undermine their effectiveness.

119. With the Regional Seas agreements, most coastal States adhere to the relevant agreement (below). At the same time, any marine protected area regulations agreed among the Parties of a regional agreement do not bind non-Parties. Thus, impacts on marine biodiversity caused by non-Parties, such as overfishing, entanglement in fishing nets, or ships’ discharges, are not subject to regulations established under the Regional Seas agreements. (They may be subject to regulations established by regional fisheries management organizations or IMO instruments.) To address this problem, the regional-seas agreements may invite participation by non-Parties, as in the case of the Mediterranean noted above, but they cannot command it. Similarly, where another international agreement governs a particular high-seas activity in the region, the regional-seas body can seek to coordinate with the relevant institution (e.g. regional fisheries management organization or the IMO); it can encourage these bodies to incorporate protections for a designated area into their own measures on fishing or shipping. ^{104/} If many of the same States are parties to both agreements, they can prepare coordinated proposals for complementary protective measures in the different bodies. This mode of proceeding is currently engaged in the North-East Atlantic, where the Parties to OSPAR are seeking to work with the NEAFC in identifying and protecting cold-water corals; further coordination may be required within the European Commission. A recent report on the impact of fisheries on the marine environment indicates that the system of coordination in the North-East Atlantic may be flawed, as the fisheries bodies lack a mandate for biodiversity conservation and protection and have been slow to implement the ecosystem approach. ^{105/}

120. Under the Convention on Migratory Species and its Agreements, conservation is also undermined if all the range States do not join the Agreement (annex III). This Convention and its Agreements also seek coordination with other bodies to address impacts by non-Parties and governed by other international agreements; for example, to reduce bycatch through the competent fisheries bodies, or marine pollution within the framework of other appropriate legal instruments (e.g., IMO instruments vis-à-vis shipping).

121. Such coordination can also work in reverse. CMS/ACAP Parties must adopt, in relation to fishing activities within the area of regional fisheries management organizations, measures at least as stringent as those agreed by the relevant regional fisheries management organization for reducing the incidental taking of albatrosses and petrels. ^{106/} In the Antarctic, as noted above, marine protected area provisions under annex V of the Protocol require prior approval by the CCAMLR Commission, which effectively gives the Commission a decisive role in establishing marine protected areas in the region.

122. In all cases, however, this type of coordination can extend the threshold level of protection adopted under one agreement to other States not party to that agreement.

5. *The adequacy of high-seas enforcement*

123. A further problem is failure to comply with applicable rules. The problem of “flag of convenience” vessels is briefly noted above (section II.A.1). Other vessels are rendered “stateless” by illegally flying flags for which they have not registered. All of these are “free riders” that often avoid the

^{104/} In this regard, United Nations General Assembly resolution 59/25 (para. 56), adopted 17 November 2004, encourages improved cooperation between regional fisheries management organizations and other regional entities, such as the UNEP regional seas programmes and conventions. Similar encouragement is reflected in numerous other international documents.

^{105/} *Turning the Tide – Addressing the Impact of Fisheries on the Marine Environment*, Royal Commission on Environmental Pollution, 25th Report, December 2004 at 253, available at www.rcep.org.uk/fishreport.htm.

^{106/} Article XIII.2.

burdens of IMO regulations or fish in a manner inconsistent with the measures adopted by a regional fisheries management organization. The inadequacies of high-seas enforcement are manifest in a wide range of illegal activities at sea (e.g., pollution discharges, dumping, fishing, trafficking in drugs or migrants). Solutions to this larger problem will need to be dealt with as a whole and are beyond the scope of this paper. They include strengthening both flag and port State enforcement, further development of regional enforcement arrangements, further use of agreed at-sea boarding and inspection schemes as set out in the United Nations Fish Stocks Agreement, and systematic use of modern information and communications technologies to identify and track illegal activities (see sections II.A.1 and II.C above).

124. A further problem is that noted in point 4 above; that unless States participate in the legal arrangements establishing high-seas marine protected areas, they are not bound by them. While the mechanisms suggested above to broaden participation may be employed, they do not guarantee that all States whose activities may impact the designated area will join in observing protective measures.

125. The deficiencies and difficulties of high seas enforcement are likely to have already had adverse effects on high seas areas designated for protection under one or another existing international instrument, although no systematic study of this problem has been undertaken. High-seas sites designated for protection in the future would be subject to similar concerns. At the same time, certain existing and emerging tools available for high seas enforcement offer opportunities to improve compliance with any marine protected area designations beyond national jurisdiction (see section VI.8above).

6. *The gaps*

126. **High-seas fisheries.** The most striking inadequacy in the existing legal framework for establishing marine protected areas beyond national jurisdiction vis-à-vis existing threats to priority biodiversity areas is in relation to impacts from certain types of high-seas fisheries. Much of the oceans (Pacific and Indian oceans and parts of the south Atlantic) are not covered by regional fisheries management organizations with the legal competence to regulate high seas bottom fisheries or the impacts of bottom trawling. Most existing regional fisheries management organizations have not adopted measures giving effect to an ecosystem approach for conserving non-target species and habitat. Inadequate compliance and enforcement undermines current fisheries conservation and management measures. While a number of measures are available to establish area protections from fisheries impacts (see section III.B above), few have been widely employed, and effective global oversight of high-seas fisheries conservation and management is lacking.

127. **Emerging and intensifying high seas activities.** The extent and magnitude of threats from marine debris, dumping (whether illegal or historic dumping that preceded entry into force of the London Convention), noise pollution, and bioprospecting are only beginning to emerge, and little is known about threats from the laying of undersea cables. This makes it difficult to judge the adequacy of the existing legal framework.

128. **An integrated marine protected area approach.** The second major gap has to do with achieving an integrated approach to protecting priority biodiversity areas in marine protected areas beyond national jurisdiction from different threats governed by more than one specialized management regime, and in order to encompass also emerging threats for which no specialized regime yet exists. This gap requires enhanced coordination among specialized regimes. In cases where priority biodiversity areas are not under a clear and present threat, they may benefit from proactive recognition that lays the groundwork for management planning. The means to promote and facilitate such coordination and planning seem lacking at both regional and global levels.

129. **A biogeographic framework.** A third gap is a means to coordinate individual marine protected area designations beyond national jurisdiction within a larger ecosystem and biogeographic framework. The lack of such a framework will hinder the development of a more comprehensive approach to integrated ocean management that ensures the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction.

V. COVERAGE OF EXISTING LEGAL INSTRUMENTS IN RELATION TO IDENTIFIED PRIORITY BIODIVERSITY AREAS

130. The scientific research paper on patterns of species richness in the high seas (available on the Secretariat's website) and the related scientific study on biodiversity in marine areas beyond the limits of national jurisdiction (UNEP/CBD/WG-PA/1/INF/1) identifies species richness in different areas of the high seas. Species were grouped into marine invertebrates (e.g. crustaceans, mollusks), fish, reptiles (e.g., sea turtles), seabirds, and marine mammals.

131. The analysis shows that areas of highest species richness and thus priority for conservation of marine biodiversity are located in the tropical Indo-Pacific (Indian Ocean, Tasman Sea, and Western Pacific). Even when non-fish vertebrate species alone are considered (i.e., reptiles, seabirds, and mammals), the Indo-Pacific remains the priority. Additional "hotspots" for non-fish vertebrates are found around seamount areas in the North-West and North-East Atlantic, which overlap with important fishing grounds. Further seamount "hotspots" for all species studied are found in the South Atlantic, within the Southern Ocean convergence zone, and in the Eastern Pacific. High seas areas of the South-West Pacific are another priority area, notably in relation to seabirds. High seas areas of the South-East Pacific outside the Southern Ocean convergence zone are a priority for marine mammal conservation. High seas areas over extended continental shelves are a priority in the North-East Atlantic (invertebrates, fish, marine mammals) and in the North-West Atlantic (invertebrates, fish, seabirds, marine mammals). There follows a brief, preliminary analysis of the coverage of existing legal instruments in relation to the areas identified above.

A. *Global instruments*

132. It is obvious that all of the global instruments considered in this study apply to all of these areas. In most cases, however, they contain only general obligations. More specific global measures applicable to States parties have only been developed under the IMO instruments, the International Whaling Convention, and with respect to prospecting and exploration for certain types of mineral resources of the Area. It is beyond the scope of this study to evaluate whether the measures developed under the IMO instruments (e.g., to control marine debris, oil discharges) are sufficient to reduce impacts to biodiversity from shipping activities in the identified areas. With respect to whaling, the general moratorium on whaling applies throughout the world's oceans to the direct threat of hunting. Regarding prospecting and exploration of minerals associated with seamounts, the rules and regulations are still under development.

133. With respect to the identified area priorities, "special protection" status under existing global instruments is limited to the following:

(a) The whaling sanctuary in the Indian Ocean would appear to be relevant to biodiversity protection in parts of the Indo-Pacific. The whaling sanctuary in the Southern Ocean appears to cover areas of the South-East Pacific outside the Southern Ocean convergence zone, but this would have to be verified through map overlays;

(b) MARPOL 73/78 Special Area status in the Southern Ocean (to reduce pollution from oil, noxious liquid and garbage (debris)) would appear to reduce these types of pollution as a source of impact on seamount biodiversity "hotspots" in the South Atlantic. This is reinforced through annex IV to the Antarctic Treaty Protocol.

B. *Regional instruments*

134. For the *North-West Atlantic*, the only applicable regional instrument is the North-West Atlantic Fisheries Convention, with respect to impacts from fishing. An analysis of the adequacy of the conservation measures adopted pursuant to this convention for biodiversity conservation (specifically, for seamounts and high seas areas over extended continental shelves), including the utilization of closed areas

and seasonal closures, is beyond the scope of this study. Nevertheless, recent reports indicate that they are not adequate. ^{107/}

135. In the *North-East Atlantic*, the applicable regional instruments are the North-East Atlantic Fisheries Convention, the regional seas agreement for the North-East Atlantic, and the CMS Agreement on small cetaceans of the Baltic and North Seas (ASCOBANS). As in the North-West Atlantic, the identified priority areas are seamounts and high seas areas over extended continental shelves. To date, as noted above, no special area protections have been adopted by the OSPAR Commission for high-seas areas, although there has been some consideration of the need for such measures. Further analysis would be needed to determine what special protections governments have adopted pursuant to ASCOBANS that apply to high seas areas. The North-East Atlantic Fisheries Commission (NEAFC) agreed in November 2004 to close five seamounts and part of the Reykjanes ridge on the high seas to fishing for three years to protect vulnerable deepsea habitats. Further analysis of area-based conservation measures adopted by NEAFC has not been undertaken for this study.

136. In the *South-West Pacific*, measures applicable to seabird protection in areas beyond national jurisdiction would be those adopted by the two regional fisheries management organizations in the region regarding seabird bycatch and pursuant to the CMS Agreement on albatrosses and petrels (CMS/ACAP). As noted in section IV.B.4 above, Parties to CMS/ACAP must adopt, in relation to their activities within the area of regional fisheries management organizations, measures that are at least as stringent as those agreed by the regional fisheries management organization for reducing the incidental take of albatrosses and petrels. (There are currently six States Parties to CMS/ACAP. ^{108/}) The two regional fisheries management organizations in the region function under the conventions on Western and Central Pacific highly migratory species (WCPFC) and southern bluefin tuna (CCSBT). Whether existing measures are adequate would require further analysis. The Western and Central Pacific convention only entered into force in 2004 and the Commission has just begun to function.

137. For seamounts in the *South Atlantic within the Southern Ocean convergence zone*, protective measures vis-à-vis fishing impacts (including by-catch) would be available under CCAMLR. If the seamounts in questions also lie within the Antarctic Treaty area, protections might be established under both instruments. Whether CCAMLR measures are adequate would require further analysis. Further measures for seabird protection could be adopted pursuant to CMS/ACAP.

138. For seamount “hotspots” in the *Eastern Pacific*, some of these may fall within the area of the Inter-American Tropical Tuna Commission (IATTC), but some appear to lie outside the area of any regional fisheries management organization. Whether IATTC measures are adequate would require further analysis. For seabird protection, further measures could be adopted pursuant to CMS/ACAP.

139. For the *Western Pacific*, the South Pacific regional-seas convention applies to high-seas areas surrounded by the Parties’ EEZs, which appear to be those identified as priority areas. The WCPFC functions in relation to the conservation and management of highly migratory species, including with respect to bycatch in fisheries (seabirds, sea turtles, marine mammals). Further measures for seabird protection could be adopted pursuant to CMS/ACAP.

140. For the *Indian Ocean*, regional fisheries management organizations function under the Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC) and CCSBT. Whether IOTC (and CCSBT) measures are adequate would require further analysis. Further measures for seabird protection could be adopted pursuant to CMS/ACAP.

141. In the high seas areas of the *Tasman Sea*, WCPFC and CCSBT function, as well as CMS/ACAP. Further analysis would be required to determine whether measures taken are adequate. In late 2004, New Zealand and Australia announced plans to cooperate in managing adverse impacts caused by deepsea

^{107/} See M. Gianni, note 88.

^{108/} Australia, New Zealand, Ecuador, Spain, South Africa, United Kingdom.

bottom trawling on vulnerable marine ecosystems and biodiversity in the Tasman Sea, including in high seas areas. Further discussions will be held in 2005 on a regional management framework for areas beyond national jurisdiction, which might result in a non-binding or a binding agreement. The possibility of interim measures to control bottom trawling is under discussion, including with third countries.

C. The gaps

142. The scientific research paper on patterns of species richness in the high seas identifies fishing as the major existing threat to biodiversity in the areas identified. Potential threats include the development of minerals associated with seamounts. It is beyond the scope of this study to review others' analyses of the location and magnitude of existing threats in the identified areas, notably from fishing and shipping. Further analysis is also needed of specific conservation and management measures adopted by the regional fisheries management organizations identified above and pursuant to CMS/ACAP that apply in the identified priority areas. Nevertheless, it is known that certain fisheries, such as bottom trawl fisheries, are currently unregulated or inadequately regulated in the Indo-Pacific region and South Atlantic. Their regulation in the North Atlantic to date has been inadequate to protect biodiversity. ^{109/} A recent analysis evaluating the effectiveness of seabird by-catch measures taken by regional fisheries management organizations suggests that further work is warranted in most regions. ^{110/} Thus, it is clear there are significant gaps in the adequacy of measures to conserve and use sustainably marine biodiversity in the identified areas, even if a definitive evaluation in relation to existing threats would take further study.

VI. OPTIONS FOR COOPERATION FOR THE ESTABLISHMENT OF MARINE PROTECTED AREAS IN MARINE AREAS BEYOND THE LIMITS OF NATIONAL JURISDICTION

143. In order to realize the goals of decision VII/5 for effectively managed and ecologically based marine protected areas that contribute to a global network, building on national and regional systems, careful analysis will be needed to:

- (a) Identify areas that need protection, and the goals and framework for site selection;
- (b) Identify existing threats to each area, the relative importance of each threat, and the adequacy of existing specialized instruments in addressing these threats, whether through generalized measures or designated special area protections;
- (c) Identify emerging threats and their time frame, and the availability of adequate area protection measures through existing specialized regimes;
- (d) Identify where coordination among specialized instruments and/or any applicable Regional Seas agreement could address existing and emerging threats; and
- (e) Identify where further measures and/or new instruments are needed;
- (f) Identify necessary institutional arrangements.

A related consideration is whether water-column protections need to be supplemented with seabed protections, or vice-versa.

144. In identifying areas that need protection, the full range of goals considered in section IV.A above should be considered, in part to ensure that more than just "current use" values are taken into account. As for current threats, some may argue that marine protected area designations need not be established unless and until threats exist that are likely to impair the values of the area and so that appropriate protective

^{109/} See M. Gianni, note 88.

^{110/} C.J. Small, *RFMOs: Their duties and performance in reducing bycatch of albatrosses and other species* (Birdlife International, Cambridge, UK 2005).

measures can be determined. Others may argue that a precautionary approach requires that priority biodiversity areas and representative types of ecosystems be identified and protected in advance to avoid certain types of threats and preserve their values.

145. The options for cooperation for the establishment of marine protected areas in marine areas beyond the limits of national jurisdiction identified below are grouped into three categories: (i) further use and improvement of existing instruments, (ii) integration and coordination among existing instruments, and (iii) the development of new mechanisms and instruments. It will be important to consider which actions may be most effective in realizing the goals of decision VII/5 in the short, medium, and long term.

A. Options for cooperation under existing instruments: further use and improvement

1. International shipping

146. PSSA designations may cover areas beyond national jurisdiction. There are few, if any, restrictions on the types of protective measures available under different IMO instruments that may be associated with these designations. Among the binding measures available are discharge restrictions, ships' routing measures, and mandatory reporting. Others could also be considered, such as stricter measures on ballast water exchange. States proposing PSSAs for IMO approval can tailor proposals to protect particular priority biodiversity areas and the threats posed by shipping activities, both in areas beyond national jurisdiction and/or at the intersection of national areas and areas beyond national jurisdiction. Where discharges from ships are a major problem, additional or more stringent restrictions might be agreed under MARPOL 73/78 as available for Special Areas (and thus applicable also in PSSAs).

2. Fisheries conservation and management

147. The scope of the United Nations Fish Stocks Agreement should be expanded to include all high seas fish stocks. This would require that precautionary and ecosystem approaches are applied in conservation and management measures for discrete stocks like those associated with seamounts, including measures to protect biodiversity in the marine environment.

148. Under the regional fisheries management organizations there is substantial scope for further application of geographically-based protective measures of the type noted in section III.B above, including closed areas, interim prohibitions on destructive fishing practices like bottom trawling that adversely impact vulnerable marine ecosystems, as urged by the United Nations General Assembly in paragraph 6b of its resolution 59/25, or other measures to eliminate destructive fishing practices affecting priority biodiversity areas. In addition, the mandates of some regional fisheries management organizations may need to be amended or renegotiated to update them, so that they fully incorporate the ecosystem and precautionary approaches called for in the United Nations Fish Stocks Agreement, including concern for the effects of fishing on non-target species and habitat.

149. To address problems of unregulated bottom fisheries and their impacts on vulnerable marine ecosystems, the United Nations General Assembly, in paragraph 67 of its resolution 59/25, has called upon regional fisheries management organizations or arrangements with competence to regulate bottom fisheries to urgently adopt, in their regulatory areas, appropriate conservation and management measures, in accordance with international law, to address the impact of destructive fishing practices, including bottom trawling that has adverse impacts on vulnerable marine ecosystems, and to ensure compliance with such measures. In paragraph 68 of the same resolution, the General Assembly called upon members of regional fisheries management organizations or arrangements without the competence to regulate bottom fisheries and the impacts of fishing on vulnerable marine ecosystems to expand the competence, where appropriate, of their organizations or arrangements in this regard. This may, however, take some time to accomplish.

150. Specifically in relation to the priority biodiversity areas identified in the scientific research paper on patterns of species richness in the high seas, available on the website of the Convention on Biological Diversity and the scientific study on biodiversity in marine areas beyond the limits of national jurisdiction (UNEP/CBD/WG-PA/1/INF/1), further study is needed of the adequacy of the conservation and management measures adopted by the IOTC, CCSBT, IATTC, and WCPFC to address the impacts of fishing and whether these bodies might expand their competence as suggested or whether new arrangements would be preferable.

151. The tools available to regional fisheries management organizations to protect priority biodiversity areas could be further elaborated through the FAO guidelines on the ecosystem approach to fisheries management. In addition, an assessment and compilation of the measures available for area-based restrictions and lessons learned (toolbox) would be valuable. Innovative approaches could also be incorporated as annexes of the United Nations Fish Stocks Agreement (e.g., further elaboration article 6.6. of the United Nations Fish Stocks Agreement, on new or exploratory fisheries). A further option could be improved reporting of fisheries bycatch disposed of at sea, in order to better document the location of vulnerable deep-sea species and habitat (e.g., coral) as well as rare/endemic species whose distribution and status remain unknown, such as seamount species.

152. In considering the relationship between CITES and regional fisheries management organizations, the extent to which the measures adopted by a regional fisheries management organization give full effect to an ecosystem approach to fisheries management could be taken into account in determinations as to whether an introduction from the sea will be detrimental to the survival of the species concerned.

153. In some circumstances, the area of application of a particular regional fisheries management organization may need to be extended, or interregional fisheries management organization cooperative initiatives developed, in order to cover the full migratory range of target species as well as associated and dependent species and habitat and thus ensure implementation of an ecosystem approach (e.g., CCAMLR, in order to fully cover stocks of Patagonian toothfish).

154. At the global level, more effective oversight of high-seas fisheries conservation and management is needed to ensure the conservation and sustainable use of shared marine biodiversity. FAO already plays a role in bringing together secretariat representatives of regional fishery bodies at biennial meetings. Many believe, however, that further efforts are needed to encourage States Members of regional fisheries management organizations to improve the effectiveness of their agreements. For example, the members of the Ministerial High Seas Task Force on Illegal, Unreported and Unregulated (IUU) Fishing recently agreed that they will support the idea of a mechanism for global oversight of regional fisheries management organizations to promote a more systematic approach to the implementation of the United Nations Fish Stocks Agreement, including through giving a greater role to the annual meeting of States parties to the Agreement.^{111/} Other options include the United Nations General Assembly and the United Nations Informal Consultative Process on Oceans and the Law of the Sea.

3. *Regional seas agreements*

155. It may be appropriate to expand the geographic scope of some regional-seas agreements to cover adjacent high seas areas, subject, of course, to the constraint that these agreements do not govern non-Parties and that measures adopted pursuant to them must be consistent with UNCLOS and its provisions on high-seas freedoms. Coordination with other relevant agreements could also be pursued.

^{111/} First Meeting of the High Seas Task Force: Summary of Outcomes, Document HSTF/10, 14 March 2004 at 4. The members of the Task Force are Ministers from Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom and the Directors-General of IUCN-The World Conservation Union, WWF International and Earth Institute. (www.high-seas.org)

4. *Area activities and scientific research*

156. Especially in the context of hydrothermal-vent sites, scientists have noted the value of establishing a global network of sites for integrated study and long-term scientific observation, and in order to avoid conflicts among research projects. ^{112/} Moreover, if the “preservation reference zones” contemplated in the rules and regulations of the International Seabed Authority are to be effective, they must be protected not only from mining but also from other activities. In addition, the International Seabed Authority is restricted to setting vulnerable areas off limits at the exploitation stage rather than early on in prospecting and exploration stages. Noting that the management or protection of all the world’s hydrothermal vent and seep sites is an unrealistic goal, the Authority’s Secretary-General has suggested the possibility of developing internationally agreed criteria for the identification of sites of critical importance and sensitivity in the seabed beyond national jurisdiction -- due to their scientific or educational value or their significance for species survival. He further notes that the Authority would benefit from close collaboration with those already conducting research on hydrothermal vents. ^{113/}

157. First, it would be useful if the Authority was authorized to take a more proactive approach to setting aside preservation reference zones at an early stage. Second, it would be useful to develop agreed criteria for a network of Area sites for integrated study and long-term scientific observation. This might be undertaken through a coordinated approach among major scientific research institutions and relevant organizations like the International Seabed Authority, the Convention on Biological Diversity, and possibly others.

5. *Environmental impact assessment*

158. Certain international instruments, considered above, already require environmental assessment before a particular activity may proceed in areas beyond national jurisdiction (e.g., UNCLOS, rules and regulations of the International Seabed Authority, London Convention (dumping), annex I to the Antarctic Protocol). The Convention on Biological Diversity also provides for each Party to assess the environmental impacts of proposed projects under its jurisdiction or control likely to have significant adverse effects on biodiversity, and for appropriate notification and consultation regarding activities likely to have significant adverse effects on biodiversity in areas beyond national jurisdiction. These procedures in principle allow determinations about particular sites where activities may be prohibited or restricted to avoid adverse impacts. Under the United Nations Fish Stocks Agreement, implementation of the precautionary approach requires that States assess the impact of fishing on non-target and associated or dependent species and their environment.

159. A more uniform approach could be developed among relevant bodies for advanced environmental assessment of activities beyond national jurisdiction; for example, in the Area, in particular regions, or in relation to particular activities wherever they occur (e.g., bioprospecting). This would provide the basis for identifying particular sites warranting a higher level of protection.

6. *Collaborative initiatives among like-minded States*

160. Also based on the existing legal framework, in conformity with UNCLOS, there are already examples of protective arrangements agreed among concerned States for designated areas, both binding and non-binding. These may be short-term or long-term. While they have no binding effect on non-

^{112/} Document ISBA/8/A/5, 7 June 2002 at para. 53, available at www.isa.org. See also L. Mullineaux, S.K. Juniper, D. Desbruyeres, *Deep-Sea Sanctuaries at Hydrothermal Vents: A Position Paper*, InterRidge News (<http://interridge.org>), vol. 7(1), 1998 at 15-16, cited in H. Korn, S. Friedrich, U. Feit, *Deep Sea Genetic Resources in the Context of the CBD and the UNCLOS* (BfN 2003). See also H. Thiel, “Unique Science and Reference Areas on the High Sea”, in Thiel & Koslow, eds. (BfN 2001), note 1 at 98-101.

^{113/} Documents ISBA/8/A/5, note 119 at paras. 53-54, with reference to ISBA/8/A/1, 9 May 2002 at para. 20, available at www.isa.org.

participating States, they may gain wider recognition and effect through broader international agreements. For example:

(a) The Pelagos Sanctuary for marine mammals in the Mediterranean (see section III.A.2 above) was initially established by a tripartite agreement among France, Italy and Monaco in 1999 and later accepted as a SPAMI under the Mediterranean Convention's protocol in 2001.

(b) Pursuant to the 1986 Titanic Maritime Memorial Act, the United States restricted those subject to United States jurisdiction and control from causing disturbance to the wreck and called on United States officials to pursue international agreement to reinforce these protections. Negotiations begun in 1997 led to an agreement with the United Kingdom, France, and Canada to recognize the wreck as an international maritime memorial and underwater historical wreck of exceptional international importance. The agreement is open for signature by all States. It will enter into force once two States have ratified it. It respects high seas freedoms and avoids any assertion of jurisdiction over the wreck. The Parties agree to regulate activities such as research and salvage that may disturb or harm the wreck site. According to a United States of America official, the agreement may be a very good model for international cooperation regarding activities directed at natural features, such as deep-sea vents located in international waters. ^{114/} In a similar vein, a United States law to protect any United States sunken military craft from removal, disturbance, or injury unless authorized for archaeological, historical, or educational purposes was signed into law in October 2004. This, too, encourages the negotiation and conclusion of international agreements to protect these craft as maritime heritage. ^{115/}

(c) Memoranda of understanding among range States to conserve sea turtles and their habitat pursuant to the Convention on Migratory Species are non-binding agreements but gain wider recognition through the binding Convention;

(d) In late 2004, New Zealand and Australia announced plans to cooperate in managing adverse impacts caused by deep-sea bottom trawling on vulnerable marine ecosystems and biodiversity in the Tasman Sea, including in high-seas areas. Further discussions will be held in 2005 on a regional management framework for areas beyond national jurisdiction, which might result in a non-binding or a binding agreement. The possibility of interim measures to control bottom trawling is under discussion, including with third countries.

7. *Voluntary arrangements among private actors*

161. Certain professional or industry associations may agree to help identify and protect priority biodiversity areas beyond national jurisdiction, such as groups of scientists, ^{116/} marine archaeologists, or commercial entities engaged in bioprospecting, laying submarine cables, tourism or, in the future, use of areas beyond national jurisdiction for mariculture or the generation of renewable energy.

8. *Emerging compliance and enforcement tools*

162. While not a major topic for this study, emerging technical capabilities can improve compliance and enforcement regarding special area protections. These include vessel monitoring systems (VMS) which allow vessel location information and, in some cases, fish catch data, to be transmitted

^{114/} The International Agreement Concerning the Shipwrecked Vessel RMS Titanic has been signed by the United Kingdom and the United States, and the UK has ratified it. See "Agreement to Protect *Titanic* Provides Model for High-Seas MPAs, *MPA News*, vol. 6, no. 4, September 2004 at 4; and U.S. Ocean Action Plan, <http://ocean.ceq.gov> at 24.

^{115/} Ronald W. Reagan National Defense Authorization Act for FY 2005, referenced in U.S. Ocean Action Plan, <http://ocean.ceq.gov> at 25.

^{116/} For example, the InterRidge Biology Working group is developing a code of conduct for the sustainable use of hydrothermal vent sites by researchers and seabed tourism operators in order to reduce threats to these deep seabed ecosystems. Operating guidelines are also contemplated, which may provide principles for conservation measures such as MPAs. UN Doc. A/59/62 ("Oceans and the Law of the Sea"), 4 March 2004 at para. 249, with further reference to http://134.102.240.35/public_html/wg-bio.htm.

automatically via satellite to management and enforcement authorities, ^{117/} electronic charting to facilitate identification of sites and associated protective measures; satellite navigation systems and transmitters so that vessel operators can quickly determine their location and any restrictions that apply, ^{118/} and IMO requirements for automatic identification systems for ships (transponders on board), effective 31 December 2004 to assist in vessel tracking and compliance. ^{119/} On the high seas, States apply these measures to their own flag ships; otherwise, they must either be bound by convention to operate such systems in designated areas (e.g., regional fisheries conventions) or subjected to them through port entry requirements.

163. The site-specific nature of marine protected areas offers some advantages in terms of enforceability. Where traditional high-seas enforcement is hampered by the difficulty of monitoring vessel activities over vast areas, monitoring specific locations simplifies the task. In addition, States most directly interested in a particular site could develop a surveillance and enforcement system, consistent with high-seas freedoms. For example, analogous to the provisions of some regional fisheries management organizations, when protective measures are adopted pursuant to one or another convention, States parties to that convention could be granted a right to board and inspect, as appropriate, to ensure compliance with agreed international measures. Another possibility to encourage compliance by fishers would be for a regional fisheries management organization to grant an exclusive fishing option to one entity (through the responsible State) to fish a particular seamount community, placing the burden of proof on that entity to maintain the ecological integrity of the site, subject to defined penalties for failure to do so.

B. Integration and coordination among existing instruments

1. Between international instruments and bodies

164. Existing international instruments contain a number of provisions for coordination and integration of special area protections among the relevant instruments and bodies, both at global and regional levels. Several of these are noted in sections II, III, and IV. At the global level, they include specific provisions for consultation and cooperation between the International Seabed Authority and UNESCO with respect to arrangements for protecting underwater cultural heritage, or more general suggestions that PSSAs might be listed on the World Heritage List, declared a Biosphere Reserve, or included on another list of areas of international or regional importance. Regional agreements on protected areas for the North-East Atlantic and Antarctic provide explicitly for coordination with the relevant fishing and/or shipping instruments. ACCOBAMS provides for coordination with the Mediterranean Regional Seas instruments in habitat protection for cetaceans, while ASCOBANS specifies that conservation, research, and management measures be applied in conjunction with other competent bodies.

165. In a further development, it is possible for Parties to one agreement to actually incorporate measures provided for under another. For example, annex IV of the 1991 Antarctic Protocol incorporates the stricter requirements of Special Area designation under MARPOL 73/78 with respect to pollution from oil, noxious liquid substances, and plastics and garbage; in addition, it provides for ongoing consistency with MARPOL 73/78 as the latter is amended or new regulations are adopted. In another

^{117/} See, for example, E.J. Molenaar, "Satellite-Based VMS for Fisheries Management: International Legal Aspects", 15 *International Journal of Marine and Coastal Law* 65 (2000).

^{118/} For example, requirements that all boats be equipped with satellite navigation systems and transmitters on Australia's Great Barrier Reef. This allows those responsible for navigating the ships to quickly determine which of several zones they are sailing through and thus which activities are permitted (e.g., fishing, pollution discharge). "Sink or Swim", 432 *Nature* at 14, 4 Nov. 2004. www.nature.com/nature.

^{119/} Amendments to the International Convention for the Safety of Life at Sea (SOLAS), which entered into force on 1 July 2002, require ships to carry automatic identification systems (AISs) capable of providing information about the ship to other ships and to coastal authorities automatically. All ships of 300 gross tons and upwards, as well as all passenger ships and tankers regardless of size, should have transponders on board by 31 December 2004 at the latest.

example, CMS/ACAP Parties must adopt in relation to fishing activities within the area of a regional fisheries management organization measures at least as stringent as those agreed by the regional fisheries management organization for reducing the incidental take of albatrosses and petrels.

166. Additional developments might contemplate:

(a) Members of regional fisheries management organizations incorporating into their conservation and management measures appropriate restrictions on fishing activities in areas identified as essential habitat under the CMS Agreements;

(b) Specific provision, as in the Antarctic, for a means to ensure coordination at the regional level between marine protected area arrangements for areas beyond national jurisdiction and any relevant regional fisheries management organization; this would include further cooperation and coordination between regional fisheries management organizations and other regional entities such as the UNEP Regional Seas conventions, as called for in paragraph 56 of General Assembly resolution 59/25;

167. Specifically in relation to the priority biodiversity areas identified in scientific research paper on patterns of species richness in the high seas (available on the Secretariat's website), further cooperation and coordination could be developed:

(a) In the North-East Atlantic between OSPAR, NEAFC, ASCOBANS and the European Union;

(b) In the South Pacific, regarding the high seas areas to which the South Pacific Regional seas convention applies, between the body established by that Convention, the WCPFC, and CMS/ACAP Parties;

(c) Means like charting and mapping that draw attention to special area protections established, for example, under a regional seas agreement, so that operators in a specialized field exercising high-seas freedoms like shipping, fishing, or laying undersea cables are made aware of these designations; and

(d) That organizations such as the International Seabed Authority or a competent regional fisheries management organization adopt measures to complement the protective measures associated with a PSSA designation covering areas beyond national jurisdiction, or vice-versa; this would help integrate water column and seafloor protections.

2. *At the interface between national and international areas*

168. As protected area networks continue to evolve under the regional-seas agreements, and as priority biodiversity areas beyond national jurisdiction are identified adjacent to areas within national jurisdiction (in effect "straddling" national and international zones), cooperation and coordination will be needed to ensure:

(a) That coastal State measures for activities within national jurisdiction and on the continental shelf beyond 200 nautical miles (e.g., oil and gas development) reinforce protections adopted through international bodies for the adjacent high-seas water column or Area;

(b) That as adjacent high-seas priority biodiversity areas are determined to be important for ecosystem and habitat conservation within national jurisdiction, coastal States, either directly or through regional-seas arrangements, can effectively pursue coordinated protections through specialized international regimes for shipping, fishing, etc; and

(c) That high-seas bottom fishing activities do not adversely impact priority biodiversity areas comprising sedentary species beyond 200 nautical miles subject to coastal State sovereign rights,

through arrangements between the coastal State and any regional fisheries management organization governing these fisheries and/or directly with the fishing States concerned.

169. Specifically in relation to the priority biodiversity areas identified in the scientific paper, further cooperation and coordination could be developed between coastal States and relevant bodies to address fishing impacts on sedentary species of extended continental shelves:

- (a) In the North-East Atlantic between relevant coastal States, the European Union, and NEAFC;
- (b) In the North-West Atlantic between relevant coastal States and NAFO.

C. New mechanisms and instruments

170. As considered in section IV.C above, the major gaps or inadequacies in the existing international legal framework regarding cooperation for establishment of marine protected areas in marine areas beyond national jurisdiction lie in high seas fisheries and the possibility of an integrated approach to marine protected areas and networks within a biogeographic framework.

1. High Seas fisheries

171. There are clear gaps in the ability to protect priority biodiversity areas through proper regulation of fishing activities, not only in the failure of existing regional fisheries management organization mandates and measures to fully reflect the ecosystem and precautionary approaches to fisheries management of the United Nations Fish Stocks Agreement and other international instruments, but also in the geographic coverage by regional fisheries management organizations of certain types of fisheries. To address these gaps, the United Nations General Assembly in paragraph 69 of its resolution 59/25 called upon States to urgently cooperate in establishing new regional fisheries management organizations or arrangements, where necessary and appropriate, with the competence to regulate bottom fisheries and the impacts of fishing on vulnerable marine ecosystems in areas where no such relevant organization or arrangement exists. This will take some time.

172. Specifically in relation to the areas identified in Patterns of species richness in the high seas, new regional fisheries management organizations and arrangements are needed for bottom fisheries, including around seamounts, in the Indian Ocean, Tasman Sea, and, possibly, the eastern Pacific.

173. New mechanisms at the global level for promoting the rapid upgrade of regional fisheries management organization conservation mandates might also be contemplated. Members of the Ministerial High Seas Task Force on IUU, noted above, agreed in March 2005 that its secretariat should conduct a performance assessment of high seas regional fisheries management organizations against objective criteria based on the standards established by relevant international agreements. Further discussion of a possible regional fisheries management organization performance review has taken place in the FAO Committee on Fisheries in March 2005 and is likely in the context of preparations for a review of the United Nations Fish Stocks Agreement in early 2006.

2. Integrated Approaches to marine protected areas and networks and a biogeographic approach

174. There are clearly numerous opportunities for greater cooperation and coordination among competent global and regional bodies, both to identify marine areas requiring protection and to identify activities and processes that adversely impact the biodiversity of these areas. The roles of the Convention on Biological Diversity, the International Seabed Authority, the International Whaling Commission, FAO, IMO, regional fisheries management organizations, regional-seas bodies, and CMS/Agreements have been considered in this study, as well as some specific avenues for further cooperation. The annual discussions in the United Nations General Assembly, United Nations Informal Consultative Process on Oceans and the Law of the Sea, and informal consultations among States parties to the United Nations Fish Stocks Agreement are key forums to promote more coordinated and integrated approaches.

175. At the same time, beyond the general mandate of UNCLOS (articles 192 and 194.5), there is no global agreement encompassing the concept of protecting priority biodiversity areas *per se* in order to achieve the goal of conserving the biological diversity and productivity of the oceans beyond national jurisdiction, including ecological life support systems. There are only limited means to identify and protect these areas from high seas activities *before* the activities pose threats; and coordinated approaches through different legal instruments is the only way to take an integrated approach to different threats to these areas. Network design is in its infancy.

176. This study has suggested that marine protected areas beyond national jurisdiction could serve as a coordinating framework for existing specialized regimes, drawing on the model of how PSSAs provide a framework for the application of associated protective measures available under different IMO instruments. Some argue that marine protected areas could ultimately provide the basis for a comprehensive, integrated approach to managing different threats, including from emerging uses. Marine protected areas offer an opportunity to practice integrated management at a smaller scale, through voluntary arrangements and coordination among different specialized regimes, while the possibility of larger scale reforms, including new instruments within the framework of UNCLOS, is considered.

177. In order to make progress toward marine protected area networks beyond national jurisdiction, one option would be to consider a staged approach of identifying and protecting these areas that makes use of non-binding and, possibly, binding instruments.

178. To identify agreed priority biodiversity areas, a global framework is necessary based on agreed goals and criteria for selecting sites and establishing priorities on a scientific basis, as is currently done under some regional-seas agreements. This framework would likely also have to reflect biogeographic areas and give some indication of concepts of scale. In the first instance, this framework could be developed as a non-binding instrument, perhaps under the Convention on Biological Diversity, and sites selected and recognized. This would be similar to the way that the Biosphere Reserves are recognized through the non-binding Man and the Biosphere Programme. The Convention on Biological Diversity might also be a logical mechanism for coordinating the identification of priority sites.

179. Certain principles might also be agreed for application in selected priority biodiversity areas, including a precautionary approach to activities in the area and prior environmental impact assessment; again, initially, as a non-binding instrument.

180. These priority biodiversity areas would operate in the same way that PSSAs operate, with no separate legal status but as an internationally recognized geographic anchor for binding associated protective measures available under specialized international instruments governing different activities. Where there is no relevant instrument to guard against a particular threat, collaborative voluntary arrangements might be contemplated.

181. As experience is gained with these arrangements, further legal developments could be considered.

182. Another option is to proceed directly to consideration of a binding legal agreement that provides for identification and establishment of marine protected areas beyond national jurisdiction, most likely pursuant to an existing convention. This could take the form of:

(a) An implementing agreement to UNCLOS, adopted in a manner similar to either the United Nations Fish Stocks Agreement or the 1994 Part XI Agreement;

(b) An implementing agreement to the Convention on Biological Diversity, which would require amendment of the Convention; ^{120/}

(c) A new mechanism under the Convention concerning the Protection of the World Cultural and Natural Heritage (1972), to enable the recognition and protection of sites of outstanding universal value in marine areas beyond national jurisdiction, which would require amendment of the Convention; ^{121/} or

(d) A global agreement that provides for a network of subsidiary agreements in which groupings of States working within regional organizations are appointed to manage particular areas beyond national jurisdiction, subject to oversight by an international management body.

183. Any new agreement on establishing marine protected areas beyond national jurisdiction would encounter difficulties regarding adherence by States and decision-making. First, without widespread adherence to the agreement, marine protected area protective measures might be undermined by non-Parties. Second, the procedures for approving new marine protected area designations would have to balance the Parties' interests in protecting particular areas with concerns regarding high seas freedoms. This will make it difficult to agree on decision-making procedures for approval, with some States urging consensus, others a majority vote, and others a procedure that allows a State that 'objects' to the decision within a given time period not to be bound by it ("opt out"). Coordination with existing instruments would also be necessary.

184. Some have suggested that the Parties to a new agreement would serve as trustees of the common interest in the conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Such a concept is embodied in the Underwater Cultural Heritage Convention, with the designation of a coordinating State charged with acting for the benefit of humanity as a whole. In a similar fashion, under a new agreement, a sub-group of particularly interested States could pursue extended recognition and support for an area beyond national jurisdiction, perhaps building upon initial steps they have taken to protect that site.

^{120/} The provisions of Articles 4 and 5 of the Convention, with respect to areas beyond national jurisdiction, govern only activities and processes carried out under the jurisdiction or control of each Party, and their effects. In order to address these activities and their effects beyond national jurisdiction on the conservation and sustainable use of biodiversity, the Parties are to cooperate either directly or through competent international organizations. Some argue that direct cooperation might entail the development of an implementing agreement pursuant to the Convention, which would have to be adopted and enter into force as an amendment to the Convention. Any such agreement would have to respect the competencies of existing international bodies.

^{121/} IUCN World Conservation Congress Recommendation 17, adopted November 2004. The Convention calls for each State Party to identify and delineate properties *within* its territory (emphasis added).

Table – Human activities and the major conventions governing them in areas beyond national jurisdiction ^{122/}

<u>THREATS/ACTIVITIES</u>	<u>MAJOR LEGAL INSTRUMENTS</u>
Fishing Overharvesting Bycatch Destructive fishing practices Marine debris	UNCLOS International Whaling Convention UN Fish Stocks Agreement FAO Compliance Agreement CMS CITES Regional fisheries management conventions
Minerals Development Physical destruction Pollution Sediment plumes & turbidity Noise	UNCLOS and 1994 Part XI Agreement International Seabed Authority rules and Regulations
Shipping Pollution Alien species Noise Physical impacts (whales) Marine debris	UNCLOS Numerous IMO conventions, including: MARPOL 73/78 SOLAS Ballast Water & Sediments IMO measures: PSSAs & Compulsory Pilotage
Bioprospecting Physical destruction Potential large-scale harvesting	UNCLOS
Marine Scientific Research/Hydrography Physical destruction	UNCLOS Antarctic Treaty
Submarine Cables Physical destruction	UNCLOS
Dumping Pollution Physical (smothering)	UNCLOS London Convention and 1996 Protocol Regional Seas Conventions/protocols/annexes
Renewable Energy (e.g., OTEC, currents, wind turbines)	UNCLOS IMO Conventions (e.g., MARPOL 73/78)
Open Ocean Aquaculture Pollution Disease Escape of alien or genetically- modified species	UNCLOS IMO Conventions (e.g., MARPOL 73/78, vis-à-vis fixed or floating platforms at sea)
Large-Scale Ocean Modification (e.g., ocean fertilization/CO ² sequestration)	UNCLOS
Marine Archaeology Physical destruction Physical (smothering)	UNCLOS UNESCO Underwater Cultural Heritage
Tourism Physical destruction Light pollution Noise	UNCLOS
Land-Based Activities (e.g., Mediterranean high seas; effects of POPs)	UNCLOS Regional seas conventions/protocols/annexes

^{122/} In areas beyond national jurisdiction, the Convention on Biological Diversity creates general obligations for States Parties to individually apply relevant Convention provisions to activities and processes under their jurisdiction or control and to cooperate with other States in the conservation and sustainable use of biodiversity. It does not regulate these activities *per se* beyond national jurisdiction.

Annex I

MAJOR GLOBAL CONVENTIONS AND STATE PARTICIPATION

Convention/Agreement	Year	States Parties
United Nations Convention on the Law of the Sea (UNCLOS) www.un.org/depts/los	1982	148
Agreement relating to Implementation of Part XI of the Convention on the Law of the Sea	1994	121
Convention on Biological Diversity (CBD) www.biodiv.org	1992	188
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 (UNFSA) www.un.org/depts/los	1995	52
Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement) www.fao.org	1993	29
International Convention for the Regulation of Whaling (IWC) www.iwcoffice.org	1946	60
Convention on the Conservation of Migratory Species of Wild Animals (CMS) www.cms.int	1979	89
Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) www.cites.org	1973	167
UNESCO Convention on the Protection of the Underwater Cultural Heritage www.unesco.org/culture/laws/underwater	2001	Not in force

Convention/Agreement	Year	States Parties
International Maritime Organization (IMO) Conventions		
International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78): (Annex I/II)	1973/78	132
Convention on Safety of Life at Sea (SOLAS)	1974	158
International Convention for the Control and Management of Ships' Ballast Water and Sediments	2004	Not in force
Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention – 1972)	1972	85
Protocol of 1996 of the London Convention of 1972	1996	Not in force

Annex II

**MAJOR NON-BINDING GLOBAL LEGAL INSTRUMENTS THAT REINFORCE OR
SUPPLEMENT THE BINDING INTERNATIONAL LEGAL REGIME FOR MARINE AREAS
BEYOND THE LIMITS OF NATIONAL JURISDICTION**

FAO Code of Conduct for Responsible Fisheries, 1995

FAO International Plans of Action:

- to reduce the incidental catch of seabirds in long-line fisheries (1999);
- for the conservation and management of sharks (1999);
- for the management of fishing capacity (1999);
- to prevent, deter and eliminate illegal, unreported and unregulated fishing (2001).

UN General Assembly Resolution on Large-Scale Pelagic Driftnet Fishing and its Impacts on the Living Marine Resources of the World's Oceans and Seas, 1991 (A/RES/46/215, 1991).

UNEP Global Programme of Action on Protection of the Marine Environment from Land-Based Activities (1995), *with respect to areas like the Mediterranean Sea where national jurisdiction over the water column for the most part does not extend beyond the 12-nautical-mile territorial sea.*

UNEP Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals (1984, rev. 1997).

UNESCO Action Plan for Biosphere Reserves (1984) and the Seville Strategy and Statutory Framework for the World Network of Biosphere Reserves (1995).

Agenda 21: Action Programme of the United Nations Conference on Environment and Development (1992), paras. 17.46 (e) and (f), 17.86.

Plan of Implementation of the World Summit on Sustainable Development (2002), para. 32 (a) and (c).

Annex III

**REGIONAL LEGAL AGREEMENTS APPLICABLE TO MARINE AREAS BEYOND
NATIONAL JURISDICTION**

A. Regional Seas Agreements

These agreements do not affect the rights of non-Party States that may be active in the region (e.g., shipping, fishing).

Convention on the Protection of the Marine Environment of the North East Atlantic, 1992 (replaces 1972 Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft and the 1974 Convention for the Prevention of Marine Pollution from Land-Based Sources) – www.ospar.org

- Annex I – Prevention and Elimination of Pollution from Land-Based Sources (1992);
- Annex II – Prevention and Elimination of Pollution by Dumping or Incineration (1992);
- Annex III – Prevention and Elimination of Pollution from Offshore Sources (1992);
- Annex IV – Assessment of the Quality of the Marine Environment (1992);
- Annex V – Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area (1998).

Regional States Parties to the Convention: 16

Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean or Barcelona Convention (1976, amended in 1995) – www.unepmap.org

- Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (1976, amended in 1995);
- Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (2002, replacing the 1976 Protocol);
- Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (1980, amended in 1996);
- Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (1995, replacing a previous 1982 Protocol);
- Protocol Concerning Pollution Resulting from Exploration and Exploitation of the Continental Shelf, the Seabed and its Subsoil (1994);
- Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal (1996).

Regional States Parties to the Convention: 22

Convention for the Protection of Natural Resources and Environment of the South Pacific Region (1986) – www.sprep.org.ws

- Protocol for the Prevention of Pollution of the South Pacific Region by Dumping (1986);
- Protocol Concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region (1986).

Regional States Parties to the Convention:

Antarctic Treaty (1959)

Protocol on Environmental Protection (1991)

- Annex I – Environmental Impact Assessment (1991);
- Annex II – Conservation of Antarctic Fauna and Flora (1991);
- Annex III – Waste Disposal and Waste Management (1991);

- Annex IV – Prevention of Marine Pollution (1991);
- Annex V – Area Protection and Management (1992).

States Parties to the Convention: 43

B. Regional fisheries management organizations (RFMOs) and the conventions establishing them

No study has been undertaken to determine whether every State fishing in the area of application of each of the conventions below has become a party to the convention.

Competence over all living marine resources, except as noted:

CCAMLR - Commission under the Convention on the Conservation of Antarctic Marine Living Resources (1980) – www.ccamlr.org;

GFCM – Commission under the Agreement for the Establishment of the General Fishery Commission for the Mediterranean (1949, rev. 1997) – www.fao.org/fi;

NAFO – Organization under the Convention on Future Multilateral Cooperation in the North-West Atlantic Fisheries (except sedentary species) (1978) – www.nafo.ca;

NEAFC – Commission under the Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries (except sedentary species and highly migratory species) (1980) – www.neafc.org;

SEAFO – Organization under the Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean (2001) – www.mfmr.gov.na/seafo/seafo.htm;

Competence over specific species:

CCSBT - Commission under the Convention for the Conservation of Southern Bluefin Tuna (1993) – www.ccsbt.org;

IATTC - Commission under the Convention for the Establishment of an Inter-American Tropical Tuna Commission (1949, rev. 2003) – www.iatcc.org;

- Agreement for the International Dolphin Conservation Programme (IDCP, 1998)

ICCAT - Commission under the International Convention for the Conservation of Atlantic Tunas (1996 and 1984 and 1992 protocols) – www.iccat.es;

IOTC – Commission under the Agreement for the Establishment of the Indian Ocean Tuna Commission (1993) – www.iotc.org;

WCPFC - Commission under the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (2000) – www.ocean-affairs.com;

NASCO – Organization under the Convention for the Conservation of Salmon in the North Atlantic Ocean (1982) – www.nasco.int;

NPAFC – North Pacific Anadromous Fish Commission under the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (1992) – www.npafc.org.

Competence over areas within national jurisdiction:

IBSFC – Commission under the Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and Belts (1973);

IPHC – Commission under the Convention Between the United States and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea (1953 and 1979 Protocol);

PSC – Pacific Salmon Commission under the Treaty between the Government of the United States of America and the Government of Canada Concerning Pacific Salmon (1985 and 1999 Amendments) – www.psc.org.

C. Convention on Migratory Species – Agreements - www.cms.int

Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS, 1992) – www.ascobans.org

8 of 15 Range States are Parties.

Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA, 1995) - www.cms.int/species/aewa

49 of 117 Range States of the Atlantic and Indian Oceans are Parties.

Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS, 1996) – www.cms.int/species/accobams

17 of 28 Range States are Parties.

Agreement on the Conservation of Albatrosses and Petrels (ACAP, 2001) – 25 Range States of the Pacific and Southern Oceans - www.cms.int/species/acap, www.acap.aq.

6 of 25 Range States are Parties.

Competence over areas within national jurisdiction:

Agreement on the Conservation of Seals in the Wadden Sea (1990) – www.cms.int/species/wadden_seals

3 of 3 Range States are Parties.

Non-binding memoranda of understanding (MOUs) and competence over areas within national jurisdiction:

MOU concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa (1999) – www.cms.int/species/africa_turtle

19 of 26 Range States have signed.

MOU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (2001) – www.cms.int/species/iosea.

20 of 41 Range States have signed.

D. Other relevant regional agreements

Convention for the Conservation of Antarctic Seals (1972).

Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific (1989, 1990 protocols).

Convention on Conservation and Management of Pollock Resources in the Central Bering Sea (“Donut Hole” Agreement, 1995).

Agreement to end unregulated fisheries of regulated stocks in the high seas area of the Barents Sea (“Loophole” Agreement, 1999).

Competence over areas within national jurisdiction:

Inter-American Convention for the Protection and Conservation of Sea Turtles (1996) – www.seaturtle.org (9 of 12 signatory States are Parties).
