

**THE EVOLVING LEGAL FRAMEWORK FOR
THE ENVIRONMENTAL PROTECTION OF
THE HIGH SEAS – A LEGAL ANALYSIS OF
THE POSSIBILITY OF ESTABLISHING
EFFECTIVE HIGH SEAS MARINE
PROTECTED AREAS**

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ABSTRACT

Recently there have been a considerable number of calls for high seas marine protected areas to be established. The aim of establishing these marine protected areas is for the protection of deep sea features as well as for the implementation of an ecosystem approach combined with the precautionary principle. This thesis aims to consider the legal issues involved in this action and looks in particular at whether it is legally possible to create the newly required high seas marine protected areas which would be effective.

The first task of this thesis is to confirm the calls for the newly required high seas marine protected areas and to consequently ask how they differ from the traditional marine protected areas. This thesis then examines how the relevant international treaties and organizations have provided a legal basis for the new type of high seas marine protected areas to be collectively established by the involvement of multiple States so as to effectively safeguard the targeted deep sea ecosystems.

The next question which is answered by this thesis is whether or not the new type of high seas marine protected areas can overcome the third States issue and so would be more effective than traditional area closures. This thesis concludes that the new type of high seas marine protected areas is not far enough advanced in a way which would mean that it can be held as binding on third States. However, it can be more advanced in that its incorporation of the ecosystem approach promotes knowledge of deep sea conservation among international organizations and has influenced peer institutions to swiftly react to the new requirement to conserve vulnerable deep sea features.

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| | |
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| ACCOBAMS | Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area |
| AIA | Autonomous Institutional Arrangements |
| ASMA | Antarctic Specially Managed Areas |
| ASPA | Antarctic Specially Protected Areas |
| ATCM | Antarctic Treaty Consultative Meeting |
| ATS | Antarctic Treaty System |
| CBD | Convention on Biological Diversity |
| CCAMLR | Convention on the Conservation of Antarctic Marine Living Resources |
| CCAS | Convention for the Conservation of Antarctic Seals |
| CCSBT | Commission for the Conservation of Southern Bluefin Tuna |
| CEMP | Convention's Ecosystem Monitoring Program |
| CEP | Committee on Environmental Protection |
| CLCS | Commission on the Limits of the Continental Shelf |
| CMS | Convention on the Conservation of Migratory Species of Wild Animals |
| COFI | Committee on Fisheries |
| COP | Conference of Parties |
| DSCC | Deep Sea Conservation Coalition |
| EAF | Ecosystem Approach to Fisheries |
| EEZ | Exclusive Economic Zone |
| FAO | Food and Agriculture Organization |
| GFCM | General Fisheries Commission for the Mediterranean |
| IATTC | Inter-American Tropical Tuna Commission |
| IBSFC | International Baltic Sea Fishery Commission |
| ICCAT | International Commission for the Conservation of Atlantic Tunas |
| ICES | International Council for the Exploration of the Sea |
| ICJ | International Court of Justice |
| IEOs | International Environmental Protection Organizations |
| IGOs | Intergovernmental Organizations |
| ILC | International Law Commission |
| IMO | International Maritime Organization |
| IOTC | Indian Ocean Tuna Commission |
| ISA | International Seabed Authority |
| ITLOS | International Tribunal for the Law of the Sea |
| IUCN | International Union for Conservation of Nature |
| IWC | International Whaling Commission |
| LOSC | Law of the Sea Convention |

TABLE OF ABBREVIATION

| | |
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| MAP | Mediterranean Action Plan |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MASH | Working Group on Marine Protected Areas, Species and Habitats |
| MEPC | Marine Environment Protection Committee |
| MERMOs | Marine Ecosystem and Resource Management Organizations |
| NAFO | Northwest Atlantic Fisheries Organization |
| NAMMCO | North Atlantic Marine Mammal Commission |
| NARFMO | North Atlantic Regional Fisheries Management Organizations |
| NASCO | North Atlantic Salmon Conservation Organization |
| NEAFC | North East Atlantic Fisheries Commission |
| NPAFC | North Pacific Anadromous Fish Commission |
| OSPAR | Convention for the Protection of the Marine Environment of the North-East Atlantic |
| PSSA | Particularly Sensitive Sea Area |
| RAC-SPA | Regional Activity Centre for Specially Protected Areas |
| RCV | Remotely Controlled Vehicle |
| RFMOs | Regional Fisheries Management Organizations |
| SBSTTA | Subsidiary Body for Scientific, Technical and Technological Advice |
| SCAR | Scientific Committee on Antarctic Research of the International Council of Scientific Union |
| SEAFO | South-East Atlantic Fisheries Organization |
| SOCA | Sub-committee on Oceans and Coastal Areas |
| SOLAS | International Convention for the Safety of Life at Sea |
| SPA | Specially Protected Areas |
| SPAMI | Specially Protected Areas of Mediterranean Importance |
| SPLOS | States Parties to the Law of the Sea Convention |
| UNCED | United Nations Conference on Environment and Development |
| UNCSD | UN Commission on Sustainable Development |
| UNEP | United Nations Environment Programme |
| UNFSA | United Nations 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 |
| UNGA | UN General Assembly |
| UNICPOLOS | United Nations Informal Consultative Process on Oceans and the Law of the Sea |
| VCLT | Vienna Convention on the Law of the Treaties |
| WCPA | World Commission on Protected Areas |
| WCPFC | Western and Central Pacific Fisheries Commission |

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| | |
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| WSSD | World Summit on Sustainable Development |
| WWF | World Wildlife Fund |

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CHAPTER I. INTRODUCTION

1.1. Subject and Purpose of this Study

The Law of the Sea Convention (LOSC) clearly recognises in its preamble that, “the problems of ocean space are closely interrelated and need to be considered as a whole.”¹ This paragraph is provided merely as guidance not as a mandate. The actual mandates contained in the LOSC divide ocean space into nine different types of zone, and provide different rules to manage resource use in different zones. In the absence of a mandate for an ecosystem-based integrated ocean management, this division has so far been achieved without any consideration for where marine living resources gather to spawn, feed, and hunt. This lack of ecological considerations in the mandates of the LOSC results in the same resources migrating between, or existing in, different marine zones and the management of their exploitation differently in different zones. As a result, disputes have occurred over the inconsistent management of the same resources in different zones.

The ecosystem approach was introduced as an essential tool to remedy such inconsistent ocean management. Marine Protected Areas (MPAs) are one of the most frequently quoted protective measures which relate to an implementation of this ecosystem approach. Traditionally, MPAs were established as a sectoral approach measure rather than as a measure for an ecosystem approach. Therefore, these traditional MPAs were not deliberately designed to be established considering ecological boundaries in marine ecosystems. In the absence of an ecosystem approach such MPAs can still efficiently protect all components within their designated areas, if all human activities are completely restricted in them. Although MPAs as a sectoral measure can possibly, effectively, safeguard marine ecosystems on their own, conservationists have wanted to enhance the existing international standards of

¹ Preamble, the United Nations Convention on the Law of the Sea (LOSC), adopted on 10 December 1982, entered into force on 16 November 1994, *United Nations Treaty Series*, Vol. 1833, p.3.

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conservation and required the moral and political justifications for persuading the international community to increase the number of MPAs. In particular, the moral and political justifications were required for the establishment of High Seas Marine Protected Areas (HSMPAs) because international law including the LOSC does not confer exclusive jurisdiction over the components of high seas ecosystems, and with respect to conservation of high seas environment to any entity. Since no one has the exclusive jurisdiction to protect the environment of the high seas, no one can enforce the law for the conservation of the high seas as far as third States are concerned unless the third States consent. It follows that the proper conservation of the high seas should rely on global cooperation and the voluntary participation of all relevant States. For the last couple of decades it has been difficult to induce such global cooperation and participation for high seas management because the interests of stakeholders in ocean use are clearly divided between conservation and exploitation. This clear demarcation over what they value most can be eliminated by a convincing moral and political justifications, and such justifications can lead to the voluntary cooperation and participation hopefully of all stakeholders for high seas conservation. The moral and political justifications suggested for mediating the different interests are the ecosystem approach combined with the precautionary principle.²

This ecosystem approach was emphasised during recent international meetings for the initiation of a new concept of HSMPAs and has distinguished the new type of HSMPAs from the traditional sectoral management measures. Participants of the relevant meetings argued that the existing international law should accept the new measure for, and combined with, an ecosystem approach. The ecosystem approach, however, has not yet completely developed. It needs to be asked then if international law should justify or can require the establishment of a new concept of HSMPAs with the moral and political justification which has to be further elaborated. Although the incorporation of the ecosystem approach encourages more participation, it is questionable if international law can actually induce mandatory compliance with the new type of HSMPAs without universal jurisdiction on the high seas. The

² The reasoning behind these approaches is discussed in Chapter II.

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jurisdictional limitations interrupt effective implementation of high seas protective measures because States cannot collectively or individually enforce such measures against third States. Thus, if the new kind of HSMPAs can possibly be established under international law, it should be asked whether the new measure, with an ecosystem approach, can be imposed on third parties. The application of the conventional sectoral ocean management to the high seas has resulted in certain failures because of the limited applicability of international treaty law: third parties are not bound by a treaty to which they are not party. To avoid unnecessarily repeating the failures it is essential that the issue of third parties be resolved. This will enable the true evolution of high seas protection regimes and the achievement of effective conservation by HSMPAs. As already noted, since a moral and political justification is required to induce broad participation it follows that to overcome jurisdictional limitations to high seas conservation, the new concept of HSMPAs should be reviewed in light of the justification to help overcome the third parties issue. If so, the measure can be offered as a true solution for the conservation of the high seas environment instead of becoming just another trend.

To achieve such goals, this thesis will mainly explore how international law provides a legal basis for the newly required HSMPAs, and will ask if the measure can effectively be operated under international law by overcoming the jurisdictional limitations on the high seas. Answers of these two questions will be obtained through examining the following detailed questions:

- (1) Why are calls for the establishment of HSMPAs being made?
- (2) What is meant by HSMPAs? And, how is the new kind of HSMPAs different from traditional MPAs?
- (3) Is it required to establish and observe the new MPAs on the high seas under existing international law?
- (4) How far may existing international law be institutionally used to create and observe the new kind of HSMPAs?
- (5) How far can the new kind of HSMPAs overcome the third parties problem?

1.2. Outline of this Thesis

Chapter II will discuss the first and second research questions, firstly by confirming the growing calls for the establishment of the new type of HSMPAs. Then it will review for what purposes the new type of HSMPAs is currently being called. Finally, a definition of the new type of HSMPA will be provided based on the calls being made. The distinctive elements of the new concept of HSMPAs will also be illustrated.

Chapter III examines the legal justification for HSMPAs under the LOSC separately in each of the three areas of the high seas: 1) the water column above the continental shelf beyond the Exclusive Economic Zone (EEZ); 2) the international seabed area; and, 3) the water column above the international seabed area. The different rights and obligations of the coastal States and flag States in these three zones will be examined.

Chapter IV, V, and VI will examine how other international treaties have been used or may be able to be used to create and observe HSMPAs. While the LOSC is not functionally in charge of the actual implementation of its provisions (except Part XI on the international seabed regime), other relevant treaties have established institutions for implementing provisions of the treaties. So the implementation of other treaties is conducted through institutional decisions. The new concept of HSMPAs has only recently been developed and it is not yet expected to be expressly stipulated in relevant treaties. Thus, in addition to the express legal justification for HSMPAs, it is necessary to review how the relevant organizations have justified and practised the new type of HSMPAs without the express powers to do so. At the outset of reviewing the express provisions and practices of other relevant treaties and organizations, Chapter IV explains the theoretical background to the institutional justification for the new type of HSMPAs. Then, Chapters V and VI deal with express and non-express justification for HSMPAs by international environmental protection treaties and regional fisheries management treaties respectively.

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Chapter VII will analyse whether the new kind of HSMPAs can legally avoid the free riders problem. Chapter VIII will summarise findings in this thesis and draw some conclusions.

1.3.Methodologies

This thesis is initiated by taking a critical view of the existence of legal support for the new kind of HSMPAs and their effectiveness for the true conservation of the high seas. However, this study will not purposely induce pessimistic or optimistic conclusions. This thesis aims at an extensive examination of possibilities for international treaties to have the competence to establish the new type of HSMPAs. Thus, a positive approach which examines every obscurity which holds out a bit of possibility would be appropriate to find the proper answer to the main question of this thesis.

As the new type of HSMPAs is an issue which has recently arisen in the international community, significant resources for searching such possibilities are openly available on websites. International treaties and their institutional decisions are for the most part openly available. Since the purpose of this study is not to research empirical data, it is appropriate that most of the sources for this research should be based on theoretical bases from both library archives and the Internet. Often the most recent developments, and some informal institutional discussions are either unavailable online or are not intended for publication. Such information, however, is required (particularly for Chapters V and VI) and has been obtained through email correspondence with relevant staff in the concerned organizations.

CHAPTER II. DEVELOPMENT OF THE CONCEPT OF MPA FOR THE PROTECTION OF HIGH SEAS ECOSYSTEMS

Within national jurisdiction, whether on land or water, it has been traditional for the patterns of natural resource use to be altered by the designation of protected areas. These traditional protected areas have been practised also on the high seas mostly in the form of fisheries closures. Until recently, high seas area closures had not been considered as a major tool for ecosystem conservation. However, over the last ten years calls for high seas conservation, as well as for the establishment of High Seas Marine Protected Areas (HSMPAs), have rapidly increased. This chapter will mainly explore the recent calls for HSMPAs, and why such calls have been made and how the recently called HSMPAs are distinctive from traditional area closures. Such calls for the establishment of HSMPAs can be confirmed in the current literature, largely in reports from relevant conferences and meetings. Relevant meetings and their reports organized in relation to specific international treaties are not dealt with in this chapter since these will be reviewed in Chapters V and VI. This chapter will also not discuss those special programmes which exclusively deal with specific underwater features on the high seas (for instance, cold-water coral protection by the International Coral Reef Initiative). The reason for this absence is that aside from these specific programmes there are enough numbers of meetings and conferences which are able to confirm the recent international calls for HSMPAs. After the confirmation of the international calls for HSMPAs, in the course of examining the distinctions between traditional marine protected areas (MPAs) and the new kind of HSMPAs, the last section of this chapter will attempt to establish a definition for the new kind of HSMPAs.

2.1. Calls for Marine Protected Areas on the High Seas

The high seas, which are legally defined as water lying beyond national jurisdiction, have different physical characteristics from coastal water. The high seas including the deep-sea beyond the shallow continental shelf usually exhibit a higher biodiversity but lower density of population and limited productivity. These mostly result from the lower level of nutrients and accessibility of light. In addition to these physical conditions, the frequency and variety of human activities in the high seas, and as a result the social and economic values of and scientific knowledge available, are limited when compared to coastal waters.¹ Because of these differences MPAs could have different effectiveness, and different functions can be required depending on whether they are established in coastal waters or in the high seas. Recent international conferences on high seas conservation have encouraged the adoption of MPAs for high seas conservation which so far have been mostly used for coastal protection. Many of them proposed some distinctive functions for HSMPAs from coastal MPAs.

The following subsections review all the significant conferences and meetings which refer to HSMPAs and confirm the distinctive functions suggested for HSMPAs. These international meetings and conferences can be categorised into three groups depending on host organizations or theme as follows: World Parks Congress series by the International Union for Conservation of Nature (IUCN); other non-governmental special meetings on HSMPAs; and, meetings relating to the United Nations. Instead of simply reviewing the chronological evolution of issues concerning HSMPAs in international conferences and meetings, this chapter tries to explain what has generated the extension of the MPA beyond national jurisdiction and what are those special functions for the new kind of HSMPAs.

¹IUCN, *The Status of Natural Resources on the High Seas*, Gland, Switzerland, WWF/IUCN, 2001, <http://cmsdata.iucn.org/downloads/highseas.pdf> (accessed on 6 October 2008).

2.1.1. World Parks Congress Series by IUCN

The initiative to pay attention to protected areas in a cooperative manner was raised in the first World Conference on National Parks held in Seattle, USA in 1962. Since then four more conferences under the title of the World Parks Congress have been held at ten-yearly intervals. All these meetings were organized by the IUCN. The topic of MPAs has been continuously included and the scope of the application has extended from shorelines to the high seas in the five Congresses which have followed.

The first World Conference on National Parks emphasised the connectivity between land and sea, and recommended the establishment of marine parks or reserves to protect especially important areas in offshore as well as near-shore waters.² The recommendation noted the extension of protected areas up to, “the water to the 10 fathom or the territorial limit or some other appropriate offshore boundary.”³ There were no further details on the geographical scope of this extension. The second World Parks Congress held in Yellowstone and Grand Teton, USA in 1972 recommended that existing parks and reserves on land should be enlarged to include and protect interrelated marine ecosystems.⁴ This Congress also did not specify the geographical scope of the extension. When these two Congresses were held in 1962 and 1972 the concept of the exclusive economic zone (EEZ) had not been fully developed,⁵ so coastal States mostly exercised their exclusive jurisdiction within the thin layer of the territorial sea. As the sea beyond the territorial sea was the high seas at that time it was not impossible for the enlarged protected areas to cover the high seas. However, the recommendations of both conferences imply that at the time of discussions the marine parks or reserves were mainly regarded as a prolongation of

² The Recommendations of the first World Conference on National Parks are available in Alexander B. Adams (ed.), *First World Conference on National Parks; Proceedings*, Washington, USA, National Park Service, U.S. Dept. of the Interior, 1964, pp. 375-386.

³ Recommendation No. 15, *ibid.*, p. 382.

⁴ National Parks Centennial Commission, *Preserving a Heritage; Final Report to the President and Congress*, Washington, USA, 1973, pp.158-159.

⁵ See Robin R. Churchill and A. Vaughan Lowe, *The Law of the Sea*, Manchester University Press, 1999, p. 160.

the protection of terrestrial ecosystems rather than being focused on the protection of marine ecosystems. Considering this and that the locations of marine protected areas were usually alongside and close to the shoreline at the time of the discussions, it may not be correct to assume that these recommendations intended to expand MPAs beyond national jurisdiction. There were no specific discussions on how human activities impacted on the marine ecosystems.

The third World Parks Congress held in Bali, Indonesia in October 1982 provided recommendations on 19 different topics relating to the protected areas.⁶ This Congress encouraged the establishment of more protected areas and more research programmes on the marine environment.⁷ It also recommended improving cooperation in order to create networks of marine protected areas for endangered and threatened species and integrated management of land and sea up to the outer edge of the continental shelf.⁸ This Congress recognised the important role of MPAs to preserve “the genetic diversity of wild species,” providing *in situ* protection.⁹ Ten years after this Congress, the protection in natural habitats could be expressly assisted by the *in-situ* conservation adopted in the 1992 Convention on Biological Diversity (CBD).¹⁰

This Congress may have been the first international conference that paid attention to the establishment of protected areas on the high seas which were reduced by the EEZs which have been practised since the late 1970's,¹¹ and which were finally codified in the 1982 Law of the Sea Convention (LOSC). This meeting was held a few months before the LOSC was signed, so negotiated issues in the LOSC might have implicitly or explicitly influenced the Congress. Some phrases of its recommendations can be read in such a context: “coastal nations adhere to the Convention on the Law of the Sea as an important step in ocean conservation”; when

⁶ The directly related recommendation on marine affairs are 3. Marine and Coastal Protected Areas, 4. Antarctica. See details in Jeffrey A. McNeely, and Kenton R. Miller (eds.), *National Parks, Conservation, and Development - The Role of Protected Areas in Sustaining Society*, IUCN, Washington, D.C., 1984, pp.765-776.

⁷ *Ibid.*, pp.766-767.

⁸ *Ibid.*

⁹ Recommendation 10. Conservation of Wild Genetic Resources, *ibid.*, p.771.

¹⁰ Article 8 and 9, the Convention on Biological diversity (CBD), adopted on 22 May 1992, entered into force on 29 December 1993, *UNTS*, Vol. 1760, p.79.

¹¹ Churchill and Lowe, *supra* note 5, p. 160.

establishing sanctuaries in open ocean and deep-sea, all States need to “act through the Law of the Sea Convention.”¹² The Congress recommended all nations “to establish large sanctuaries in the open ocean in order to collect further knowledge of those areas beyond the limits of national jurisdiction and to protect the Common Heritage of Mankind.”¹³ The primary purpose of the protected areas on the high seas was to learn about the open ocean environment, rather than the prevention of environmental degradation. This purpose implies that the ecosystem approach and the precautionary principle for enhancing conservation did not need to be adopted to support this early HSMPA. This Conference devoted some effort to adopting the ecosystem approach in relation to fisheries management.¹⁴ These efforts, however, were not directly involved in the establishment of HSMPAs.

The fourth World Congress on National Parks and Protected Areas held in Caracas, Venezuela in February 1992 approved 22 Recommendations.¹⁵ While the Bali Recommendations on MPAs focused on the extension of limited knowledge of the ocean, the Caracas Recommendations emphasised the role of MPAs more on safeguarding all types of marine ecosystems and habitats through constructing the national system and the global representative system of marine protected areas. The focus of the fourth Congress moved onto conservation function of MPAs did not result from the availability of complete knowledge on the marine environment. The scientific knowledge on the marine ecosystems was still largely unavailable and technology was needed to be further developed to obtain this knowledge. Thus, conservation of marine ecosystems without such knowledge could not be persuasive or be controversial. This Congress also recommended other non-feasible management guidelines which may not be able to be realised in the near future. Such guidelines

¹² Recommendation 3. Marine and Coastal Protected Areas, McNeely, and Miller (eds.), *supra* note 6, p.767.

¹³ *Ibid.* ‘The Common Heritage of Mankind’ may mean all natural heritages of open ocean rather than mineral resources on the international seabed.

¹⁴ The Congress “recommends to governments that all fishery regimes and agreements be reviewed with a view to promoting management on an “ecosystem as a whole” basis, following the model of the Convention on the Conservation of Antarctic Marine Living Resources.” *Ibid.*

¹⁵ The directly related recommendation on marine affairs is Recommendation 11. Marine Protected Areas. See IUCN, *Parks for Life: Report of the IVth World Congress on National Parks and Protected Areas*, Gland, Switzerland, IUCN, 1993, pp. viii +260. Caracas Action Plans, Recommendations, and Declaration are on pp. 25-54.

include the integrated management of land and sea which also requires the detailed knowledge on the marine ecosystems.¹⁶ There was no specific discussion on high seas protection in this Congress. It might have been timely for the Congress to discuss the issue, because fisheries beyond national jurisdiction have been seriously expanded since the late 1970s and the high seas fishing has caused many problems since the late 1980s.¹⁷

The issue of protecting marine biological diversity beyond national jurisdiction was specifically discussed again during the fifth World Parks Congress, held in Durban, South Africa in 2003.¹⁸ This Congress not only increased the total number of issues discussed, but also reaffirmed previously adopted principles and embraced new environmental principles. The environmental principles include the best available science, the precautionary principle, the ecosystem-based fisheries management and the sustainable fisheries management. Contrary to the previous discussions on high seas protection at the Bali Congress, the Durban Congress devoted an entire section for the high seas protected areas. As stated in Durban Recommendation 23, Protecting Marine Biodiversity and Ecosystem Processes through Marine Protected Areas beyond National Jurisdiction, the increased concerns on HSMPAs in international conferences influenced this Congress to have a separate discussion on the high seas conservation.¹⁹ The international conferences which influenced this Congress on HSMPAs were the World Summit on Sustainable Development (WSSD) (Johannesburg, 2002), the second IUCN World Conservation Congress (Amman, 2000), the eighth meeting of the Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA) of the CBD (2003), the seventh Conference of

¹⁶ Recommendation 11. Marine Protected Areas, *ibid.*, pp.41-42.

¹⁷ Churchill and Lowe, *supra* note 5, p. 299.

¹⁸ The directly related recommendations on marine issues are 10. Policy Linkages between Relevant International Conventions and Programmes in Integrating Protected Areas in the Wider Landscape/Seascape, 22. Building a Global System of Marine Coastal Protected Areas Networks, and 23. Protecting Marine Biodiversity and Ecosystem Processes through Marine Protected Areas beyond National Jurisdiction. See Recommendations of the Vth IUCN World Parks Congress, in IUCN, *Benefits Beyond Boundaries, Proceedings of the Vth IUCN World Parks Congress*, Gland, Switzerland and Cambridge, UK, IUCN, 2005, pp. ix + 306, currently partly available at http://www.iucn.org/about/union/commissions/wcpa/wcpa_work/wcpa_wpc/index.cfm (accessed on 6 October 2008).

¹⁹ See WPC Recommendation V. 23 Protecting Marine Biodiversity and Ecosystem Processes through Marine Protected Areas beyond National Jurisdiction, *ibid.*, p. 194.

Parties to the CBD (2004) and the fourth Meeting of the United Nations Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) (2003).²⁰ The recommendation on HSMPAs from this Durban Congress still emphasised the need for research on marine ecosystems.²¹ However, it definitely focuses more on the conservation of the marine environment than on the information collection. It recommended that the conservation should be conducted through global cooperation and coordination between existing international organizations and legal frameworks.²² This global cooperation should result in the implementation of the precautionary principle and ecosystem-based management.²³ This Congress provided more specific subjects of protection, such as “biodiversity, species, productivity and ecosystem processes on the high seas,”²⁴ while the Bali Congress suggested a broad subject, the Common Heritage of Mankind.²⁵ The Durban Congress recommended the establishment of at least five representative HSMPAs in the World’s oceans by 2008.²⁶ In addition, States were encouraged to make progress for the implementation of the joint plan of WSSD, especially the target to establish networks of MPAs by 2012.²⁷

As noted above, the most recent recommendation adopted by the Durban Congress was influenced by the second World Conservation Congress held in Amman, Jordan in 2000. This meeting was organized by the same host organization of the World Parks Congress series, the IUCN. This Congress adopted Resolution 2.20, Conservation of Marine Biodiversity. Although this resolution does not specifically refer to HSMPAs, it is worth reviewing briefly the content of the resolution which influenced Recommendation V.23 on the high seas conservation of the Durban

²⁰ *Ibid.*, pp. 194-195. See further discussions on the CBD meetings in Chapter V.

²¹ Paragraph 3 in the WPC Recommendation V. 23, *ibid.*, p. 195.

²² Paragraph 6 in the WPC Recommendation V. 23, *ibid.*, p. 196.

²³ *Ibid.*

²⁴ *Ibid.*, p. 195.

²⁵ McNeely, and Miller (eds.), *supra* note 6, p. 767. This Common Heritage of Mankind from the Bali Congress is different from the concept adopted for the Part XI International Seabed Area in the 1982 LOSC. The term used in the Bali Congress refers to all natural heritages in open ocean.

²⁶ WPC Recommendation V. 23 Protecting Marine Biodiversity and Ecosystem Processes through Marine Protected Areas beyond National Jurisdiction, *supra* note 18, pp. 194-196.

²⁷ *Ibid.* See further discussions on the WSSD in section 2.1.3.

Congress.²⁸ Resolution 2.20 refers to the fact that the marine biodiversity both in national jurisdiction and the high seas should be managed as a whole based on the precautionary principle laid down in Principle 15 of the Declaration of the United Nations Conference on Environment and Development (the Rio Declaration), which means “the lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.²⁹

Since 1982 States through these IUCN meetings have been encouraged to adopt suitable measures for conservation of high seas ecosystems including HSMPAs. In particular, the most recent meeting of the World Park Congress series has endeavoured to encourage existing organizations and legal frameworks for the cooperation and coordination of the management efforts incorporating the ecosystem approach and the precautionary principle into their recommendations. These principles also appear in the series of recent meetings on HSMPAs which will be reviewed in the following sections.

2.1.2. Other Non-governmental Special Meetings on HSMPAs

The World Wide Fund for Nature (WWF) organized a regional workshop, the Workshop on Marine Protected Areas in the North-East Atlantic held in Brest, France (the Brest Workshop) in 1999 to discuss MPAs. This workshop encouraged existing regional legal frameworks (such as the Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention), the Conference on the Protection of the North-Sea (the North-Sea Conference) and the European Union’s Habitats Directive) to adopt appropriate strategies for “an ecologically representative network of MPAs” to protect the marine environment in the North-East Atlantic.³⁰

²⁸ Resolution 2.20 Conservation of Marine Biodiversity, adopted at the 2nd World Conservation Congress, Amman, Jordan, IUCN, 2000, available at <http://www.iucn.org> (accessed on 6 October 2008).

²⁹ Principle 15 of the Rio Declaration on Environment and Development, Rio de Janeiro, Brazil, UNCED, June 1992, available at <http://www.unep.org> (accessed on 6 October 2008).

³⁰ “Promoting a Network of Marine Protected Areas (MPAs) in the North-East Atlantic,” WWF’s North-East Atlantic Programme, <http://www.ngo.grida.no/wwfneap/Projects/MPA.htm> (accessed on 6 October).

During the Workshop, the WWF suggested that effectively managed MPAs should cover at least 10% of the North-East Atlantic Ocean, and this aim should be achieved by the year 2010.³¹ There were discussions on HSMPAs, but this measure was considered to be a future challenge, rather than an urgent matter.

The Expert Workshop on Managing Risks to Biodiversity and the Environment on the High Seas, Including Tools such as Marine Protected Areas – Scientific Requirements and Legal Aspects (the Vilm Workshop) was held in the Isle of Vilm, Germany, from 27 February to 4 March 2001.³² This was perhaps the first workshop entirely devoted to and having a substantive bearing on discussing the controversial issue of closing the high seas. The discussions in this workshop were largely divided into two issues: scientific aspects of potential threats to the high seas environment and legal aspects on the establishment of high seas marine protected areas.³³ While the Brest Workshop simply applied the same concept of coastal protected areas to the high seas, the Vilm Workshop participants attempted prudently to distinguish HSMPAs from the traditional coastal MPAs. As a result, they decided not to apply any existing concept of MPAs to define HSMPAs.³⁴ Although a definition of HSMPAs was not specified, they pointed out a special purpose of HSMPAs: achieving “management of risks to biodiversity and other components of the marine environment in the high seas.”³⁵ In this way, they distinguished HSMPAs from the traditional MPAs.

³¹ “Developing a Framework for Marine Protected Areas in the North-East Atlantic,” Report from the Workshop held 13-14 November 1999 in Brest, France, WWF International, p.3, http://www.ngo.grida.no/wwfneap/Projects/Reports/wwf_mpa.pdf (accessed on 6 October 2008).

³² Hjalmar Thiel & J. Anthony Koslow (eds.), *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools Such as Marine Protected Areas –Scientific Requirements and Legal Aspects* – Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 2001, <http://www.bfn.de/fileadmin/MDB/documents/proceed1.pdf> (accessed on 6 October 2008).

³³ See Thiel & Koslow (eds.), *ibid.*; Kristina. M. Gjerde, “Summary Report of the Vilm Expert Workshop on Managing Risks to Biodiversity and the Environment on the High Seas, Including Tools Such as Marine Protected Areas –Scientific Requirements and Legal Aspects—Isle of Vilm, Germany, 27 February-4 March 2001”, Prepared for the Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, 16 - 20 June 2003, pp. 1-2. Available at <http://www.highseasconservation.org> (accessed on 6 October 2008).

³⁴ See “Conclusions and Summary Record of the Expert Workshop on Managing Risks to Biodiversity and the Environment on the High Seas, Including Tools such as Marine Protected Areas”, Thiel & Koslow (eds.), *supra* note 32, pp.15-30, p.16.

³⁵ *Ibid.*

In addition to this attempt to distinguish the conceptual difference between traditional MPAs and the new kind of HSMPAs, the Vilm Workshop suggested actual candidates of components of high seas ecosystems which may need to be protected by HSMPAs.³⁶ Such candidates include seamounts, cold-water coral reefs, hydrothermal vents, deep-sea fish, seabirds, cetaceans, and scientifically researched areas.³⁷ This Workshop recommended the involvement of relevant international treaties and organizations when taking management actions to regulate specific threats to these components.³⁸ The treaties and organizations specifically referred to are the CBD, the Food and Agricultural Organization (FAO) and the International Seabed Authority (ISA).³⁹ This Workshop particularly emphasised the role of the LOSC to safeguard the deep-sea features. Participants believed that the LOSC “provided the framework for all actions to conserve biodiversity” of the high seas.⁴⁰ This Workshop also suggested that the UN General Assembly (UNGA) and other relevant treaties can further contribute legal bases of high seas conservation adopting appropriate measures through resolutions or amendment of the treaties.⁴¹ If more legal justification is necessary, the establishment of a new treaty can also be considered.⁴² This Workshop facilitated implementation of the integrated oceans management and the precautionary approach when taking such protective measures.⁴³ In addition to these recommendations, this Workshop suggested that: conflicting demands among States in international organizations should not interrupt the adoption of appropriate protective measures; the performance of the adopted measures should be periodically reviewed; and, any new scientific information on the deep-sea features should be shared among States and organizations to determine most appropriate management

³⁶ *Ibid.*, p.15.

³⁷ *Ibid.*

³⁸ *Ibid.*, p.17.

³⁹ *Ibid.*

⁴⁰ *Ibid.*, p.15.

⁴¹ *Ibid.* p.17.

⁴² *Ibid.*

⁴³ *Ibid.*

actions for protecting specific deep-sea features.⁴⁴ This Workshop called further discussions on this issue in other international meetings such as the UNICPOLOS.⁴⁵

The Expert Workshop on High Seas Marine Protected Areas held on 15-17 January 2003 in Malaga, Spain (the Malaga Workshop) discussed more substantial subjects on HSMPAs than the Vilm Workshop.⁴⁶ This Malaga Workshop encouraged multidisciplinary cooperation and focused on the establishment of more practical plans. Thirty-eight experts in law, biophysics, and social science developed an action plan to facilitate world-wide participation in high seas conservation by establishing marine protected areas.⁴⁷ The Malaga Workshop primarily aimed to conform to the recommendations on marine biodiversity conservation provided by the 2002 WSSD.⁴⁸ The WSSD sets targets for the development of the representative network of MPAs by 2012 and the application of the ecosystem approach by 2010.⁴⁹ This Workshop was organized particularly to discuss achieving this target in terms of HSMPAs.⁵⁰

This Workshop reiterated the urgent need to conserve high seas environment which was confirmed in previous international meetings. To solve the urgent need, the Malaga Workshop emphasised roles of relevant legal frameworks to reinforce cooperation between States and international organizations in order to establish HSMPAs and to protect high seas biodiversity, and to strengthen their enforcement.⁵¹ For these purposes three actions were suggested: the creation of expert networks of States, international organizations, non-governmental organizations, and media; increased public attention to the need of HSMPAs; and the establishment of at least

⁴⁴ *Ibid.*, pp.15-19.

⁴⁵ *Ibid.*

⁴⁶ This Workshop was organized by IUCN, the World Commission on Protected Areas (WCPA) and WWF International. Kristina M. Gjerde and Charlotte Breide (eds.), *Towards a Strategy for High Seas Marine Protected Areas – Proceedings of the IUCN, WCPA and WWF Experts Workshop on High Seas Marine Protected Areas, Malaga, Spain, IUCN, January 2003*, http://cmsdata.iucn.org/downloads/towards_a_strategy_for_hsmipas.pdf (accessed on 6 October 2008).

⁴⁷ *Ibid.*, p. 1.

⁴⁸ Report of the Secretary-General, "Oceans and the Law of the Sea," August 2003, UN A/58/65/Add.1, para. 78, p. 23.

⁴⁹ "Report of the World Summit on Sustainable Development," Johannesburg, South Africa, 26 August- 4 September 2002, UN A/CONF.199/20*, p. 25.

⁵⁰ Gjerde and Breide (eds.), *supra* note 46, p.1.

⁵¹ *Ibid.*, p.2.

one sample of HSMPA.⁵² This Workshop further proposed subsidiary actions to support the three actions. These subsidiary actions included research on relevant international law: review of current laws regarding high seas biodiversity protection; coordination of the relevant international, regional and national laws and policies; minimisation of existing legal gaps; and, specification of a comprehensive legal framework for HSMPAs based on existing legal frameworks or creation of a new one.⁵³ Other subsidiary actions included that public access to all available scientific, legal, and policy information should be guaranteed; scientific research activities on the high seas biodiversity should be encouraged; international cooperation program including education and training should be initiated; and immediate action should be taken to protect seamounts, hydrothermal vents, and cold-water corals based on the precautionary principle.⁵⁴

While the two previous workshops (Vilm and Malaga Workshops) focused mostly on the one protection measure of HSMPAs, the Workshop on the Governance of High Seas Biodiversity Conservation (the Cairns Workshop), held in Cairns, Australia in June 2003 dealt with not only MPAs but also other broader issues concerning high seas governance. This Workshop was a WSSD partnership initiative organized by a variety of participants from Australia, Canada, UK, Cambodia, New Zealand, USA, and international organizations, such as the IUCN, the WWF, the International Maritime Organization (IMO), the ISA, and the FAO.⁵⁵

This Cairns Workshop provided further discussions on the important issues dealt with in previous workshops, and suggested possible options for future consideration. There were discussions on the applicability of environmental law principles such as the ecosystem-based management, the precautionary principle, and the intergenerational equity.⁵⁶ It was pointed out that the meanings of these principles

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ *Ibid.*, pp.2-3.

⁵⁵ "Summary Record of Discussion and Suggestions for a Way Forward," Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, June 16-19 2003, <http://www.environment.gov.au/coasts/mbp/publications/general/pubs/highseas-workshop-summary.Pdf> (accessed on 6 October 2008).

⁵⁶ *Ibid.*

have not been generally agreed yet, so clarifying the definitions should be preceded before considering actual application.⁵⁷ As other workshops recommended, this Workshop also suggested the consideration of strengthening public awareness of the need of high seas protection, and cooperation at the international, regional and subregional level.⁵⁸ It was also repeated that the flexible interpretation, or amendment of existing legal frameworks or creating new arrangement is necessary to be adapted to the rapidly changing public interest and technology.⁵⁹

The Cairns Workshop provided detailed short-term options and medium-term to long-term options for high seas conservation.⁶⁰ Among the short-term options, the designation of ‘a pilot’ HSMPA is included.⁶¹ Medium to long-term options relating to HSMPAs were mostly concerned with the application of existing legal frameworks for HSMPAs. For instance, the CBD was recommended to be amended to support HSMPAs.⁶² The IMO was recommended to utilise the existing specific site protection measures, such as particularly sensitive sea areas, for the biodiversity protection.⁶³ The ISA was recommended to expand its jurisdiction to other than regulating exploitation of mineral resources in the international seabed area (the Area),⁶⁴ such as the establishment of ‘conservation zones’ in consistence with the CBD and the LOSC.⁶⁵ In addition, regional fisheries management organizations were recommended to develop scientific research programmes to identify sites where urgent protection is needed, and to establish MPAs.⁶⁶

Two years after this workshop, the First International Marine Protected Areas Congress was held in 2005. This Congress was the first international conference

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² *Ibid.*, pp. 4-5.

⁶³ *Ibid.*

⁶⁴ According to the Article 133 and 137(2) of the LOSC, the ISA has only limited authority on behalf of humankind to manage mining related activities on the Area.

⁶⁵ Cairns Workshop Record, *supra* note 55, pp. 4-5.

⁶⁶ *Ibid.*

entirely focused on marine protected areas in general⁶⁷ and partly dealt with HSMPAs. It reviewed recent international efforts for establishing HSMPAs by international legal instruments and non-governmental meetings⁶⁸ and it pointed out problems of existing legal instruments for supporting and implementing HSMPAs. For example, most of regional fisheries management organizations (RFMOs) have purposes which are too specific and narrow, so much so that they cannot establish HSMPAs solely for the protection of biological diversity.⁶⁹ Delegates who participated in high seas issues proposed options including the establishment of an implementing agreement of the LOSC for HSMPAs; coverage of discreet fish stocks by the UN Fish Stocks Agreement (UNFSA); and, “establishing “Marine Ecosystem and Resource Management Organizations” (“MERMOS,” similar to but broader than RFMOs) to balance fishing, shipping and conservation under the same umbrella.”⁷⁰ Some papers presented during this meeting referred to HSMPAs with the ecosystem approach.⁷¹ However, this meeting did not specifically recommend the implementation of HSMPAs with the ecosystem approach and for conservation of the three deep sea features.

Most recently, a Workshop on High Seas Governance for the 21st Century was organized by the IUCN in 2007. This Workshop provided recommendations for improving current high seas management. In relation to HSMPAs, the WSSD’s goal of representative network of MPAs by 2012 was mentioned.⁷² In addition, several recommendations dealt with the identification of particularly vulnerable high seas

⁶⁷ Jon C. Day, John Senior, Simon Monk and Wayne Neal (eds.), *First International Marine Protected Areas Congress*, 23-27 October 2005, conference proceedings: IMPAC1 2005, Geelong, Victoria, Australia, 2007, p. 3. Obtained through email correspondence with a staff in ASN Event P/L. Information on this Congress is available at <http://www.asnevents.com.au>.

⁶⁸ IMPAC1-Summary of Progress on High Seas MPAs as of September 2005, *ibid.*, pp.121-124.

⁶⁹ *Ibid.*, p.122.

⁷⁰ The UN Fish Stocks Agreement refers to the UN 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), adopted on 4 August 1995, entered into force on 11 December 2001, *UNTS*, Vol. 2167, p. 88. The quote from Summary of Concurrent Session Discussion at IMPAC1 on High Seas MPAs, *ibid.*, p. 126.

⁷¹ For example see a paper by Susie M. Grant, “Challenges of MPAs Development in Antarctica: A Strategic Approach,” *ibid.*, pp. 455-456.

⁷² See section 2.1.3 for further details on the WSSD.

ecosystems and the initiation of an HSMPA.⁷³ The recommendations of this Workshop did not particularly refer to specific deep sea features and did not especially attempt to connect HSMPAs with specific environmental principles, such as the ecosystem approach. The ecosystem approach was mentioned in relation to a current gap for high seas governance identified by participants of the Workshop, which is the lack of systematic application of the environmental principles including the ecosystem approach.⁷⁴ One of the suggested solutions for such a gap is the establishment of a new treaty for high seas governance with the ecosystem approach preferably an implementing agreement under the LOSC elaborating its existing general provisions.⁷⁵ This new treaty would include an explicit provision on HSMPAs,⁷⁶ so it may implement HSMPAs combined with the ecosystem approach.

The reason why the two most recent Congress and Workshop did not specify the three deep sea features and the ecosystem approach in connection with HSMPAs is not that these targets and principles have become insignificant. Those features and principles should still be considered significant, since the UN meetings which will be reviewed in section 2.1.3 have called for the conservation of the deep sea features with the ecosystem approach until recently. The reason why the meetings avoided directly referring to the features and principles in connection with HSMPAs might be that the addition of those conditions can cause more complexities in implementing HSMPAs under existing legal instruments.

2.1.3. UN Meetings

Although the issue of HSMPA was first discussed at the Bali Congress in 1982, international conferences were not actively involved in the issue until the late 1990s.

⁷³ Workshop on High Seas Governance for the 21st Century, New York, USA, October 17-19, 2007, Co-Chairs' Summary Report, IUCN, December 2007, <http://www.iucn.org/themes.marine/high-seas-workshop-oct07.html> (accessed on 27 June 2008).

⁷⁴ *Ibid.*, p. 20.

⁷⁵ *Ibid.*, pp. 23-24; See Duncan Currie, Background on a Draft Implementation Agreement, Thought Pieces presented during the Workshop on High Seas Governance for the 21st Century, New York 2007, <http://www.iucn.org/themes.marine/high-seas-workshop-oct07.html> (accessed on 27 June 2008).

⁷⁶ Workshop on High Seas Governance for the 21st Century, *ibid.*, p. 24.

The meetings convened by the UN were no exception to this trend. Several international meetings by the UN dealt with MPAs in between the first Bali discussion and the recent invigoration from the late 1990s. These meetings, however, never referred to HSMPAs directly. The 1987 Brundtland Report, published by the 1983 World Commission on Environment and Development convened by the UN, mentioned the establishment of national park systems taking a more “strategic approach” than the traditional systems.⁷⁷ However, this did not contain the issue of protecting the high seas with MPAs. Following the Brundtland Report, the United Nations Conference on Environment and Development (UNCED) was convened by the General Assembly Resolution 44/228 in 1992.⁷⁸ This Conference adopted Agenda 21 which contains a “comprehensive plan of action” for improving the natural environment.⁷⁹ Chapter 17.7 and 17.85 of Agenda 21 encourage coastal States to establish protected areas within national jurisdiction to strengthen integrated coastal zone management and sustainable use of marine resources. There was no specific mention of the high seas protected areas, but it includes certain consideration of high seas conservation in paragraph 17.46 urging States to “preserve habitats and other ecologically sensitive areas”⁸⁰ of the high seas.

The UN Commission on Sustainable Development (UNCSD) was established to facilitate the implementation of the recommendations of UNCED including Agenda 21.⁸¹ The role of this institution on marine issues is to facilitate discussions of UN member States on the political aspects of ocean affairs and continue reviewing key ocean issues.⁸² The issue on HSMPAs was raised at one of its meetings held in the late 1990s. The seventh session of the UNCSD held on 1 May and 27 July 1998, and

⁷⁷ World Commission on Environment and Development, *Our Common Future*, Oxford University Press, 1987, pp. 157-159 and 163-166; Philippe Sands, *Principles of International Environmental Law*, Cambridge University Press, 2003, p. 49.

⁷⁸ Sands, *ibid.*, pp.52-53.

⁷⁹ Agenda 21, Rio de Janeiro, Brazil, June 1992, UNCSD, A/COF.151/26(Vol.II), <http://www.un.org/esa/sustdev/documents/agenda21/index.htm> (accessed on 6 October 2008).

⁸⁰ Chapter 17, Paragraph 46 of Agenda 21, *ibid.*

⁸¹ Alan J. C. Simcock, “The UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) – Current Status” in Thiel & Koslow (eds.), *supra* note 32, pp.133-136, pp. 133-134; “CSD Intersessional Ad Hoc Working Groups: 22 February -5 March 1999”, *Earth Negotiations Bulletin*, Vol.5, No. 121, available at <http://www.iisd.ca/linkages/> (accessed on 6 October 2008).

⁸² *Ibid.*

19-30 April 1999, dealt particularly with the establishment of marine protected areas for the conservation of marine biodiversity and sustainable ocean use.⁸³ During this meeting, the Australian Delegation added the issue of HSMPAs noting that:

CSD should support efforts to improve international co-operation and coordination on oceans issues, both within national jurisdictions and on the high seas. We recognize that there are now a large number of international fora that are responding to particular sectoral challenges... What the international community does not have is a clear mechanism to bring these sectoral organizations together... Australia believes that improved cooperation between the sectors can assist in ensuring that the needs of marine ecosystems are treated holistically... Of particular concern to Australia is the need to improve the conservation and sustainable use of the biological diversity of the high seas. At present, our collective knowledge of the biological diversity of the high seas is limited. But the more we learn the greater the potential value appears. Ecosystems and sub-systems are being identified that would clearly benefit from a conservation and sustainable use approach - or at least from some precautionary measures - to their initial exploration and utilization... Obviously such arrangements must be consistent with the freedom of the high seas, and the provisions of the UN Convention on the Law of the Sea, particularly those relating to the mineral resources of the deep sea bed and the conservation and management of living marine resources... we have suggested that the CSD confirm support for a system of representative marine protected areas within the Exclusive Economic Zones of member States... In the longer term, Australia also supports the development of marine protected areas within the high seas. We recognise that there is currently no international mechanism to allow the declaration of MPA's outside national jurisdictions. Nevertheless, on the basis of experience within our own jurisdiction, Australia considers that such measures will become essential if we are to achieve sustainable multiple use management of the resources of the high seas, their ecosystems and their natural productivity.⁸⁴

As Australia did at this meeting, some States made efforts to raise and support this issue during this meeting, while other States expressed concerns about the adoption of HSMPAs.⁸⁵ Although the need to protect high seas biodiversity by MPAs appeared on the world stage again in this seventh session of the UNCSD, the lack of broad support

⁸³ Decision 7/1(22) Oceans and Seas, "Report on the seventh session of the UN Commission on Sustainable Development," Economic and Social Council, 1999, UN E/CN.17/1999/20, http://www.un.org/esa/sustdev/documents/docs_csd7.htm, p.16 (accessed on 6 October 2008).

⁸⁴ "Seventh Session of the Commission on Sustainable Development Oceans and Seas – Statement by Senator the Hon Robert Hill Leger of the Government in the Senate Minister for the Environment and Heritage Australia," New York, USA, 19-30 April 1999, <http://www.deh.gov.au.miniter/env/99/sp22apr99.html> (accessed in 2005. URL no longer exists).

⁸⁵ Paragraph 26. "Some delegations proposed the development of a global representative system of marine protected areas within and across national jurisdictions. A note of caution was voiced for applying the concept of marine protected areas on the high seas without any agreement on their sustainable use. It was recommended to focus on coastal areas and on encouraging every State concerned to exercise its national jurisdictions. It was also emphasized that further work in this area should be in line with the Programme for the Further Implementation of Agenda 21 adopted by the General Assembly at its nineteenth special session."

Decision 7/1(22) of the UNCSD, supra note 83, p. 27; "CSD Intersessional Ad Hoc Working Groups: 22 February -5 March 1999", supra note 81.

ruled out the formal inclusion of the topic into the conclusions of the meeting. In the final document of the meeting, the focus was on strengthening the protection of coastal areas.

Although the UNCSD failed to reach an agreement on HSMPAs, other meetings supported by the UN have adopted non-binding guidelines which are likely to support HSMPAs. These ‘soft law’ instruments have been provided to aid the resolution concerning the potential environmental degradation of the high seas, and have filled the gaps between the need of high seas protection and the existing legal frameworks that do not fully support the HSMPAs. These soft law instruments encourage the implementation of HSMPAs particularly based on the ecosystem approach and the precautionary principle. The most frequently referred to soft law instrument on HSMPAs prepared by UN is the implementation plan adopted by the WSSD.

A forum for ocean affairs by the UN that provides “the most comprehensive and direct high level policy document on the sustainable development of the world’s oceans and coast since Chapter 17 of Agenda 21”⁸⁶ was the WSSD held in Johannesburg, South Africa in 2002. The need to safeguard marine biodiversity, argued in many conferences and workshops since the 1992 UNCED, was reaffirmed and developed to be applied beyond national jurisdiction by the WSSD. The WSSD highlighted the need to take action to:

32. In accordance with chapter 17 of Agenda 21, promote the conservation and management of the oceans through actions at all levels, giving due regard to the relevant international instruments to:

(a) Maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction;

...

(c) Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012, time/area closures for the protection of nursery grounds and periods, proper coastal land use and watershed planning and the integration of marine and coastal areas management into key sectors.⁸⁷

⁸⁶ Alfonso Ascencio and Michael Bliss, “Conserving the Biodiversity of the High Seas and Deep Oceans: Institutional Gaps in the International System”, prepared for Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, June 2003. Available at <http://www.highseasconservation.org> (accessed on 6 October 2008).

⁸⁷ Resolution 2- Plan of Implementation of the World Summit on Sustainable Development, “Report of the World Summit on Sustainable Development,” supra note 49, pp. 24-25.

There were actual discussions on MPAs beyond national jurisdiction during the informal consultations on ocean affairs by the Working Group I of the WSSD Preparation Committee III in April 2002.⁸⁸ These paragraphs were adopted after such actual discussions on HSMPAs. Many writers have interpreted after this implementation plan was completed that those paragraphs may explicitly encourage HSMPAs. If these paragraphs are read in conjunction, they would explicitly require the establishment of HSMPAs. However, since those paragraphs on MPAs and high seas conservation are separated it could be argued that this implementation plan hardly directly recommends the establishment of HSMPAs. This call by WSSD for the protection of high seas biodiversity and adoption of MPAs has been reiterated many times in reports from other UN meetings.

In addition to this forum, conservation of the high seas has been discussed by several standing agencies of the UN. In the UN system ocean affairs can be reviewed by at least three agencies, including UNGA and the UN Secretary General in addition to the UNCSD. UNGA has provided an annual forum for oceans and the law of the sea. The resolutions adopted by UNGA provide States Parties and international legal instruments with general guidance on the implementation of the LOSC.⁸⁹ By UNGA Resolution 49/28, the role of reviewing the development and implementation of the law of the sea was firmly given to the Secretary-General.⁹⁰ The Secretary-General prepares reports to UNGA on a summary of recent activities by relevant global and regional organizations.⁹¹

The UNICPOLOS which was initially suggested by the UNCSD also has reviewed ocean affairs since its establishment in 2000. Following two reviews of the ocean policy in the UNCSD and two preparatory Workshops held in London in 1996 and 1999,⁹² the 7th Session of the UNCSD “recommended that the General Assembly establish an open-ended informal consultative process, or other processes which it

⁸⁸ “WSSD PreCom III Highlights: Thursday, 4 April 2002”, *Earth Negotiation Bulletin*, Vol.22, No.28, available at <http://www.iisd.ca/process/sustdevt.htm> (accessed on 6 October 2008).

⁸⁹ Ascencio and Bliss, *supra* note 86, p. 25.

⁹⁰ “About the Reports from the Secretary-General,” DOALOS, available at <http://www.un.org/Depts/los/index.htm> (accessed on 6 October 2008).

⁹¹ *Ibid.*

⁹² Simcock, *supra* note 81, p. 134.

may decide, under the aegis of the General Assembly, with the sole function of facilitating the effective and constructive consideration of matters within the General Assembly's existing mandates."⁹³ Finally, by UNGA Resolution 54/33 in 2000, the open-ended informal consultative process received endorsement to coordinate and cooperate for the effective management of ocean affairs at the international level.⁹⁴ The main reason for the addition of the UNICPOLOS was improving the exclusive conduct on ocean management within the UN system by the aforementioned UN agencies involved in ocean affairs.⁹⁵ At the international level, the need for integration, cooperation, and coordination among relevant international organizations, including the UN agencies, has been gradually emphasised since the discussion on high seas biodiversity protection with HSMPAs began. Thus, it can be seen that the recent development of global ocean management required the continuous and specialised review of ocean affairs by a standing institution within the UN.⁹⁶

In addition to these, two more sub-organs relate to ocean affairs within the UN system. The Sub-committee on Oceans and Coastal Areas (SOCA) is a subsidiary body of the UN's Administrative Committee on Coordination. At one time, this SOCA provided the UN member States with the opportunity to discuss ocean matters.⁹⁷ As a result of its inefficiency, this forum was abolished in 2001.⁹⁸ Thus, details of the works of SOCA are not dealt with in this thesis. The States Parties to the Law of the Sea Convention (SPLOS) which has been convened by the Secretary-General since the LOSC entered into force in 1994, mainly discusses the election, budget and administration of the International Tribunal for the Law of the Sea (ITLOS), and the election of the Commission on the Limits of the Continental Shelf.⁹⁹

⁹³ Decision 7/1(39) Oceans and Seas, UNCSD, *supra* note 83, p.21.

⁹⁴ UNGA Resolution 54/33, Results of the review by the Commission on Sustainable Development of the sectoral theme of 'oceans and seas': international coordination and cooperation, January 2000, UN A/RES/54/33.

⁹⁵ "Press Briefing UNICPOLOS – 30 May 2000," DOALOS, http://www.un.org/Depts/los/consultative_process/documents/bRIEF-3.. (accessed in 2005. This document is currently unavailable).

⁹⁶ Simcock, *supra* note 81, p. 134.

⁹⁷ Ascencio and Bliss, *supra* note 86, p. 31.

⁹⁸ *Ibid.*

⁹⁹ "Introduction on SPLOS," DOALOS, http://www.un.org/Depts/los/meeting_states_parties/meeting_states_parties.htm#Introduction (accessed on 6 October 2008).

As this meeting excludes practical issues, it is understandable that it has never been involved in the establishment of HSMPAs. Thus, the work of SPLOS also will not be further discussed.

Besides these two sub-organs, all the three UN agencies and the Consultative Process reviewed have discussed or produced reports on the high seas protection. As reviewed, the seventh meeting of the UNCSD was to some extent involved in HSMPAs. The resolutions from UNGA, reports from the UNICPOLOS and the UN Secretary-General have contained issues concerning high seas protection and MPAs. The relevant resolutions to the LOSC made by the General Assembly contains urgent calls for the protection of marine ecosystems and biodiversity on the high seas, and especially the resolutions from 2002 to 2007 included the same contents as paragraph 32(c) of the plan of implementation of the WSSD.¹⁰⁰ As paragraph 32 of the plan of implementation of the WSSD may not directly refer to HSMPAs, it cannot be correct to conclude that these resolutions refer directly to the issue. UNGA Resolutions relating to the UNFSA have referred to the collection of a database of vulnerable deep-sea features on the high seas and the establishment of marine protected areas in separate paragraphs.¹⁰¹ The most recent resolutions on the UNFSA in 2006 and 2007 contained and reaffirmed one paragraph referring to area closures, the ecosystem approach, and the specific deep sea features altogether.¹⁰² This paragraph encourages regional fisheries management organizations to take protective measures for vulnerable ecosystems. Although it does not specify the high seas it can be assumed as including the high seas because it encourages the organizations to take proper actions in their regulatory areas which mostly include the high seas. However, this

¹⁰⁰ UNGA Resolutions, Oceans and the Law of the Sea, A/RES/62/215, para. 112, 2007; A/RES/61/222, para. 98, 2006; A/RES/60/30, para. 75, 2005; A/RES/59/24, para. 72, 2004; A/RES/58/240, para.54, 2003; A/RES/57/141, para.53, 2002.

¹⁰¹ For example see para.90 and 92 of UNGA Resolution 61/105, Sustainable fisheries, including through 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, and related instruments, March 2007, UN A/RES/61/105.

¹⁰² See paragraph 83, *ibid*; And paragraph 98 of UNGA Resolution 62/177, Sustainable fisheries, including through 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, and related instruments, February 2008, UN A/RES/62/177.

recommendation does not apply to all relevant international organizations. Besides this limited reference to HSMPAs UNGA has confirmed the newly required roles of MPAs, such as the implementation of the ecosystem approach and the precautionary principle, and safeguarding the specific deep sea features.

Eight of nine meetings of the UNICPOLOS have directly dealt with HSMPAs to some extent. Some of the meetings discussed the implementation of the ecosystem approach and the precautionary principle and conservation of the three deep sea features in connection with HSMPAs.¹⁰³ Although HSMPAs have been discussed since the first meeting of the UNICPOLOS, the issue has not been supported by all participants. For example, during its first meeting the pro-HSMPA States emphasised the role of MPAs for integrated ocean management, including high seas management, through regulating many human activities, while opposing States disagreed on the establishment of HSMPAs.¹⁰⁴ Establishment of a new framework convention for HSMPAs was suggested at its third meeting in 2002.¹⁰⁵ The new framework convention, “would be of preventive nature and complementary to the process of establishing marine protected areas to enhance further protection of high seas marine living resources.”¹⁰⁶ The new treaty issue was raised again at the fifth meeting in 2004 by delegations from pro-HSMPAs States. They proposed the establishment of a new treaty for MPAs on the high seas and the international seabed areas.¹⁰⁷ However, opposing States expressed concerns regarding the protection of the high seas ecosystems, far beyond freedom of the high seas, through establishing the new

¹⁰³ For example see “Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its fourth meeting,” UNGA, June 2003, A/58/95, pp. 28-30; Also see (b) summary of discussions in the panel and in the plenary, in “Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its fifth meeting,” UNGA, July 2004, A/59/122.

¹⁰⁴ “Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its first meeting,” UNGA, July 2000, A/55/274, para. 28, p. 13.

¹⁰⁵ Summary of the Discussion Panels A and B (in English) for the areas of focus: (a) the protection and preservation of the marine environment, and (b) capacity-building, regional cooperation and coordination and integrated ocean management, the Third meeting of UNICPOLOS, April 2002, para. 57, http://www.un.org/Depts/los/consultative_process/consultative_process.htm (accessed on 6 October 2008).

¹⁰⁶ *Ibid.*

¹⁰⁷ A/59/122, *supra* note 103, para. 89, p. 23.

treaty.¹⁰⁸ During its seventh meeting held in 2006, some States suggested the adoption of an implementing agreement to the LOSC particularly for the conservation of the high seas establishing HSMPAs.¹⁰⁹ This new treaty issue was not brought to a UNGA meeting for consideration of its formal adoption. Until recently, no agreement has been reached in the UNICPLOS for UNGA formally to deal with HSMPAs.

As reviewed, since the UNICPOLOS has more actively discussed HSMPAs many relevant conferences and meetings agreed that the UNICPOLOS is more suitable for such issues than UNGA. Platzöder suggested that one of the reasons why this issue fits more comfortably into the UNICPOLOS is that it is less formal but more practical.¹¹⁰ Informal discussions on this issue through the UNICPOLOS could be also a necessary preliminary stage before amending existing treaties or establishing a new arrangement. However, the dependence on informal meetings has not resulted in much progress in the UN system relating to formally endorsing the protection of the deep-sea features by HSMPAs through amending existing treaties or adopting a new legal instrument. The possible reason for this delay may be that amending existing treaties or concluding a new treaty does not guarantee a rapid reaction to the environmental degradation of the high seas because it usually takes a long time for a treaty to be re-negotiated or negotiated and enter into force. In addition, the amended or new treaty would probably contain compromise and vague wording in order to attract the participation by the States concerned. Such vague wording can create conflicts over how the new treaty should be interpreted as has already happened in the existing treaties.

Several reports by the Secretary General reviewed the activities of international organizations and the results of meetings, conferences, and workshops for the establishment of MPAs on the high seas. However, the Secretary General has not convened its own governmental meetings to discuss this issue.

¹⁰⁸ *Ibid.*

¹⁰⁹ "Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its seventh meeting," UNGA, July 2006, A/61/156, para. 96, pp. 23-24.

¹¹⁰ Renate Platzöder, "The United Nations Convention on the Law of the Sea and Marine Protected Areas on the High Seas" in Thiel & Koslow (eds.), *supra* note 32, pp.137-142, p. 140.

In addition to these agencies, in 2004 the UNGA established a new study group (the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction) by UNGA Resolution 59/24.¹¹¹ The purpose of this meeting is, as stated in its title, a better understanding of the issues on biological diversity of the high seas.¹¹² So far two meetings have been held since its initiation (in 2006 and 2008). The meetings discussed protective measures for the high seas environment including HSMPAs. During the first meeting in 2006 different views were expressed on whether HSMPAs are necessary for high seas conservation and whether a new implementing agreement to the LOSC, which contains provisions on the ecosystem approach and precautionary principle and HSMPAs, should be established.¹¹³ During the second meeting in 2008 it was pointed out that MPAs are essential “in implementation of ecosystem and precautionary approaches to the management of human activities in the oceans.”¹¹⁴

2.2. Conceptual Difference from Traditional MPAs: Subjects of Conservation

The previous section reviewed recent discussions on conservation of high seas biodiversity which required HSMPAs to conduct two special roles: safeguarding the deep-sea features and implementing the ecosystem approach and the precautionary principle. Safeguarding the deep-sea features was required for precaution rather than necessity. As noticed in the previous section, the early discussions on HSMPAs did not include quantitative descriptions of how much human activities impact on the high seas environment but rather the discussions were inspired by the failure of coastal

¹¹¹ See para. 73 and 74 in UNGA Resolution 59/24, Oceans and the Law of the Sea, February 2005, UN A/RES/59/24.

¹¹² *Ibid.*, para. 73.

¹¹³ “Report of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction,” UNGA, March 2006, A/61/65, p. 16.

¹¹⁴ “Joint statement of the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction,” UNGA, May 2008, A/63/79, p. 7.

resources management. The early discussions on this topic, for instance in the 1982 Bali Congress, considered scientific research to be most significant and did not urgently require actual activity control on the high seas. Since then more research has been carried out and technology has improved but the exact distribution of many species and their habitats is still unknown. Regardless of the deficiency of the overall knowledge on the high seas ecosystems, some side effects of deep-sea fishing could be observed in the late 1990s and potential damage by other human activities could be illustrated. This may remind several coastal States of conflicts on, and failure of, their resources protection within national jurisdiction. As a result, some countries including Australia have called for the international community to take urgent action to safeguard the veiled open ocean in advance of actual damage and to spot potential threats to the high seas environment.

The most frequently mentioned threat to high seas ecosystems which requires precautionary prevention in the reviewed international meetings is fishing because it is the most frequently alerted and targeted threat to the high seas environment as it is within national jurisdiction. Bottom trawling especially has caused some visible destruction of deep-sea ecosystems including the cold-water coral reefs. Thus, many international meetings particularly encouraged urgent restriction of this fishing activity before a hazardous amount of damage actually occurs. For example, the Deep Sea Conservation Coalition (DSCC) has prepared a proposal on a moratorium of this type of fishing.¹¹⁵ This issue was discussed at the fifth meeting of the UNICPOLOS in 2004 but some States refused to recommend a moratorium to the General Assembly.¹¹⁶ Although the UNICPOLOS did not recommend this issue to the UNGA, a UNGA meeting held in the same year discussed this moratorium and failed formally

¹¹⁵ Remy Parmentier, "The Deep Sea Conservation Coalition Sets its Sights on a Bottom Trawling Moratorium in International Waters at UNFA 60", *Outreach*, The thirteen session of the Commission on Sustainable Development, 11 to 22 April, http://www.stakeholderforum.org/news/outreach/CSD_13/Tuesday12-05.pdf (this URL is currently unavailable); "A Moratorium on Deep-Sea Bottom Trawling in the High Seas: Political Momentum is Building Rapidly," Deep Sea Conservation Coalition, http://www.savethehighseas.org/publicdocs/English_Momentum.pdf (accessed on 6 October 2008).

¹¹⁶ A/59/122, *supra* note 103, see page 21.

to adopt it.¹¹⁷ The sixth and seventh sessions of the UNICPOLOS held in June 2005 and July 2006 continuously discussed this issue again,¹¹⁸ but this issue of moratorium has not been formally considered again in UNGA since its 60th session in 2005.¹¹⁹ Although the UNICPOLOS and UNGA have not adopted the extreme measure to prevent deep-sea bottom trawling, the discussions proved that fishing is a primary object of high seas governance and those meetings explicitly identified specific deep-sea features (particularly seamounts, hydrothermal vents, and cold-water coral reefs) which need precautionary protection from deep sea fishing.¹²⁰

Another measure suggested by several international meetings and organizations for regulating such threats to the deep sea features is HSMPAs. MPAs may be the most effective tool for conservation of these features, because they are most effective when a covering ecosystem is “small in extent, host endemic species and could readily be changed by human activities.”¹²¹ These targets of HSMPAs usually present current or potential economic values because they provide habitats for commercial species and are located near oil, gas, and other mineral deposits. Once these features are destroyed by exploitation, their restoration is either almost impossible or they take a very long time to restore. Thus, those features in particular may require special attention. Other features besides the three features which may need protection by HSMPAs were discussed during some of the meetings which were reviewed as part of this research, for example, the Vilm Workshop. Such features included deep-sea trenches, polymetallic nodules, cold seeps and pockmarks, gas hydrates, submarine

¹¹⁷ “A Moratorium on Deep-Sea Bottom Trawling in the High Seas: Political Momentum is Building Rapidly,” *supra* note 115, pp. 3-4.

¹¹⁸ “UNICPOLOS fails to recommend a moratorium on bottom trawling,” the Fisheries Secretariat, 14 June 2005, available at <http://www.fishsec.org/news.asp> (accessed on 6 October 2008); A/61/156, *supra* note 109.

¹¹⁹ See UNGA Resolution 60/30, Oceans and Law of the Sea, March 2006, UN A/RES/60/30; and “Bottom trawling on the high seas – the campaign for a moratorium”, the Fisheries Secretariat, 8 July 2005, available at <http://www.fishsec.org/issues.asp> (accessed on 6 October 2008). Also see UNGA Resolution 61/222, Oceans and Law of the Sea, March 2007, UN A/RES/61/222, and A/RES/61/105, *supra* note 101.

¹²⁰ For example, see paragraph 83 of the A/RES/61/105, *ibid*.

¹²¹ See P. Keith Probert, “Seamounts, Sanctuaries and Sustainability: Moving towards Deep-sea Conservation”, *Aquatic Conservation: Marine and Freshwater Ecosystems*, Vol.9, 1999, pp.601-605. p. 603.

canyons, seabirds, cetaceans, deep-sea fish, transboundary fish stocks, and so on.¹²² However, present knowledge of other open ocean features except seamounts, cold-water corals and hydrothermal vents is very limited. Especially, the living resources referred to are either components of the three deep-sea features' ecosystems or are migratory, so they can be covered by HSMPAs for the deep-sea features or it is uncertain whether MPAs can effectively be implemented for protection of the migrating subjects. Therefore, this thesis will not consider features other than the three main features as subjects for protection by HSMPAs. The following subsections briefly review resources available on and threats to the three deep-sea features.

2.2.1. Seamounts

The protection of seamounts, which are undersea mountains of height greater than 1,000 meters from the seabed,¹²³ has been raised in many relevant conferences, meetings, and workshops reviewed in the previous section, as a prime example of high seas features destroyed by human activities. Other important underwater features, cold-water coral reefs, and hydrothermal vents are often discovered on seamounts.¹²⁴ According to the latest update it is estimated that there are more than 100,000 seamounts which are distributed throughout the world's oceans, but only a handful have been thoroughly scientifically studied.¹²⁵ This number (100,000) is one of the highest suggested so far. Actual results of the number of seamounts in existence vary according to scientific measures and the definition of seamounts.¹²⁶ A few studies on

¹²² See Maria C. Baker, Brian J. Bett, David S. M. Billett and Alex D. Roger, "Part 1-an environmental perspective", *The Status of Natural Resources on the High Seas*, supra note 1.

¹²³ *Ibid.*, p. 22.

¹²⁴ "Save the High Seas – Deep Sea Life: Mysteries and Mountains of the Deep," the Deep Sea Conservation Coalition, <http://www.savethehighseas.org/deepsealife.cfm> (accessed on 6 October 2008).

¹²⁵ Alex D. Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, IUCN, 2004, http://cmsdata.iucn.org/downloads/alexrogers_cbdcop7_seamounts_complete1_1.pdf (accessed on 6 October 2008).

¹²⁶ According to Kitchingman and Lai, the number of potential seamounts with at least 1,000 meters height may be around 14,287. Adrian Kitchingman and Sherman Lai, "Inferences on Potential Seamount Locations from Mid-resolution Bathymetric Data," in Telmo Morato and Daniel Pauly (eds.), *Seamounts: Biodiversity and Fisheries*, Fisheries Centre Research Report, Vol.12, No.5, 2004. Available at <http://www.seaaroundus.org/> (accessed on 6 October 2008).

seamounts reveal that at least 70 commercially important species, including orange roughy, oreo, and pelagic armourhead, have been found on seamounts.¹²⁷

Seamounts have had particular attention in world conferences paid to them because deep-sea fishing, especially bottom trawling, has overexploited seamount species. The seamount overfishing has resulted in the dramatic depletion of species such as orange roughy on St. Helens Hill and on the seamounts of south Tasmania, rock lobster, pelagic armourhead, and precious corals.¹²⁸ The overfishing by intensive deep-sea fishing on seamounts on the high seas resembles the overfishing within national jurisdiction experienced in the late 1980s. As fish stock depletion in national jurisdiction has caused many multinational fisheries disputes, seamount overfishing in the high seas has similarly led to an international dispute.¹²⁹ This seamount overfishing in the high seas was different from overfishing in national jurisdiction which caused the economic collapse of coastal fishing communities. However, past experience in national jurisdiction may facilitate the quick reaction of coastal States to this seamount overfishing on the high seas. States have expressed concern about destructive deep-sea fishing at a meeting of the General Assembly, and this meeting adopted a resolution which inter alia:

*Calls upon States... to take action urgently, and consider on a case-by-case basis and on a scientific basis... the interim prohibition of destructive fishing practices, including bottom trawling that has adverse impacts on vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals located beyond national jurisdiction.*¹³⁰

Besides the living resources, cobalt-rich crusts and polymetallic sulphides are discovered in seamounts.¹³¹ As yet, the mining of these resources has not been practised.¹³²

¹²⁷ Baker, Bett, Billett and Roger, supra note 122, p. 24.

¹²⁸ *Ibid.*, p. 25.

¹²⁹ The orange roughy dispute occurred between Australia and New Zealand and the distant fishing nations in the late 1990s. See section 3.2 for more details.

¹³⁰ UNGA Resolution 59/25, Sustainable Fisheries, including through the 1995 Agreement for the Implementation of the Provision of the UN 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, and related instruments, 2004, UN A/RES/59/25, p.13, para. 66.

¹³¹ Baker, Bett, Billett and Roger, supra note 122, p.24.

2.2.2. Cold-Water Coral Reefs

Although the existence of cold-water coral reefs has long been known to some ecologists and fishermen, their existence was not widely known until recently.¹³³ The distribution of reefs and their contribution to the biodiversity of the deep-sea ecosystems are still largely unknown.¹³⁴ Cold-water corals can grow wherever ocean currents are strong enough to supply food, disperse eggs, sperm and larvae, and remove waste products and sediments.¹³⁵ If conditions are satisfied, cold-water coral reefs can be found on the continental shelf, mounds, seamounts, plateau, ridges and submerged sides of oceanic islands at a depth of 40m to more than 1,000m.¹³⁶

Cold-water corals grow slowly. The coral animal or polyp occupies the top layer of the hard surface of the coral skeleton, and they continuously rebuild reefs.¹³⁷ The soft corals at the top layer of reefs live for only a few decades, and grow only 5 - 25mm per year.¹³⁸ The oldest reef complexes, including its stony hard skeleton, are more than 8,500 years old.¹³⁹

Scientists have found more than 4,200 species of cold-water corals in the world's oceans,¹⁴⁰ but not all species are reef building. So far, only six species are known as reef building corals in the deep seabed.¹⁴¹ At present, the best known cold-water coral is *Lophelia pertusa*, which is found at a depth of 200m – 1,000m along the coast of the North-East Atlantic Ocean, West Africa, the east coast of the United States and

¹³² *Ibid.*, p.26.

¹³³ Jason Hall-Spencer, Valerie Allain and Jan Helge Fossa, "Trawling Damage to Northeast Atlantic Ancient Coral Reefs", *Proceedings of the Royal Society Biological Sciences*, Vol. 269, No. 1490, March 7 2002, pp. 507-511, p. 507.

¹³⁴ Alex Rogers, *The Biology, Ecology and Vulnerability of Deep-Water Coral Reefs*, Gland, Switzerland, IUCN, 2004, http://cmsdata.iucn.org/downloads/alexrogers_cbdcop7_deepwatercorals_complete.pdf (accessed on 6 October 2008); WWF, *Cold-Water corals-fragile havens in the deep*, Gland, Switzerland, WWF-World Wide Fund for Nature, 2004, at <http://www.panda.org> (accessed on 30 October 2008); Hall-Spencer, Allain and Fossa, *ibid.*

¹³⁵ Rogers, *ibid.*

¹³⁶ *Ibid.*, and *Cold-Water corals-fragile havens in the deep*, supra note 134.

¹³⁷ *Cold-Water corals-fragile havens in the deep*, *ibid.*

¹³⁸ *Ibid.*, and Rogers, *Deep Water Coral Reefs*, supra note 134.

¹³⁹ *Cold-Water corals-fragile havens in the deep*, *ibid.*, p. 2.

¹⁴⁰ *Ibid.*, p. 3.

¹⁴¹ Andre Freiwald, Jan Helge Fossa, Anthony Grehan, Tony Koslow and J. Murray Roberts, *Cold-Water Coral Reefs, Out of Sight – No Longer Out of Mind*, Cambridge, UK, UNEP-WCMC, 2004, p. 11. Available at <http://www.ourplanet.com/wcmc/pdfs/Cold-waterCoralReefs.pdf> (accessed on 6 October 2008).

Brazil.¹⁴² *Enallopsammia profunda* is a major species in the North-East Atlantic and *Solenosmilia variabilis* is the main cold-water coral on the Tasmanian Seamounts off the coast of Australia and New Zealand.¹⁴³ *Goniocorella dumosa* appears off New Zealand, South Africa, Indonesia and Japan.¹⁴⁴ *Oculina varicose* is found only off the coast of Florida in the USA.¹⁴⁵

Lophelia pertusa is the most studied and principal species of cold-water corals in the North-East Atlantic.¹⁴⁶ However, the distribution of even *Lophelia pertusa* is still not well known. So far, it has been confirmed that this species is prevalent in Sula Reef, Rost Reef and Selligrunden Reef along the Norwegian coast, and the Faroes Bank and Rockall Bank near the UK and Ireland in the North-East Atlantic Ocean.¹⁴⁷ In addition, this cold water coral reef is also found in the Darwin Mounds off Scotland and Galicia Bank, Josefine Bank, and Gorringe Bank off the Spanish coast.¹⁴⁸

Cold-water coral reefs provide habitats and nurseries for many species of small and large organisms, such as other corals, sponges, anemones, clams, starfish, sea urchins, worms, fish, crabs, and lobsters.¹⁴⁹ So far, over 1,300 species have been found in habitats of the *Lophelia pertusa* in the North-East Atlantic Ocean.¹⁵⁰ Only a limited number of habitats and their biodiversity in the reefs have been studied.¹⁵¹ Therefore, more species that depend on reefs may be discovered by future research.

The abundance of living organisms around cold-water corals has only recently been observed with advanced technology.¹⁵² The technology has revealed that half of the observed sites of cold-water coral reefs have already been destroyed by human

¹⁴² Rogers, *Deep Water Coral Reefs*, supra note 134; Torbjørn Johnsen, Kari Nygaard and Frode Olsgard, Norwegian Institute for Water Research (NIVA), *Biogeographical regions in Europe-The North-east Atlantic Ocean - huge, deep and heavily exploited*, European Environment Agency, Europe's Biodiversity-biogeographical regions and seas, p.8, http://reports.eea.eu.int/report_2002_0524_154909/en/nea_ocean.pdf (URL no longer active).

¹⁴³ Rogers, *Deep Water Coral Reefs*, *ibid.*

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ *Ibid.*

¹⁴⁷ *Cold-Water corals-fragile havens in the deep*, supra note 134.

¹⁴⁸ *Ibid.*

¹⁴⁹ *Ibid.*, and Rogers, *Deep Water Coral Reefs*, supra note 134.

¹⁵⁰ Rogers, *ibid.*

¹⁵¹ *Ibid.*

¹⁵² Ronan Long and Anthony Grehan, "Marine Habitat Protection in Sea Areas under the Jurisdiction of a Coastal Member State of the European Union: The Case of Deep-Water Coral Conservation in Ireland," *International Journal of Marine and Coastal Law*, Vol.17, No.2, 2002, pp. 235-261, p. 237.

activities, such as fishing, and possibly oil and gas extraction and scientific research.¹⁵³ Human activities likely to impact on deep-sea corals are: deep-sea fishing; oil and gas extraction; scientific research; laying cables and pipelines; bioprospecting; pollution including waste disposal and dumping; coral exploitation and trade; sequestration of CO₂; and, other mineral exploration.¹⁵⁴ Of these activities, the first three, fishing, oil and gas extraction, and scientific research, may be classified as those that require immediate regulation.¹⁵⁵

2.2.3. Hydrothermal Vents

In 1977 hydrothermal vents were first discovered along the mid-ocean ridge.¹⁵⁶ At the time of this first discovery, living organisms were not expected to be found around the vent system as mineral rich hot water of almost 400 °C is ejected from the underwater chimneys.¹⁵⁷ Studies on deep-sea vent systems have not been conducted thoroughly enough to help mankind utilise all of the vent resources, but studies have shown that a unique ecosystem exists around each deep-sea vent.¹⁵⁸ Almost 75% of the species belonging to a vent system are endemic to the specific vent where they reside, and 90% of vent species are endemic to hydrothermal vents.¹⁵⁹ These living organisms from vent sites depend on chemosynthesis rather than photosynthesis.¹⁶⁰ They have potential value to be exploited for biotechnological applications.¹⁶¹ Polymetallic sulphide crusts from the sites are a commercially valuable mineral

¹⁵³ *Cold-Water corals-fragile havens in the deep*, supra note 134.

¹⁵⁴ Anthony Grehan, "Deep-Water Corals off the West Coast of Ireland", in Anthony J. Grahan, Ronan J. Long, Bryan Deegan and Micheal O Cinneide, *Report on Two Deep-Water Coral Conservation Stakeholder Workshops Held in Galway in 2000 and 2002*, the Irish Coral Task Force and Atlantic Coral Ecosystem Study, p. 26. <http://www.marine.ie/NR/rdonlyres/3F40CEB9-85C2-40C9-B465-A0C54BADFDD1/0/MEHS11.pdf> (accessed on 6 October 2008); Freiwald, Fossa, Grehan, Koslow and Roberts, supra note 141, p. 37.

¹⁵⁵ *Ibid.*

¹⁵⁶ Baker, Bett, Billett and Roger, supra note 122, p.15.

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ *Ibid.*, p.15-16.

¹⁶⁰ Craig H. Allen, "Protecting the Oceanic Gardens of Eden: International Law Issues in Deep-Sea Vent Resource Conservation and Management", *Georgetown International Law Review*, Vol.13, Spring 2001, pp.563-660, p.572.

¹⁶¹ Baker, Bett, Billett and Roger, supra note 122, pp.17-18.

resource that contains gold and other metals.¹⁶² The use of thermal energy from the chimneys has also been suggested.¹⁶³

The existing human activities currently detected at vent sites are scientific research and tourism.¹⁶⁴ At present, the only actual threat of these human activities is the concentration of scientific research on a few vent sites.¹⁶⁵ Other potential exploration and exploitation of the vent resources such as mining may also pose threats in the future.

2.3. Conceptual Difference from Traditional MPAs: The Ecosystem Approach and the Precautionary Principle

Traditionally the threats mentioned in the previous section have been managed based on the sectoral approach. The sectoral approach is still applied to measures taken by many ocean use management organizations. MPAs were one of the measures originally designed to support the sectoral approach. Thus, they were in existence before the new concept of HSMPAs was formally discussed for biodiversity protection at the international meetings. The terms indicating such traditional protected areas vary: sanctuary, reserve, particularly sensitive sea area, marine park, and fisheries closure. Since this measure was designed for the sectoral approach, it was originally not aimed at the implementation of the ecosystem approach and the precautionary principle.

As noted in the CBD, because the ecosystem components in the ocean are highly connected to each other the conservation of biodiversity requires the protection of ecosystems and habitats, and the maintenance of viable levels of population of species together.¹⁶⁶ The support for this holistic approach to marine environment protection has recently increased and highlighted MPAs as one of the most appropriate measures

¹⁶² *Ibid.*

¹⁶³ *Ibid.*

¹⁶⁴ *Ibid.*

¹⁶⁵ *Ibid.*, p. 18.

¹⁶⁶ William C.G. Burns and Alexander Gillespie, *The Future of Cetaceans in a Changing World*, Trans National Publisher, 2003, p.104.

for safeguarding marine ecosystems because MPAs allow the regulation of multi-human activities and the conservation of all elements included in a designated area. The proper conservation of the high seas biodiversity around the deep-sea features requires the conservation of all endemic components within their ecosystems. Thus, MPAs can be used as a suitable measure to protect the deep sea features.

Traditional MPAs, including fisheries closures, are distinguished from the new concept of MPAs because they are not purposely designed to pursue both the ecosystem approach and the precautionary principle. Kelleher argued that if MPAs are not based on a certain level of ecosystem consideration, they will not achieve the goal of the holistic approach effectively.¹⁶⁷ However, the question of the implementation of an MPA which is based on the environmental principles, especially the ecosystem approach, has been controversial in practice because some traditional marine reserves without the application of the principle have still been effective in safeguarding all components of their ecosystems.¹⁶⁸ For example, some types of traditional MPAs, which prevent all human activities have resulted in the conservation of ecosystems and biodiversity without the specific intention of the adoption of the ecosystem approach.¹⁶⁹ Such MPAs are called marine reserves, no-take zones, marine preservation zones, no-take MPAs etc. (hereafter this type of MPAs is called no-take MPAs).¹⁷⁰ The reason for this achievement may be because the objective of no-take MPAs is more conservation oriented than are area closures for single species protection, and all sources of threats from human can be prohibited in them.¹⁷¹

Some scientists have recently called for the replacement of traditional MPAs for sectoral ocean management by no-take MPAs for ecosystem conservation.¹⁷² The

¹⁶⁷ Graeme Kelleher (ed.), *Guidelines for Marine Protected Areas*, Best Practice Protected Area Guidelines Series, Gland, Switzerland, IUCN, 1999, p. xii.

¹⁶⁸ P.J.S. Jones, "Arguments for conventional fisheries management and against no-take marine protected areas: only half of the story?" *Reviews in Fish Biology and Fisheries*, Vol.17(1), pp.31-43, 2007.

¹⁶⁹ *Ibid.*

¹⁷⁰ *Ibid.*, p. 2.

¹⁷¹ *Ibid.*, p. 7.

¹⁷² *Ibid.*; Daniel Pauly, "Fishing down marine food webs." *Science*, Vol. 279, No. 5352, 1998, pp. 860-863; Steven N. Murray, et al., "No-take Reserve Networks: Sustaining Fishery Populations and Marine Ecosystems," *Fisheries*, Vol. 24, 1999, pp.11-25; Stephen R. Palumbi, *Marine Reserves-A Tool for Ecosystem Management and Conservation*, Pew Oceans Commission, 2002, available at

reason for this call is that some marine ecosystems are specifically vulnerable from any kind of human activity.¹⁷³ Thus, in certain areas control of all human activities may be necessary for proper conservation. Pro-no-take MPAs have argued that other MPAs for sectoral management, such as fisheries closures, are confined to regulate only a single type of human disturbance to the marine ecosystems and as such they are not suitable for the conservation of particularly vulnerable ecosystems.¹⁷⁴ They argued that no-take MPAs are an effective tool to implement the ecosystem approach through regulating all human activities.¹⁷⁵

However, it is doubtful whether no-take MPAs are necessary or realistic for the conservation of high seas ecosystems. Only a limited number of human activities can be conducted and the amount of human disturbance is restricted on the high seas. Only a few types of human activities such as fishing or mining may leave serious side effects on the high seas environment. In addition, since jurisdictional limitations exists on the high seas (see details in Chapter III) complete cooperation among all ocean users is necessary to achieve the prohibition of all human activities in no-take MPAs. Such complete cooperation of all ocean users is unrealistic compared to leading cooperation for regulating a few types of resource use. Thus, it may be unnecessary or unenforceable to prohibit or regulate all human activities in HSMPAs. Cooperation for restricting major resource uses, such as fishing and mining, based on the ecosystem approach would be much easier than restricting all human activities on the high seas, and can effectively target the conservation of all components. Therefore, the new concept of HSMPAs need not necessarily be no-take MPAs.

The adoption of the ecosystem approach can alternatively make HSMPAs have a certain consideration of the interconnectivity among components of ecosystems as the no-take MPAs have. Although the ecosystem approach can make HSMPAs successful to conserve all components within them without regulating all human activities, actual

<http://www.pewoceans.org> (accessed on 6 October 2008). pp.22-33.; Callum M. Roberts, "Ecological advice for the global fisheries crisis," *Trends in Ecology and Evolution*, Vol.12, No.1, January 1997, pp. 35-38; Daniel Pauly, et al., "Towards Sustainability in World Fisheries," *Nature*, Vol. 418, August 2002, pp.689-695.

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.*

application of the approach is currently somehow problematic because of the lack of clarity of the concept. Currently available definitions of MPAs do not specifically refer to the ecosystem approach and the precautionary principle because of the lack of conceptual clarity, especially of the ecosystem approach. Those definitions of MPAs by relevant organizations and treaties are similar to the traditional concepts and has not been updated combined with the ecosystem approach, and a clear demarcation between traditional and the new concept is not shown from the definitions. The CBD defines a protected area as, “a geographically defined area that is designated or regulated, and managed to achieve specific conservation objectives”.¹⁷⁶

According to the FAO’s definition, an MPA is:

a protected marine intertidal or subtidal area, within territorial waters, EEZs or in the high seas, set aside by law or other effective means, together with its overlying water and associated flora, fauna, historical and cultural features. It provides degrees of preservation and protection for important marine biodiversity and resources; a particular habitat (e.g. a mangrove or a reef) or species, or sub-population (e.g. spawners or juveniles) depending on the degree of use permitted. The use of MPAs (for scientific, educational, recreational, extractive and other purposes including fishing) is strictly regulated and could be prohibited.¹⁷⁷

The most frequently quoted definition is by the IUCN:

any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical, cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.¹⁷⁸

The Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas under the CBD defined a marine and coastal protected area using the IUCN’s definition as follows:

‘Marine and coastal protected area’ means any defined area within or adjacent to the marine environment, together with its overlying 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. Areas within the marine environment include permanent shallow marine waters; sea bays; straits; lagoon; estuary; subtidal aquatic beds (kelp beds, sea-grass beds, tropical marine meadows); coral reefs; intertidal muds, sand or salt flats and marshes; seamounts, deep water corals, deep water vents, and open ocean habitats.¹⁷⁹

¹⁷⁶ Article 2, the CBD.

¹⁷⁷ Report of the Secretary-General, “Oceans and the Law of the Sea,” 2003, UN A/58/65, para.224; “FAO Fisheries Glossary,” FAO, <http://www.fao.org/fi/glossary> (accessed on 6 October 2008).

¹⁷⁸ This definition was adopted by Resolution 17.38 of the IUCN General Assembly, 1988. Kelleher, *supra* note 167.

¹⁷⁹ “Marine and Coastal Biodiversity: Review, Further Elaboration and Refinement of the Programme of Work, Summary report of the Ad Hoc Technical Expert Group on Marine and Coastal Protected

The OSPAR Commission, in its recommendation for a network of marine protected areas, defines marine protected areas as, “an area within the maritime area for which protective, conservation, restorative or precautionary measures, consistent with international law have been instituted for the purpose of protecting and conserving species, habitats, ecosystems or ecological processes of the marine environment”.¹⁸⁰

To date, no definition and categorisation for HSMPAs has been definitively provided but consideration of the above five definitions shows that high seas marine protected areas are meant as, ‘a specific area of the high seas, including all natural, cultural and historical components, established and regulated by law or other effective means for the specific purpose of safeguarding some or all of those components.’

As confirmed, these definitions of MPAs do not indicate the implementation of the environmental principles, especially the ecosystem approach because the principles have not been universally and clearly defined as of yet.¹⁸¹ This may cause a lack of clarity in their legal status in international environmental law as noted during discussions at the Cairns Workshop.¹⁸² If the detailed concepts have not been developed well, inclusion of such terms in a definition of MPAs can cause confusion of MPAs from other similar concepts or unnecessarily and inaccurately narrow their scope. The application of the ecosystem approach to HSMPAs has been more controversial than the application of the precautionary principle, since the ecosystem approach is even less clearly defined. Although the principle has not been completely developed nor well defined, the principle has been variously attempted to be defined individually and institutionally. The CBD defines the term as, “a strategy for the integrated management of land, water and living resources that promotes conservation

Areas,” Eighth meeting of subsidiary Body on Scientific, Technical and Technological Advice, Montreal, Canada, CBD, 10-14 March 2003, UNEP/CBD/SBSTTA/8/9/Add.1, p.3.

¹⁸⁰ OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas, Annex 9, The OSPAR Commission, June 2003, OSPAR 03/17/1-E.

¹⁸¹ Scott Parsons, “Ecosystem Considerations in Fisheries Management: Theory and Practice,” *IJMCL*, Vol.20, Nos.3-4, 2005, pp. 381-422. p. 395; Also see Erik Jaap Molenaar, “Ecosystem-Based Fisheries Management, Commercial Fisheries, Marine Mammals and the 2001 Reykjavik Declaration in the Context of International Law,” *IJMCL*, Vol.17, No.4, 2002, pp. 561- 595, p. 575.

¹⁸² Cairns Workshop, Summary of Discussions and Suggestions for a Way Forward, supra note 55.

and sustainable use in an equitable way.”¹⁸³ The International Council for the Exploration of the Sea (ICES) defines it as, “the integrated management of human activities based on knowledge of ecosystem dynamics to achieve sustainable use of ecosystem goods and services, and maintenance of ecosystem integrity.”¹⁸⁴ The EU defines the ecosystem approach as, “the comprehensive integrated management of human activities based on best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of the marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystems integrity.”¹⁸⁵ The FAO explains that, “an ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”¹⁸⁶ None of these has been widely accepted yet, but all these definitions clearly emphasise its core purpose, recognition of interconnectivity of all ecosystems components and ecosystem dynamics.¹⁸⁷

Unfortunately, a clear purpose without a clear definition can provide difficulty in the actual application of the principle to HSMPAs. Currently, knowledge on marine ecosystems is too limited to incorporate the consideration of the ecosystem dynamics

¹⁸³ Decision V/6, Ecosystem Approach, in Annex III. Decisions Adopted by the Conference of Parties to the Convention on Biological Diversity at its Fifth Meeting, Nairobi, Kenya, May 2000, UNEP/CBD/COP/5/23, pp. 103-104.

¹⁸⁴ “Marine Environment, Marine Resources and Sustainable Use: Implementing the Ecosystem Approach,” submitted by the delegation of Norway, UNICPOLOS, fourth meeting, UNGA, 20 May 2003, A/AC.259/7, p.1.

¹⁸⁵ John Richardson, Head of the Maritime Policy Task Force, European Commission, “Ecosystem-based management: from principles to implementation,” prepared for the Discussion Panel on Ecosystem Approach and Oceans, UNICPOLOS, 2006, available at http://www.un.org/Depts/los/consultative_process/7thmeetingpanel.htm (accessed on 4 October 2008).

¹⁸⁶ “Implementing the Ecosystem Approach to Fisheries, Including Deep-sea Fisheries, Biodiversity Conservation, Marine Debris and Lost or Abandoned Fishing Gear,” FAO Committee on Fisheries, December 2006, COFI/2007/8.

¹⁸⁷ Ecosystem dynamics is defined as “those intrinsic ecological functions through which an ecosystem becomes self-regulating, self-sustaining, and capable of recovery from external forces (for example, damaging storm events). These intrinsic processes may cause continual change in biotic composition and structure at specific localities. Collectively, these changes represent internal flux, rather than substantive and permanent alteration of the ecosystem regionally.” “Biology Online,” http://www.biology-online.org/dictionary/Main_Page (accessed on 4 October, 2008).

and the interconnectivity into ocean management.¹⁸⁸ The high seas environment is even less researched than the coastal environment.¹⁸⁹ Thus, information on the ecosystem dynamics and the entire interconnectivity of high seas ecosystems would be even more difficult to obtain. If such information is not available, there is no guarantee to achieve the purpose of the ecosystem approach properly through establishing HSMPAs. Thus, some experts have insisted that consideration of connectivity between target species and non-target species should be enough to be regarded as the ecosystem approach.¹⁹⁰ However, since this limited ecosystem approach excludes the core consideration of the ecosystem dynamics and interconnectivity, MPAs with such an approach do not necessarily consider the protection of habitats of the target and associate species, such as deep-sea features. Thus, it is better not to regard the limited approach as an ecosystem approach, at least for the purpose of this thesis.

The ecosystem approach is conceptually unclear and currently impracticable. As reviewed in this chapter, however, many governmental and non-governmental meetings have required the application of this principle or distinguished the new kind of HSMPAs from traditional MPAs incorporating this principle. As noted during the second meeting of the Ad Hoc Open-ended Informal Working Group to study issues relating to high seas biodiversity by UNGA, it is undeniable that MPAs are significant for implementing the ecosystem approach and precautionary principle.¹⁹¹ And the ecosystem approach combined with the precautionary principle is significant for successful implementation of MPAs for proper conservation of the high seas ecosystem. Not only components but also ecosystems themselves and interconnectivity in them should be considered for a protected area to be effective because all components, biodiversity, and interconnectivity of ecosystems are influenced by human activities conducted in the area. Traditional MPAs do not

¹⁸⁸ Parsons, *supra* note 181, p. 406.

¹⁸⁹ In case of fisheries, see Mary Lack, et al., *Managing Risk and Uncertainty in Deep-Sea Fisheries: Lessons from Orange Roughy*, A joint report by TRAFFIC Oceania and the WWF Endangered Seas Programme, http://www.wwf.org.au/publications/orange_roughy/ (accessed on 4 October 2008). p. 55.

¹⁹⁰ Parsons and Molenaar insisted that the target and associated resources management in the CCAMLR should be considered as the ecosystem approach. See Parsons, and Molenaar, *supra* note 181.

¹⁹¹ See section 2.1.3.

purposely aim for the recovery and restoration of this biodiversity and interconnectivity, but they could successfully conserve and restore biodiversity and interconnectivity if all human activities are prevented in them. Such no take MPAs, however, are not realistic on the high seas because the jurisdictional limitations on the high seas would result in more difficulty to regulate and prohibit all human activities on the high seas, as will be further explained in Chapter III. If human activities cannot entirely be regulated, successful conservation of ecosystems cannot be achieved without purposely targeting the protection of all ecosystem components. The ecosystem approach itself can assist the achievement of the conservation of biodiversity and interconnectivity of marine ecosystem to some extent, without specifically targeting and regulating all human activities. In addition, the ecosystem approach gives the justification to protecting deep-sea habitats and puts pressures on States to cooperate. The degradation of the earth's ecosystem has been universally recognised and has been considered as an urgent matter to be solved by international cooperation. Incorporation of the ecosystem approach into HSMPAs can convince opposing States not to stick to the freedom of the high seas and motivate them to observe HSMPAs. Thus, this principle is essential for the conservation of high seas ecosystems, including the deep-sea features.

Since this thesis aims to explore how far existing law can support the newly required HSMPAs which were suggested during the recent international meetings rather than legal support for HSMPAs generally, this thesis will define the new type of HSMPAs incorporating the environmental principles as follows:

'a specific area of the high seas, including all natural components, established and regulated by law or other effective means and in accordance with the ecosystem approach for the specific purpose of safeguarding all of those components around the deep-sea features.'¹⁹²

This definition is used to emphasise the core conditions of the newly required HSMPAs for the purpose of this thesis, and does not narrow the general concept of MPAs established on the high seas.

¹⁹² The ecosystem approach itself includes the application of the precautionary principle. Thus, this definition does not contain the precautionary principle separately. See Parsons, *supra* note 181, p. 402.

2.4. Chapter Conclusion

As mentioned earlier in this chapter, the similar concept of MPAs used within national jurisdictions has been applied to the high seas, although the physical, political, and legal status of the high seas is different from that of coastal areas. A problem with the current definition of HSMPA based on the existing definitions of MPAs may derive from the lack of demarcation from national MPAs. The Vilm Workshop warned that such a “risk of confusion with the use of the term in relation its use in to areas under national jurisdiction [sic].”¹⁹³ This Workshop treated the HSMPA as a framework term which addressed comprehensively the implication of high seas biodiversity protection as, “an integrated treatment of the risks arising in a specific area” rather than as, “an umbrella term with several applications and which covers a suite of ideas”.¹⁹⁴ In addition, the relevant meetings distinguished the new kind of HSMPAs from traditional MPAs as imposing two conditions: safeguarding the deep-sea features and applying the ecosystem approach and the precautionary principle. Nevertheless, none of these distinctions has been formally incorporated into the definitions of MPAs adopted by international legal instruments.

If currently available definitions are changed to indicate such differences, they can help to overcome a problem of categorisation of certain closures as MPAs. For example, fisheries closures do not easily fit to any one category of protected areas provided by the IUCN.¹⁹⁵ If current definitions are depended on, some fisheries closures which are established for seamount protection with an ecosystem approach

¹⁹³ “Conclusions and Summary Record of the Expert Workshop on Managing Risks to Biodiversity and the Environment on the High Seas, Including Tools such as Marine Protected Areas”, supra note 34, p.16.

¹⁹⁴ *Ibid.*

¹⁹⁵ The six categories of protected areas in land and sea by IUCN are: i) protected area managed mainly for science or wilderness protection (Strict Nature Reserve/Wilderness Area); ii) protected areas managed mainly for ecosystem protection and recreation (National Park); iii) protected area managed mainly for conservation of specific natural features (Natural Monument); iv) protected area managed mainly for conservation through management intervention (Habitat/Species Management Area); v) Protected areas managed mainly for landscape/seascape conservation and recreation (Protected Landscape/Seascape); vi) Protected area managed mainly for the sustainable use of natural ecosystem (Managed Resource Protected Area). See Kelleher (ed.), supra note 167, p. xviii.

To confirm what confusion exists on fisheries management areas, please see “Draft Case Study: Marine Protected Areas Categories,” Cardiff University, IUCN, http://www.cardiff.ac.uk/cplan/sacl/cs-marine_pas.pdf (accessed on 21 February 2007).

CHAPTER II

may not be easily classed as HSMPAs. However, fisheries are one of the major threats to deep-sea features, so the meetings which were reviewed as part of this research strongly recommended regulating them through establishing HSMPAs. To fill in the gaps between actual needs and existing definitions, and for the purpose of this thesis which examines how international law copes with the new requirement for the conservation of the deep sea features, this chapter attempted to define the new kind of HSMPAs adding the distinctions to existing definitions of MPAs. If a specific area for fisheries management on the high seas aims to safeguard deep-sea features by a law incorporating the ecosystem approach, it will be regarded as the new HSMPA in this thesis. Historical and cultural heritage are not discussed in this thesis, as these could form the basis of separate independent research.

CHAPTER III. APPLICATION OF HIGH SEAS REGIMES OF THE LOSC TO THE ESTABLISHMENT OF HSMPAS

As observed in the previous chapter, the growing calls for High Seas Marine Protected Areas (HSMPAs) have not been made on the basis of the actual experience of gross and serious degradation of the high seas environment. Instead, experience of the serious depletion of living resources and destruction of marine ecosystems within the national jurisdiction could generate international concern for high seas conservation and attention for HSMPAs. As there has been no gross damage to the high seas environment as yet, States have searched for a legal justification for HSMPAs, not as a damage control measure but as a precautionary preventive measure. The legal justifications searched for by pro-HSMPA States are specific treaty rights or obligations which can facilitate such precautionary prevention on the high seas to conserve mainly the three deep-sea features: seamounts, cold-water coral reefs and hydrothermal vents. The most frequently mentioned international treaty which is relied upon by the pro-HSMPA States for supporting HSMPAs is the Law of the Sea Convention (LOSC). During the previously reviewed international meetings (detailed in Chapter II) many States suggested that HSMPAs should be implemented consistently with the rules of the LOSC. Since the LOSC is the comprehensive legal framework on ocean affairs, they believe that it may have the capacity to provide a foundation for high seas biodiversity conservation measures, including HSMPAs. Such suggestions were mostly founded on a few general provisions on marine environmental protection rather than on a comprehensive analysis of all possible grounds in the context of the whole Convention. Currently, there is no such detailed legal analysis available on the justification of HSMPAs under the LOSC. Thus, it is right that, at the outset of a review of the global and regional legal instruments which are likely to support HSMPAs, all legal possibilities for the establishment and observation of HSMPAs under the LOSC are elucidated exhaustively.

The LOSC provides the legal framework within which other relevant treaties have to operate. Because of this important constitutional character,¹ it is important to devote an entire chapter to examine the availability of a legal foundation for the new concept of HSMPAs solely in the LOSC. Since the three deep-sea features are the primary targets for conservation by the new kind of HSMPAs, this chapter will mainly address the possibility of establishing and observing HSMPAs for the conservation of the three deep-sea features under the LOSC. This legal investigation should be fundamentally partitioned by marine zones established by the LOSC. According to the LOSC, the high seas are composed of three different areas: the water column above the continental shelf beyond the Exclusive Economic Zone (EEZ); the international seabed area (the Area); and the water column above the international seabed area. Different rules can apply to conserve the three deep sea features in the three different areas of the high seas. This chapter examines whether the LOSC can provide certain legal support for the conservation of each type of feature in each type of the high seas through establishing HSMPAs.

This preliminary legal investigation of the LOSC begins by asking how much coastal States can be involved in the protection of the deep-sea features on the continental shelf beyond the EEZ (outer continental shelf) and the high seas water column above it. The possibility of the establishment of the Marine Protected Areas (MPAs) on the water column above the outer continental shelf by other entities will be reviewed in Section 2 of this Chapter.

¹ See “A Constitution for Ocean,” Remarks by Tommy T. B. Koh, of Singapore, President of Third United Nations Conference on the Law of the Sea, DOALOS, available at <http://www.un.org/Depts/los/index.htm> (accessed on 17 December 2008); David Anderson, ““Constitutionalization” and the Law of the Sea,” University of Leeds, 14 March 2007, <http://www.law.leeds.ac.uk/leedslaw/webdocs/leedslaw/uploadeddocuments/cfig-anderson.doc> (accessed on 17 December 2008); Shirley V. Scott, “The LOS Convention as a Constitutional Regime for the Oceans” in Alex G. Oude Elferink (ed.), *Stability and Change in the Law of the Sea: The Role of the LOS Convention*, Martinus Nijhoff, 2005, pp. 9-38.

3.1. National Jurisdiction on the Continental Shelf beyond the EEZ

The concept of the continental shelf has been derived from a distinct geographical consideration² based on “inherent and primordial rights.”³ This concept has also resulted from the reflection of the growing interest and ability of coastal States to exploit natural resources in this area, as can be observed in the initiation of other marine zones. The continental shelf was designed for the extension of the sovereign rights of coastal States to certain natural resources on the seabed and subsoil up to where they have the ability to explore and exploit. The superjacent water over the continental shelf has either been under the jurisdiction of coastal States or the freedom of the high seas. According to the 1958 Convention on the Continental Shelf, the water column above the continental shelf was the high seas and was in no way under national jurisdiction. Since the 1982 LOSC added the EEZ, natural resource uses in the water column above the continental shelf can legally be managed by two different regimes: the EEZ regime and the high seas regime.

The legal status of superjacent water above the continental shelf can be deemed to be the high seas if the continental shelf extends beyond the EEZ. If the outer edge of the continental margin naturally extends beyond 200 miles from the baseline, coastal States can promulgate the outer edge as the limit of their continental shelf in accordance with rules laid down in Article 76 and Annex II of the Convention.⁴ Details of the limit of the outer continental shelf should be submitted to the Commission on the Limits of the Continental Shelf (CLCS) by May 2009 or within ten years from the date when the LOSC becomes effective to the State, whichever is later.⁵ The commission has so far only dealt with a few submissions,⁶ so it is likely to

² The continental shelf is considered an extension of land territory.

³ The right of coastal States on the continental shelf is inherent in the way that the right does not “depend on occupation, effective or notional or on any express proclamation.” Daniel P. O’Connell, *The International Law of the Sea*, Vol. I, Oxford : Clarendon Press, 1982, p. 476. Also see Article 77 (3), the LOSC. See Chapter I for a reference in *UNTS*.

⁴ Article 76, the LOSC.

⁵ See Article 4 of Annex II of the LOSC. The deadline in Article 4 was changed by SPLOS/72 in 1999. See Decision regarding the date of commencement of the ten-year period for making submissions to the Commission on the Limits of the Continental Shelf set out in article 4 of Annex II to the United Nations Convention on the Law of the Sea, Meeting of States Parties, 2001, SPLOS/72,

be quite some time before the outer continental shelf regime becomes fully operational.

Coastal States can automatically exercise sovereign rights to natural resources on the continental shelf within 200 miles because the right is conferred without declaration and occupation.⁷ This automatic right could be conferred because the continental shelf is considered to be the continuation of land and actually connects to the landmass.⁸ The rule of automatic appurtenance to coastal States does not fully apply to the outer continental shelf because of the need to make a submission to the CLCS. The rights of coastal States to natural resource use in the outer continental shelf are not completely the same as, and are less absolute than, rights in the continental shelf within the EEZ because Article 82 of the Convention obliges coastal States to share benefits from the use of mineral resources in the outer continental shelf. In addition, coastal States do not have a right to control some applied marine scientific researches which operate in the outer continental shelf.⁹ Although the coastal States have less absolute rights on the outer continental shelf than the continental shelf within the EEZ, this does not necessarily indicate that the EEZ regime provides more exclusive rights to natural resources than those of the continental shelf regime. The continental shelf regime (Part VI of the Convention) gives coastal States sovereign rights to explore and exploit mineral and other non-living resources and sedentary species.¹⁰ This regime guarantees more discretion to monopolise the use of sedentary species than the EEZs regime does. The sedentary species are not subject to sharing with other States, while the living resources in the EEZ are subject to sharing in accordance with Article 62. These rights on the continental shelf are not as absolute as sovereignty on the territorial sea. The subsoil

http://www.un.org/Depts/los/meeting_states_parties/SPLoS_documents.htm (accessed on 7 October 2008).

⁶ Until recently, 14 States have submitted the information on outer continental shelf. Most recent submission is by Indonesia on 14 June 2008. See "Submissions and recommendations," Commission on the Limits of Continental Shelf, at http://www.un.org/Depts/los/clcs_new/clcs_home.htm (accessed on 7 October 2008).

⁷ See Article 77(3) of the LOSC.

⁸ O'Connell, *supra* note 3, pp. 482-484.

⁹ See Article 246(5)(a) and (6) of the LOSC.

¹⁰ See Article 77(1) and (4) of the LOSC.

and seabed of the territorial sea is under the “absolute sovereignty of the coastal State, without qualifications or conditions.”¹¹ The sovereign rights on the continental shelf are intrinsically conferred based on the geographical fact that it is an extension of the territorial sea.¹² However, the sovereign rights of coastal States on the continental shelf are less absolute than their rights on the territorial sea because those are “rights relating to territory” rather than “territorial rights”¹³ and also because the status of the superjacent waters of the continental shelf is quite different from that of the territorial sea.

The rights of coastal States on the continental shelf within the EEZ and the continental shelf with the high seas water column are also different in terms of environmental protection. According to the EEZ regime, all of the natural resources of the water column beyond the territorial sea and within 200 nautical miles are used, protected, and managed under the almost complete sovereign rights of coastal States¹⁴ with the indefinite obligation to share living resources with other States.¹⁵ In addition, coastal States have jurisdiction to conserve the marine environment both in the water column and the seabed up to a distance of 200 miles.¹⁶ The sovereign rights to natural resource use in the seabed area of the EEZs should be subject to the continental shelf regime,¹⁷ but the environmental protection of the seabed is subject to jurisdiction of coastal States in accordance with the EEZ regime. The continental shelf regime gives no such specific jurisdiction or obligation to coastal States to protect resources and the marine environment on the continental shelf.¹⁸ The obligation to protect the outer

¹¹ Martinus W. Mouton, *The Continental Shelf*, Martinus Nijhoff, The Hague, Netherlands, 1952, p. 277.

¹² O’Connell, *supra* note 3, p. 481.

¹³ *Ibid.*

¹⁴ Article 56(1)(a), the LOSC.

¹⁵ Article 62, the LOSC. This obligation may not be definite, as it is not obligatory for coastal States to accept the compulsory binding measures to solve any dispute on sharing living resources. See David Farrier and Linda Tucker, “Access to Marine Bioresources: Hitching the Conservation Cart to the Bioprospecting Horse,” *Ocean Development and International Law*, Vol.32, 2001, pp. 213-239.p. 223.

¹⁶ Article 56(1)(b)(iii), the LOSC. These duties to conserve marine environment may be conferred according to Part XII. Article 56(1)(c), the LOSC.

¹⁷ Article 56 (3), the LOSC.

¹⁸ Owen noted that Part VI of the LOSC neither includes any provisions on environmental protection nor specially commits the obligation to Part XII. Daniel Owen, “The Application of the Wild Birds Directive beyond the Territorial Sea of European Community Member States,” *Journal of Environmental Law*, Vol. 13, No. 1, 2001, pp.39 -78, p. 57.

continental shelf is alternatively provided in Part XII, but coastal States do not have jurisdiction to protect the environment on the outer continental shelf.

Although coastal States are ultimately the only entity which has exclusive rights on the continental shelf both within and beyond the EEZ, the rights to mineral resources on the outer continental shelf are less exclusive than those of the continental shelf within the EEZ, and the rights to environmental protection on the outer continental shelf are not conferred. How much then does the lesser exclusivity and the absence of jurisdiction on the outer continental shelf to ecosystem protection impact on the establishment of MPAs by coastal States to properly protect all components of deep-sea features? As Part VI of the LOSC mainly provides use rights rather than rights and duties to protect, other parts of the Convention also need to be examined to find the potential to establish MPAs by coastal States on their outer continental shelf. It also needs to be ascertained if such MPAs can properly cover and protect all of the components of deep sea features. To do so, those resources of the deep-sea features on the continental shelf beyond the EEZ which are governed by the continental shelf regime should be identified. The answers to these questions will lead to a clarification of the conservation of the deep sea features on the high seas water column above the outer continental shelf.

3.1.1.1. Hydrothermal Vent Protection

Research on this deep-sea feature has continued around the world's oceans since the first hydrothermal vent was discovered in 1977. As noted in the previous chapter, this research revealed that vent fauna, their life cycles and food web are distinctive from those of shallow water ecosystems. Their extreme conditions, such as high pressure, heat, PH value, variable salinity and toxicity, make their ecosystems unique from other deep-sea surroundings.¹⁹

¹⁹ Harold V. Thurman and Elizabeth A Burton, *Introductory Oceanography*, Prentice-Hall, 2001, p. 103; Host Korn, Susanne Friedrich and Ute Feit, *Deep Sea Genetic Resources in the Context of the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea*, BfN – Scripten 79, 2003, <http://www.bfn.de/fileadmin/MDB/documents/skript79.pdf> (accessed on 8 October

There are three different types of hydrothermal vents and each of them contains different types of ecosystem components.²⁰ “Black smokers” emit very hot water (above 350°C) and have large chimneys formed by mineral rich dense fluid, as distinct from white smokers of temperatures from 30 to 330°C.²¹ The chimneys of black smokers consist of polymetallic sulphide deposits which include iron, copper, zinc, silver, and gold.²² The ecosystems of these hot vents (black and white smokers) are mainly occupied by microbes while the cooler vents (40 to 75°C) are occupied with macrofauna.²³ The macrofauna found in and around vent sites are shrimp, tubeworms, octopus, and other fish.²⁴ These vent macrofauna currently seem to be less economically attractive than the vent microbes. The most economically attractive vent microbes, for example hyperthermophile archaee, are discovered around the black smokers.²⁵ The microbes can still be active above 100°C.²⁶ Their adjustment to the extreme environment makes them valuable for biological prospecting, food and chemical processing, pharmaceuticals, and toxic waste reduction.²⁷

The hydrothermal vent and the value of their resources were barely known during the negotiation of the LOSC.²⁸ Thus, neither the text nor the preparatory works for the Convention mentions either their resources or their uses, such as bioprospecting. This means that the LOSC cannot provide specific solutions to the recently emerged concerns of the use of vent resources.²⁹ This lack of specific rules, however, does not prevent the application of LOSC to the conservation and management of the vent resources.

2008), p. 12; Salvatore Arico and Charlotte Salpin, *Bioprospecting of Genetic Resources in the Deep Seabed: Scientific, Legal and Policy Aspects*, United Nations University – Institute of Advanced Studies, 2005, <http://www.ias.unu.edu/binaries2/DeepSeabed.pdf> (accessed on 8 October 2008).

²⁰ *Ibid.*

²¹ *Ibid.*

²² Korn, Friedrich and Feit, *supra* note 19, p.12.

²³ Arico and Salpin, *supra* note 19, p. 9.

²⁴ Korn, Friedrich and Feit, *supra* note 19, pp.14-15.

²⁵ Hyperthermophile archaee is microbes “able to grow at 90°C and above.” Arico and Salpin, *supra* note 19, p. 10, Korn, Friedrich and Feit, *ibid.*, p.16.

²⁶ Korn, Friedrich and Feit, *ibid.*, p.16.

²⁷ *Ibid.*, p.24.

²⁸ Craig H. Allen, “Protecting the Oceanic Gardens of Eden: International Law Issues in Deep-Sea Vent Resource Conservation and Management,” *Georgetown International Law Review*, Vol.13, spring 2001, pp.563-660, pp. 629-630.

²⁹ See Allen, *ibid.*; Arico and Salpin, *supra* note 19; and Korn, Friedrich and Feit, *supra* note 19.

The lack of specific rules in the LOSC is not unusual. The LOSC is not designed to respond directly to all existing and new perspectives of ocean management.³⁰ The Convention rather provides general provisions to guide the regulation of such specifications, refers to other competent international organizations, or recommends establishing new agreements, international standards, or guidelines to supplement such limitation.³¹ Therefore, it would be wrong to examine whether the LOSC is able to provide specific rules to protect and manage vents and their uses. Instead, this section should examine whether any provisions in the LOSC can indirectly lead to the adoption of protective measures, particularly MPAs, to protect and manage vents and their uses on the outer continental shelf. In order to examine the rules applicable for the conservation of vents on the outer continental shelf, it should first be clarified how far coastal States can exercise their jurisdiction to conserve certain vent resources and manage exploration and exploitation of the resources on the outer continental shelf.

As previously mentioned, coastal States have sovereign rights to ‘explore and exploit’ ‘natural resources’ of their continental shelf.³² The first step to identifying the scope of the coastal State’s sovereign rights to protect vent resources is to define the terms: ‘exploration and exploitation,’ and ‘natural resources.’ After defining those terms, the question of whether the vent resources and their use can be conserved and regulated under the continental shelf regime should be examined.

³⁰ Renate Platzöder, “The United Nations Convention on the Law of the Sea and Marine Protected Areas on the High Seas,” in Hjalmar Thiel & J. Anthony Koslow (eds.), *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools Such as Marine Protected Areas – Scientific Requirements and Legal Aspects* – Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 2001, pp.137-142, p.137, at <http://www.bfn.de/fileadmin/MDB/documents/proceed1.pdf> (accessed on 6 October 2008).

³¹ For example, Article 208 (5) refers that pollution caused by seabed activities in the continental shelf should be managed by both national laws established by coastal States and global and regional rules established by relevant States “through competent international organizations or diplomatic conference.” The reference to other organizations or new treaties appears in many provisions among 320 Articles of the Convention, especially in Part XII (Protection and Preservation of the Marine Environment) and Part XIII (Marine Scientific Research).

³² See Article 77(1) of the LOSC.

3.1.1.1. Definition of Natural Resources in the Context of the LOSC

Article 77 (4) of the LOSC confines the meaning of ‘natural resources’ on the continental shelf to minerals and other non-living resources, and sedentary species. This meaning of natural resources in the context of the continental shelf regime does not specify the general meaning of ‘resources.’ It is necessary to specify the general definition of ‘resources,’ because if a component of vents is hardly regarded as a resource then the component cannot be considered in any meaningful way to be a continental shelf ‘resource.’ Thus, if ‘resources’ have special conditions to be, the conditions can be used to narrow down the scope of the applicability of the continental shelf regime to certain components of vents.

The LOSC does not explicitly provide a general definition of ‘resources’ but it can be determined based on its use in the Convention. The term, ‘resources,’ appears in the Convention as ‘living resources,’ ‘mineral resources,’ ‘natural resources,’ ‘marine resources,’ and ‘non-living resources.’ Similar terms indicating living marine resources are ‘marine life’ and ‘species.’ Article 1(4) enumerates ‘living resources’ and ‘marine life’ together such as “harm to living resources and marine life.”³³ If ‘living resources’ and ‘marine life’ are synonyms, these do not need to be repeated in one sentence. This implies that both terms have different coverage in relation to living creatures in the oceans.

It is obvious that throughout the Convention ‘living resources’ or ‘non-living resources’ are subsets of natural resources, referring to: “natural resources, whether living or non-living.”³⁴ ‘Mineral resources’ are a subset of non-living resources. ‘Marine resources’ could be a bigger set which could include ‘natural resources,’ if they can also contain underwater cultural heritage. Most of the provisions in the LOSC which contain ‘natural, living or non-living resources,’ also refer to ‘exploitation,’ ‘exploration,’ ‘economic consideration,’ ‘harvesting capacity,’ or ‘protection, maintenance or management of those resources from utilisation.’ This

³³ Article 1(4), the LOSC.

³⁴ Article 56(1)(a), the LOSC.

indicates that 'resources' are postulated in the Convention as components of the marine environment which can be utilised.

'Marine life' may not be exactly the same as living resources but it may be more comprehensive.³⁵ 'Marine life' in Article 194(5) is apparently a subset of the ecosystems and habitats which are subject only to preservation and protection under Part XII of the Convention. 'Marine environment,' 'ecosystems' or 'habitats,' in turn are all broader concepts than marine resources and marine life and are mostly used in relation to conservation in the Convention. The preamble of the Convention, for example, refers to the marine environment subject to "study, protection and preservation."³⁶ Article 194(5), which is the only provision referring to ecosystems and habitats, limits the use of these terms subject to protection and preservation. As Part XII should be interpreted as safeguarding all components of the marine environment including ecosystems and habitats rather than protecting only exploitable ones, and the only words indicating marine living organisms in Part XII are either natural resources or marine life, marine life cannot refer only to exploitable resources. If marine life means only exploitable resources, Part XII should deal with exploitable resources exclusively. If so, it can be induced that in the context of the LOSC 'the marine environment' comprises of only exploitable resources. In which case, the member States of this Convention do not have any obligation to conserve the non-exploitable components of the marine ecosystems. If the marine environment includes only exploitable resources, the preamble and other relevant provisions of the Convention should not refer to "conservation of living resources" and "the study, protection and preservation of the marine environment" separately.³⁷ Thus, it is correct to assume that marine life means all living components of the marine environment. This definition of the meaning of these terms leads to the conclusion that the difference of the terms accompanying 'resources' from the other terms (i.e.,

³⁵ Owen, *supra* note 18, p. 50.

³⁶ Preamble, the LOSC.

³⁷ Owen, *supra* note 18, P. 50. See section 8 and 11.2. Also see preamble of the LOSC.

‘marine life’ or ‘marine species’) can be determined by the non-exploitability of their components.³⁸

It is clear that ‘resources’ means exploitable components of the marine ecosystems and does not include non-exploitable components. It can be further inferred from the Convention that exploitability does not exclusively mean ‘current utilisation.’ Article 61 implies that living resources are not exactly the same as harvested species.³⁹ Article 61(1) and (2) obliges coastal States to conserve and manage living resources in their EEZs by taking various measures. Article 61(3) adds that those measures should “also” be able to “maintain or restore population of harvested species.”⁴⁰ This implies that living resources and harvested species do not exactly correlate. When the International Law Commission (ILC) prepared the draft article for the geological scope of the continental shelf, “the future technical progress” which will make it possible to use presently non-exploitable resources was considered as a significant element to determine the outer limit of the continental shelf.⁴¹ In this regard ‘living resources’ at least in the context of the continental shelf regime, should include potentially exploitable components of the marine environment as well as harvested species.⁴² If this applies to all other regimes in the Convention, the natural or marine resources mentioned in the LOSC can be defined as living or non-living components of the marine environment which are ‘exploited or potentially exploitable.’

The above definition does not clarify whether ‘exploitation’ or ‘potential exploitability’ includes non-commercial or non-economic utilisation. A remaining concept in Article 77(1) which needs to be explained in order to identify the scope of coastal States’ rights to the vent resource protection on the outer continental shelf, the implication of ‘exploration and exploitation,’ should be clarified to determine the further condition of being natural resources. There is a term which is used similarly to

³⁸ *Ibid.*, p. 51.

³⁹ *Ibid.*, p. 50.

⁴⁰ Article 61(3), the LOSC.

⁴¹ *Yearbook of the International Law Commission*, Documents of the eighth session including the report of the Commission to the General Assembly, Summary records of the eighth session, UN, 1956, Vol. II, p.296.

⁴² Owen, *supra* note 18, p. 50.

‘exploitation’ in Article 77(4), which is ‘harvestable.’⁴³ It is obvious that the term of ‘harvested’ or ‘harvestable’ indicates commercial use in the context of the Convention.⁴⁴ However, this term is not used in the Convention to exactly equal as ‘exploitation’ and it is unclear how ‘exploitable’ is different from ‘harvestable.’ Whether ‘exploration and exploitation’ excludes non-commercial utilisations can be more clearly determined by examining a specific ocean use, such as marine scientific research, than by examining a general term relevant to it.

Activities pertaining to exploration and exploitation of marine resources do not include marine scientific research in the context of the LOSC.⁴⁵ According to the Convention, scientific research is dissimilar to other ocean uses including those conducted on the continental shelf, primarily as the research shall be conducted “exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind.”⁴⁶ ‘The peaceful purposes and benefit of all mankind’ do not absolutely distinguish scientific research from commercial activities. Scientific research for ‘the peaceful purpose and benefit of all mankind’ could be commercial. Commercial activities are in some cases required to be performed for ‘the peaceful purpose and benefit of all mankind.’ For example, prospecting, exploration, and exploitation particularly in the international seabed area should also be exclusively conducted for peaceful purposes and benefits of all mankind.⁴⁷ Thus, the primary purpose of scientific research does not indicate a commercial or non-commercial characteristic of the activity.

When it comes to regulation, the LOSC distinguishes non-commercial scientific research from exploration and exploitation and commercial research. In particular, the

⁴³ See for example, Article 69 (3) of the LOSC: “3. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall cooperate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing land-locked States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 2 shall also be taken into account.”

⁴⁴ Allen, *supra* note 28, p.623.

⁴⁵ See Article 1(3) and Part XI of the LOSC and Allen, *ibid*.

⁴⁶ See Articles 240(a) and 246(3) of the LOSC. Also see Robin R. Churchill and A. Vaughan Lowe, *The Law of the Sea*, Manchester University Press, 1999, p. 406.

⁴⁷ See Articles 140 and 141 of the LOSC.

distinction between commercial and non-commercial marine scientific research is noted in the 1958 Convention on the Continental Shelf, the international seabed regime in the 1982 LOSC, and the 2001 Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (the Polymetallic Nodules Regulations).⁴⁸ Article 5 (8) of the 1958 Continental Shelf Convention explicitly distinguishes non-commercial scientific research (pure scientific research) from commercial research (applied research activities) as follows:

8. The consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless the coastal State shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, subject to the proviso that the coastal State shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the results shall be published.⁴⁹

The word ‘pure’ disappears in the 1982 LOSC, but this Convention still distinguishes marine scientific research from applied research activities “of direct significance for the exploration and exploitation of natural resources.”⁵⁰ The Convention does not use the term ‘applied’ specifically, and this distinction between pure and applied research is only a rough approximation in the LOSC. However, paragraph 5(a) of Article 246 implies that applied research is close to exploration or exploitation, although applied research is not exactly the same as exploration and exploitation. This phrase also confirms that exploration or exploitation does not include pure marine scientific research. According to Article 246 of the Convention, applied research is more restricted on the continental shelf when compared to pure research because it impacts on the exclusive rights of coastal States to explore and exploit natural resources. The coastal State has discretion to ‘withhold’ consent to applied research activities on the continental shelf, while consent for pure scientific research should not be “delayed or denied unreasonably.”⁵¹ Applied scientific research could be restricted on the international seabed area as well. Several provisions of the LOSC indicate that the

⁴⁸ Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, ISA, 2000, ISBA/6/A/18.

⁴⁹ Article 8 (5), the Convention on the Continental Shelf, adopted on 28 April 1958, entered into force on 10 June 1964, *United Nations Treaty Series*, Vol. 499, p.311.

⁵⁰ See Article 246 (5) (a) of the LOSC.

⁵¹ See Article 246 (5) (a) of the LOSC.

International Seabed Authority (ISA) does not have competence to regulate pure scientific research in the Area, even if the research is conducted by member States and other relevant international organizations.⁵² The ISA, however, regulates prospecting, which could possibly be called applied research,⁵³ or exploration and exploitation of mineral resources.⁵⁴ This confirms that pure marine scientific research which will not lead to commercial utilisation of resources is distinct from applied research, and exploration and exploitation in the LOSC. It implies that exploration and exploitation in the context of the LOSC does not include the utilisation of natural resources which will not lead to commercial activities.

This point is explicitly confirmed in the rules and regulations relevant to international seabed mining. The ISA obviously confirms that exploration and exploitation on the Area are commercial activities.⁵⁵ In addition, all activities regulated by the ISA, including applied research such as prospecting, should be, or lead to be, commercial because all products from the seabed activities under the management of the ISA are apparently ‘commercial.’⁵⁶ Considering the implication and explicit statements reviewed above, it is right to conclude that exploration and exploitation in general may only include commercial activities or at least is limited to activities which are designed to lead to commercial activities.⁵⁷ If this point is incorporated, natural resources can be defined as the components of the marine ecosystems which are commercially exploited or have the potential for commercial exploitation.

⁵² For example, see Article 143 of the LOSC. Also see Allen, *supra* note 28, pp. 588-589.

⁵³ Allen, *ibid.*, p. 646.

⁵⁴ See Article 143 of the LOSC for confirming regulation of applied research by ISA.

⁵⁵ Regulations on Prospecting and Exploration for Polymetallic Nodules, *supra* note 48.

Regulation 1, (3) (a), (b); (a) “Exploitation” means the recovery for commercial purposes of polymetallic nodules in the Area and the extraction of minerals therefrom, including the construction and operation of mining, processing and transportation systems, for the production and marketing of metals; (b) “Exploration” means searching for deposits of polymetallic nodules in the Area with exclusive rights, the analysis of such deposits, the testing of collecting systems and equipment, processing facilities and transportation systems, and the carrying out of studies of the environmental, technical, economic, commercial and other appropriate factors that must be taken into account in exploitation;”

⁵⁶ See Article 151 and Annex III of the LOSC.

⁵⁷ Other applications to the distinction are discussed in Alfred H.A. Soons, *Marine Scientific Research and the Law of the Sea*, Kluwer Law and Taxation Publishers on behalf of the T.M.C. Asser Instituut, 1982.

3.1.1.2. Natural Resources in the Context of the Continental Shelf Regime

Since the meaning of natural resources in general is cleared, the meaning of natural resources in the context of Part VI should be examined. As noted above, in accordance with Article 77(4) natural resources on the continental shelf are confined to specific resources: non-living resources and sedentary species.⁵⁸ The reason for this specification is to limit the sovereign rights of coastal States in the continental shelf. In the early draft of the 1958 Continental Shelf Convention, continental shelf resources meant only mineral resources.⁵⁹ Later, exclusive rights were extended to include exploration and exploitation of other non-living resources as well as sedentary species. Determination of the non-living resources of the continental shelf has not actually caused any difficulty. However, the definition of sedentary species has had some complications.

Article 77(4) explains that sedentary species are “at the harvestable stage” and immobile or able to move only “in constant physical contact with the seabed or the subsoil.”⁶⁰ Several authors have indicated that this legal definition can lead to “fragmented, uncoordinated conservation and management practice” as the definition does not provide consideration of the ecosystem as a whole.⁶¹ Where living resource management in particular on the outer continental shelf is concerned, this fragmentation could be more serious because different regimes should apply for management of different living resources by different authorities. Sedentary species under the continental shelf regime do not include some bottom species which breed or have their habitats at the bottom of the sea⁶² because they are not in constant contact with the seafloor. Within the EEZ, these species and the sedentary species which share the same habitats can be conserved or managed together with their habitats

⁵⁸ Article 77(4), the LOSC: “The natural resources referred to in this Part consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, 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.”

⁵⁹ *Yearbook of the International Law Commission*, 1956, Vol. II, supra note 41, p.297.

⁶⁰ Article 77(4), the LOSC.

⁶¹ Allen, supra note 28, pp. 621-622 and also see Korn, Friedrich and Feit, supra note 19, pp. 38-39.

⁶² *Yearbook of the International Law Commission*, 1956, Vol. II, supra note 41, p.297.

under the EEZ regime and the Continental shelf regime by a coastal State. However, beyond the EEZ, the bottom species should be managed by the high seas regime, the sedentary species should be managed by the continental shelf regime, and the habitats should be protected under Part XII, Protection and Preservation of Marine Environment.

In addition to this fragmentation, there has been a problem of classifying some species as sedentary because of the ambiguous meaning of ‘immobility’ or ‘constant physical contact’ in Article 77 (4). This article does not clearly explain how slow a species should move in order to be immobile or how long a species should be in contact with the seafloor in order to be in constant contact. Since the phrases are vague, coastal States whose fishing communities depend on specific fisheries of bottom species could argue over the status of their target species, which are controversially sedentary species, in order to have sovereign rights over them. Several disputes have occurred in relation to this controversial classification of sedentary species.⁶³ Unless the definition adds more detailed conditions⁶⁴ so that ‘the sedentary species’ can be explicitly limited to specific species, the arguing over the interpretation of the conditions will continue because of the economic importance of these controversial species.

Besides the ambiguity of the conditions determining the connection of species to the seafloor, a further difficulty when determining whether a species can be classified as sedentary may occur in relation to the meaning of ‘at the harvestable stage.’ According to the definition, when sedentary species are constantly in contact with the seabed they should be ‘at the harvestable stage.’ Even if certain species are constantly in contact with the seafloor at one stage of their life, the species cannot be legally sedentary unless they are harvestable when they are in contact with the seafloor. During the first UN Conference on the Law of the Sea in 1958, it was explained that

⁶³ The species causing disputes are sea scallops between USA and Canada, lobster between France and Brazil and between USA and Canada, and king crab between USA and Japan. See Churchill and Lowe, *supra* note 46, pp.151-152; Korn, Friedrich and Feit, *supra* note 19, p. 39.

⁶⁴ For example, it was attempted to add more conditions to the definition during drafting the 1958 LOSC, such as the continental shelf should provide habitats for habitation and reproduction and both the shelf and organisms should have “reciprocal influence.” *Yearbook of the International Law Commission*, Vol. I, Summary records of the eighth session, UN, 1956. p. 142.

the reason for using the word “harvestable” was to indicate “the stage of their life at which organisms were harvested, and not the moment at which they were harvested.”⁶⁵ Thus, the phrase can be interpreted as the stage when these species can be commercially used by humans while they may have certain economic value. Does this phrase mean that it should currently be affirmed that the sedentary species are commercially exploitable? Or at least their economic value should be currently identified? If this phrase limits the sedentary species to those currently having an exploitable stage or identified economic values vent microbes and species only with potential exploitability or economic value could hardly be classified as continental shelf resources. However, the preparatory works of the 1958 Convention do not specify that the phrase, ‘at the harvestable stage’, was included to narrow down the meaning of the species to ones which are currently exploitable or of value. Rather, the inclusion of the phrase in the 1958 Convention could on the other hand result in the exclusion from sedentary status of certain species who are only once ‘at an immobile stage of life cycle’, or on the other hand it could lead to the inclusion of species which were attached to the seabed only at one stage of their life but which are sedentary species at the time of harvesting.⁶⁶ Since the phrase was not included with the intention to limit to current exploitability or economic values, and ‘resources’ in the context of the LOSC mean components with future exploitability, it is right to conclude that sedentary species which are continental shelf resources should mean living components with both present and future exploitability and economic value. This conclusion can be supported by the preparatory work of the ILC for the provision in the 1958 Convention. Seabed resources residing at a depth of more than 200 meters were not exploitable and their economic value was not well known fifty years ago when the ILC drafted the 1958 Law of the Sea Convention.⁶⁷ The ILC, however,

⁶⁵ *United Nations Conference on the Law of the Sea – Official records*, Vol. VI: Fourth Committee (Continental Shelf), Summary records of meetings and Annexes, Geneva, Switzerland, 1958, UN A/CONF.13/42. p. 69.

⁶⁶ *Ibid.*, p. 62.

⁶⁷ *Yearbook of the International Law Commission*, 1956, Vol. II, supra note 41, p.296.

anticipated the actual exploitation of such resources in the future and set up rules in favour of future exploitation.⁶⁸

If the general definition of ‘resources’ and the criteria to be satisfied for them to be continental shelf resources are combined together, the qualification for living or non-living components of vents to become continental shelf resources is that they should have ‘potential commercial exploitability’ in order to be considered ‘resources,’ in relation to which the coastal State has sovereign rights for exploration and exploitation over them. In addition for living resources, immobility or constant contact with the seafloor at the harvestable stage is also necessary. However, the particular ambiguity of the meaning of ‘immobility or constant contact with the seafloor’ has caused some problems when determining whether certain species are sedentary, and this can cause confusion when deciding whether the living resources around vents should be classified as sedentary or not.

3.1.1.3. Can Vent Living Resources and their Use be Conserved and Regulated under the LOSC by Coastal States through Establishing Protected Areas?

The living resources around vents seem to have potential commercial exploitability, as they are already utilised commercially or have the potential to be commercially exploited. Currently only a few products of the living resources around vents, such as enzymes extracted from hyperthermophile archaea, are in demand and have been commercially produced.⁶⁹ Many species residing in the vent are still non-exploitable, but there seems little doubt that technology advances will sooner or later make the exploitation of all vent resources possible. This potential for the commercial exploitation means that the vent living organisms will be deemed to be ‘living resources.’

⁶⁸ *Ibid.*

⁶⁹ “Management and Conservation of Hydrothermal Vent Ecosystems,” Report from an InterRidge Workshop, Sidney (Victoria), B.C., Canada, Institute of Ocean Sciences, September 2000, p.8, at http://www.interridge.org/files/interridge/Management_Vents_May01.pdf (accessed on 13 October, 2008).

Although vent living organisms can be considered as ‘resources,’ they might not be continental shelf resources, especially as sedentary species within the meaning of Article 77. This is because their characteristics are not yet sufficiently known. The crux of the conditions to link the vent living components on the continental shelf to coastal States’ sovereign rights is not where they live but how they live. Some information on where they live is already available. For example, the vent microbes inhabit the area “around the upwelling vent fluids,” “within the hydrothermal vent water plumes,” “on the rocks and chimneys constantly exposed to vent water,” or “with vent macrofauna.”⁷⁰ However, the information on how they live on the vent site is still not well known. Since the necessary biological information on vent microbes is not likely to be obtained any time soon, it is impossible to make a decision yet as to whether they are in constant contact with the seafloor. Without such information the status of living resources around vents cannot be determined and they cannot be claimed to be sedentary species. It follows from this that it cannot be proved that coastal States have the exclusive sovereign right to explore and exploit those living resources around vents.

While the biological information is absent, vent microbes can be unilaterally claimed by coastal States to be sedentary species before obtaining the necessary scientific knowledge. If so, similar disputes over other sedentary species can occur. Such conflicts would primarily relate to ‘benefit sharing.’⁷¹ Currently, activities in vent sites cause little threat to the marine environment.⁷² Thus, there might be little possibility of conflict on environmental protection around vent sites but the principal concern to vent resource use is ‘benefit sharing.’⁷³ There is at present no internationalised standard to determine how to share the benefit from the exploitation of vent resources if they are assumed not to be continental shelf resources. Therefore,

⁷⁰ Korn, Friedrich and Feit, *supra* note 19, p. 39.

⁷¹ Farrier and Tucker, *supra* note 15, p. 227.

⁷² S. Kim Juniper, “Background Paper on Deep-Sea Hydrothermal Vents,” in Thiel & Koslow (eds.), *supra* note 30, pp. 89-95. p. 95.

⁷³ Farrier and Tucker, *supra* note 15, p. 227.

there is the possibility for coastal States and other States to have access conflicts over the utilisation of vent living resources on the outer continental shelf.⁷⁴

In addition to the lack of biological information on the vent living organisms, a complex classification of the utilisation of living resources around vents can disadvantage coastal States who seek to have rights to regulate the vent resource use on the outer continental shelf. Current activities relating to the use of vent living resources are “sampling, observation and instrumentation.”⁷⁵ These activities should be classed as ‘exploration and exploitation’ for coastal States to exercise sovereign rights in terms of regulating these activities. However, the classification of these activities, especially sampling the genetic resources of vents, entails difficulty because they have both non-commercial and commercial characteristics. Although the sampling can begin as a non-commercial activity, the results from it can be, but are not necessarily, often transferred to commercial sectors at any stage.⁷⁶ Deep seabed research activities require huge financial support, so sponsors are necessary.⁷⁷ The sponsors are drawn from various sectors, such as academic organizations and companies.⁷⁸ It could be normal in these cases that the sponsors will acquire the results for commercial purposes.⁷⁹ Thus, it is not easy to draw a line between pure research and commercial sampling activities on the vent sites.⁸⁰ Nor is it easy to determine whether ‘exploration and exploitation’ which exclude pure research should include those activities which could be partially non-commercial.

Although the classification of resource use around vents is complicated, rough definitions have been provided. The use of vent resources has been named as biological prospecting (bioprospecting). A definition of prospecting is provided in the 2001 ISA Regulation on polymetallic nodules. These regulations define prospecting as searching for resources and estimating their composition, size, distribution and

⁷⁴ *Ibid.*

⁷⁵ Juniper, *supra* note 72, p.93.

⁷⁶ Arico and Salpin, *supra* note 19, p. 15; Korn, Friedrich and Feit, *supra* note 19, p. 51; Farrier and Tucker, *supra* note 15, p. 227.

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ *Ibid.*

⁸⁰ *Ibid.*

economic value.⁸¹ Although the definition does not necessarily apply to other kinds of prospecting than prospecting for minerals, it can be inferred from the definition which types of activities prospecting in general can be. Arico and Salpin explain that bioprospecting can be understood as searching and estimating biological units.⁸² Farrier and Tucker define bioprospecting as “the collection of small samples of biological material for screening in the search for commercially exploitable biologically active compounds or attributes such as genetic information.”⁸³ Most of these definitions of prospecting or bioprospecting include commercial implications. These commercial implications cannot help bioprospecting to be classified as ‘the exploration and exploitation,’ since it is not necessarily commercial in the entire process nor does it necessarily result in commercial exploitation.⁸⁴ Nevertheless, some have attempted to classify bioprospecting as exploration.⁸⁵ Even if bioprospecting can be classified as exploration, if vent microbes cannot be the sedentary species, coastal States cannot exercise sovereign rights to regulate it.

If it is not classed as exploration or exploitation, it may fall within the ambit of the broad context of marine scientific research as applied research of direct significance to the exploration and exploitation of natural resources.⁸⁶ Marine scientific research is regulated by Part XIII of the LOSC. Article 246 (3) of Part XIII grants coastal States conditional discretionary power to consent to or reject marine scientific research on the continental shelf within the EEZ. According to this article coastal States are encouraged to give their consent to pure scientific research by other States and international organizations on their continental shelf for peaceful purposes and the benefit of all mankind.⁸⁷ If coastal States want to refuse their consent for such

⁸¹ Regulation 1(3)(e) in Regulations on Prospecting and Exploration for Polymetallic Nodules, *supra* note 48.

⁸² Arico and Salpin, *supra* note 19, p. 16.

⁸³ Farrier and Tucker, *supra* note 15, p. 214.

⁸⁴ See Juniper, *supra* note 72, p.93. Some authors argue that applied scientific research as ‘exploration.’ Bioprospecting has ever been considered as ‘fishing.’ For further classification of bioprospecting, see section 3.2.1.

⁸⁵ See Allen, *supra* note 28, p. 624. For definition of exploration, see Allen, *supra* note 28, p. 644. See more details on classification of bioprospecting as exploration in section 3.2.1.

⁸⁶ Farrier and Tucker, *supra* note 15, p.225.

⁸⁷ Article 246 (3), the LOSC. Also see Article 246(5)(a) of the LOSC.

research, an explanation must be given to the applicant.⁸⁸ In the case of applied marine scientific research, including research of direct significance for the exploration and exploitation of natural resources, Article 246 (5) (a) warrants coastal States to ‘reject’ it, if they want to do so.⁸⁹

However, such discretionary power is weaker on the outer continental shelf. The discretion to refuse consent for applied marine scientific research pertaining to use of natural resources on the outer continental shelf is not granted “as the norm.”⁹⁰ According to Article 246(6), coastal States do not have the right to withhold consent to such applied research including bioprospecting on the outer continental shelf outside certain areas that it has designated for “exploitation or detailed exploratory operations focused on those areas” (hereafter the exploration and exploitation areas) which are current activities or “will occur within a reasonable period of time.”⁹¹ Within such areas, however, they can refuse bioprospecting or any applied research activities relating to natural resource use on the outer continental shelf.⁹² The consent for pure marine scientific research should still not be denied by coastal States in the exploration and exploitation areas without a specific reason. Coastal States can use this provision for the indirect protection of living resources of vent sites from bioprospecting. If coastal States establish exploration or exploitation areas where the vent ecosystems need to be protected in advance of the occurrence of any exploration or exploitation, they can prohibit applied research including bioprospecting by other States in the areas. The purpose of this exploration and exploitation area is not the

⁸⁸ *Marine Scientific Research, A Guide to the Implementation of the Relevant Provisions of the United Nations Convention on the Law of the Sea*, Office for Ocean Affairs and the Law of the Sea, UN, 1991, p. 11. Farrier and Tucker, supra note 15, p. 224.

⁸⁹ Farrier and Tucker, *ibid*, p. 224.

⁹⁰ *Marine Scientific Research, A Guide to the Implementation of the Relevant Provisions of the United Nations Convention on the Law of the Sea*, supra note 88, para. 18 at p. 4 and para. 53 at p. 11.

⁹¹ Article 246(6): “Notwithstanding the provisions of paragraph 5, coastal States may not exercise their discretion to withhold consent under subparagraph (a) of that paragraph in respect of marine scientific research projects to be undertaken in accordance with the provisions of this Part on the continental shelf, beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, outside those specific areas which coastal States may at any time publicly designate as areas in which exploitation or detailed exploratory operations focused on those areas are occurring or will occur within a reasonable period of time. Coastal States shall give reasonable notice of the designation of such areas, as well as any modifications thereto, but shall not be obliged to give details of the operations therein.”

⁹² *Ibid*.

conservation of components within it. Thus, although they give indirect protection from applied research, it may not be correct to conclude that such an area is a type of protected area.

Part VI of the LOSC mainly regulates ‘exploration and exploitation’ but it also regulates other activities which are not exploration and exploitation, such as “drilling” and “construction, operation and use of artificial islands, installations and structures” on the continental shelf.⁹³ The reason why these activities other than exploration and exploitation are exceptionally regulated under this part is because these activities may be able to seriously interrupt the sovereign rights of coastal States to the utilisation of natural resources on the continental shelf.⁹⁴ While research that is of direct significance for the exploration and exploitation of natural resources is only subject to coastal States’ consent in certain areas of the outer continental shelf, research in the form of “drilling” and “construction, operation and use of artificial islands, installations and structures” requires the consent of coastal States in the whole of the outer continental shelf.⁹⁵ If bioprospecting on the outer continental shelf is conducted through any of those activities, coastal States can refuse their consent for it without establishing exploration or exploitation areas.

Can this bioprospecting which is involved in drilling, construction, operation, and use of facilities on the outer continental shelf be regulated through establishing an area based conservation measure in accordance with the LOSC? The continental shelf regime addresses a specific area based management measure relating to ‘construction, operation and use of artificial islands, installations and structures.’ Articles 60 and 80 of Parts V and VI provide coastal States with exclusive rights to regulate those activities. A special zone around those facilities can be established for the purpose of the safety of navigation and for the protection of the facilities themselves. This zone is called the ‘safety zone.’ The 1958 Convention on the Continental Shelf endowed an explicit obligation for coastal States “to undertake, in the safety zone, all appropriate

⁹³ See Articles 80 and 81 of the LOSC.

⁹⁴ Churchill and Lowe, *supra* note 46, p. 153. See also Articles 60, 80 and 81 of the Convention.

⁹⁵ Churchill and Lowe, *ibid.*, p. 405. See also Articles 246 (5) (b)(c) and 246(6) of the LOSC.

measures for the protection of the living resources of the sea from harmful agents.”⁹⁶ Since the EEZ was not included in the 1958 LOSC system, this provision applied to the continental shelf with the water column of the high seas. The continental shelf regime of the 1982 LOSC does not reiterate this obligation.

Article 208 in Part XII of the 1982 Convention may alternatively provide such an obligation to implement environmental protection measures in the safety zone for coastal States, although it does not relate directly to safety zones or other types of protected areas.⁹⁷ Article 208 was designed to deal with environmental problems derived from ‘exploration and exploitation of natural resources on subsoil and seabed in national jurisdiction,’⁹⁸ especially through the prevention of pollution from all kinds of seabed activity and from artificial islands, installations, and structures under national jurisdiction “pursuant to Article 60 and 80.”⁹⁹ This provision can oblige coastal States to protect the outer continental shelf, including the seafloor of the safety zones, from pollution caused in relation to the facilities. However, this obligation on coastal States is provided for protecting the seafloor through preventing pollution from those facilities, it is not intended to regulate problems other than pollution. In addition, this article does not give jurisdiction to coastal States for regulating pollution caused by activities under the jurisdiction and control of other States. On the outer continental shelf where no jurisdiction is conferred to coastal States for environmental protection, coastal States cannot oblige other States not to cause pollution within the safety zones. This means that if coastal States need to regulate bioprospecting which relates to drilling, construction, operation and the use of the facilities by other States on the outer continental shelf through establishing area based conservation measures, they would be required to depend on the sovereign rights conferred to them rather than relying on Article 208 or establishing the safety zone.

If bioprospecting is not involved in the construction, operation, and use of the

⁹⁶ Article 5(7), the Convention on the Continental Shelf.

⁹⁷ See Myron H. Nordquist, Shabtai Rosenne, Alexander Yankov, and Neal R. Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, Article 192 to 278, Final Act, Annex VI, Martinus Nijhoff Publisher, 1990, p.137.

⁹⁸ *Ibid.*

⁹⁹ Article 208(1), the LOSC.

facilities, the safety zone may prevent it for the purpose of protecting the facilities in the safety zone. The safety zone fundamentally targets the control of navigation. In addition, as “all ships must respect these safety zones,”¹⁰⁰ coastal States may control any activities conducted on ships within this zone. This means bioprospecting conducted by ships within the zone can be restricted. However, a maximum 500 metre safety zone is far too small to be effective to exclude all bioprospecting related activities. If bioprospecting is conducted within the water column of the safety zones on the continental shelf beyond the EEZ by ships located outside of the zone and if it is not relevant to exploration or exploitation of continental shelf resources, technically coastal States cannot prohibit the activity. In conclusion, the safety zone itself cannot provide for the effective prohibition of bioprospecting and protection of the vent ecosystems on the outer continental shelf as it is not designed to do so.

A legal basis for establishing protected areas on the outer continental shelf in which the aim is to prohibit bioprospecting can be found in articles in Part XII of the LOSC. Article 208 of Part XII can apply to bioprospecting if bioprospecting is involved in ‘seabed activities’ in accordance with paragraph 1 of the article. The LOSC does not define the term but it should mean those activities which are conducted on the seafloor.¹⁰¹ How much seabed operation is needed for sampling microbes may depend on how much the vent living resources especially microbes are connected to the seafloor. Since such information is unpublished it cannot be decided if bioprospecting can be classified as a seabed activity.¹⁰² If bioprospecting is conducted in relation to seabed activities such as drilling, construction, operation and use of the facilities on the outer continental shelf, coastal States can establish HSMPAs to regulate it based on Article 208 if it causes pollution¹⁰³ and they can reject the provision of their authorisation for the activities in the areas to other States

¹⁰⁰ Article 60(6), the LOSC.

¹⁰¹ See further discussion on seabed activities in Article 208 in section 3.1.2.2.

¹⁰² Vent bioprospecting comprises of two stages: discovery and recollection. It is not well known how much bioprospecting is in contact with seafloor during the two stages. See “Report of the Workshop on Bioprospecting in the High Seas,” Reported by Dr Julia Jabour Green from Antarctic Climate & Ecosystems Cooperative Research Centre, held in University of Otago, Dunedin, New Zealand, November 2003. Available at <http://www.fish.govt.nz/> (accessed on 28 October 2008).

¹⁰³ See further discussion on meaning of pollution in section 3.1.2.

based on their sovereign rights. If bioprospecting is classed as exploration or exploitation of the resources of the continental shelf, Article 194 of the Part XII on environmental protection can be used as a legal basis for establishing HSMPAs on the outer continental shelf by coastal States to regulate it if it causes pollution, and coastal States can reject to provide their consent to bioprospecting conducted by other States in the areas based on their sovereign rights.¹⁰⁴ This restriction is possible mainly because of the general nature of the rights of coastal States conferred by Part VI rather than Articles in Part XII. If bioprospecting does not cause pollution, even if it is either relevant to seabed activities or classed as exploration and exploitation of continental shelf resources, the LOSC does not refer to an obligation to take environmental protection measures to regulate it. However, coastal States can still restrict it in certain areas based on the sovereign rights which are conferred to them.

3.1.1.4. Conservation of Vent Ecosystems through Regulating Mining Vent Minerals

As reviewed, it is uncertain whether the vent living resources, especially microbes, can be natural resources of the continental shelf. On the other hand, all vent minerals can be classified as mineral resources of the continental shelf. The exploration and exploitation of these mineral resources on the continental shelf are subject to the sovereign rights of coastal States. The rights to mineral resources on the outer continental shelf are less absolute than those on the continental shelf in the EEZ because coastal States cannot exclusively possess the economic benefits deriving from mining of the resources.¹⁰⁵

During the negotiation for the LOSC some States claimed that the same rights should be provided for the continental shelf, both in and out of the EEZ boundary.¹⁰⁶ However, Article 82 of the LOSC demarcates the scope of coastal States sovereign rights in the continental shelf, within and beyond the EEZ, through obliging coastal

¹⁰⁴ See more details on Article 194 and Part XII in section 3.1.2.2.

¹⁰⁵ See Article 82 of the LOSC.

¹⁰⁶ Satya N. Nandan, Shabtai Rosenne, and Neal R. Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: a commentary*, Vol. II, Articles 1 to 85 and Annexes I and II, and Final Act and Annex II, Martinus Nijhoff Publishers, 1993, p. 837 – 890.

States to share the benefits from non-living resource use on the outer continental shelf. Do these incomplete sovereign rights to non-living resources on the outer continental shelf affect the conservation of deep sea features through establishing MPAs by coastal States? Article 82 limits the sovereign rights of coastal States to non-living resources only after exploitation, but does not affect the sovereign rights of coastal States to regulate mining activities or their obligation to prevent pollution from their seabed activities. Coastal States can enjoy unimpeded rights to control all non-living resource uses in accordance with Article 77 (2) of the LOSC and have obligations to manage their seabed activities not to cause pollution in accordance with Article 208 of the LOSC. Thus, it can be concluded that the incomplete sovereign rights on the outer continental shelf cannot change the capacity of coastal States to conserve deep sea features through regulating the exploration and exploitation of non-living resources.

Mineral resources around the world have been rapidly extracted, so it is necessary to rely on new sources of mineral supply such as polymetallic sulphide deposits from vent sites.¹⁰⁷ Several companies already have been licensed for the exploration of vent sites exclusively within national jurisdiction.¹⁰⁸ These mining activities can cause several environmental impacts: by “selective removal of substratum”; “production of a particulated plume”; killing or smothering living organisms; substituting soft particles from the particulated plume for hard substrata and resulting in a sudden change of habitat; blocking hydrothermal conduits with the soft particles; “changes of the subsurface hydrology beneath the vent openings”; preventing hydrothermal fluid flow; deficiency of the oxygen level of the upper layer of water caused by highly concentrated sulphides; toxication of hydrogen sulphides to most of living organisms; and stresses caused by mechanical sounds.¹⁰⁹

According to Article 208 of the LOSC, coastal States should enact proper national laws and international rules, and take appropriate measures to regulate any pollution caused from ‘seabed activities’ and artificial islands, installations and structures,

¹⁰⁷ Juniper, *supra* note 72, p.93.

¹⁰⁸ *Ibid.*, p.94. “Management and Conservation of Hydrothermal Vent Ecosystems,” Report from an InterRidge Workshop, *supra* note 69, p. 7.

¹⁰⁹ *Ibid.* Korn, Friedrich and Feit, *supra* note 19, pp.22-23.

‘subject to national jurisdiction.’¹¹⁰ Seabed activities definitely include mining mineral resources as the activities given include oil and gas extraction.¹¹¹ Article 208 may not apply to bioprospecting, but can oblige coastal States to control pollution caused by mining vent mineral resources. Paragraph 2 of the article specifies the obligation of coastal States to take certain measures to prevent pollution from the seabed activities. The measures are not specified, but possibly include marine protected areas.

Article 208 provides coastal States with obligations but not jurisdiction. However, if coastal States establish protected areas based on this article to protect the vent ecosystems from mining, since coastal States have sovereign rights to regulate mining activities in the continental shelf, they can prohibit mining by other States in the protected areas. This follows from the general nature of the sovereign rights of coastal States rather than from Article 208 itself. Thus, other States do not have an obligation to restrict activities other than mining in the protected areas, if the activities are not subject to the sovereign rights of coastal States. In addition, since the article should regulate only pollution from seabed activities, if the mining around the vents does not cause any pollution, the LOSC does not provide legal support for HSMPAs.¹¹² Nevertheless, coastal States may still be able to regulate mining by other States in closed areas because they have sovereign rights to mineral resources on the continental shelf.

¹¹⁰ Article 208, the LOSC. Under the LOSC, different terms have been used to indicate rights of coastal States in different marine zones. ‘Jurisdiction’ is used for indicating rights of coastal States in the EEZ and ‘sovereign rights’ is particularly selected for rights of coastal States in the continental shelf. Article 208 does not specify ‘sovereign rights,’ but both from its wording and policy consideration, it naturally applies to protection of the outer continental shelf. Nordquist confirms that this article applies to all marine zones where coastal States have exclusive rights. See Nordquist, Rosenne, Yankov, and Grandy (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p.144.

¹¹¹ Churchill and Lowe, supra note 46, p. 371. See further explanation in section 3.1.2.

¹¹² Mining possibly causes pollution in some cases. For example, during deep seabed mining of manganese nodules, dumping of processing waste can occur. This waste has some possibility of producing toxin, although the possibility is less than other mineral processing waste. See more details in Charles L. Morgan, Nii Allotey Odunton, Anthony T. Jones, “Synthesis of Environmental Impact of Deep Seabed Mining,” *Marine Georesources and Geotechnology*, Vol. 17, 1999, pp.307-356.

3.1.1.5. Conservation of Vent Ecosystems through Regulating Vent Energy Uses

A vent can provide other resources in addition to those already mentioned, such as geothermal energy. Over time the hot fluid from vents has been used in various business sectors, from power stations to spas.¹¹³ Thus, it is obvious that this energy from vents is a resource. It is argued that this energy exploitation can cause “a premature ageing of vents.”¹¹⁴ Consequently, use of this resource may need to be regulated. However, whether this resource can be classified as other non-living resources of the continental shelf is not determined yet. As such, whether coastal States have sovereign rights to regulate this energy use cannot be determined.

Geothermal energy or heat energy was at no point referred to in the 1982 LOSC, while other energy resources, such as wind and wave powers are referred to in relation to the EEZ regime in the Convention.¹¹⁵ The preparatory work for the draft articles of the 1958 Convention on Continental Shelf by the International Law Commission mainly refers to minerals of non-living resources,¹¹⁶ as the original inducement to establish the continental shelf regime was to secure oil.¹¹⁷ This work does not address many examples of other non-living resources: the only example of ‘other non-living resources’ was “shells of dead organisms” which was suggested by an Australian delegate during the negotiation for the Convention.¹¹⁸ However, no participants noted energy resources gained from the continental shelf.

As many delegates indicated during the negotiation for the 1958 Convention, any natural resources which permanently reside on the seabed may be dealt with as part of the seabed.¹¹⁹ This condition decisively added sedentary species to the list of

¹¹³ “Management and Conservation of Hydrothermal Vent Ecosystems,” Report from InterRidge Workshop, *supra* note 69, p. 8.

¹¹⁴ Korn, Friedrich and Feit, *supra* note 19, p.23.

¹¹⁵ See Article 56 (1)(a) of the LOSC.

¹¹⁶ “Report of the International Law Commission to the General Assembly, Document A/3159,” Report of the ILC covering the work of its eight sessions, 23 April – 4 July 1956, in *supra* note 41.

¹¹⁷ O’Connell, *supra* note 3, p. 498.

¹¹⁸ *United Nations Conference on the Law of the Sea – Official records*, Vol. VI: Fourth Committee (Continental Shelf), *supra* note 65, p. 56.

¹¹⁹ *Ibid.*, p.55.

continental shelf resources.¹²⁰ Article 77 (2) of the 1982 LOSC, which includes the sedentary species, speaks of continental shelf resources of seabed and subsoil. The condition for being mineral resources of the international seabed area is similar as “in situ in the Area at or beneath the seabed.”¹²¹ The hot water does not permanently reside on or beneath the seabed, but this water is naturally released into the water column. Thus, the heat energy does not satisfy those conditions and it might not be a natural resource of the continental shelf. If so, activities to use the energy on the outer continental shelf will not be governed by the continental shelf regime of the LOSC. Although the heat energy may not be considered as resources of the continental shelf, exploitation of the energy may be classified as those seabed activities depending on the method to collect energy. If the exploitation of the heat energy is regarded as a seabed activity, any ‘pollution’ caused by the exploitation of this resource can be controlled by national laws and international regulations through taking appropriate measures such as MPAs in accordance with Article 208. Since coastal States cannot have sovereign rights to use this resource the MPAs cannot be enforced to third States. In addition, the only known side-effect of vent heat energy use is ‘the premature ageing of the vent’ and it cannot be considered to be ‘pollution.’¹²² Thus, this resource use on the continental shelf beyond the EEZ is uncontrollable by the coastal States.

3.1.2. Deep Sea Coral Reef Protection

In the world’s oceans, approximately 55 States, including non-States Parties of the LOSC, may be able to claim the continental shelf beyond their national jurisdiction.¹²³

¹²⁰ See discussions on inclusion of sedentary fishing in *Yearbook of the International Law Commission*, Vol. I, 1956, supra note 64.

¹²¹ Article 133 (b), the LOSC.

¹²² The definition of ‘pollution of the marine environment’ under the LOSC is “the introduction by man, directly or indirectly, of substances of energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effect as harm to living resources and marine life, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.” Article 1(4), the LOSC.

¹²³ Victor Prescott, “Resources of the Continental Margin and International Law,” in P. J. Cook and C. M. Carleton (eds), *Continental Shelf Limits: the Scientific and Legal Interface*, Oxford University Press, 2000, pp. 68-70. According to a map prepared in 1978 for the Third UN Conference on the Law of the Sea, 33 States may claim outer continental shelf.

Among these 55 States, 26 are reported as having cold-water coral reefs in their sea areas.¹²⁴ This means that 26 countries possibly have potential sovereign rights to the cold-water coral reefs on the outer continental shelf (See Table 1). In particular, many coastal States of the North-east Atlantic Ocean (Denmark, France, Iceland, Ireland, Norway, Portugal, Spain, and the United Kingdom) are highly likely to have cold-water coral reefs in their outer continental shelves.¹²⁵

Table 3.1. Countries with Potential Continental Shelf beyond the EEZ and Cold-water Coral Reefs

| LOSC Parties | LOSC Non Parties |
|---|------------------|
| Angola, Australia, Brazil, Canada, Cape Verde, Denmark, France, Ghana, Guyana, Iceland, Ireland, Indonesia, Morocco, Mauritania, Madagascar, Norway, New Zealand, Portugal, Russia, Spain, South Africa, Suriname, Seychelles, UK | Ecuador, USA |

<Source: Freiwald, Andre, Jan Helge Fossa, Anthony Grehan, Tony Koslow and J. Murray Roberts, *Cold-Water Coral Reefs, Out of Sight – No Longer Out of Mind*, UNEP-WCMC, Cambridge, UK, 2004. Available at <http://www.ourplanet.com/wcmc/pdfs/Cold-waterCoralReefs.pdf>. p. 10. Prescott, Victor, "Resources of the Continental Margin and International Law," In *Continental Shelf Limits: the Scientific and Legal Interface*, P. J. Cook and C. M. Carleton (eds), Oxford University Press, 2000. pp. 68-70. >

The legal review with respect to the conservation of cold-water coral reefs by MPAs in the context of the LOSC should begin by questioning whether the cold-water coral reefs can be classed as 'resources' or not. As mentioned in Chapter II, deep-sea coral reefs consist of live corals on top of dead coral skeletons. Compared to

¹²⁴ Andre Freiwald, Jan Helge Fossa, Anthony Grehan, Tony Koslow and J. Murray Roberts, *Cold-Water Coral Reefs, Out of Sight – No Longer Out of Mind*, Cambridge, UK, UNEP-WCMC, 2004, <http://www.ourplanet.com/wcmc/pdfs/Cold-waterCoralReefs.pdf> (accessed on 8 October 2008), p. 21; "Issues with respect to Article 4 of Annex II to the United Nations Convention on the Law of the Sea," Background Paper Prepared by the Secretariat, United Nations Conventions on the Law of the Sea, Meeting of States Parties, May 2001, SPLOS/64, http://www.un.org/Depts/los/meeting_states_parties/SPLOS_documents.htm (accessed on 30 October 2008), p. 2-3. Compared to the 1978 list of States, in the Prescott's list, Japan, Mexico, Micronesia and Myanmar are deleted and many African States are added. According to the recent press release, the actual number of countries which will have benefits from the outer continental shelf will be only apparent "as the commission examines the submissions of coastal States and as disputed frontiers are settled between opposite and adjacent States." The number of States which may have outer continental shelf would be between 30 and 60. "Brazil Submits Information to Commission Regarding Outer Limits of Its Extended Continental Shelf," Press Release SEA/1800, UN, 27, May 2004, <http://www.un.org/News/Press/docs/2004/sea1800.doc.htm> (accessed on 30 October 2008).

¹²⁵ Freiwald, Fossa, Grehan, Koslow and Roberts, *ibid.*, p. 21.

the warm-water coral reefs, which provide coastal protection, habitats for commercially important species, incomes from fisheries and tourism, and specimens for aquarium trade and medicines,¹²⁶ the current economic value of cold-water corals is relatively insignificant. The economic benefit of the cold-water corals mostly derives from fish stocks which depend on the reefs as critical habitats. One exception is precious corals which are collected for jewellery making.¹²⁷ The precious coral is classified as a marine mineral resource according to a recent workshop paper by the International Seabed Authority.¹²⁸ Since at least the precious coral is considered as a resource, one may suggest that the dead skeleton part of all cold-water corals can be considered as resources which have the possibility of commercial exploitation. There are other dead animals and plants which are classed as resources: for example, oil which is formed by the deposition of dead plants and animal is classified as a mineral, and the “shells of dead organisms” are considered as other non-living resources.¹²⁹ The main point to make about these as resources is their exploitability. If the dead parts of other cold-water corals can have potential exploitability, and since they definitely reside on the seafloor, the dead parts can be categorised as either mineral or other non-living resources of the continental shelf. However, the possibility of future commercial exploitability of the dead cold corals is as yet largely unknown. And there may have been no specific discussion at international meetings on whether the dead parts should be considered as resources or not, and how to classify them. Thus, currently it is difficult to determine if the dead skeletons of cold corals can be natural resources in general and continental shelf resources specifically. However at least a

¹²⁶ Robin Kundis Craig, “Taking Steps toward Marine Wilderness Protection? Fishing and Coral Reef Marine Reserves in Florida and Hawaii,” *MGeorge Law Review*, Vol.34, 2003. pp. 155-266, pp. 185-186; Freiwald, Fossa, Grehan, Koslow and Roberts, *ibid.*, p. 11.

¹²⁷ Twenty species of precious corals have been collected for commercial purposes. These species “belong to three orders: the Gorgonacea; the Zoanthidae (gold corals); and the Antipatharia (black corals), especially from Hawaiian seamounts and the Mediterranean sea.” The number of species and amount exploited is much less than warm water corals. Freiwald, Fossa, Grehan, Koslow and Roberts, *ibid*, pp. 16-17 and 41. Also see Richard W. Grigg, “Precious Coral Fisheries of Hawaiian and the U.S. Pacific Islands,” *Marine Fisheries Review*, Vol.55, Issue 2, 1993, pp. 50-60.

¹²⁸ *Workshop on Minerals Other than Polymetallic Nodules of the International Seabed Area*, Proceedings of the International Seabed Authority Workshop held on 26-30, June 2000 in Kingston, Jamaica, prepared by: Office of Resource and Environmental Monitoring, April 2004, ISA, ISA/04/01, available at <http://www.isa.org.jm> (accessed on 30 October 2008). p. 70.

¹²⁹ United Nations Conference on the Law of the Sea – Official records, Vol. VI: Fourth Committee (Continental Shelf), *supra* note 65, p.51.

few species are already resources and considering the exploitation of dead warm water corals, they have a high potential to become resources in the future.

While the dead parts of cold-water corals have some potential to be natural resources, it is highly unlikely that live corals attached to the dead skeleton can be classified as 'natural resources' of the continental shelf. As live corals are living, before they can be determined to be natural resources they should first satisfy the conditions incorporated in Article 77 (4) of the LOSC for the determination of the sedentary species: i.e., whether the live coral is either 'immobile' or 'able to move only in constant contact with the seabed or the subsoil' and whether the live coral is 'at harvestable stage' when it contacts with the seafloor. An Australian delegation suggested during the negotiation for the 1958 Continental Shelf Convention that coastal States may have sovereign rights over corals as this "never moved more than a few inches or a few feet on the floor of the sea."¹³⁰ Apparently, live corals are permanently in contact with the seabed, if the dead skeleton can be considered as part of the seabed. So if they can be harvestable or exploitable at one stage of their life, they can be accepted to be 'living resources' of the continental shelf. The live cold-water corals unfortunately do not satisfy the general condition to be 'natural resources,' i.e., having commercial exploitability, as it is so difficult to determine if they have a harvestable stage. Unless the live coral is transformed into the coral stone, the live coral by itself hardly has any commercial value. As commercial exploitability cannot be proved or expected at this moment, the live coral of cold-water reefs is neither a natural resource in general nor a sedentary species which is a continental shelf resource. Therefore, it is right to conclude that coastal States do not have exclusive rights to explore and exploit the live corals.

Since the status of live corals and dead skeletons can be different, cold-water coral reefs on the outer continental shelf may not be conserved or managed together under the same rules in the LOSC. The utilisation of coral skeleton on the outer continental shelf can be regulated by Part VI and XII, and the live corals should be conserved as habitats solely by Part XII of the LOSC. In addition, depending on the

¹³⁰ *Ibid.*, p. 57.

types of activities which can impact on the reefs and their ecosystems, additional regimes in the LOSC can apply for the conservation of reef ecosystems by establishing MPAs. Thus, before questioning the possibility of establishing MPAs, it is necessary to explore what types of human activities in MPAs need to be prohibited in terms of conserving the cold-water reefs.

3.1.2.1. Human Impact on Cold Water Coral Reefs

There are few genuine resources to be gained from cold-water coral itself when compared with hydrothermal vents. Currently, collecting precious coral skeleton is the only direct consumption of the cold-water corals. The most important value of the corals derives from their status as habitats for commercially important fish stocks. The cold-water coral reefs are known to be critical habitats for sedentary species, such as lobsters, crabs, clams, and sea urchins.¹³¹ Commercially valuable fish like redfish stay in the reefs during their juvenile stage.¹³² Many other non-sedentary but commercially important species have been observed on the cold-water coral reefs. These include wolf fish, sablefish, black scabbardfish, alfonsino, tusk, rabbit fish, roundnose grenadier, snowy grouper, pacific cod, orange roughy, monkfish, lemon sole, blue ling, ling, squat lobster, Atka mackerel, Pollock, pelagic armorhead, slender armorhead, Greenland halibut, redfish, rockfish, and walleye Pollock.¹³³ Some species observed often in the reefs are caught by deep-sea trawling in the North Atlantic Ocean. Those species are roundnose grenadier, smoothheads, black scabbardfish, blue ling, forkbeards, ling, orange roughy, black-spot seabream, tusk, monkfish, Greenland halibut, alfonsinos, argentines, chimaeras, and deep-sea sharks.¹³⁴ Since non-

¹³¹ WWF, *Cold-Water corals-fragile havens in the deep*, Grand Switzerland, WWF-World Wide Fund for Nature, 2004. Available at <http://www.panda.org> (accessed on 30 October 2008). p. 2; Alex Rogers, *The Biology, Ecology and Vulnerability of Deep-Water Coral Reefs*, Gland, Switzerland, IUCN, 2004, http://cmsdata.iucn.org/downloads/alexrogers_cbdcop7_deepwatercorals_complete.pdf (accessed on 6 October 2008).

¹³² Rogers, "the Biology, Ecology and vulnerability of Deep Water Coral Reefs," *ibid.*

¹³³ Freiwald, Fossa, Grehan, Koslow and Roberts, *supra* note 124, p. 26.

¹³⁴ Matthew Gianni, *High Seas Bottom Trawl Fisheries and their Impacts on the Biodiversity of Vulnerable Deep-Sea Ecosystems: Options for International Action*, Gland, Switzerland, IUCN, 2004. Available at <http://data.iucn.org/dbtw-wpd/edocs/2004-053.pdf> (accessed on 30 October 2008). p. 28.

consumption of the corals, mainly fishing, can destroy the habitats of these commercially important species, it is necessary for the conservation of the reefs to manage direct exploitation of the coral skeleton as well as the indirect impact of other human activities. The impact of the non-consumptive activities of the corals on the reef ecosystems is better studied than that for hydrothermal vents. The following subsections will briefly review those activities and their impact on cold-water coral reefs.

Deep-sea Fishing

In the world's oceans, three factors seem to affect the rapid expansion of deep-sea fisheries on the high seas: the depletion of fish stocks in coastal areas; the phase-out of foreign fishing fleets from coastal areas as a result of the extension of coastal State jurisdiction; and, the rapid development of technology. This expansion of deep-sea fisheries has been most extensively conducted in the North-east Atlantic Ocean where cold-water coral reefs are densely distributed.¹³⁵ The major expansion and development of deep-sea trawling within the EEZs and on the high seas in this region have occurred since the late 1980s.¹³⁶ In the last twenty or so years, large scale fishing boats, mainly from coastal States in this region, have started to rapidly move into the fishing grounds on the continental shelf break.¹³⁷ Since the 1990s, deep-sea trawl fisheries have been further expanded by the participation of Spain, Ireland, Faroe Islands, Scotland, England, Iceland, and Norway.¹³⁸ Currently, the bottom trawlers on the high seas in the North-east Atlantic mostly come from coastal States of this region.¹³⁹ At first they fished within the EEZ but then have since moved beyond

¹³⁵ See Freiwald, Fossa, Grehan, Koslow and Roberts, *supra* note 124.

¹³⁶ Jason Hall-Spencer, Valerie Allain and Jan Helge Fossa, "Trawling Damage to Northeast Atlantic Ancient Coral Reefs," *Proceedings of the Royal Society Biological Sciences*, Vol. 269, No. 1490, March 7 2002, pp. 507-511, p.507.

¹³⁷ *Ibid.*

¹³⁸ Gianni, *supra* note 134, p. 28.

¹³⁹ *Ibid.*, p. 31.

national jurisdiction.¹⁴⁰ Unfortunately, deep-seas fishing on the high seas in this region is barely regulated.¹⁴¹

The expansion of deep-sea fishing particularly in the North-east Atlantic region could be facilitated from the change of market interest, the success of experimental fishing of deep-sea species, and the present intensive effort on traditional deep-sea fish stocks.¹⁴² The introduction of aggressive fishing gear, such as the rockhopper trawl, has also accelerated the development of deep-sea fisheries.¹⁴³ This new gear allowed trawlers to operate on rough terrain, and are particularly detrimental to cold-water coral reefs.¹⁴⁴ Once the heavy rockhopper gear and otter boards roll over the reefs, the corals turn over sediment, and the habitats of many living organisms are completely destroyed (See Picture 3. 1 and 2).¹⁴⁵ In Norwegian waters, 50% of *Lophelia pertusa* was completely removed by bottom trawling.¹⁴⁶

Figure 3. 1. Untrawled *Lophelia pertusa* in Nordleksa, West Norway, May 1999



<source: Jason Hall-Spencer, Valerie Allain and Jan Helge Fossa, "Trawling Damage to Northeast Atlantic Ancient Coral Reefs," *Proceedings of the Royal Society Biological Sciences*, Vol. 269, No. 1490, March 7 2002, pp. 507-511, p. 510.>

¹⁴⁰ *Ibid.*, p. 31.

¹⁴¹ *Ibid.*

¹⁴² *Ibid.*, p. 58.

¹⁴³ *Cold-Water corals-fragile havens in the deep*, supra note 131.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid* and Hall-Spencer, Allain and Fossa, supra note 136, p.507.

¹⁴⁶ Gianni, supra note 134, p. 31.

Figure 3. 2. Trawled *Lophelia pertusa* in the Iverryggen area, West Norway, May 1999



<source: Jason Hall-Spencer, Valerie Allain and Jan Helge Fossa, "Trawling Damage to Northeast Atlantic Ancient Coral Reefs," *Proceedings of the Royal Society Biological Sciences*, Vol. 269, No. 1490, March 7 2002, pp. 507-511, p. 510.>

In addition to the destructive fishing gear, coral by-catch can destroy the reefs. A large amount of by-catch by this fishing consists of cold-water corals.¹⁴⁷ This coral by-catch causes less catch of target fish and damage to nets which result in wasting time and effort.¹⁴⁸ Thus, if accurate information on coral distribution can be provided, trawlers are likely to avoid fishing operations in area where deep-sea corals are abundant.¹⁴⁹ This coral by-catch occurs not only by trawlers, but also by longliners especially during their experimental fishing.¹⁵⁰ Bottom-set longlines for catching redfish, tusk, ling, sablefish, and groupers can damage coral reefs through hauling.¹⁵¹ Bottom-set gillnets for groundfish can also break the reefs by placing anchors and weights on the reefs.¹⁵² In addition, 'ghost gillnets' have a potential impact on coral reefs, since the lost passive gears are able to get caught on the reefs and so remove

¹⁴⁷ Rogers, *The Biology, Ecology and Vulnerability of Deep-Water Coral Reefs*, supra note 131.

¹⁴⁸ Hall-Spencer, Allain and Fossa, supra note 136, p.509.

¹⁴⁹ Hall-Spencer, Allain and Fossa, *ibid.*, p.509.

¹⁵⁰ Dominic Rihan, "BIM Deep-water Program 2001," Anthony J. Grahon, Ronan J. Long, Bryan Deegan and Micheal O Cinneide, *Report on Two Deep-Water Coral Conservation Stakeholder Workshops Held in Galway in 2000 and 2002*, the Irish Coral Task Force and Atlantic Coral Ecosystem Study, <http://www.marine.ie/NR/rdonlyres/3F40CEB9-85C2-40C9-B465-A0C54BADFDD1/0/MEHS11.pdf> (accessed on 6 October 2008), p. 49.

¹⁵¹ Freiwald, Fossa, Grehan, Koslow and Roberts, supra note 124, p. 39.

¹⁵² *Ibid.*

some structures.¹⁵³ However, the impact on reefs by fishing gears other than bottom trawls is not well enough known to draw the attention of policy makers.

Direct exploitation of coral skeletons can be conducted by another type of fishing: dragging. Thus, although precious coral is a mineral, its exploitation can be classed as fishing.¹⁵⁴ This dragging is also a type of non-selective fishing gear, and so can destroy coral ecosystems.

Oil and Gas Extraction and Other Mining Activities

Oil and gas extraction may cause damage to deep-sea coral reefs. With the development of advanced technology for drilling and hydrocarbon recovery, extracting hydrocarbons in the Atlantic margin is now a realistic option to replace other depleted energy resources.¹⁵⁵ The drilling of the seabed, and construction of platforms and other relevant facilities on the seabed for oil extraction may cause the discharge of hydrocarbons, drill cuttings, and sediment and mud.¹⁵⁶ These activities and substances may directly destroy and remove corals, reduce their growth and reproduction rates, and poison or smother them.¹⁵⁷ While the negative impact of mineral extraction on warm water coral reefs have been extensively examined, no study to date has been conducted into its impact on the cold-water corals reefs.¹⁵⁸ On the other hand, mineral extraction activities may positively impact on the cold-water corals: for example, oil platforms can provide artificial substrates for cold-water corals.¹⁵⁹

¹⁵³ Rogers, *The Biology, Ecology and Vulnerability of Deep-Water Coral Reefs*, supra note 131; Rihan, supra note 150, p. 50.

¹⁵⁴ J. Anthony Koslow, "Fish Stocks and Benthos of Seamounts," in Thiel & Koslow (eds.), supra note 30, pp.43 -54, p. 44.; Freiwald, Fossa, Grehan, Koslow and Roberts, supra note 124, p. 41.

¹⁵⁵ Ronan Long and Anthony Grehan, "Marine Habitat Protection in Sea Areas under the Jurisdiction of a Coastal Member State of the European Union: The Case of Deep-Water Coral Conservation in Ireland," *International Journal of Marine and Coastal Law*, Vol.17, No.2, 2002, pp. 235-261, p. 239.

¹⁵⁶ *Ibid. Cold-Water corals-fragile havens in the deep*, supra note 131, p.5.

¹⁵⁷ *Ibid. Cold-Water corals-fragile havens in the deep*, *ibid.*

¹⁵⁸ *Cold-Water corals-fragile havens in the deep*, *ibid.*, p. 40.

¹⁵⁹ Maria C. Baker, Brian J. Bett, David S. M. Billett and Alex D. Roger, "Part 1-an environmental perspective," *The Status of Natural Resources on the High Seas*, Gland, Switzerland, WWF/IUCN, 2001, available at <http://www.iucn.org> (accessed on 6 October 2008). p. 36.

Scientific Research

Scientific research near deep-sea corals has already been limited in some areas, for example, in Irish waters. The traditional method of scientific sampling by dredging and trawling have left clear trenches across the reef areas.¹⁶⁰ Remotely Controlled Vehicle (RCV) or manned submersibles may reduce the impact of sampling activities on the reef area.¹⁶¹ In the near future it may be necessary to restrict more scientific research activities.

In conclusion, the current or potential threats to cold-water coral reefs which require to be managed are bottom fishing, mining, drilling and the construction of oil platform, and scientific research. The following section examines whether the LOSC can provide a legal basis for coastal States to establish MPAs around the coral reefs on the outer continental shelf in order to manage those threats by other States.

3.1.2.2. Conservation of Cold-Water Coral Reefs by Establishing MPAs

If coral skeletons are considered as non-living resources, coastal States have the exclusive jurisdiction to restrict all exploration and exploitation of these resources including mining and dragging on the outer continental shelf, either conducted by their nationals or by foreigners. If coral skeletons or live corals cannot be considered as continental shelf resources, any threat to them cannot be restricted under Part VI of the LOSC unless those threats are engaged in exploration and exploitation of continental shelf resources or drilling, construction and operation of facilities. If drilling or the construction of oil platforms or any other installations can damage coral reefs, coastal States can exercise exclusive rights to authorise and regulate the drilling and construction, in accordance with Articles 80 and 81 of the LOSC. In relation to

¹⁶⁰ Long, and Grehan, *supra* note 155, p. 239; Anthony Grehan, "Deep-Water Corals off the West Coast of Ireland," in Grahan, Long, Deegan and O Cinneide, *supra* note 150, p. 27; *Cold-Water corals-fragile havens in the deep*, *supra* note 131.

¹⁶¹ Freiwald, Fossa, Grehan, Koslow and Roberts, *supra* note 124, p. 41.

construction, operation and use of artificial islands, installations, and structures, coastal States can establish a safety zone around the facilities. As reviewed in section 3.1.1.3, the safety zone itself cannot prevent the establishment and use of those facilities, and it is not intended to protect the environment. Although the safety zone can be used to safeguard reefs through restricting all other activities not relating to the facilities but conducted by ships within the area, within those reasons it cannot effectively safeguard coral reefs from mining. Coastal States can establish protected areas based on Article 208 to protect the reefs from mining and other seabed activities, and in these protected areas coastal States can prohibit the activities of other States. However, as noted above, this article itself does not give rights to coastal States to control the activities of other States. The prohibition of those activities in such protected areas should be possible by the sovereign rights of coastal States on the continental shelf. In addition Article 208 only applies to activities causing pollution. If those activities do not cause any pollution, the LOSC cannot provide any rules referring to protective measures to regulate them.

If drilling or construction, operation and use of facilities damages coral reefs and relates to any research activities, coastal States have rights to reject to provide their consent to such research activities on the outer continental shelf in accordance with Article 246(5). Again, these activities can be prohibited through establishing protected areas in accordance with Article 208, but only if these cause pollution. Applied scientific research may also do harm to the reefs and can be prohibited in 'exploration and exploitation areas' beyond the EEZ designated by Article 246 (6) of the LOSC, although they cannot be classed exactly as protected areas.

Another activity which negatively impacts on the reefs is bottom trawling, of which fishing gears are embedded in the sea floor and they target bottom fish. If this activity does not target the collection of the coral mineral resources, or sedentary species, coastal States do not have the jurisdiction to control this bottom fishing on the outer continental shelf. As confirmed in the previous section, the only condition for coastal States to exercise their exclusive sovereign rights to control activities on the continental shelf is the exploration and exploitation of continental shelf resources.

Besides the exploration and exploitation of the continental shelf resources, there are three more activities which are not considered to be the exploration and exploitation of the continental shelf resources but which still need authorisation of the coastal States on the continental shelf. Two of the three exceptions are explained in section 3.1.1: firstly, drilling, constructing and operating artificial islands, installations and structures (Article 60 and 80); and secondly, marine scientific research (Article 246). The third exception is laying submarine cables and pipelines in accordance with Article 79(4).¹⁶² These exceptional rights are granted to coastal States because those activities interrupt their exploration and exploitation of continental shelf resources. Since bottom fishing also destroys the coral skeleton which can be a natural resource of the continental shelf and may interrupt its use, some may argue that on this basis coastal States should be able to prohibit it. However, such a claim is hardly acceptable because only the three activities which do not relate to commercial resource use on the continental shelf are statutorily guaranteed for management by coastal States in terms of protecting their interests. Besides these three activities, other legitimate ocean uses including fishing in the superjacent water of the outer continental shelf should be subject to the freedom of the high seas according to Article 78 of the LOSC, unless it catches sedentary species. If bottom fishing destroys the coral skeleton and the reef ecosystems on the outer continental shelf, such destructive activities should be managed not under coastal States jurisdiction but by flag State jurisdiction in Part VII (the high seas) and Part XII (marine environmental protection). Part VII primarily deals with the conservation of living resources rather than ecosystems and habitats. Part XII contains a provision on ecosystems and habitats protection. Although both Parts can be involved in regulating bottom fishing, since the major question is the possibility of establishing MPAs to protect coral reef habitats from fishing, Part XII will be reviewed in this section.

¹⁶² In accordance with this article, coastal States have jurisdiction over submarine cables and pipelines “constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.” Article 79(4), the LOSC.

Part XII deals with all possible pollutions in the whole ocean.¹⁶³ Article 194 provides the legal basis to take any protective measures including MPAs for the conservation of ecosystems against pollution on the outer continental shelf.¹⁶⁴ Article 194(2) obliges that any pollution caused during exercising sovereign rights of coastal States on the continental shelf should be prevented through adopting appropriate measures.¹⁶⁵ Article 194(5) specifically refers to “rare and fragile ecosystems as well as habitat of depleted, threatened or endangered species and other forms of marine life” for conservation.¹⁶⁶ Although Article 194, especially paragraph 5, provides few independent powers of its own to oblige States to take conservation measures, according to paragraph 1 and 2 it is obvious that States are obliged in general to take protective measures which may include HSMPAs to protect ecosystems which may include coral habitats. Article 208 of Part XII confers a duty to coastal States to adopt legislation to regulate marine pollution in the continental shelf caused by ‘seabed activities.’ Seabed activities are not defined in the Convention, but oil and gas extraction could be classified as a seabed activity.¹⁶⁷ ILC additionally illustrates other examples of seabed activities including: exploitation of the subsoil; seismic exploration; and, leaks from pipelines.¹⁶⁸ Notably, this does not include any fishing activities. Thus, Article 208 cannot apply to conservation of reef habitats from bottom fishing.

¹⁶³ Marine environment in the context of the LOSC includes both the seas within and beyond national jurisdiction. See Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, pp. 3-4 and 43.

¹⁶⁴ In accordance with Article 194 (2), “States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.” “The last phrase of paragraph 2 refers to article 57 or to article 76 as the case may be, according to whether the coastal State has established its entitlement to a continental shelf in excess of 200 nautical miles from the base line from which the territorial sea is measured.” Nordquist, Myron H., Shabtai Rosenne, Alexander Yankov, and Neal R. Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, *ibid.*, p. 66.

¹⁶⁵ See Article 194(2) of the LOSC.

¹⁶⁶ Article 194 (5), the LOSC. Also see Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p. 68.

¹⁶⁷ Churchill and Lowe, supra note 46, p. 371.

¹⁶⁸ Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p.137.

Although Article 194 certainly obliges conservation of habitats through taking protective measures in general, there are two limits to Part XII providing a legal basis for taking an effective measure for the conservation of coral reefs, specifically from fishing. Firstly, Part XII does not provide jurisdiction but rather obligations to protect the high seas environment, so coastal States cannot enforce the protection measures on the outer continental shelf taken under Part XII on other States. This means that Part XII obliges all States to protect the environment, but does not oblige them to observe any of protective measures taken by other States. Secondly, if there is any threat to cold-water coral ecosystems, those should cause pollution in order to be subject to the provisions under Part XII, including Article 194. The Convention defines pollution as the introduction of harmful or likely harmful substances or energy into the marine environment by humans.¹⁶⁹ Although trawling destroys habitats and increases the level of sediment, they do not introduce ‘harmful substances or energy’ into the sea. Molenaar affirms the existence of such limitations of the exercise of national jurisdiction to protect marine habitats and ecosystems on the continental shelf beyond the EEZs in Part XII of the LOSC.¹⁷⁰ Rosenne argued that fishing may be classifiable as pollution.¹⁷¹ However, unless the definition of pollution, ‘introduction of harmful substances or energy’ is changed, fishing cannot be classified as pollution in the context of the LOSC because it causes environmental degradation by extracting resources rather than introducing harmful substances.

3.1.3. Protection of Seamounts

Article 76 of the Convention provides the definition of, and explanation on, the continental shelf as “the seabed and subsoil of the submarine areas ... to the outer edge of the continental margin, or to a distance of 200 nautical miles ... where the

¹⁶⁹ Article 1(4), the LOSC.

¹⁷⁰ E.J. Molenaar, “Unregulated Deep-Sea Fisheries: A Need for a Multi-Level Approach,” *IJMCL*, Vol 19, No 3, 2004, pp. 223-258, p. 245.

¹⁷¹ “There is here an implication that uncontrolled over-fishing could be seen to be a form of pollution of the marine environment, or at least as a violation of the obligation to protect and preserve the marine environment.” Shabtai Rosenne, “Reflection on Fishery Management Disputes informal Panel I/III, 9 December 2002,” GA 57-Fishery Management Disputes-2, April 2003, p. 14.

outer edge of the continental margin does not extend up to that distance.”¹⁷² This section, before examining the conservation of seamount resources under the sovereign rights of coastal States, needs to assess: whether seamounts can legally fit into this definition and so be part of the continental shelf, especially the outer continental shelf; and, whether resources on seamounts can be determined to be continental shelf resources. This question was not asked in the previous sections because hydrothermal vents and cold-water coral reefs are not permanent geological features but can form resources in their own right, so those sections asked if they are continental shelf resources.

The continental shelf can legally be extended beyond 200 miles where the outer edge of the continental margin extends beyond the distance.¹⁷³ The continental margin comprises of the continental shelf, the continental slope, and the continental rise.¹⁷⁴ Beyond the continental margin the deep ocean basin lies and it includes the oceanic ridge, abyssal plain, and trench.¹⁷⁵ The continental margin is geologically part of the continental crust, and the oceanic ridge and the deep ocean basin are part of the oceanic crust.¹⁷⁶ Thus, according to Article 76 (3) the continental margin does not naturally include oceanic ridges.¹⁷⁷

Seamounts are normally formed on the deep ocean basin, especially where magma is created by the movement of oceanic crust either ‘subducting’ or ‘spreading.’¹⁷⁸ This volcanic activity is vigorous where oceanic crusts are subducting under the continental crust (trench) or oceanic crusts are spreading by erupting magmas (oceanic ridges).¹⁷⁹ Thus, it is believed that seamounts are mainly scattered around

¹⁷² Article 76(1), the LOSC.

¹⁷³ Article 76(4), the LOSC.

¹⁷⁴ Article 76(3), the LOSC.

¹⁷⁵ Thurman and Burton, *supra* note 19, p. 96.

¹⁷⁶ *Ibid*, p. 90.

¹⁷⁷ Article 76(3), the LOSC.

¹⁷⁸ See chapter 4 in Thurman and Burton, *supra* note 18. Also see Adrian Kitchingman, and Sherman Lai, “Inferences on Potential Seamount Locations from Mid-resolution Bathymetric Data,” in Telmo Morato and Daniel Pauly (eds.), *Seamounts: Biodiversity and Fisheries*, Fisheries Centre Research Report, Vol.12, No.5, 2004. Available at <http://www.seararoundus.org/> (accessed on 6 October, 2008).

¹⁷⁹ See chapter 4 in Thurman and Burton, *supra* note 19.

oceanic ridges and trenches on the deep ocean basin.¹⁸⁰ These types of seamounts on the deep ocean basin cannot geologically be part of the continental shelf, but they can belong to the legal continental shelf. If the continental margin does not extend beyond 200 miles, the boundary of the continental shelf should be delineated up to 200 miles from baselines. In this case, some parts of the deep ocean basin and oceanic ridges beyond the continental margin can legally be included in the continental shelf.

Although the LOSC does not specify seamounts, Article 76 implies that seamounts can be the part of the seabed and subsoil of the continental shelf. This article refers to three different 'seafloor highs' in Article 76, according to the guidelines prepared by the Commission on the Limits of the Continental Shelf (CLCS).¹⁸¹ The three 'sea-floor highs' classified by Article 76 of the LOSC are oceanic ridges (paragraph 3), submarine ridges (paragraph 6), and submarine elevations (paragraph 6).¹⁸² Oceanic ridges comprise of many underwater mountains¹⁸³ and these seamounts are equal to the oceanic seamounts described above. They are located beyond the continental margins, so they cannot be "natural components of the continental margin."¹⁸⁴ However, as explained, oceanic ridges with seamounts can be legal parts of the continental shelf. In this case, the ridges including seamounts located beyond 200 miles could never fall within the continental shelf. Then, seamounts on these ridges cannot be parts of the outer continental shelf. The same conclusion should apply to all oceanic seamounts which exist on the deep ocean basin.

¹⁸⁰ See Alice S. Davis, David A. Clague, Wendy A. Bohrsen, G. Brent Dalrymple, H. Gary Greene, "Seamounts at the Continental Margin of California: A Different Kind of Oceanic Intraplate Volcanism," *Geological Society of America Bulletin*, Vol. 114, No.3, 2002, pp. 316-333. Also see Kitchingman, and Lai, *supra* note 178. According to Kitchingman's research, many seamounts are concentrated on mid-ocean ridges.

¹⁸¹ See Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, New York, the Commission on the Limits of the Continental Shelf, 13 May 1999, CLCS/11, p. 52, available at <http://www.un.org/Depts/los/index.htm> (accessed on 30 October 2008).

¹⁸² *Ibid.*

¹⁸³ Definition of oceanic ridges is "a linear, seismic mountain range that extends through all the major oceans, rising 1-3km above the deep-ocean basins. Averaging 1500 km in width, rift valleys are common along the central axis. Source of new oceanic crustal material." See Thurman and Burton, *supra* note 19, p. 536.

¹⁸⁴ Article 76 (3) and (6) of the LOSC and "Oceanic Ridges, Submarine Ridges, and Natural Components of the Margin, Institute of Geological & Nuclear Sciences Limited," <http://www.unclosnz.org.nz/ridges.html> (accessed on 30 October 2008).

There have been some studies which have revealed that seamounts exist also on the continental margin and that these might be formed differently from the typical oceanic seamounts.¹⁸⁵ These continental margin seamounts belong to natural parts of the continental shelf. This type of seamounts can be classed as submarine elevations of the seafloor highs or they can possibly exist on submarine ridges. ‘Submarine ridges’ is not clearly defined in Article 76 and the guidelines by the CLCS. Paragraph 6 of the article, however, implies that submarine ridges exist in connection with the continental margin.¹⁸⁶ Submarine elevations can be “natural components of the continental margin.”¹⁸⁷ Article 76 of the Convention enumerates examples of the submarine elevations: plateaux, rises, caps, banks and spurs.¹⁸⁸ Although this list does not specify seamounts, since seamounts were found on the continental margin, they may be categorised as ‘submarine elevations.’ According to the guidelines of the CLCS, the list of the elevations is not exhaustible.¹⁸⁹ If the continental margin seamounts or the seamounts on the submarine ridges extend beyond 200 miles, they can belong to the continental shelf as far as 350 nautical miles from baseline, or 100 nautical miles from the 2500 meter isobath.¹⁹⁰ If the continental margin does not extend beyond 200 miles, the continental margin seamounts cannot be the part of the outer continental shelf.

In sum, seamounts on the deep ocean basin and oceanic ridges can never be part of the outer continental shelf. The continental margin seamounts which could be classed as ‘submarine elevations’ or exist on the submarine ridges can be part of the outer continental shelf. Thus, some seamounts may possibly be subject to the rules

¹⁸⁵ See Davis, Clague, Bohrsen, Dalrymple, Greene, *supra* note 180. Also see “Discovering Seamounts,” CSIRO Marine Research, <http://www.marine.csiro.au/LeafletsFolder/pdfsheets/Seamount.pdf> (accessed in 2008. Currently URL does not exist). Australia found seamounts on the continental slope in 1990’s.

¹⁸⁶ Article 76 (6), the LOSC: “Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.”

¹⁸⁷ Article 76 (6), the LOSC.

¹⁸⁸ Article 76 (6), the LOSC.

¹⁸⁹ See Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, *supra* note 181, p.55.

¹⁹⁰ Article 76(5) and (6), the LOSC. See “Oceanic Ridges, Submarine Ridges, and Natural Components of the Margin, Institute of Geological & Nuclear Sciences Limited,” *supra* note 184.

applying to the outer continental shelf. There is no detailed research on how the oceanic seamounts and the continental margin seamounts are biologically different. The currently available research on the biological importance of seamounts does not distinguish the two types of seamounts. This thesis assumes that the two types of seamounts have similar biota, ecosystems, and mineral resources.

Seamounts provide significant mineral resources¹⁹¹ such as cobalt-rich ferromanganese crust formed near the summit of the mountains which is composed of iron, manganese, cobalt, lead, tellurium, bismuth, platinum, nickel, titanium, thallium, phosphorus and so on.¹⁹² However, seamounts are most important due to the fact that they provide habitats or host secondary habitats (such as cold-water coral reefs and hydrothermal vents) for abundant living resources.¹⁹³ One of the reasons for the high productivity of the seamounts may be a nutrient-rich environment caused by upwelling.¹⁹⁴ The seamount species either endemic or migrated are distinctive from those on the deep seafloor and surface of the seas.¹⁹⁵ Many seamount species or visiting species are suitable for commercial consumption, whereas especially seamount species are extremely vulnerable to fishing because of their extremely long life span, slow growth rate, and various reproduction rates.¹⁹⁶ Commercially important seamount associated species are orange roughy, pelagic armourhead, alfonsin, oreos, and *Sebastes* spp.¹⁹⁷ Tunas, eels, billfishes, sharks, and swordfish which aggregate in the water column above the seamounts for feeding are caught by longlines.¹⁹⁸ Besides those species, shrimps, squid, crabs, lobsters, clams, corals,

¹⁹¹ Alex D. Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, IUCN, 2004, http://cmsdata.iucn.org/downloads/alexrogers_cbdcop7_seamounts_complete1_1.pdf (accessed on 6 October 2008).

¹⁹² James Heins, "Chapter 5 Cobalt-Rich Ferromanganese Crusts: Global Distribution, Composition, Origin and Research Activities," *Minerals Other than Polymetallic Nodules of the International Seabed Area -- Proceedings for the International Seabed Authority Workshop*, Kingston, Jamaica, 26-30 June 2000, available at <http://www.isa.org.jm/en/default.htm> (accessed on 30 October 2008). p. 190.

¹⁹³ Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, supra note 191.

¹⁹⁴ Koslow, "Fish Stocks and Benthos of Seamounts," supra note 154, p.44.

¹⁹⁵ *Ibid.*, p.47.

¹⁹⁶ *Ibid.*, p.48; P. Keith Probert "Seamounts, Sanctuaries and Sustainability: Moving towards Deep-Sea Conservation," *Aquatic Conservation: Marine and Freshwater Ecosystems*, Vol. 9, 1999, pp.601-605, p. 601.

¹⁹⁷ Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, supra note 191 and see Koslow, "Fish Stocks and Benthos of Seamounts," supra note 154.

¹⁹⁸ *Ibid.*

sponges, worms and hydrothermal vent species live on the seamounts, and seaturtles and marine mammals are found on the sites.¹⁹⁹ If these stocks are continuously overexploited the population can rapidly be collapsed in around ten years, but in the same amount of time in this isolated spot it has hardly started to be restored.²⁰⁰ As these seamounts host hydrothermal vents and cold-water coral reefs, all previous legal considerations for both features should be borne in mind in this section.

At present the most significant threat from human to seamounts is fishing.²⁰¹ Seamount fisheries have caused a serious reduction of the fish population of seamounts: for example, albacore around the Emperor Seamounts of the North Pacific; pelagic armourhead on the Southern Emperor Seamounts in the North Pacific and the southeast Emperor-Northern Hawaiian Ridge; sea bass on the Norfolk seamount; and, orange roughy on the southern Tasman Rise off Australia and the Chatham Rise off New Zealand.²⁰² Not all seamount fisheries destroy seamount benthos ecosystems.²⁰³ Demersal fisheries, especially bottom trawling targeting orange roughy and pelagic armourhead, have resulted in both stock depletion and environmental degradation. Most of the commercially exploited fish on the seamounts do not conform to the conditions to be sedentary species, but rather belong to high seas fish stocks, such as straddling fish stocks which appear “both within the exclusive economic zone and in an area beyond and adjacent to the zone” and highly migratory fish stocks which travel wider areas than straddling fish stocks.²⁰⁴ Issues on straddling fish stocks and highly migratory fish stocks are governed by Part V (Exclusive Economic Zone) and Part VII (the high seas) of the LOSC and the 1995 implementation agreement on high seas fish stocks.²⁰⁵ These subjects will be reserved for the later discussion on the high seas in section 3.2. As reviewed, Part VI and XII

¹⁹⁹ *Ibid.*

²⁰⁰ Koslow, “Fish Stocks and Benthos of Seamounts,” *ibid.*, p.50; Probert, *supra* note 196, p. 601.

²⁰¹ Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, *supra* note 191.

²⁰² Koslow, “Fish Stocks and Benthos of Seamounts,” *supra* note 154, pp. 46-47 and Probert, *supra* note 196, p. 602.

²⁰³ Koslow, “Fish Stocks and Benthos of Seamounts,” *ibid.*, p. 46.

²⁰⁴ Article 63 and 64, the LOSC.

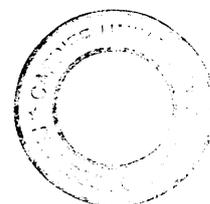
²⁰⁵ The agreement is the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA), adopted on 4 August 1995, entered into force on 11 December 2001, *United Nations Treaty Series*, Vol. 2167, p. 88.

of the LOSC do not give coastal States jurisdiction to regulate bottom fishing conducted by foreign ships on the outer continental shelf, unless the fisheries explore and exploit continental shelf resources directly. It was also noted that Part XII cannot regulate bottom fishing because it is not a seabed activity and does not cause ‘pollution.’

There are a few cases of direct exploitation of the continental shelf resources on seamounts. One example of the direct use is collecting precious coral on the Midway seamounts in the North Pacific.²⁰⁶ Since the precious coral is classed as mineral as noted in section 3.1.2, coastal States have sovereign rights to regulate harvesting the corals on the outer continental shelf. However, the LOSC does not provide rules on conservation measures to regulate it. Part XII, which provides general obligations for taking protective measures, cannot regulate harvesting precious coral if it is by dragging as this does not cause pollution. The safety zone established to protect mining facilities on seamounts can prevent operation by dragging boats within the area. However, since there is no commencement of mining on the seamounts, installations and their safety zones could be very rare around the seamounts, and the safety zone cannot be considered as an MPA because of its original purpose, protecting the facilities. Coastal States may restrict the dragging through establishing HSMPAs within which the sovereign rights of coastal States can allow restriction without depending on the explicit duties on taking conservation measures in the LOSC.

Mining cobalt-rich ferromanganese crust on the seamounts is completely subject to the sovereign rights of coastal States, probably accompanying explicit duties to protect the marine environment from pollution through taking proper measures by Article 208 of the LOSC.

²⁰⁶ Koslow, “Fish Stocks and Benthos of Seamounts,” *supra* note 154, p. 49.



3.1.4. HSMPAs on the Outer Continental Shelf

This section explored whether coastal States can conserve deep sea features through establishing MPAs on the outer continental shelf. Coastal States do not have the jurisdiction to conserve ecosystems on the outer continental shelf, but have obligations in accordance with Part XII to protect ecosystems from pollution through establishing protective measures, possibly including MPAs. In addition, coastal States have sovereign rights to explore and exploit the sedentary species as well as non-living resources under Part VI. The obligations of environmental protection in Part XII combined with sovereign rights in Part VI can effectively (but not entirely) safeguard deep sea features and their ecosystems through establishing HSMPAs as far as any exploration and exploitation of continental shelf resources or activities as described in Articles 80 and 81 of the LOSC causes pollution. In this case, true powers to conserve the ecosystems on the outer continental shelf derive from the sovereign rights of coastal States rather than Part XII. Therefore, even if those activities do not cause pollution and Part XII does not apply to regulate them, coastal States can still regulate them in certain areas based on sovereign rights conferred to them. However, if the activities and natural resources are not subject to the sovereign rights of coastal States such as fishing which targets high seas fish stocks, those activities by other States cannot be restricted through establishing MPAs by coastal States even if they cause pollution. Applied scientific research such as bioprospecting of vent microbes can be restricted through establishing an exploration and exploitation area. If all above activities occur on ships, they may be able to be restricted within the safety zone. However, the exploration and exploitation area and safety zone can hardly be considered as MPAs, since they do not aim to conserve.

3.2. High Seas Regime

The high seas are defined as “all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State or

the archipelagic waters of an archipelagic State.”²⁰⁷ This definition does not exclude the International Seabed Area (the Area) from the high seas. The seabed and subsoil beyond national jurisdiction is strictly speaking a part of the high seas, but subject to a different regime under Part XI of the LOSC.²⁰⁸ Utilisation of all mineral resources in the Area should be managed by a modified regime of the high seas and international seabed regime.²⁰⁹ Section 3.3 of this chapter will be devoted to mineral resource use in the Area. Thus, all mineral resource use from hydrothermal vents, cold-water coral reefs, and seamounts will be dealt with in section 3.3. This section discusses the question of establishing MPAs for the conservation of mainly the ‘living components’ of the three deep-sea features on the water column of the high seas. Since Part XI does not deal with non-living resources other than mineral, this section also discusses the management of their exploitation in the high seas under the LOSC.

Most human activities on the high seas, besides mining, are governed mainly by Part VII of the LOSC. While Part VI on the continental shelf barely contributes to protecting the marine environment, Part VII of the LOSC on the high seas dedicates one separate section (section 2) for ‘conservation’ of living resources on the high seas. The conservation of high seas living resources is an essential subject of the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas.²¹⁰ This Convention influenced Section 2 of Part VII of the 1982 LOSC. Another convention of the 1958 Law of the Sea Conventions, the 1958 Convention on the High Seas, influenced section 1 of the high seas regime in the 1982 LOSC²¹¹ which sets out the rights and duties of States on the high seas, including the freedom of the

²⁰⁷ Article 86, the LOSC.

²⁰⁸ Churchill and Lowe, *supra* note 46, p. 204.

²⁰⁹ Satya N. Nandan, Shabtai Rosenne and Neal R. Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, Article 86 to 132 and Documentary Annexes, Center for Oceans Law and Policy, University of Virginia School of Law, Martinus Nijhoff Publishers, 1995, p. 62.

²¹⁰ Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, 1990, *supra* note 97, p. 54.

²¹¹ UN, *The Law of the Sea: Practice of States at the time of entering into force of the United Nations Convention on the Law of the Sea*, Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, New York, USA, UN, 1994, p.15.

high seas.²¹² This indicates that many provisions in Part VII, including the freedom of fishing on the high seas and conservation of high seas living resources, have been practised even before the 1982 Convention was negotiated.²¹³ In addition to Part VII of the LOSC, protection of living components on the high seas is subject to Part XII of the Convention and an implementation agreement to the LOSC, the United Nations 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 (hereafter the UNFSA).

While the continental shelf is subject to the sovereign rights of coastal States and the Area is managed by the International Seabed Authority, those rules which are relevant to the high seas provides that the regulation of the exploitation of living resources on the high seas is done primarily through flag States exercising jurisdiction and control over their nationals.²¹⁴ This in turn means that no single authority can govern all ocean affairs on the high seas. This absence of universal sovereign authority, especially over the exploitation of living resources on the high seas, was first referred to in the 1893 *Pacific Fur Seal Arbitration*.²¹⁵ The 1958 Convention on the High Seas expressly put this characteristic of the high seas, which had been confirmed by international courts and tribunals, into treaty form.²¹⁶ In due course of searching legal support for HSMPAs in Part VII and Part XII of the LOSC, and the UNFSA, the primary question which needs to be asked in this section, therefore, is not how a designated authority can establish MPAs around the deep sea features, but whether the LOSC requires States to establish and observe HSMPAs.

²¹² Section 1 of Part VII (high seas) also primarily deals with “global navigation and communication” on the high seas. Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, p. 27.

²¹³ UN, *The Law of the Sea: Practice of States at the time of entering into force of the United Nations Convention on the Law of the Sea*, supra note 211, p. 15.

²¹⁴ On the high seas, flag States have complete legislative jurisdiction and somehow incomplete enforcement jurisdiction on their ships. Enforcement jurisdiction of flag States on the high seas is incomplete for example because all States can seize a pirate ship, which have different nationality, on the high seas. See Article 105 of the LOSC.

²¹⁵ See Philippe Sands, *Principles of International Environmental Law*, Cambridge University Press, 2000, pp. 29-30.

²¹⁶ See Churchill and Lowe, supra note 46, pp. 208-209. Article 2, the 1958 Convention on the High Seas, adopted on 29 April 1958, entered into force on 30 September 1962, *UNTS*, Vol. 450, p. 11.

3.2.1. Living Resources and Other Non-living Resources around Hydrothermal Vents

Part VII of the 1982 LOSC has two major modifications from the two 1958 Conventions on the high seas. First, the geographical scope of the applicability of the high seas regime was modified by the adoption of the EEZ regime.²¹⁷ Some principles applicable to the high seas, such as the freedom of the high seas, were modified and are still applied to the EEZ.²¹⁸ However, the rules applicable to living resource use in the EEZ do not repeat the applicable rules on the high seas. Another major modification of the 1958 high seas regimes is that the high seas regime of the 1982 LOSC incorporated a new duty of ‘management’ in addition to the existing duty of ‘conservation’ of living resources in the 1958 Convention.²¹⁹ The meaning of ‘conservation’ or ‘management’ in the context of the LOSC can define the applicability of Part VII, especially Section 2. The meaning of ‘conservation’ can be inferred from the Convention text as attributing to the sustainability of living resources.²²⁰ ‘Management’, according to the Food and Agriculture Organization (FAO), indicates “the allocation of the resources,”²²¹ or “taking measures affecting a resource and its exploitation with a view to achieving certain objectives.”²²² This term is used in the LOSC in connection with “exploitation of living marine resources,” “optimum utilization,” “harvesting” and “allowable catch.”²²³ The definition and utilisation of ‘management’ indicates that ‘exploration’ may not be subject to management. This limitation is reflected in the wordings used in Section 2 of Part VII.

²¹⁷ Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, p. 30.

²¹⁸ *Ibid.*, pp. 68 and 70.

²¹⁹ *Ibid.*, p. 29. See also Section 2 Conservation and Management of the Living Resources of the High Seas of Part VII of the LOSC.

²²⁰ Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, *ibid.*, p. 301.

²²¹ *Ibid.*, p. 29.

²²² ‘Management’ is defined as “the art of taking measures affecting a resource and its exploitation with a view to achieving certain objectives, such as the maximization of the production of that resource. Management includes, for example, fishery regulations such as catch quotas or closed seasons. Managers are those who practise management.” “FAO Fisheries Glossary,” FAO, <http://www.fao.org/FI/GLOSSARY/> (accessed on 6 October 2008).

²²³ Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, p.300.

The main subject of Section 2 of Part VII is the freedom of fishing and the obligation of “conservation and management of the living resources” on any States whose nationals ‘exploit’ living resources and which are involved in the ‘exploitation’ of high seas’ living resources.²²⁴ Part VII of the Convention does not contain any provision on exploration but only ‘exploitation’,²²⁵ and ‘management’ in this part (especially in Section 2) refers to governing exploitation and not exploration. This limitation of Section 2 may be true as long as a strictly textual approach is adopted. However, in practice many regional fisheries management organizations claim the competence to regulate certain types of exploration, such as exploratory fishing. Since this section aims to establish whether or not the LOSC requires States to establish and observe HSMPAs, a textual approach rather than a practical approach is required.

This limitation of the term to cover exploration may give less opportunity for the utilisation of vent microbes to fall within Section 2. This section aims primarily to regulate the exploitation of fish rather than other living resource use, but does not explicitly exclude other living resources. Vent microbes are likely to be ‘living resources,’ so Section 2 can apply to the management of their exploitation. However, as reviewed in Section 3.1.1, categorisation of their utilisation, bioprospecting, is varied. If bioprospecting cannot be classed as exploitation, it might have to be conserved by other parts of the LOSC rather than Section 2 of Part VII.

Section 3.1.1.3 explained that it is improbable that ‘bioprospecting’ is classified as exploration and exploitation because it does not necessarily result in commercial utilisation. Instead, the section considered that classification of it as applied marine scientific research is more reliable. However, this applied research has often been confused with exploration. Soons notes that exploration refers to preparatory activities before the potential commercial use of resources occurs.²²⁶ He considers that marine scientific research which is directly important for “the exploration and exploitation of

²²⁴ See Article 118 of the LOSC; *Ibid.*, p.291.

²²⁵ Article 118 of the LOSC states that States ‘exploiting’ living resources should negotiate for appropriate conservation measures.

²²⁶ Soons, *supra* note 57, p.59. Also see Allen, *supra* note 28, p. 644.

natural resources” can be often described as “exploration.”²²⁷ This implies that bioprospecting may be considered as exploration too. If bioprospecting can be classed as the exploration, as noted above it may fall out of the applicability of Section 2 of Part VII of the LOSC. The LOSC does not elaborate specific guidance on how to regulate ‘exploration’ in the water column of the high seas. Although exploration may fall outside Section 2 of Part VII and Part VII does not specifically refer to it, it can surely be regarded as a freedom of the high seas. The early draft of the 1958 Convention on the High Seas included a freedom of experiments and exploration in the list of the freedom of the high seas, although this item was deleted later because such activities were considered insignificant at that time.²²⁸ In addition to the freedom of the high seas, provisions on exclusive flag State jurisdiction on the high seas would apply to ships engaged in bioprospecting. If the exploration causes pollution, States have an obligation to take protective measures collectively, if appropriate, to prevent it in accordance with Part XII. Based on the flag State jurisdiction and/or the obligation, States may establish an HSMPA, as long as they have due regard for the high seas interests of other States (Article 87(2)) and do not claim sovereignty over the high seas (Article 89), and voluntarily conclude a collective agreement for establishing such an HSMPA. However, such an agreement is outside the LOSC and States Parties to the LOSC are not bound by it. Therefore, it cannot be concluded that the LOSC requires States to establish and observe HSMPAs to regulate exploration of vent microbes.

If bioprospecting in vent sites is not regarded as exploration but as marine scientific research as argued in section 3.1.1.3, that activity is subject to the freedom of the high seas in accordance with Articles 87(1)(f) and 257 of the LOSC. The previous section explained that marine scientific research is divided into pure and applied research. This division is necessary on the seabed and subsoil beyond the EEZ which can be titled as either the continental shelf or the international seabed area. Marine scientific research on the seabed and subsoil beyond the EEZ is subject to

²²⁷ Soons, *ibid.*

²²⁸ *Yearbook of the International Law Commission*, 1956, Vol. II, *supra* note 41, p.278

different authorities or degree of authority of management depending on whether it is pure or applied. For example, in the international seabed area, the ISA has authority to regulate applied research not pure research. On the outer continental shelf, coastal States have authority to refuse applied research in the exploration and exploitation areas. Pure scientific research requires the consent of coastal States on the outer continental shelf but such consent should be easily granted. Such authority, however, does not exist in the water column of the high seas. Therefore, the distinction between pure and applied scientific research is not necessary in the water column of the high seas. And applied research on the water column is not particularly more restricted than pure research. All sampling activities for marine scientific research including bioprospecting vent microbes, on the high seas can be freely exercised subject to the obligations stipulated in Part XII and Part XIII, unless such activities are involved in the continental shelf resource use beyond the EEZ or mineral resource use on the Area. Thus, the possibility to establish MPAs to protect vent living resources or ecosystems from bioprospecting should be searched for in those Parts.

Part VII entrusts marine scientific research to Part XIII of the LOSC.²²⁹ According to Article 87(1) (f), scientific research on the high seas is subject to the freedom of the high seas “subject to Parts VI and XIII.” This freedom is further elaborated in Article 257 of Part XIII which proclaims the rights of all States and international organizations to enjoy marine scientific research on the high seas.²³⁰ The rights are subject to a condition to be “in conformity with” the Convention.²³¹ The ‘conformity’ especially indicates the rights and obligations under the LOSC, including: general rights and obligations under Part XIII; the other freedoms of the high seas; obligation to remove installations; the protection and preservation of the marine environment; observation of the Convention in good faith and not to abuse rights; peaceful uses of the sea; the protection of archaeological and historical objects at sea and so on.²³² No

²²⁹ See Article 87(1)(f) of the LOSC.

²³⁰ Nordquist, Rosenne, Yankov, and Grandy (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p.609. See also Article 257 of the LOSC.

²³¹ Article 257, the LOSC.

²³² Nordquist, Rosenne, Yankov, and Grandy (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p. 611.

consent is required for any State or international organization to conduct any research on the high seas, and the result of this research is not required to be released to the public.²³³ The conservation of the marine environment in relation to research is intended to be entrusted to Part XII according to Article 240 (d).²³⁴ As reviewed in Section 3.1.2.3, in accordance with Article 194, States have the obligation to take any measure to prevent pollution occurring from activities subject to their jurisdiction and control, to safeguard living components of ecosystems and habitats on the high seas. This article can be a legal basis for HSMPAs, but the measures taken under this article cannot regulate bioprospecting unless it produces pollution, and cannot be enforced against other States including other States Parties because it does not confer jurisdiction to protect the environment. Therefore, Part XII cannot be considered a collective agreement by all States Parties to observe HSMPAs.

Some have arguably characterised bioprospecting in a different way. Allen notes that sampling vent microbes may be a form of ‘fishing,’ so States can enjoy the freedom of collecting the microbes on the high seas with obligations to conserve and manage them.²³⁵ If this interpretation is accepted, fishing should be able to target non-fish resources including microbes, or microbes can be considered to be fish. No reference has been found with regard to the meaning of ‘fish’ or ‘fishing’ in the 1982 LOSC. However, Article 4 of the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas implies that fishing activities can target “other living marine resources” as well as fish.²³⁶ In addition, according to a definition provided by the FAO, fish includes “any aquatic animal which is harvested.”²³⁷ This

²³³ *Ibid.*

²³⁴ *Ibid.*, p. 462.

²³⁵ Allen, *supra* note 28, pp. 629-630.

²³⁶ See *Ibid.*, p. 629. Article 4(1) of the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas. “If the nationals of two or more States are engaged in fishing the same stock or stocks of fish or other living marine resources in any area or areas of the high seas, these States shall, at the request of any of them, enter into negotiations with a view to prescribing by agreement for their nationals the necessary measures for the conservation of the living resources affected.” The Convention on Fishing and Conservation of the Living Resources of the High Seas adopted on 29 April 1958, entered into force on 20 March 1966, *United Nations Treaty Series*, Vol. 559, p.285.

²³⁷ Fish is defined as “a collective term, includes molluscs, crustaceans and any aquatic animal which is harvested.” “FAO Fisheries Glossary,” *supra* note 222.

may support the classification of prospecting for vent microbes as fishing, although the microbes are not generally considered to be fish.

If bioprospecting is classified as fishing, there is a chance for it not to be classed as applied research at the same time. According to the definition of fishing provided by FAO, 'fishing' does not include "scientific research conducted by a scientific research vessel."²³⁸ This definition does not indicate whether scientific research means pure research only, or if it includes applied research. If the research in this definition includes applied research, and bioprospecting is regarded as fishing, bioprospecting cannot be applied research at all but may be regarded only as fishing. This is contradictory to the most convincing classification of bioprospecting, applied research. If the research in the definition excludes applied research, this FAO definition means that fishing does not include pure scientific research but does include applied research. It follows then that bioprospecting can be classified as fishing as well as applied scientific research.

This classification as fishing not only entitles bioprospecting to be considered as included in the freedom of fishing on the high seas, but also allows Section 2 of Part VII of the LOSC to regulate the activity. If bioprospecting on the high seas can be classified as fishing, all States whose nationals collect vent microbes on the high seas are obliged to cooperate for taking appropriate measures to conserve and manage living resources on the high seas.²³⁹ Article 119 of Section 2 of Part VII illustrates the conservation measures for the protection of living resources on the high seas. However, specific measures except allowable catch are not listed in the section. As Section 2 of Part VII of the Convention is primarily intended to focus on fishing activities, any measures mentioned in this section, such as "other conservation

²³⁸ Fishing is defined as "Any activity, other than scientific research conducted by a scientific research vessel, that is involved in the catching, taking, or harvesting of fish; or any attempt to do so; or any activity that can reasonably be expected to result in the catching, taking, or harvesting of fish and any operations at sea in support of it." This definition is adopted and modified from one provided by US Department of Commerce. "FAO Fisheries Glossary," *ibid*.

²³⁹ See Article 117 and 118 of the LOSC. There is no mention on fish in these articles, but 'living resources' appear and include fish.

measures” in Article 119,²⁴⁰ are likely to indicate mainly the fisheries management measures (such as fisheries closures and trip limits). As discussed in the previous chapter, this thesis does not exclude fisheries closures from marine protected areas. In addition, if a strictly textual approach is adopted, the conservation and management measures in Section 2 may also include any other conservation measures which regulate the exploitation of living resources. Thus, the measures in Section 2 could include HSMPAs.

The obligation to participate in taking necessary measures in Section 2 of Part VII can result in the establishment of a global or a regional legal instrument.²⁴¹ This global or regional legal instrument can oblige more than one State Party to observe the protective measures. Thus, compared to those measures which are taken solely by a flag State to regulate its nationals, this cooperation would lead to more effective conservation. Although the rules in Section 2 can provide obligations to make an agreement for a group of States to designate and observe HSMPAs collectively, the rules in Section 2 themselves cannot be an agreement for HSMPAs to be observed by States Parties. In addition, such obligation for collective action does not result in universal obligations that may be enforced against third parties. Third parties to the LOSC or the agreement are not regulated by them, as follows from Article 35 of the Vienna Convention on the Law of Treaties.²⁴² Also HSMPAs taken under the section or agreement would not apply to third States from the exclusivity of flag State jurisdiction on the high seas (Article 92(1)) and the prohibition against appropriating the high seas (Article 89). Each party exclusively enforces the measures taken under

²⁴⁰ Article 119 (1) of the LOSC: “In determining the allowable catch and establishing other conservation measures for the living resources in the high seas, States shall: (a) take measures which are designed, on the best scientific evidence available to the States concerned, to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global; (b) take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.”

²⁴¹ See Article 118 of the LOSC.

²⁴² See more details in section 7.1.

this part or a regional or international agreement only in respect to their nationals exploiting the living resources of the high seas.

The international seabed resources governed by Part XI are confined to minerals and do not include other non-living resources.²⁴³ Because geothermal energy from vents is not a mineral resource, its utilisation on the high seas should be covered under the high seas regime rather than by Part XI. As reviewed in Section 3.1.1.5, since this energy does not reside on the seafloor, the energy existing beyond the EEZ should always be considered a high seas resource rather than a resource of the continental shelf. The LOSC does not specifically provide rules to govern the exploration and exploitation of this resource. However, since States have flag State jurisdiction on the high seas in accordance with Section 1 of Part VII, States may take regulatory measures to control the utilisation of this resource on the high seas in respect of their nationals. Such regulatory measures taken individually or collectively by flag States cannot be binding on other States unless they agree to do so. States do not have explicit obligations to cooperate to take measures for the conservation and management of this resource on the high seas under the LOSC. This is because Section 2 does not regulate the utilisation of resources other than living resources and, unless the exploitation of hot vent fluid constitutes ‘pollution,’ Part XII may not be able to cover this resource utilisation either.

3.2.2. Cold-Water Coral Protection from Bottom Fisheries

As seen earlier, cold-water coral reefs comprise live corals, dead skeleton, and habitats. If the dead skeletons of cold-water coral reefs are classed as mineral, as precious coral is, its exploration and exploitation should be regulated under Part XI, the international seabed regime. If it is classed as other non-living resources, in accordance with Part VII the utilisation of this resource on the high seas beyond the continental shelf is subject to the freedom of the high seas. As a result it can be regulated by flag States exclusively in respect of their nationals, as is geothermal

²⁴³ See Article 133 of the LOSC.

energy use around vents. Besides this freedom of high seas and flag State jurisdiction, the LOSC does not provide any specific rules or principles to govern its use. Part XII would not apply to utilisation of dead corals such as dragging, since it does not cause pollution. Without such explicit obligations under the LOSC, HSMPAs around the non-living resource can be established individually and collectively based on flag State jurisdiction. Such HSMPAs cannot be binding on other States Parties or third parties to the LOSC. This means the LOSC cannot require States Parties to observe HSMPAs established for the conservation of the dead skeleton.

Exploitation of all living resources residing on the reefs is governed by Section 2 of the high seas regime. Live corals, however, are hardly a resource and no human activities occur for their consumption. Therefore, their protection should depend on rules for either conserving ecosystem directly or managing human activities which impact on them. Part VII does not provide rules for conserving components of ecosystems directly. Section 1 of Part VII does not directly deal with marine resources or components of ecosystems.²⁴⁴ Since no activities are conducted to use live corals, flag State jurisdiction cannot be exercised in terms of regulating their consumption. The freedom of the high seas is not helpful for the conservation of live corals because the freedom is for humans to conduct an activity on the high seas rather than for preventing an activity. Section 2 of Part VII sets out general rules on conservation and management mainly of 'living resources' through regulating their utilisation. Although live corals cannot be directly conserved under Part VII, it can protect them through regulation of the most threatening activity to the whole reef system, bottom fishing.

Protection of the marine environment can be achieved not only by conservation of natural components directly but also by management of the human use of resources. The LOSC provides rules for both conserving live corals (Part XII) and managing the threatening human activities (Part VII). These two parts seem to be differently focused but basically adopt the same method to achieve conservation, that is

²⁴⁴ Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, p. 27.

controlling different types of human activities. For instance, Section 2 of Part VII of this Convention focuses on achieving conservation through managing the exploitation of living resources, and Part XII achieves the conservation of the environment through controlling pollution rather than conserving living resources directly from any source of environmental hazard, which can include non-anthropogenic sources. This implies that under the LOSC the conservation of all components of ecosystems on the high seas is fundamentally conducted through the control of human activity. Therefore, if no threat to non-resources of the high seas by human activity exists, the LOSC cannot provide any protection for them.

The LOSC seems to divide the sources of environmental degradation by human into two: pollution and overexploitation. Marine ecosystems can be degraded by humans either by introducing substances or energy,²⁴⁵ or by unsustainably taking natural resources. The former activities on the high seas are mainly subject to the regime of Part XII of the LOSC. As noted above, the ordinary meaning of the Convention text does not allow bottom fishing to be classified as pollution. So Part XII cannot be applied to regulate the activity which is the most serious threat to live corals. Fisheries management has traditionally been categorised as management to prevent overexploitation. Overexploitation on the high seas, specifically overfishing, should be managed by section 2 of Part VII and Article 63 (2), 64 to 67 in Part V (Exclusive Economic Zone) of the LOSC.²⁴⁶ In accordance with Article 116 in Part VII, these provisions limit the scope of the freedom of fishing on the high seas by providing obligations to cooperate for the conservation and management of living resources on the high seas. Although damage to live corals by bottom fishing is not caused by overexploitation but by destructive fishing methods, this activity can still be managed by the same rules and its management can result in the conservation of the entire coral reef including the live corals and the resident species on them.

²⁴⁵ See definition of the pollution in Article 1 of the LOSC.

²⁴⁶ See Article 116 of the LOSC.

According to those parts, flag States have to control fishing activities conducted by their nationals on the high seas based on internationally agreed measures.²⁴⁷ Coastal States are obliged to make an agreement for taking necessary conservation measures on the high seas with flag States which exploit high seas stocks that move on the reefs between the EEZs and the high seas.²⁴⁸ Not only are direct resource users such as flag States and coastal States under a duty to take appropriate conservation measures through establishing regional organizations but also all other States, such as port States also have such a duty if necessary.²⁴⁹ As reviewed in section 3.2.1, the conservation measures may include HSMPAs. Article 119(1)(b) of Part VII obliges States to consider the relationship between target species and associated or dependent species (limited ecosystem approach), when taking conservation measures for target species. If ‘associated species’ to target species can refer to non-resources, including ‘live corals,’ any protective measure for relevant high seas living resources taken under Part VII could be designed for the conservation of live corals as well. However, it is unclear whether such associated and dependent species in Article 119 can refer to non-resources, such as live corals.

As noted above, Part VII can impose an obligation to conclude an agreement for the collective observation of HSMPAs. The LOSC does not elaborate all solutions for the problems of high seas fishing, but Article 118 shifts the responsibility for elaboration of solutions to international and regional agreements.²⁵⁰ Such shifting can overcome the limitation of unilateral measures by flag States to protect the high seas environment because more participation is guaranteed. However, such regional or global agreements still cannot impose obligations upon third parties to observe the measures. And such a rule on concluding an agreement for collective observation is not a rule for the collective observation of conservation measures by parties to the LOSC because Article 118 and 119 do not require States Parties as well as third States to establish and observe HSMPAs.

²⁴⁷ Articles 63 (2), 64 and 117 of the LOSC.

²⁴⁸ Articles 63 (2) and 64, the LOSC.

²⁴⁹ Articles 117 and 118, the LOSC.

²⁵⁰ Article 118, the LOSC.

More elaborate management of the major threats to cold-water coral reefs can be achieved by depending on an implementation agreement to the LOSC. There have been two implementation agreements to the LOSC: the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982; and, the UNFSA. The UNFSA particularly elaborates the global regulation of high seas fishing with contemporary environmental principles, so it is worth examining whether this Agreement requires the establishment and observation of HSMPAs for high seas ecosystem conservation.

The purpose of this Agreement is for the long-term conservation and sustainable use of the high seas straddling and highly migratory stocks; preservation of marine biodiversity; minimisation of the impact of fisheries; improvement of the cooperation between States; and more effective enforcement by all flag States, coastal States, and port States.²⁵¹ Article 6 of the Agreement requires all States to apply the precautionary approach. Measures for the conservation and management of the stocks should be compatible both in the waters under national jurisdiction and in the high seas adjacent to it (Article 7 of the Agreement). Coastal States and fishing nations should cooperate for the conservation and management of high seas fish stocks through subregional or regional fisheries management organizations or legal arrangements. Where there is no such organization or legal arrangement, coastal States and fishing nations should establish appropriate one (Article 8 of the Agreement). Article 21(11)(c) of this Agreement explicitly refers to fisheries closures.

Article 21 (11) (c) of the Agreement acknowledges ‘a closed area’ as a measure to conserve and manage the straddling and highly migratory stocks. According to this article, on the high seas covered by a regional or subregional fisheries agreement, all parties to the Agreement should observe any conservation and management measures taken by the RFMO established by the regional or subregional agreement.²⁵² If a fishing boat from a party to the Agreement, whether or not it is a member of the RFMO, does not observe the conservation and management measures, other parties to

²⁵¹ See the preamble of the UNFSA.

²⁵² Article 21(1), the UNFSA.

the Agreement which are members of or participants to the RFMO can board and inspect the fishing boat.²⁵³ Such measures explicitly include fisheries closures. If the inspector discovers a serious violation of such measures taken by the RFMO, they have to “secure evidence and shall promptly notify the flag State of the alleged violation.”²⁵⁴ In cases where a serious violation is discovered, flag States and inspecting States can take enforcement action if appropriate.²⁵⁵ Besides this obligation to observe RFMOs measures, the Agreement provides a general obligation to take conservation measures similar to Section 2 of Part VII of the LOSC. The Agreement obliges relevant States to cooperate to take measures for the conservation of target fish stocks, associated or dependent species, and biodiversity.²⁵⁶ This obligation does not directly require the establishment of HSMPAs as section 2 of Part VII of the LOSC does not do so. However, the Agreement explicitly requires the observation of HSMPAs established by RFMOs. In light of this, it can be concluded that the Agreement can provide more advanced rules for the conservation of cold water coral reefs.

Although this Agreement obliges the observation of HSMPAs established by RFMOs, two difficulties in relation to effective regulation of high seas fishing have been revealed since its adoption in 1994 and these may influence the effective conservation of cold water coral reefs through regulating fishing. The first difficulty is the problem of participation. This Agreement has not been as widely ratified as hoped. As of 25 September 2008, 15 of 30 major fishing States, mostly in developing countries, have not ratified this Agreement (See Table 2).

**Table 3. 2. Major Fishing States and their Status of
the 1995 UN Fish Stocks Agreement**

| States | Catches (not including plants and aquaculture production) | Status | |
|--------|---|-----------|--------------|
| | | Signature | Ratification |

²⁵³ Article 21, the UNFSA.

²⁵⁴ Article 21(5), the UNFSA.

²⁵⁵ Articles 21(7) and (8), the UNFSA.

²⁵⁶ Article 5, the UNFSA.

CHAPTER III

| | | | |
|------------------|------------|-----------------------------|------------------|
| 1. China | 17,092,146 | Signed | No |
| 2. Peru | 7,017,491 | No | No |
| 3. USA | 4,859,872 | Signed | 21 August 1996 |
| 4. Indonesia | 4,759,080 | Signed | No |
| 5. Japan | 4,186,980 | Signed | 7 August 2006 |
| 6. Chile | 4,168,461 | No | No |
| 7. India | 3,855,467 | No | 19 August 2003 |
| 8. Russian Fed. | 3,284,126 | Signed | 4 August 1997 |
| 9. Thailand | 2,776,295 | No | No |
| 10. Philippines | 2,318,984 | Signed | No |
| 11. Norway | 2,255,513 | Signed | 30 December 1996 |
| 12. Myanmar | 2,006,790 | No | No |
| 13. Vietnam | 1,959,900 | No | No |
| 14. Korea Rep. | 1,749,929 | Signed | 1 February 2008 |
| 15. Bangladesh | 1,436,496 | Signed | No |
| 16. Iceland | 1,327,063 | Signed | 14 February 1997 |
| 17. Mexico | 1,300,000 | No | No |
| 18. Malaysia | 1,296,335 | No | No |
| 19. Argentina | 1,182,185 | Signed | No |
| 20. Canada | 1,063,033 | Signed | 3 August 1999 |
| 21. Taiwan | 967,461 | No | No |
| 22. Spain | 949,515 | Signed | 19 December 2003 |
| 23. Denmark | 867,706 | Signed | 19 December 2003 |
| 24. Morocco | 864,922 | Signed | No |
| 25. Brazil | 779,113 | Signed | 8 March 2000 |
| 26. UK | 623,823 | Signed | 19 December 2003 |
| 27. Faeroe Is | 623,122 | Signed | 19 December 2003 |
| 28. South Africa | 617,388 | No | 14 August 2003 |
| 29. France | 573,375 | Declaration or Statement | 19 December 2003 |
| 30. Nigeria | 552,323 | No | No |

<Source: Column 1 and 2 based on Yearbooks of Fishery Statistics Summary Tables-2006, "World fisheries production, by capture and aquaculture, by country (2006)," Food and Agriculture Organization of United Nations, <http://www.fao.org/fishery/statistics/global-capture-production/en> (accessed on 20 October 2008). Column 3 and 4 based on "Status of United Nations Convention on the Law of the Sea, of the Agreement relating to the Implementation of Part XI of the Convention and of the Agreement for the Implementation of the Provisions of the Convention relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks," as at 25 September 2008, http://www.un.org/Depts/los/reference_files/status2008.pdf (accessed on 20 October 2008).>

The participation problem seems to be less serious in relation to the high seas bottom trawling in the North East Atlantic where cold water coral reefs are significantly distributed. According to the 2004 Annual Report by the North East Atlantic Fisheries Commission (NEAFC), eleven countries caught 95% of the catch

by high seas bottom trawling in North East Atlantic in 2001.²⁵⁷ All these States have ratified the UNFSA.²⁵⁸

The other problem with the Agreement is the species it covers. The Agreement applies to straddling and highly migratory fishing stocks,²⁵⁹ but it does not cover other high seas fish.²⁶⁰ Many high seas stocks migrate, but some fish move in a small area, and so do not enter into national waters. This type of fish is called discrete high seas fish stocks.²⁶¹ Some bottom fishing (for example, bottom fishing around seamounts) target discrete high seas fish stocks.²⁶² This fishing is technically unregulated by the UNFSA.²⁶³ During the second and third Informal Consultations of the States Parties to the Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks held in 2003 and 2004, the problem of discrete high seas fish stocks was discussed, and proposals were made to adopt a Protocol or Annexes to extend the coverage to all high seas fish stocks.²⁶⁴ These proposals have so far come to nothing. It was also suggested that regional fisheries organizations should take measures to address illegal, unreported, and unregulated

²⁵⁷ The eleven countries are Spain, Portugal, Russia, Lithuania, Latvia, Estonia, Iceland, Norway; the Faroe Islands, New Zealand and Japan. "Report of the 23rd Annual Meeting of the North-east Atlantic Fisheries Commission," NEAFC, 8-12 November 2004.

²⁵⁸ "Status of United Nations Convention on the Law of the Sea of the Agreement relating to the Implementation of Part XI of the Convention and of the Agreement for the Implementation of the Provisions of the Convention relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks," as at 25 September 2008, DOALOS, UN, http://www.un.org/Depts/los/reference_files/status2008.pdf (accessed on 20 October 2008).

²⁵⁹ Article 3, the UNFSA.

²⁶⁰ Molenaar, Deep Sea Fishing, *supra* note 170, p.226.

²⁶¹ See section 3.2.3 for further discussion on this topic.

²⁶² "Third Informal Consultations of the States Parties to the 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," New York, USA, 8-9 July 2004, UN ICSP3/UNFSA/REP/INF.1. pp.9-10.

²⁶³ Kristina M. Gjerde and David Freestone, "Unfinished Business: Deep-Sea Fisheries and the Conservation of Marine Biodiversity beyond National Jurisdiction-Editors' Introduction," *IJMCL*, Vol. 19, 2004, pp.209-222, p.209. Also see unregulated deep-sea fisheries on Report of the Secretary-General, "Oceans and the Law of the Sea," Addendum, 2005, UN A/60/63/Add.1, p.36.

²⁶⁴ "Third Informal Consultations of the States Parties to the 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," *supra* note 262, p. 12.

Also see a statement by Satya Nandan in UN General Assembly Fifty-ninth session, 56th plenary meeting, Wednesday, 17 November 2004, UN A/59/PV.56, p. 10. This is the same as "The International Seabed Authority and the Governance of High Seas Biodiversity," prepared for Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, June 2003, available at <http://www.highseasconservation.org> (accessed on 20 October 2008).

fishing and high seas bottom trawling which have targeted the unregulated species.²⁶⁵ Until the species coverage of the Agreement expands, unregulated bottom fishing will be governed by the general provisions in Section 2 of Part VII and Part XII of the LOSC rather than the more advanced rules reflecting recent developments in fisheries management.²⁶⁶ This means that no rule in the LOSC system is available to require States to observe HSMPAs designated by RFMOs for regulating some bottom fishing.

Besides Part VII and the UNFSA, the LOSC does not provide further rules to protect the live corals on the high seas from fishing. The conservation of the coral ecosystems and habitats including live corals can also be governed by Part XII, especially Article 194(5). As noted above, Article 194(5) obliges States to protect “the habitat of depleted, threatened or endangered species” against any ‘pollution.’ The only threat to the coral ecosystems which is likely to cause pollution is mining, and this activity on the international seabed should be managed by the ISA. Fishing does not cause pollution, so relevant rules in Part XII do not apply to it.

In addition to fishing and mining, drilling and the construction of oil platforms, and marine scientific research can impact on live corals and resident species of reefs. Drilling and the construction of oil platforms around the reefs may be governed by the international seabed regime in Part XI (see section 3.3.). There are no rules to stop any State conducting marine scientific research collecting or affecting live corals in the high seas. The rules in Part VII and XIII give States the freedom to conduct marine scientific research in the high seas and even facilitate it, but provide only general obligations of environmental protection in accordance with Part XII.²⁶⁷ A State can establish an HSMPA to regulate marine scientific research based on Article 194 of Part XII only in respect of its nationals. Since this part lays down an obligation

²⁶⁵ “Third Informal Consultations of the States Parties to the 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,” *ibid.*, pp.9, 10, 12.

²⁶⁶ “Second Informal Consultations of the States Parties to the 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,” New York, USA, 23-25 July 2003, UN ICSP2/UNFSA/REP/INF.1. p. 13.

²⁶⁶ Molenaar, *Deep Sea Fishing*, supra note 170, p.227.

²⁶⁷ Nordquist, Rosenne, Yankov, and Grandy (eds), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p. 462.

to protect the environment rather than rights and because of the exclusivity of flag State jurisdiction on the high seas, HSMPAs taken by a State cannot be binding on other States without their consent. In addition, unless this research activity causes pollution, Part XII would not apply for regulating research in any case.

3.2.3. Seamount Protection from Fisheries

The recent results of scientific research reveal that forty-seven percent of the seamounts in the world's oceans are located within EEZs, and fifty-three percent of seamounts exist beyond the boundary of the EEZs.²⁶⁸ No reference has been found on how many seamounts of the high seas are distributed in the continental shelf beyond the EEZ, and how many seamounts are located both within and beyond the EEZ. It is therefore unknown how many seamounts could be possible sources of a dispute concerning high seas fisheries between coastal States and fishing nations.

Since the first fisheries were conducted around seamounts in the North Pacific in the late 1960s,²⁶⁹ at least one actual dispute has occurred with respect to overexploitation of seamount fisheries resources. This occurred on the South Tasman Rise located both in the Australian EEZ, and in the high seas adjacent to it. The South Tasman Rise off the southern coast of Tasmania covers the continental slope, seamounts, knolls, canyons, and other ocean features.²⁷⁰ Orange roughy caught in this South Tasman Rise has typical characteristics for seamount species growing slowly and having an extremely long life-span.²⁷¹ The fishery of this stock was first initiated in the late 1970s in the Chatham Rise off New Zealand and has expanded around the southern hemisphere including the South Tasman Rise.²⁷² In the late 1990s, Australia

²⁶⁸ Jackie Alder and Louisa Wood, "Managing and Protecting Seamounts Ecosystems," in Morato and Pauly (eds.), *supra* note 178, p.67.

²⁶⁹ Koslow, "Fish Stocks and Benthos of Seamounts," *supra* note 154, p.43.

²⁷⁰ See the map of "South Tasman Rise Candidate MPA," Australian Government, Department of the Environment and Heritage, available at <http://www.deh.gov.au/coasts/mpa/southeast/publications/south-tasman.html> (accessed in 2007. URL no longer exists).

²⁷¹ Koslow, "Fish Stocks and Benthos of Seamounts," *supra* note 154, p.48.

²⁷² The fishing grounds of this species include areas around New Zealand, Tasmania, Namibia, Chile and North Atlantic Ocean. *ibid.*, p. 46.

and New Zealand realised that their fishermen had excessively increased fishing efforts in the high seas part of the Southern Tasman Rise.²⁷³ There was a dispute between Australia and New Zealand on this overfishing orange roughy on the high seas adjacent to the Australian EEZ. Third fishing nations, mostly flags of convenience such as South Africa and Belize, aggravated this problem by commencing orange roughy fishing in the high seas part of the Southern Tasman Rise.²⁷⁴ The disputes on overfishing and third States fishing in the area beyond the EEZ were solved by the Arrangement between the Government of Australia and the Government of New Zealand for the Conservation and Management of Orange Roughy on the South Tasman Rise in 2000, and by diplomatic pressure.²⁷⁵ Besides these efforts to solve the problems, Australia has also made some effort to protect the South Tasman Rise within its EEZ by establishing MPAs. Australia established an MPA in the South Tasman Rise within its EEZ, covering approximately 70 seamounts, in 1999.²⁷⁶ In addition, a national MPA was suggested to be established adjacent to the high seas orange roughy fishing grounds.²⁷⁷ However, an MPA on the high seas part of the Southern Tasman Rise has not yet been established.

This dispute shows the vulnerability of seamount fish stocks and may also involve the management of discrete high seas fish stocks. It is known that orange roughy on the South Tasman Rise is a separate stock from orange roughy found in other areas.²⁷⁸ However, it is unknown whether the orange roughy in the EEZ and on the high seas of the South Tasman Rise are a single stock or two separate stocks.²⁷⁹ If it is a single

²⁷³ Erik Jaap Molenaar, "The South Tasman Rise Arrangement of 2000 and Other Initiatives on Management and Conservation of Orange Roughy," *IJMCL*, Vol.6, No. 1, 2001, pp. 77-124.

²⁷⁴ *Ibid.*

²⁷⁵ *Ibid.*, pp.81-82.

²⁷⁶ Koslow, "Fish Stocks and Benthos of Seamounts," *supra* note 154, p.50. This MPA was called Tasmanian Seamounts Marine Reserve and incorporated into another marine reserve on 28 June 2007. See "Tasmanian Seamounts Marine Reserve," Department of the Environment, Water, Heritage and the Arts, Australian Government, <http://www.deh.gov.au/coasts/mpa/seamounts/index.html> (accessed on 3 February 2009. Detailed information on the Reserve no longer exists).

²⁷⁷ See "Fact Sheet –South Tasman Rise – Proposed Candidate MPA," Australian Government, Department of the Environment and Heritage, <http://www.deh.gov.au/coasts/mpa/southeast/publications/south-tasman.html> (accessed in 2007. URL no longer exists).

²⁷⁸ Molenaar, The South Tasman Rise, *supra* note 273, p.86.

²⁷⁹ Molenaar, The South Tasman Rise, *ibid.*, p.86; "Orange Roughy Conservation Programme," Australian Fisheries Management Authority, Australian Government, December, 2006, <http://www.afma.gov.au/fisheries/sess/ sess/notices/> (accessed on 3 November 2008). p.1.

stock, it should be considered as a straddling fish stock in accordance with Article 63(2) of the LOSC.²⁸⁰ If so, Australia, as a coastal State, has an obligation to promote conservation of this stock beyond its EEZ with other fishing nations.²⁸¹ Article 116(b) notes that fishing rights on the high seas are subject to “the rights and duties as well as the interests of coastal States provided ... in article 63, paragraph 2 ...”²⁸² Some coastal States argue that this paragraph implies coastal States have more priority to manage the straddling fish stocks.²⁸³ However, Article 63 (2) does not refer to specific interests or rights of coastal States but it refers to the obligation to promote the conservation of the fish stocks. Thus, it cannot be interpreted as giving more priority to coastal States to the stocks. In addition to Article 63(2), section 2 of Part VII of the LOSC and the UNFSA can provide an obligation to take protective measures collectively. Articles 118 and 119 of Part VII oblige all user States to take appropriate protective measures by agreement. These provisions do not require the establishment or observation of HSMPAs. However, as reviewed, the UNFSA obliges member States to observe such protective measures including fisheries closures established by RFMOs.

If there are two separate stocks of orange roughy, Australia does not have specific obligations to promote conservation of the high seas stock as a coastal State. In this case, all States enjoy the freedom to fish and States of which their nationals exploit the high seas stocks have obligations to conserve those stocks in accordance with Part VII of the LOSC. As noted in 3.2.1, these separate stocks on the high seas are known as discrete high seas fish stocks and are distinct from straddling fish stocks.²⁸⁴ Discrete high seas fish stocks are not dealt with by either Article 63(2) of the LOSC

²⁸⁰ Article 63(2), the LOSC: “Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.”

²⁸¹ Article 63(2), the LOSC.

²⁸² Article 116(b), the LOSC.

²⁸³ Churchill and Lowe, *supra* note 46, p. 305.

²⁸⁴ Evelyne Meltzer, “Global Overview of Straddling and Highly Migratory Fish Stocks,” prepared for the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement, held in St. John’s, Canada in 2005. Available at http://www.dfo-mpo.gc.ca/fgc-cgp/documents_e.htm (accessed on 3 November 2008).

or the 1995 Fish Stocks Agreement. Unless an advanced regulation for discrete high seas fish stocks is available, the exploitation of the discrete high seas fish stocks on the seamounts is mainly regulated based on Section 2 of Part VII of the LOSC. The rules in the section do not require the establishment and observation of HSMPAs. States may individually or collectively establish HSMPAs based on the obligation to take conservation measures in accordance with Article 118 and 119 of the Section or flag State Jurisdiction on the high seas, but such HSMPAs will be binding only in respect of their nationals.

3.2.4. HSMPAs on the Water Column of the High Seas

Parts VII and XII provide some general provisions which oblige States Parties to take protective measures for the conservation of living resources, components of ecosystems or habitats on the high seas. The establishment of HSMPAs individually by States is possible based on flag State jurisdiction. Collective observation of protective measures, such as HSMPAs, through making an agreement is encouraged under those parts. However, these rules of themselves are not such a collective agreement which requires States Parties to the LOSC to establish and observe HSMPAs. In addition, they do not oblige third parties to the LOSC to observe HSMPAs established individually or collectively by agreement. Alternatively, the UNFSA obliges its parties to observe such measures taken by RFMOs, although the UNFSA itself cannot be an agreement requiring its parties to establish HSMPAs. This obligation to observe HSMPAs by RFMOs cannot completely restrict all seamount fisheries activities on the high seas by parties to the Agreement because some seamount fishing targeting discrete high seas fish stocks are not regulated by the Agreement.

If existing provisions cannot provide an explicit requirement for HSMPAs, detailed solutions for the establishment of HSMPAs to protect deep-sea features can be achieved through modification of the relevant provisions of the LOSC. Articles

311, 312, and 313 of the LOSC provide the rules to amend the Convention.²⁸⁵ There has been a proposal to establish an implementing agreement of the LOSC for HSMPAs by the European Union during discussion in the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction which was held in 2006.²⁸⁶ The proposal, however, has not been formally adopted by the UN system.

3.3. International Seabed Regime

The final section of this chapter considers the regime governing exploration and exploitation of the seabed beyond the continental shelf. This regime is set out in Part XI of the LOSC as well as in an implementing agreement and relevant regulations adopted by the ISA. These apply only to exploration and exploitation of mineral resources in the Area.²⁸⁷ The Area in the context of the LOSC means “the seabed and ocean floor and subsoil thereof,” beyond the outer limit of the continental shelf.²⁸⁸ Part XI was the first inclusion of rules on mining in the Area in the series of the Law of the Sea Conventions established since 1958, as a result of which previously unrealistic deep sea mining became feasible.²⁸⁹ This part incorporates the concept of the common heritage of mankind rather than the freedom of the high seas for

²⁸⁵ More than two States Parties can modify or suspend “the operation of provisions of this Convention” through establishing agreements. These agreements shall not impair “the object and purpose of this Convention” and “the basic principles embedded” in this provision. Other States Parties which do not consent to the agreement are not bound by those agreements (Article 311 (3) of the LOSC). An amendment to the Convention can be suggested by any one member States. This amendment can be effective depending on appropriate results from a conference or a circulation of the proposal (Article 312 and 313, the LOSC).

²⁸⁶ See “Report of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction,” UNGA, March 2006, A/61/65, p. 15; Kristina M. Gjerde and Graeme Kelleher, “High Seas Marine Protected Areas on the Horizon: Legal Framework and Recent Progress,” *Parks, High Seas Marine Protected Areas*, Vol. 15, No.3, 2005, p.14.

²⁸⁷ Articles 133 and 134, the LOSC.

²⁸⁸ Article 1(1)(1), the LOSC.

²⁸⁹ Churchill and Lowe, *supra* note 46, p. 225.

compromising different interests of different group of States.²⁹⁰ The concept of the common heritage of mankind does not allow either the free access to minerals or the exclusive exploitation of them for individual benefits.²⁹¹ Although the LOSC establishes a separate regime for the Area with the common heritage of mankind, some of the high seas regimes,²⁹² such as freedom of marine scientific research, still apply to the Area, because the Area is legally a part of the high seas.

In this section, an attempt will be made to elucidate how this international seabed regime contributes to protect deep-sea features from seabed mining and prospecting activities through establishing MPAs.

3.3.1. Protecting Hydrothermal Vents and Seamounts from Prospecting and Mining

The strongest currents on top of the seamounts form thick cobalt-rich ferromanganese crusts.²⁹³ The biodiversity of seamount species around this crust varies enormously depending on the depth of the seamount, topography and currents, the nutritional level of the water column above the summit of the seamount, and the distance from other seamounts and ridges.²⁹⁴ Accurate data on ecosystems around the

²⁹⁰ Article 136, the LOSC. See details on different interests of States in Wolfgang Hauser, *The Legal Regime for Deep Seabed Mining under the Law of the Sea Convention*, Studies in Transnational Law of Natural Resources; Vol. 7, Deventer, The Netherlands, Kluwer, 1983; Said Mahmoudi, *The Law of Deep Sea-Bed Mining – A Study of the Progressive Development of International Law Concerning the Management of the Polymetallic Nodules of Deep Sea-Bed*, Almquist & Wiksell International, Stockholm, Sweden, 1987; Roderick Ogley, *Internationalizing the Seabed*, Aldershot: Gower, 1984.

²⁹¹ See Article 137 of the LOSC.

²⁹² Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, pp. 70-71. See the definition of the high seas in Article 86.

²⁹³ J Anthony Koslow, "The Biological Environment of Cobalt-rich Ferromanganese Crust Deposits, The Potential Impact of Exploration and Mining in This Environment, and Data Required to Establish Environmental Baselines," prepared for Workshop organized by the International Seabed Authority for the Establishment of Environmental Baselines at Deep Seafloor Cobalt-rich Crusts and Deep Seabed Polymetallic Sulphide Mine Sites in the Area for the Purpose of Evaluating the Likely Effects of Exploration and Exploitation on the Marine Environment, Kingston, Jamaica, ISA, 6-10 September 2004, available at <http://www.isa.org.jm/en/documents/publications> (accessed on 3 November 2008). p.2.

The definition of the cobalt crusts is: "hydroxide/oxide deposits of cobalt-rich iron/manganese (ferromanganese) crust formed from direct precipitation of minerals from seawater onto hard substrates containing minor but significant concentrations of cobalt, titanium, nickel, platinum, molybdenum, tellurium, cerium, other metallic and rare earth elements." Regulation 1(3)(b) of the Draft Regulations on Prospecting and Exploration for Polymetallic Sulphides and Cobalt-Rich Ferromanganese Crusts in the Area, Jamaica, Kingston, International Seabed Authority, 2004, ISBA/10/C/WP.1.

²⁹⁴ Koslow, *ibid.*, p.5.

cobalt-rich crust on seamounts is very difficult to obtain with the current level of knowledge and information.²⁹⁵ Although knowledge of the ecosystems is largely incomplete and mining the deposits in the Area has not yet been commenced,²⁹⁶ it can be anticipated that mining these minerals on the seamounts may cause disturbance to the ecosystems. The potential impacts of such mining could include the direct destruction of the hard-substrate community near the cobalt-rich crust and disturbance caused by sediments falling off when transmitting mined material to the vessel.²⁹⁷ As noted earlier, hydrothermal vents are also found on seamounts and they contain valuable mineral resources, such as polymetallic sulphides.²⁹⁸ These mineral deposits found mainly in hydrothermal vent sites are not currently technically exploitable.²⁹⁹ Only exploration has been conducted so far, primarily within the EEZs and a few deep-sea areas.³⁰⁰ Although those mineral deposits on seamounts and hydrothermal vents are not currently exploitable or exploited, future consumption of them is anticipated. Considering continuously increasing mineral prices and demand of minerals,³⁰¹ new deposits, such as marine mineral reserves, need to be prepared for future consumption.³⁰² If such mining can be commenced, cautious exploitation of those deposits will be required because endemic and vulnerable ecosystems around them could be damaged by their utilisation.

²⁹⁵ *Ibid.*

²⁹⁶ The most recent workshops relating to these deposits held in 2006 by the ISA implies that mining these deposits are still potential. Workshop documents are available at <http://www.isa.org.jm>. Accessed on 21 October 2008.

²⁹⁷ Koslow, Cobalt-rich Ferromanganese Crust Deposits, *supra* note 293, pp.5-6.

²⁹⁸ The definition of this term is included in the Draft regulations on prospecting and exploration for polymetallic sulphides and cobalt-rich ferromanganese crusts in the Area as “hydrothermally formed deposits of sulphide minerals which contain concentrations of metals including, inter alia, copper, lead, zinc, gold and silver.” Regulation 1 (3)(f) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts, *supra* note 293.

²⁹⁹ Korn, Friedrich and Feit, *supra* note 19, p. 22.

³⁰⁰ See Management and Conservation of Hydrothermal Vent Ecosystems, Report from an InterRidge Workshop, *supra* note 69, p. 7.

³⁰¹ “International Seabed Authority Workshop on Mining of Cobalt-Rich Ferromanganese Crusts and Polymetallic Sulphides – Technology and Economic Considerations,” Background Paper Prepared by the Secretariat, Kingston, Jamaica, ISA, 31 July to 4 August 2006, <http://www.isa.org.jm/files/documents/EN/Workshops/Jul06/background.pdf> (accessed on 22 October 2008), pp. 49-51.

³⁰² Koslow, Cobalt-rich Ferromanganese Crust Deposits, *supra* note 293, pp. 5-6 and Korn, Friedrich and Feit, *supra* note 19, p. 21.

As far as polymetallic sulphides and cobalt rich crusts in the Area are regarded as minerals, the right to use those resources is granted for the benefit of mankind.³⁰³ Exploitation of these resources on the Area is regulated by Part XI of the LOSC, an implementing agreement, and regulations adopted by the ISA. Part XI includes obligations relating to environmental protection. Originally, UNGA Resolution 2749(XXV) which first pronounced the concept of the common heritage of mankind in 1970 included an obligation on environmental protection in relation to mining in the Area.³⁰⁴ This obligation in the non-binding resolution was superseded by the LOSC, especially Article 145. Article 145 obliges the taking of protective measures to conserve the marine environment, especially from the “harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities.”³⁰⁵ This article “elaborates upon the general principle enunciated in article 209.”³⁰⁶ Thus, Article 209 of Part XII of the LOSC should be read together with this Article. Article 209 stipulates a duty “to prevent, reduce and control *pollution* of the marine environment from activities in the Area” through establishing rules, regulations, and procedures.³⁰⁷ To further that, paragraph 2 refers to flag States’ legislative jurisdiction to control their vessels, installations, structures and other

³⁰³ “All solid, liquid or gaseous mineral resources” in the International Seabed Area, as well as the Area itself, are the “common heritage of mankind.” See Article 137(2), 133 and 136 of the LOSC.

³⁰⁴ Paragraph 11 of the General Assembly Resolution 2749(XXV) illustrates the obligation as follows:
11. With respect to activities in the area and acting in conformity with the international regime to be established, States shall take appropriate measures for and shall co-operate in the adoption and implementation of international rules, standards and procedures for, *inter alia*:
(a) The prevention of pollution and contamination, and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment;
(b) The protection and conservation of the natural resources of the area and the prevention of damage to the flora and fauna of the marine environment.

UNGA Resolution 2749(XXV), Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, 1970, General Assembly Resolution 2749 (XXV). Available in Nordquist, Myron H., *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. I, Center for Oceans Law and Policy, University of Virginia, Martinus Nijhoff Publishers, 1985.

³⁰⁵ Article 145 (a), the LOSC.

³⁰⁶ Satya N. Nandan, Michael W. Lodge and Shabtai Rosenne, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. VI, Article 133 to 191, Annexes III and IV, Final Act, Annex 1, Resolution II, Agreement relating to the Implementation of Part XI Documentary Annexes, Center for Oceans Law and Policy, University of Virginia, Martinus Nijhoff Publishers, 2002, p. 195.

³⁰⁷ Article 209 (1), the LOSC. Emphasis added.

devices used for conducting the activities in the Area.³⁰⁸ Although Article 209 provides ‘the general principle’ on environmental protection on the Area similar to Article 145, the coverage of the environmental degradation by Article 209 is narrower than the coverage of Article 145. Article 209 targets only ‘pollution’ caused by mining-related activities in the Area. On the other hand, Article 145 specifies that the ISA has authority to control not only pollution, but also “other hazards to the marine environment” caused by mining-related activities in the Area.³⁰⁹ The narrower target in Article 209 may merely confirm the scope of Part XII which mainly regulates pollution but does not limit the scope of the obligation on environmental protection in the Area. In addition to these provisions, Articles 162 and 165 contain powers and functions of the Council and the Legal and Technical Commission of the ISA on environmental protection. The Legal and Technical Commission makes recommendations on environmental protection to the Council.³¹⁰ Any plan of work relating to seabed mining or prospecting needs to be approved by the Council.³¹¹ The plan of exploitation can be disapproved in certain areas by the Council if “substantial evidence indicates the risk of serious harm to the marine environment.”³¹² The Council can “issue emergency orders, which may include orders for the suspension or adjustment of operations, to prevent serious harm to the marine environment arising out of activities in the Area.”³¹³ These powers to suspend or disapprove exploration or exploitation in the Area may be exercised by the ISA through taking area based management measures including MPAs, although MPAs are not specified in Part XI of the LOSC.

These provisions for environmental protection of the Area are not advanced in the later Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea (hereafter the 1994 Agreement to Part XI).³¹⁴

³⁰⁸ Article 209 (2), the LOSC.

³⁰⁹ Article 145(a), the LOSC.

³¹⁰ See Article 165(2)(h),(k) and (i) of the LOSC.

³¹¹ Article 162 (2)(j), the LOSC.

³¹² Article 162 (2)(x), the LOSC.

³¹³ Article 162 (2)(w), the LOSC.

³¹⁴ Nandan, Lodge and Rosenne, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. VI, supra note 306, p. 197.

These provisions are, however, elaborated on in the subsequent regulations to govern the exploration and exploitation of polymetallic nodules, which were approved in 2000. The Polymetallic Nodules Regulations³¹⁵ contain provisions on wide-ranging environmental protection,³¹⁶ including the precautionary approach. Although the Regulations may not be directly relevant to mining around vents and seamounts, it is unavoidable to deal with the Polymetallic Nodules Regulations in this section because draft regulations on polymetallic sulphides and cobalt-rich ferromanganese crusts which are relevant to mining around vents and seamounts modelled the Polymetallic Nodules Regulations.³¹⁷ In addition to the regulations on manganese nodules, the ISA prepared the Draft Regulations on Prospecting and Exploration for Polymetallic Sulphides and Cobalt-Rich Ferromanganese crusts in the Area (the Draft Regulations on Polymetallic Sulphides and Cobalt Crust) in 2004. These regulations also include advanced rules on environmental protection and more closely related to regulating mining on seamounts or hydrothermal vents. It was recently decided that these regulations should be divided into two separate regulations for cobalt crusts and polymetallic sulphides respectively.³¹⁸ Since regulations on cobalt crusts are not yet available, this chapter deals with the 2004 combined Draft Regulations.

The core environmental protection provisions in the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts are almost similar to the Polymetallic Nodules Regulations. Both Regulations declare that their environmental provisions “may be supplemented by further rules, regulations and procedures.”³¹⁹ Both Regulations also include a rule on the precautionary principle. It was controversial to include the precautionary principle in the Polymetallic Nodules Regulations for the

³¹⁵ See Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area approved in 2000 in “Decision of the Assembly relating to the regulations on prospecting and exploration for polymetallic nodules in the Area,” International Seabed Authority, ISBA/6/A/18, July 2000.

³¹⁶ Nandan, “The International Seabed Authority and the Governance of High Seas Biodiversity,” *supra* note 264, p. 5.

³¹⁷ Draft Regulations on Polymetallic Sulphides and Cobalt Crusts, *supra* note 293. A footnote in page 1 of this document indicates that most of provision in this draft is based on the polymetallic nodules regulations.

³¹⁸ See Draft Regulations on prospecting and exploration for polymetallic sulphides in the Area, ISA, 29 March 2007, ISBA/13/C/WP.1, p. 2.

³¹⁹ Regulations 1 (5) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crust, *supra* note 293.

first time.³²⁰ The principle was not contained either in the LOSC or in the 1994 Agreement to Part XI.³²¹ Potential users of nodules and coastal States had different opinions on the potential levels of impact on the marine environment by mining nodules and the necessity of the precautionary principle.³²² The principle was finally compounded in the Regulations as a result of compromise between the different positions.³²³ Draft Regulations on Polymetallic Sulphides and Cobalt Crusts need to depend on the principle even more than the Polymetallic Nodules Regulations does because information on polymetallic sulphides and cobalt crusts is more limited than on polymetallic nodules.³²⁴ Only limited knowledge is available on the location of their deposits, the surrounding environment and the ecosystems of hydrothermal vents and seamounts.³²⁵ Thus, the Legal and Technical Commission of the ISA decided to also take cautious steps for the utilisation of polymetallic sulphides and cobalt-rich crusts.³²⁶ According to the relevant provisions of the precautionary principle in the Draft Regulations, environmental protection measures should be taken as early as practicable from the prospecting stage, before the actual exploitation of the two types of mineral deposits occurs.³²⁷ In addition, each user has obligations to decide on proper protection measures before its commencement of bioprospecting, exploration and exploitation of the minerals and to be involved in the ISA's work for monitoring programmes.³²⁸

³²⁰ Albert J. Hoffmann, "Aspects of the Draft Regulations on Prospecting and Exploration for Polymetallic Sulphides and Cobalt rich Ferromanganese Crusts Relating to the Protection of the International Seabed Environment," prepared for the Workshop organized by the International Seabed Authority for the Establishment of Environmental Baselines at Deep Seafloor Cobalt-rich Crusts and Deep Seabed Polymetallic Sulphide Mine Sites in the Area for the Purpose of Evaluating the Likely Effects of Exploration and Exploitation on the Marine Environment, Kingston, Jamaica, ISA, 6-10 September 2004, p.3, <http://www.isa.org.jm/en/documents/publications> (accessed on 3 November 2008).

³²¹ *Ibid.*, p. 17.

³²² *Ibid.*, p. 18.

³²³ *Ibid.*, p. 18. Regulations relating to the precautionary principle in the Polymetallic Nodules Regulations are Regulations 2(2), 4(3), 21(6)(c), 31(2), 32, and 33.

³²⁴ *Ibid.*, pp.2-3.

³²⁵ *Ibid.*, p.2.

³²⁶ *Ibid.*, p.2.

³²⁷ See Regulations 5 of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts.

³²⁸ Regulation 5 (1)(2), Regulation 20(1), Regulation 33(3)(4), Regulation 34(2), Regulation 35 of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts.

Additional provisions on environmental protection in both Regulations are as follows. All the rules, regulations and procedures established by the LOSC, and the Regulations should be regularly reviewed to make sure that suitable measures are taken to protect the marine environment from seabed activities.³²⁹ Prospectors cannot conduct searches of mineral sites, if “the risk of serious harm to the marine environment” can be detected.³³⁰ A plan of work for exploration should include a programme of study to estimate the potential environmental impact, a preliminary study of the impact and measures to “protect, reduce and control pollution and other hazards.”³³¹ Once the plan of exploration is submitted and approved, the contractor of the plan can ‘exclusively’ explore the area stipulated in the plan.³³² However, approval of the plan of exploration does not give exclusive rights to exploit the area but guarantees for “a preference and a priority among applicants submitting plans of work for exploitation of the same area and resources.”³³³ The Legal and Technical Commission of the ISA can disapprove any plan of work for exploration, if the plan covers any area “disapproved for exploitation by the Council in cases where substantial evidence indicates the risk of serious harm to the marine environment.”³³⁴ This provision reiterates from Article 162 (2) (x) of the LOSC and may give the ISA due power and authority to designate some protected areas where there are environments which are critically sensitive to seabed activities.³³⁵

The Regulations have additional bearing on establishing protected areas. Paragraph 4 of Regulation 33 of the Draft Regulations (Regulation 31(7) of the

³²⁹ Article 209, the LOSC and Regulation 33(1) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts. Regulation 31(1) of the Polymetallic Nodules Regulations.

³³⁰ Regulation 2(2) in Part II (prospecting) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts. *Ibid.* Regulation 2(2) of the Polymetallic Nodules Regulations.

³³¹ Regulation 20 (1) (b), (c), (d) of the Draft Regulations on Polymetallic Sulphides and Cobalt Rich Crusts. Regulation 18 of the Polymetallic Nodules Regulations.

³³² Regulation 26(1) of the Draft Regulations on Polymetallic Sulphides and Cobalt Rich Crusts. This exclusive right for exploration appears on regulation 24(1) of the Polymetallic Nodules Regulations.

³³³ Regulation 26(2) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts. Regulation 24 (2) of the Polymetallic Nodules Regulations.

³³⁴ Regulation 23(6) (c) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts. Regulation 21(6)(c) of the Polymetallic Nodules Regulations.

³³⁵ Nandan, “The International Seabed Authority and the Governance of High Seas Biodiversity,” *supra* note 264, p. 3.

Polymetallic Nodules Regulations) refers to “impact reference zones” and “preservation reference zones” as part of monitoring programmes, as follows:

4. Contractors, sponsoring States and other interested States or entities shall cooperate with the Authority in the establishment and implementation of programmes for monitoring and evaluating the impacts of deep seabed mining on the marine environment. When required by the Authority, such programmes shall include proposals for areas to be set aside and used exclusively as impact reference zones and preservation reference zones. “Impact reference zones” means areas to be used for assessing the effect of activities in the Area on the marine environment and which are representative of the environmental characteristics of the Area. “Preservation reference zones” means areas in which no mining shall occur to ensure representative and stable biota of the seabed in order to assess any changes in the flora and fauna of the marine environment.³³⁶

‘Impact reference zones’ seem to be substantive means for monitoring and evaluating anthropogenic environmental impacts on the seabed environment. Since human impacts need to be measured in these zones, mining activities may not be prevented in the zones. On the other hand, the purpose of establishing ‘preservation reference zones’ is to observe ‘natural changes’ in the marine environment. Human impact should not disturb natural changes, thus mining activities should not be allowed in these zones. These reference zones may function as marine protected areas, although their purpose is not conservation of ecosystem components.

Although there are certain possibilities to prohibit mining around vents and seamounts by the establishment of closed areas by the ISA, insufficient practical duties imposed on the ISA to protect the deep-sea environment may prevent effective conservation of the features. The ISA commenced its work in 1994 aiming to regulate exploration and exploitation of seabed mineral resources beyond national jurisdiction. The ISA regulates mining in the Area to avoid disturbance to marine ecosystems and some may argue that the Authority is well equipped for appropriate decision making relating to the protection of the deep-sea environment.³³⁷ However, it does not have the direct authority to manage the living components of the deep seabed. Furthermore, the Authority does not manage seabed uses other than the prospecting, exploration and exploitation of mineral resources. For example, pure marine scientific research on

³³⁶ Paragraph 4 of Regulation 33 Protection and Preservation of the Marine Environment, Part V Protection and Preservation of the Marine Environment in the Draft Regulations for Polymetallic Sulphides and Cobalt Crusts. Regulation 31(7) of the Polymetallic Nodules Regulations.

³³⁷ Nandan, “The International Seabed Authority and the Governance of High Seas Biodiversity,” *supra* note 264, p. 1.

the Area is not regulated by ISA unless it is conducted by the Authority itself.³³⁸ This means that no scientific research in the Area except that conducted by the ISA can be prevented by protection measures such as MPAs. During the course of the sixth meeting of the UNICPOLOS in 2005, some delegations referred to this restriction and called for a strengthened role for the ISA to enable it to protect the deep-sea environment not only from 'seabed activities in the Area' but also from other activities such as bottom trawling which affect the status of mineral resources on the Area as well as biological resources.³³⁹

To sum up this overview of the system of seabed environment protection: the existing regime, agreement, and regulations within the LOSC system provide essential rules to permit the establishment of marine protected areas in the Area and may possibly cover the deep sea features, even though such measures are confined to preventing detrimental impacts on the marine environment from seabed mining related activities only and the ISA does not have jurisdiction over such deep sea ecosystems.

3.3.2. Exploitation of Cold-Water Corals

A preliminary question to be considered in this section with respect to cold-water corals is whether the dead part of corals should be regarded as mineral resources or other non-living resources. If the coral skeleton is classified as a mineral, it is a resource of the Area and so its exploitation will be regulated by Part XI of the LOSC. According to Article 162(3)(o)(ii) of the LOSC, regulations can be established to manage exploration and exploitation of specific resources (such as polymetallic nodules), so regulations on the coral skeleton also can be established if necessary.

³³⁸ See Article 143 of the LOSC and Regulation 1(4) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts . Also see Allen, *supra* note 28, p. 641 and Hoffmann, *supra* note 320, pp. 6-7.

³³⁹ Paragraphs 11(f), 44, and 80 of "Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its sixth meeting," UNGA, July 2005, A/60/99.

Such regulations should include the necessary environment protection regime.³⁴⁰

During various workshops held by the ISA to consider mining regulations, many mineral resources on the Area other than polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts were mentioned, such as methane hydrates, placer deposits, diamonds off the Namibian coast, phosphorites, hydrocarbon deposits, petroleum, and evaporates.³⁴¹ These discussions, however, do not include coral skeletons. If the dead coral is not considered a mineral resource, its exploitation will not be regulated by Part XI.

If coral skeleton cannot be classified as a mineral and its exploitation cannot be regulated by Part XI, ecosystems around the coral skeleton can still be protected against mining under Part XI and other relevant rules in the LOSC. As reviewed in section 3.3.1, Part XI of the LOSC and the 1994 Implementation Agreement contain general provisions on environmental protection including disapproving exploitation activities in specific areas to prevent environmental degradation.³⁴² If any mineral utilisation in the Area possibly causes “serious harm to the marine environment”³⁴³ including coral ecosystems, the area at risk can be closed to mining related activities.³⁴⁴ Safety zones can be established around the facilities for the exploration and exploitation of the mineral resources on the Area for the purpose of protecting the facilities.³⁴⁵ However, this zone is not a protected area and is not intended for restricting exploitation activities.

In addition to those rules, the Draft Regulations on Polymetallic Sulphides and Cobalt Crusts may conserve the coral skeleton and their surrounding ecosystems on seamounts where exploration and exploitation of cobalt-rich ferromanganese crusts

³⁴⁰ See Article 145 and 209 of the LOSC.

³⁴¹ See papers contained in *Workshop on Minerals Other than Polymetallic Nodules of the International Seabed Area*, supra note 128.

³⁴² See Article 162 (2) (x) of the LOSC.

³⁴³ The definition of this term is both in the Polymetallic Nodules Regulations and the Draft Regulations for Polymetallic Sulphides and Cobalt Crusts: “‘serious harm to the marine environment’ means any effect from activities in the Area on the marine environment which represents a significant adverse change in the marine environment determined according to the rules, regulations and procedures adopted by the Authority on the basis of internationally recognized standards and practices.”

³⁴⁴ See Article 162(2) (x) of the LOSC.

³⁴⁵ Article 147 (2), the LOSC.

cause or are likely to cause pollution or other hazards to the cold-water coral reef ecosystems. Corals, whether cold or warm water, are one of the predominant fauna found on the hard substrates of seamounts and form important secondary habitats for benthic fauna of seamounts.³⁴⁶ Any possibility of environmental deterioration of the coral reefs by prospecting, exploration and exploitation of mineral resources on seamounts should be studied and reported to the ISA before actual mining occurs.³⁴⁷ Depending on the existence of potential risks or actual hazards, such production plans can be rejected in specific areas, or rules, regulations or procedures should be set up to take measures to deal with the risks or hazards.³⁴⁸ Subsequently, the impact reference zones or preservation reference zones can be established for monitoring environmental impact on the reefs. In particular, preservation reference zones can function as protected areas although they cannot prohibit activities other than mining.

Article 147(1) of the LOSC requires any mining activities on the Area to respect other activities. It also requires activities other than mining to respect mining on the Area.³⁴⁹ If this article is taken together with the regulation on the impact reference zones, the ISA may claim that other resource users should restrict in some degree their activities, such as bioprospecting, bottom fishing or collecting coral skeletons in the impact reference zones. However, this combination does not provide the ISA with any jurisdiction to prevent such activities.

3.3.3. HSMPAs in the Area

There is no unilateral authority to govern human activities in the water column of the high seas. Therefore, the main question in section 3.2 was whether the LOSC

³⁴⁶ Koslow, "The Biological Environment of Cobalt-rich Ferromanganese Crust Deposits, The Potential Impact of Exploration and Mining in This Environment, and Data Required to Establish Environmental Baselines," *supra* note 293, p. 3, and Rogers, *The Biology, Ecology and Vulnerability of Seamount Communities*, *supra* note 191, pp.4-5.

³⁴⁷ Regulation 20 of the Draft Polymetallic Sulphides and Cobalt Crust Regulations.

³⁴⁸ See Regulation 23 (6) (c) and Regulation 33(3) of the Draft Regulations on Polymetallic Sulphides and Cobalt Crust.

³⁴⁹ Article 147, the LOSC: "1. Activities in the Area shall be carried out with reasonable regard for other activities in the marine environment. 3. Other activities in the marine environment shall be conducted with reasonable regard for activities in the Area."

provides rules to establish HSMPAs and for all parties to be bound by them. In the Area, the LOSC confers exclusive authority to regulate mining to the ISA. Thus, any mining relevant activities by parties cannot be commenced if the ISA reject proposals for such activities with the reason of the vulnerability of marine ecosystems in certain areas. In this case whether the LOSC can be an agreement for parties to observe HSMPAs does not need to be asked. This section explored whether the ISA possibly establishes HSMPAs and confirmed several rules and regulations may be used to support HSMPAs, although such HSMPAs by the ISA cannot regulate activities other than mining relevant activities. It is questionable whether such HSMPAs by the ISA can be classified as the newly required HSMPAs because they may not be implemented based on the ecosystem approach as will be reviewed in the next section.

3.4. An Ecosystem Approach in the LOSC?

Whether the LOSC incorporates the ecosystem approach, including the precautionary principle, is controversial. Since 2001, resolutions adopted by the UNGA have included several paragraphs referring to the ecosystem-based approach to management, ecosystem considerations or an ecosystem approach.³⁵⁰ Those paragraphs suggest that there is an emerging consensus on the necessity of ocean management based on the ecosystem approach and recommend individual States and relevant international organizations to apply these principles to conserve marine ecosystems.³⁵¹ These paragraphs particularly mention specific international treaties, organizations and non-binding instruments, which have adopted or worked on the principle, such as the Convention on Biological Diversity (CBD), FAO and the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem.³⁵²

³⁵⁰ See UNGA Resolutions 56/12, paragraph 27; UNGA Resolution 56/13, para. 17; UNGA Resolution 57/141, para. 53; UNGA Resolution 58/240, para. 50 and 52; UNGA Resolution 58/14, para. 43; UNGA Resolution 59/24, para. 66 of; UNGA Resolution 59/25, para. 4 and 58; UNGA Resolution 60/31, para. 4, 58, 63 and 64; UNGA Resolution 60/30, para. 103; UNGA Resolution 61/222, para. 119; UNGA Resolution 61/105, para. 5, 6, 7, 76, 80 and 83; UNGA Resolution 62/215, para. 99; UNGA Resolution 62/177, para. 5, 6, 7, 85, 89, and 93.

³⁵¹ *Ibid.*

³⁵² *Ibid.*

However, the LOSC has not been one of them. A document recently prepared by the United Nations Environment Programme relating to the Mediterranean Action Plan reviews all international treaties which explicitly incorporate the ecosystem approach.³⁵³ This document determines the CBD as the first international treaty explicitly incorporating the principle. It does not refer to the eligibility of the LOSC to implement the ecosystem approach.

As Molenaar mentioned, it is true that no provision of the LOSC can be interpreted as referring to the ecosystem approach.³⁵⁴ However, he also argued that the LOSC should implicitly oblige the application of the ecosystem approach.³⁵⁵ Parsons supports this, noting that the LOSC indirectly obliges the application of the principle.³⁵⁶ Specific provisions mentioned in relation to this issue are Articles 194(5), 61 and 119 in respect of the limited ecosystem approach.³⁵⁷ A recent document prepared by the FAO stated that the principle is “clearly... inherited from the 1982 Convention on the Law of the Sea (UNCLOS).”³⁵⁸

Discussions on the definition of ‘marine resources’ early in this chapter led to the conclusion that the LOSC concerns the entire marine ecosystem.³⁵⁹ Thus, the LOSC may be capable of true implementation of the principle. However, since the concept is not expressly referred to in the text of the Convention, implementation of the principle especially in relation to the conservation of the high seas should depend on its adoption within other relevant regional or international agreements or non-express

³⁵³ See “Applying the Ecosystem Approach in the Mediterranean,” Government-Designated Expert Meeting on the Application of the Ecosystem Approach by the Mediterranean Action Plan, UNEP MED, 9 January 2007, UNEP(DEPO)/MED WG.306/2, <http://www.unepmap.org> (accessed on 4 November 2008).

³⁵⁴ Erik Jaap Molenaar, “Ecosystem-Based Fisheries Management, Commercial Fisheries, Marine Mammals and the 2001 Reykjavik Declaration in the Context of International Law,” *IJMCL*, Vol.17, No.4, 2002, pp. 561- 595, p. 575.

³⁵⁵ *Ibid.*, p. 575.

³⁵⁶ Scott Parsons, “Ecosystem Considerations in Fisheries Management: Theory and Practice,” *IJMCL*, Vol.20, Nos.3-4, 2005, pp. 381-422, p. 386;

³⁵⁷ Molenaar, “Ecosystem-Based Fisheries Management, Commercial Fisheries, Marine Mammals and the 2001 Reykjavik Declaration in the Context of International Law,” *supra* note 354, p. 575.

³⁵⁸ “Implementing the Ecosystem Approach to Fisheries, Including Deep-sea Fisheries, Biodiversity Conservation, Marine Debris and Lost or Abandoned Fishing Gear,” FAO Committee on Fisheries, December 2006, COFI/2007/8.

³⁵⁹ See section 3.1.1.1.

incorporation by the ISA if the Convention will not be amended expressly to incorporate the principle.

3.5. Chapter Conclusion: The Viable Legal Regime

Development of technology facilitates undertaking more activities in the deeper ocean. With the more advanced equipment, new underwater features and resources (such as hydrothermal vents, cold-water coral reefs and seamounts) could be discovered. These developments have raised a challenge to reinterpret and reapply the existing provisions in international law, including the LOSC, in order to regulate the new activities and conserve these newly discovered components of the marine environment. The application of the LOSC to the new species and activities requires the initial work of their categorisation. However, this categorisation is difficult within the limited knowledge available on the features and species, and the existing categories of components and activities in the LOSC seem inappropriate to be applied to the new species, resources, or activities. For example, it is unclear whether geothermal energy and cold-water coral skeletons belong to mineral or non-living resources, and whether or not hyperthermophile archaea and live corals are sedentary species of the continental shelf. The categorisation problem causes debates as to whether a coastal State can have sovereign rights to explore and exploit certain living organisms of the three deep-sea features on the continental shelf beyond the EEZ, or if only flag States on the high seas can undertake regulation of the utilisation of these living organisms.³⁶⁰

In addition to this categorisation problem, there is a sectoral management problem for these new species and resources around the features which is caused by the zonal approach in the LOSC. The area beyond the EEZ is subject to three different area regimes (the continental shelf, the high seas, and the international seabed regimes)

³⁶⁰ See opinions by Long, and Grehan, *supra* note 155, pp. 253-255; Gianni, *supra* note 134, pp. 76-77; Molenaar, *Deep Sea Fishing*, *supra* note 170, pp. 242-246; Lee A. Kimball, "Deep-Sea Fisheries of the High Seas: The Management Impasse," *IJMCL*, Vol. 19, No 3, 2004. pp. 259-287, pp. 275-277; Moritaka Hayashi, "Global Governance of Deep-Sea Fisheries," *IJMCL*, Vol. 19, No 3, 2004, pp. 289-298, p. 293; *Yearbook of the International Law Commission*, Vol. II, 1956, *supra* note 41, p. 8.

and three different authorities (coastal States in the continental shelf, flag States for their nationals in the water column of the high seas, and the ISA in the Area) in accordance with the LOSC. This chapter confirmed that this ocean zoning under the LOSC results in the dissection of the deep-sea features and their ecosystems depending on which regime manages the exploration and exploitation of a certain part of the features.³⁶¹ For example, hydrothermal vents on the outer continental shelf should be governed by the continental shelf regime for the management of mineral resource use, the marine scientific research regime for regulation of bioprospecting, and the environmental protection regime for conservation of surrounding ecosystems. These problems commonly exist in relation to all three types of high seas regimes in the LOSC.

Besides these problems of categorisation and sectoral management, each regime of these different areas of the high seas has certain problems effectively conserving deep sea features through establishing HSMPAs. The continental shelf regime does not provide coastal States with jurisdiction and obligations for the conservation of the marine environment but, especially on the outer continental shelf, coastal States have exclusive rights only to explore and exploit the continental shelf resources. Without explicit jurisdiction in relation to environmental protection, coastal States can prohibit bioprospecting on the outer continental shelf through establishing the exploration and exploitation areas or partly through establishing the safety zone. These measures, however, are not similar to the concept of MPAs. Part XII alternatively provides coastal States with general obligations to take protective measures. Such measures taken by coastal States can effectively prohibit a negative impact on the deep sea features both by their nationals and other States, but only if the impact is caused by the exploration and exploitation of the continental shelf resources, drilling or the construction of artificial islands, installations and structures, or laying submarine cables and pipelines, and pollution is caused. If these activities do not cause pollution, coastal States still can restrict these activities in certain areas on the outer continental shelf based on their sovereign rights but the LOSC does not provide rules to support

³⁶¹ Allen, *supra* note 28, p. 621.

such protective measures. Control of activities other than these may have the only option of restricting by the safety zone under Part VI, if they are conducted by ships. However, since the safety zone covers a small area and it does not aim to conserve ecosystems, its ability to be used for environmental protection is doubtful. In sum, on the high seas above the continental shelf, the three deep sea features can be conserved with HSMPAs only within which the general nature of sovereign rights of coastal States allows.

The critical matter which needs to be decided with respect to activity control on the high seas is not whether a particular use is subject to the freedom of the high seas but what conditions and duties attach to that freedom. For example, all high seas fishing nations are subject to the duties to cooperate with coastal States to find appropriate environmental protection measures with the assistance of regional international organizations as far as straddling and highly migratory fish stocks are concerned. In order to conduct scientific research in the water column of the high seas, States are obliged to protect the marine environment and to use the sea peacefully. Article 87(1) of the high seas regime provides “a nonexhaustible list of freedoms” that includes all activities which are not against international law.³⁶² This open list therefore, is able to expand whenever a new activity commences using new technology and newly discovered resources, such as bioprospecting vent microbes. Some of the new activities are subject to a specific obligation of environmental protection depending on their classification and if they cause pollution. Such duties to protect the environment with respect to certain activities on the high seas, however, do not create binding obligations for States Parties to establish and observe HSMPAs. The relevant regimes and the UNFSA relating to the conservation of ecosystems in the water column of the high seas do not require the establishment of protective measures, but they oblige States to cooperate to take those measures by agreement. Either based on this explicit obligation for cooperation or flag State jurisdiction on the high seas, States individually or collectively establish HSMPAs and those are binding

³⁶² Nandan, Rosenne and Grandy, *United Nations Convention on the Law of the Sea: 1982 A Commentary*, Vol. III, supra note 209, p.73; Churchill and Lowe, supra note 46, pp. 205-206.

in respect of their nationals, not other States Parties to the LOSC or third parties. The UNFSA obliges States Parties to observe fisheries closures established by RFMOs, although it does not require the establishment of the fisheries closures. This Agreement, however, cannot cover some high seas fishing, which targets discrete high seas fish stocks.

The ISA primarily aims to regulate prospecting, exploration, and exploitation of polymetallic nodules and has also recently prepared to deal with two more mineral resources: polymetallic sulphides and cobalt-rich crusts. Mining those resources in vent sites and seamounts will be duly governed by the related regulations, plus Parts XI and XII and the 1994 Implementation Agreement. These rules and regulations governing seabed activities can provide rules to allow the establishment of area based management measures: areas closed to exploration and exploitation which are obviously vulnerable to damage from seabed mining related activities; monitoring areas of representative ecosystems to assess natural changes; and, safety zones around seabed mining facilities. The ISA cannot take these measures beyond the authority given to it by the Convention: namely regulating prospecting, exploration and exploitation of minerals on the international seabed. However, those measures especially taken by the draft regulations on polymetallic sulphides and cobalt-rich crusts can provide some benefits of protection of ecosystems around the three deep sea features.

In sum, the provisions of the LOSC relating to high seas conservation can provide some obligations to establish and observe HSMPAs for the protection of certain parts of the three deep sea features on the outer continental shelf or the Area. In the water column of the high seas, only a general obligation which needs to be elaborated by relevant agreements is provided in Parts VII and XII. As reviewed, because different parts of the three deep sea features are subject to management under different regimes for the areas of the high seas, and although some parts of them are possibly conserved by HSMPAs under the LOSC, the integrated conservation of the features and their surrounding ecosystems through establishing HSMPAs is not possible under the

LOSC. This lack of the integrated conservation would prevent true support for the new kind of HSMPAs which require an ecosystem-based management.

Although the LOSC does not require the establishment of HSMPAs for integrated conservation of the ecosystem around the three deep sea features, it provides the general obligation within which other treaties have to operate. This means that the general obligation is implemented by other relevant regional or multilateral treaties outside the LOSC. The following chapters will review how the general obligation under the LOSC has led other relevant treaties to adopt the new kind of HSMPAs with the ecosystem approach expressly or non-expressly and their practice.

CHAPTER IV. ESTABLISHMENT OF HSMPAS: POSSIBLE LEGAL BASES AND SOME COMMON ISSUES

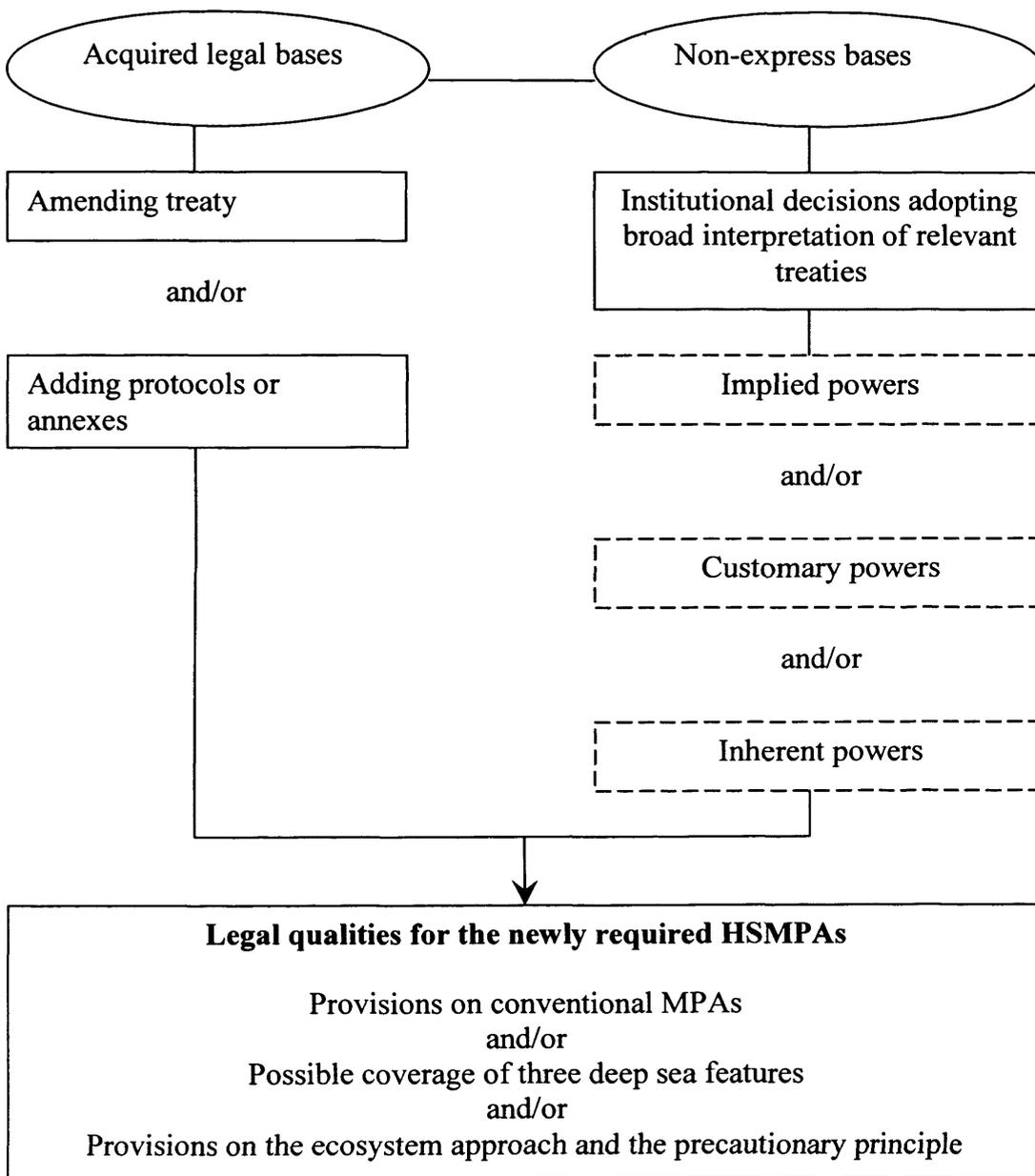
Treaty law provides rules on the implementation of specific measures to be achieved through cooperation and coordination among international actors. The concept of HSMPAs appeared even though it was not set out in a treaty. Express provisions on the new concept of HSMPAs have not as of yet been stipulated in any treaty text, consequently States need to find the legal support for the new concept of HSMPAs in provisions relevant to its qualities in existing treaties: i.e., legal bases for MPAs; the ecosystem approach and the precautionary principle; and, the possibility to cover the three deep-sea features, hydrothermal vents, cold-water coral reefs and seamounts. Some of these qualities may be expressly included in existing treaty texts. If any of the qualities do not expressly exist, they can be added institutionally through amending treaties and/or adopting protocols and annexes (referred to here as acquired legal bases) or through taking decisions by a treaty organ (non-express bases). The acquired bases can be classed as express legal bases once the relevant legal texts have been adopted and have entered into force. The acquired bases are to be adopted institutionally through decisions of a treaty organ, so they connect with non-express bases. The addition of qualities may go beyond the given powers of the organization. If they are, they may result from organizations exercising non-express institutional powers. Legal bases for justification of the new kind of HSMPAs are schematised in Figure 4.1. The figure is expanded from Birnie's suggestion¹ on the adaptation of international environmental law to a new development.

It was not necessary to consider non-express institutional bases in Chapter III. Although the Law of the Sea Convention (LOSC) establishes the International Seabed Authority (ISA), it does not have the authority to implement the entire Convention but only Part XI which is about regulating a single type of activity on the international

¹ Birnie suggested that international environmental law can react to new developments in three ways: renegotiation; amending protocols; or, broad interpretation. Patricia Birnie, "Are Twentieth-Century Marine Conservation Conventions Adaptable to Twenty-First Century Goals and Principles?: Part I," *IJMC*, Vol.12, No.3, 1997, pp. 307-339, p.308.

seabed area. The role of the LOSC, especially the high seas regimes, is largely one of providing broad framework rules within which the relevant specialised treaties may be implemented, rather than providing its own organization to implement it. Since the LOSC does not establish an organization for the implementation of its entire context, it is mostly irrelevant to institutional decisions and powers. Thus, Chapter III on the LOSC examined mostly express provisions of the Convention.

Figure 4. 1. Qualities and Legal Foundation for the New Kind of HSMPAs



By contrast, relevant specialised treaties normally implement detailed norms on specific issues through decisions taken in organizations established by the treaties. As explained above, since no treaty has directly stipulated the new type of HSMPAs, organizations established by the relevant treaties may have to depend on non-express bases to duplicate the nature and approach of the new type of HSMPAs. Organizations can extend their powers to provide such non-express bases, and such powers are explained by non-express institutional powers doctrines. It is necessary to review the theoretical concepts of non-express powers to justify organizational actions beyond those given by treaty texts at the outset of studying the availability of legal support and practices for the new kind of HSMPAs by relevant treaties and organizations. Chapters V and VI examine the express provisions on HSMPAs and practices relating to non-express incorporation of the qualities of the newly required HSMPAs in relevant treaties. These chapters will also review which treaties actually practised establishing the new concept of HSMPAs. Before examining those treaties, this chapter needs first to explain how organizations may extend their powers to accept new developments, so an act by an organization currently beyond its express treaty powers may be justified. This chapter will also review how far institutional powers may allow non-express acts of organization.

4.1. Types of Institutional Powers

International organizations have the competence to act on behalf of their States Parties based on powers granted to them.² Such competence is given to the organizations to achieve certain purposes. Thus, the powers of an organization should be exercised within the given purposes and aims stipulated in the constitutive treaty establishing that organization. Normally, the purposes are broadly described using vague expressions such as, “to provide for the proper conservation of whale stocks

² Dan Sarroshi, *International Organizations and Their Exercise of Sovereign Powers*, Oxford University Press, 2005, p. 1.

and thus make possible the orderly development of the whaling industry.”³ As will be briefly reviewed in Chapter VI, this ambiguity has been a source of everlasting arguments in the International Whaling Commission between whaling States and anti-whaling States, including arguments over the establishment of a Southern Ocean Sanctuary. This ambiguity of purposes and aims gives room to extend the express competence of an international organization. Thus, the broad purposes and aims of international treaties connect with the justification of extending the functions of an international organization. The functional extension can be achieved as far as a “genuine shared expectation, within the limits established by overriding community objectives,” allows.⁴ The scope of this functional extension based on a broad interpretation of the purposes and aims of treaties is the scope of institutional powers. It implies that treaty interpretation is linked to institutional powers.

The interpretation of a treaty determines the role which should be played by an organization established by that treaty, and such determination may require dependence on non-express institutional powers doctrines. For example, in *Reparation for Injuries Suffered in the Service of United Nations* opinion (the *Reparation* case) in 1949, the International Court of Justice (ICJ) adopted the doctrine of implied powers in interpreting the UN Charter to decide whether the UN could perform a certain act (bring an action against Israel for reparations).⁵ Such a connection between treaty interpretation and non-express institutional powers (and express powers) can be more clearly explained using the rules of treaty interpretation in Article 31 of the Vienna Convention on the Law of Treaties (VCLT). The rules of treaty interpretation are: ‘ordinary meaning’ in the treaty context; ‘object and purpose’; relevant agreements and instruments; ‘subsequent agreements’; ‘subsequent

³ Preamble of the International Convention for the Regulation of Whaling (the IWC Convention), signed on 2 December 1946, entered into force on 10 November 1948, *UNTS*, Vol. 161, p.74.

⁴ “Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law,” Report of the Study Group of the International Law Commission, ILC, 13 April 2006, A/CN.4/L.682, pp.48-49.

⁵ *Reparation for Injuries Suffered in the Service of United Nations*, Advisory Opinion, I.C.J. Reports, 1949, p. 174.

practice’; ‘relevant rules of international law’; and, ‘special meaning.’⁶ Normally judicial bodies are considered as having the authority to interpret treaties. However, States Parties to a treaty also have the authority to interpret the treaty collectively within the organization established by that treaty. This was confirmed in the *Gabčíkovo - Nagymaros Project case* in which the ICJ recognised that States Parties could interpret which specific environmental measures should be taken within the broad purpose given by their treaty.⁷ Since States Parties have the authority collectively to interpret their treaties, it implies that an organization which acts on behalf of States Parties also has the authority to determine which rules of interpretation should be used to interpret a vague treaty provision and as a result which function they can exercise. It is inferred that an organization can have powers to extend beyond its given functions based on the rules of treaty interpretation.

It has rarely been attempted to connect each rule of treaty interpretation with institutional powers. Alvarez linked one of the rules to ‘customary powers’ of the organization.⁸ Klabbers also referred to implied powers in his article on treaty interpretation which indicates similarity of arguments for dependence on *Travaux Préparatoires* to implied powers.⁹ Determining what powers an international organization has is not purely about applying the rules of treaty interpretation set out in the relevant articles of the VCLT. However, such a connection is useful to explain how far institutional powers can be granted beyond express provisions for the purpose of this thesis. While explicit powers are based on specific provisions other institutional powers depend on the discretion contained within those specific provisions, purposes and aims of the organization, or possibly applicable international law. If these institutional powers are explained by the rules of interpretation: explicit powers can be explained as given by the ordinary meaning of treaty; implied powers may be endowed as far as the ordinary meaning and object and purpose of the treaty

⁶ Article 31 of the Vienna Convention on the Law of Treaties (VCLT), adopted on 23 of May 1969, entered into force on 27 January 1980, *UNTS*, Vol. 1155, p.332.

⁷ *Gabčíkovo - Nagymaros Project (Hungary/Slovakia)*, Judgment, I.C.J. Reports 1997, p.7, pp. 78-79.

⁸ See Jose E. Alvarez, *International Organizations as Law-makers*, Oxford University Press, 2005, pp.87-88.

⁹ Jan Klabbers, “International Legal Histories: The Declining Importance of *Travaux Préparatoires* in Treaty Interpretation?” *Netherlands International Law Review*, 2003, p.267-288, p. 283.

allow; customary powers are based on the subsequent practice of States Parties; and, inherent powers partly depend on the relevant rules of international law. This connection will be further explained in the following subsections where it is useful to explain non-express powers doctrine.

4.1.1. Implied Powers

As widely indicated, intergovernmental organizations are more passive when determining their own functional limitations than individual States in the international arena.¹⁰ This point is indicated in the Advisory Opinion of the *Jurisdiction of the European Commission of the Danube* (the *Danube* case) that “as the European Commission is not a State, but an international institution with a special purpose, it only has the functions bestowed upon it by the Definitive Statute with a view to the fulfilment of that purpose.”¹¹ But this Advisory Opinion also recognised the possibility of the extension of the institutional powers stating that “but it has power to exercise these functions to their full extent, in so far as the Statute does not impose restriction upon it.”¹²

It is widely accepted that an organization’s powers do not solely depend on the specific functions stipulated in the treaty text but can be expanded in connection with the objectives and purposes of their constitutions, which are the treaties establishing those organizations.¹³ If such extension of the functions is implied from the specific provisions or purposes and functions of the organization, the powers founding the extension can be called implied powers.¹⁴ Such an extension should be based on “necessary implication as being essential to the performance of its duties.”¹⁵ Since

¹⁰ Henry G. Schermers, and Niels M. Blokker, *International Institutional Law: Unity within Diversity*, Brill, 1998, p. 141; Nigel D. White, *The Law of International Organizations*, Manchester University Press, 1996, Chapter 3. Powers.

¹¹ Advisory Opinion No.14. *Jurisdiction of the European Commission of the Danube* between Galatz and Braila, Permanent Court of International Justice, 1927, Series B.– No. 14.

¹² *Ibid.* Also see A. I. L. Campbell, “The Limits of the Powers of International Organizations,” *International and Comparative Law Quarterly*, vol.32, 1983, pp. 523 – 533, p. 523.

¹³ Schermers, and Blokker, *supra* note 10, p. 141.

¹⁴ *Ibid.*, p. 159.

¹⁵ The *Reparation* case, *supra* note 5, p.182.

these powers were first clearly referred to in the *Reparation* case in 1949, the existence of implied powers has been repeatedly confirmed in subsequent cases, including: the Advisory Opinion of the *Effect of Awards of Compensation made by the U.N. Administrative Tribunal* (the *Effect of Award* case)¹⁶ in 1954, the Advisory Opinion of the *Certain Expenses of the United Nations* (the *Certain Expenses* case)¹⁷ in 1962, the Advisory Opinion of the *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276* (the *Namibia* case)¹⁸ in 1970, and the Advisory Opinion of the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict* (the *Nuclear Weapons* case)¹⁹ in 1996.²⁰ In these cases, the powers are mentioned in terms of the competence to bring claims on behalf of UN officials for compensation of injury (the *Reparation* case), establishment of a judicial organ (the *Effect of Award* case), expenditure within an organization (the *Certain Expenses* case), termination of a treaty (the *Namibia* case), and in general terms in the *Danube* case and *Nuclear Weapons* case.

¹⁶ The ICJ noted that establishing a judicial organ to deal with disputes between the staff and organizations in the UN can be legitimated without express provision in the UN Charter because “capacity to do this arises by necessary intendment out of the Charter.” *Effect of Awards of Compensation made by the U. N. Administrative Tribunal*, Advisory Opinion of July 13th, 1954: I. C. J. Reports 1954, p.47 at p.57.

¹⁷ The Court noted that: “when the Organization takes action which warrants the assertion that it was appropriate for the fulfilment of one of the stated purposes of the United Nations, the presumption is that such action is not *ultra vires* the Organization.” *Certain Expenses of the United Nations* (Article 17, paragraph 2, of the Charter), Advisory Opinion of 20 July 1962: I. C. J. Reports 1962, p. 151. p.168.

¹⁸ The Court stated that the power of the Security Council is not limited to “the specific grants of authority contained in Chapters VI, VII, VIII AND XII ...the Members of the United Nations have conferred upon the Security Council powers commensurate with its responsibility for the maintenance of peace and security. The only limitations are the fundamental principles and purposes found in Chapter I of the Charter.” *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)*, Advisory Opinion, I.C.J. Reports 1971, p. 16 at p. 52.

¹⁹ The Court noted that: “the necessities of international life may point to the need for organizations, in order to achieve their objectives, to possess subsidiary powers which are not expressly provided for in the basic instruments which govern their activities. It is generally accepted that international organizations can exercise such powers, known as “implied” powers.” *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, Advisory Opinion, I.C.J. Reports 1996, p.66 at p.79.

²⁰ The European Court of Justice has found the EC to have implied powers in relation to treaty making in Case 22/70, *Commission v. Council*. These implied powers are distinct from these in international institutional law. According to the EC doctrine, implied powers mean “wherever the Community has internal competence with regard to a given question, it will also have power to enter into international agreements.” See T.C. Hartley, *The Foundations of European Community Law*, Oxford University Press, 1998, p. 158.

Implied powers can be subdivided into narrow and wide implied powers.²¹ Narrow implied powers can be exercised through the broad interpretation of specific treaty provisions, while wide implied powers exist based on the purposes and functions of the organization rather than specific provisions.²² It is contentious whether those purposes and functions of the organization which form the basis of implied powers can be implied from treaty provisions or should be explicitly stipulated in the treaty text.²³ The existence of very wide implied powers was objected to by a dissenting opinion of Judge Hackworth in the *Reparation* case: “[p]owers not express cannot freely be implied. Implied powers flow from a grant of express powers, and are limited to those that are “necessary” to the exercise of powers expressly granted.”²⁴ This scope of implied powers has not yet been universally agreed.

Narrow and wide implied powers can be exercised by sub-organs of intergovernmental organizations, so it is not unusual to observe that sub-organs of the international organizations can exceed the powers given by the treaties establishing the organizations and their sub-organs.²⁵ These internal implied powers were recognised in the *Certain Expenses* case. The Court observed that: “[i]f it is agreed that the action in question is within the scope of the functions of the Organization but it is alleged that it has been initiated or carried out in a manner not in conformity with the division of functions among the several organs which the Charter prescribes, one moves to the internal plane, to the internal structure of the Organization.”²⁶ The sub-organs’ implied powers may be able to extend beyond “the respective scope of competence” of their Intergovernmental Organizations (IGOs).²⁷

In some cases, implied powers are statutorily allowed by an explicit provision, such as Article 308 of Treaty Establishing European Community (EC Treaty), Article 95 of Treaty Establishing European Coal Steel Community and Article 203 of Treaty

²¹ Hartley, *ibid.*, pp. 102-103. Also see White, *supra* note 10, Chapter 3. Powers.

²² Hartley, *ibid.*, p.102.

²³ Campbell, *supra* note 12, p.533.

²⁴ Dissenting Opinion by Judge Hackworth, in the *Reparation case*, *supra* note 4, p. 198.

²⁵ Schermers, and Blokker, *supra* note 10, p. 139.

²⁶ *Certain Expenses case*, *supra* note 17, p.168.

²⁷ Campbell, *supra* note 12, p. 531. This may be argued as *ultra vires*. See discussion on *ultra vires* in Chapter VII.

Establishing European Atomic Energy Community.²⁸ Article 308 of EC Treaty provides for the powers as follows:

If action by the Community should prove necessary to attain, in the course of the operation of the common market, one of the objectives of the Community, and this Treaty has not provided the necessary powers, the Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament, take the appropriate measures.²⁹

As will be reviewed in section 4.2, many treaties reviewed in this thesis contain such provisions for implied powers.

4.1.2. Customary Powers

This doctrine of implied powers may not have inner clarity³⁰ and cannot explain all the practices conducted by organizations beyond their expressly given functions. It was necessary, therefore, that other doctrines of institutional powers develop to cover such deviations.³¹ If organizations perform any act not based on explicit functions but depending on the practice of their member States, it is called customary powers.³² As noted above, institutional activities that go far beyond the given functions of an organization can be explained by the rules of treaty interpretation. Customary powers are exercised based on subsequent practice in the organization, which is one of the elements of treaty interpretation stipulated in Article 31(3)(b) of the VCLT. Sinclair explains that all subsequent practices either “concordant subsequent practice common

²⁸Hartley, *supra* note 20, p.104. Treaty Establishing European Community (the EC Treaty), adopted on 25 March 1957, entered into force on 1 January 1958, *UNTS*, Vol. 298, p. 11, as amended by the Single European Act (SEA) [1987] OJ L 169, 29 June 1987, adopted on 28 February 1986, entered into force on 01 July 1987, as amended by the Treaty on European Union (the EU Treaty) [1992] OJ C 191, 29 July 1992, adopted on 07 February 1992, entered into force on 01 November 1993, as amended by the Treaty of Amsterdam [1997] OJ C 340, 10 November 1997, adopted on 2 October 1997, entered into force on 1 May 1999, as amended by the Treaty of Nice [2001] OJ C 80, 10 March 2001, adopted on 26 February 2001, entered into force on 1 February 2003; Treaty Establishing European Coal Steel Community, adopted on 18 April 1951, entered into force on 24 July 1952, *UNTS*, Vol. 261, p. 140; Treaty Establishing European Atomic Energy Community, adopted on 25 March 1957, entered into force on 1 January 1958, *UNTS*, Vol. 298, p. 167.

²⁹ The EC Treaty, *ibid.*

³⁰ Jan Klabbers, *An Introduction to International Institutional Law*, Cambridge University Press, 2002, p. 78.

³¹ *Ibid.*, p. 75.

³² See Alvarez, *supra* note 8, p.92; Schermers, and Blokker, *supra* note 10, p. 158.

to all the parties” or all other practices as a supplementary means can involve treaty interpretation in any way.³³ This may mean that all subsequent practices can also be the basis of customary powers. The first instance of a practice cannot be found in customary powers but should be initiated on other institutional powers. Unlike other sources of institutional powers, subsequent practice can “modify” a treaty as well as interpret a treaty,³⁴ so an organization can derive customary powers from practice and such practice possibly develops customary international law. Although customary powers can be exercised based on the existence of the practice and the practice comprises a primary element to form customary international law, the powers in themselves do not automatically link to the formation of customary international law but may connect with the formation of internal customary law within the organization. A universally accepted example of customary powers based on the existing practice concerns the ‘concurring votes of permanent members’ of the UN Security Council governed by Article 27(3) of the UN Charter. Although Article 27(3) requires that “all other matters shall be made by an affirmative vote of nine members including the concurring votes of the permanent members,” a long term practice of “voluntary abstention by a permanent member as not constituting a bar to the adoption of a resolution” overrode the express provision.³⁵

4.1.3. Inherent Powers

The activities of organizations can be authorised within international law if it is not against the aims and purposes of the organizations.³⁶ Finn Seyersted initiated the discussion of this type of institutional powers.³⁷ White also supports the existence of

³³ Ian Sinclair, *The Vienna Convention on the Law of the Treaties*, Manchester University Press, 1984, p. 138.

³⁴ *Ibid.*

³⁵ See the *Namibia case*, supra note 18, p. 22.

³⁶ White, supra note 10, pp. 87-89. Also see Finn Seyersted, “International Personality of Intergovernmental Organizations – Do their Capacities Really Depend upon their Constitutions?” *Indian Journal of International Law*, Vol.5, 1964, pp.1-74, p.22.

³⁷ Klabbers, *An Introduction to International Institutional Law*, supra note 30, p. 75.

inherent powers.³⁸ Inherent powers can apply where no explicit provision covers the practice, those practices are not expressly prevented by the constitutive treaty, and the practices are supported by international law.³⁹ The Permanent Court of International Justice referred, in the *Danube* case, to a certain power of international institutions which can be exercised beyond the capacity given by treaty texts. These powers are not bestowed with the ‘necessity’ standard of implied powers, but adopted by the ‘prohibitive rule’ standard: “in so far as the Statute does not impose restrictions upon it.”⁴⁰ With this approach it is not necessary to discover what a treaty text implies to determine which activities are justified.⁴¹ Instead of interpreting the text, relevant international law can be the foundation of an institutional power. For instance, the LOSC provides certain binding powers to the technical decisions taken by International Maritime Organization (IMO).⁴² The binding nature of the technical decisions by the IMO is confined to parties to the LOSC, not the IMO, because IMO decisions have a non-binding nature. If the IMO insists that non-binding decisions are binding on its member States in conjunction with explicit reference in the LOSC and the lack of prohibitive rules in its constitution, this could be argued as the IMO exercising inherent powers.⁴³

The ‘existence of prohibitive rules’ standard was questioned in the *Case of the S.S. Lotus* (the *Lotus* case) by the Permanent Court of International Justice in relation to the application of a treaty provision to a State. The Court sought to determine whether any principle of international law prevented criminal proceedings against a French national in a Turkish court relating to an accident that had occurred on the high seas.⁴⁴ The court ruled in favour of Turkey because no international rule prohibited national proceedings in relation to matters occurring on the high seas.⁴⁵ This decision, based

³⁸ See Chapter 3 in White, *supra* note 10.

³⁹ Seyersted, *supra* note 36, pp. 18-19.

⁴⁰ The *Danube* case, *supra* note 11.

⁴¹ Seyersted, *supra* note 36, p. 26.

⁴² See Alan E. Boyle, “Some Reflections on the Relationship of Treaties and Soft Law,” *International and Comparative Law Quarterly*, Vol. 48, 1999, pp.901-913, p. 906.

⁴³ See further discussion on non-binding nature of IMO decisions in section 5.1.2.

⁴⁴ *The Case of the S.S. Lotus*, Publication of Permanent Court of International Justice, Series A.—No.10, September 7th, 1927, Collection of Judgements. pp. 18-21.

⁴⁵ *Ibid.*, p. 32.

on the lack of prohibitive rules has been heavily criticised.⁴⁶ One reason for this criticism is that the lack of prohibitive rules does not prove the existence or “development or modification” of a certain rule in international law, and cannot be seen as acceptance of a certain rule by States which is a fundamental condition to form international law.⁴⁷ Although this prohibitive rules standard was severely criticised, this does not hinder the doctrine of inherent powers which is also based on ‘the lack of prohibitive rules’ standard, because inherent powers apply only within organizations with the consent of States who intend to extend their obligations in such a way. Thus there is no need to argue over the existence, development, or modification of a certain rule or acceptance of it by States when applying the prohibitive rules standard to extend the powers of an organization.

Express powers, implied powers, and customary powers seek applicable rules or precedents ‘allowing’ certain acts. On the other hand, inherent powers justify an act if it is not ‘prohibited.’ This ‘prohibitive rules’ standard can make those organizations concerned with ocean affairs react more flexibly and swiftly to new developments since it allows more open sources to justify their decisions. Thus, such standards can make a wider range of activities legitimate, while the necessity standard of implied powers can make activities, even if designed to attain the organization’s purpose, unlawful;⁴⁸ as, for example, whaling countries in the IWC have insisted in objecting to the Southern Ocean Sanctuary. Thus although, as explained below, the doctrine can be considered as unorthodox in international law it may be usefully applied to hasten the development of international oceans law. In addition, inherent powers can make international organizations more flexible and effective when dealing with environmental issues which largely rely on the precautionary principle because the precautionary principle requires international organizations to act on environmental issues swiftly where no such codified rule on specific issues exists if the scientific evidence is not obviously against such an act.

⁴⁶ Churchill and Lowe, *The Law of the Sea*, Manchester University Press, 1999, p. 208.

⁴⁷ Dissenting Opinion by M. Loder relating to the *Lotus* case, *supra* note 44, p. 34.

⁴⁸ See discussion in Seyersted, *supra* note 36, pp. 19-23.

As the existence of implied powers and customary powers can be inferred from Article 31 of the VCLT, inherent powers can be explained in the same way. Article 31(3)(c) refers to “any relevant rules of international law applicable in the relations between the parties.”⁴⁹ One of the reasons why relevant rules of international law are considered for treaty interpretation is “to incorporate recent developments.”⁵⁰ And the reliance on rules of international law for treaty interpretation is necessary because of “the inherently limited subject matter scope of a treaty, and the fact of its character as a creature of international law.”⁵¹ So far no one has advocated a connection between inherent powers and the rules of treaty interpretation, since inherent powers themselves are considered unorthodox. However, if the meaning of the treaty can be determined by the relevant rules of international law an organization could have powers to implement any measure based on those rules too. If such powers can be called inherent powers, their connection with Article 31(3)(c) can more clearly explain their scope of extension beyond express powers.

The ‘rules of international law’ refer to ‘custom, general principles of law, and treaties,’ not general principles and principles of international law.⁵² Nonetheless, Article 31(3)(c) might have to include ‘principles’ as well as rules of international law when it applies to the field of international oceans law. International environmental law, especially oceans law, has been rapidly changing. Scientifically supported principles seem to be swiftly accepted and applied by, and required to, individual States and regional communities before they are formally stipulated in a treaty. For instance, in the case of the newly required HSMPAs relevant organizations have been required to depend on two main principles (the ecosystem approach and the

⁴⁹ Article 31(3)(c), the VCLT.

⁵⁰ Duncan French, “Treaty Interpretation and the Incorporation of Extraneous Legal Rules,” *International and Comparative Law Quarterly*, Vol.55, April 2006, pp. 281-314, p. 285.

⁵¹ Campbell McLachlan, “The Principle of Systemic Integration and Article 31(3)(c) of the Vienna Convention,” *International & Comparative Law Quarterly*, Vol.54, April 2005, pp. 279-320, p. 311.

⁵² ILC Report, A/CN.4/L.682, supra note 4, p. 215; McLachlan, *ibid.*, pp. 290-291.

‘General principles of law’ is distinct from ‘general principles of international law’ which will be reviewed in Chapter VII. ‘General principles of law’ is a source of international law which is recognized by the ICJ for judicial reasoning in accordance with Article 38 of the ICJ Statute. ‘General principles of international law’ is “sweeping and loose standards of conduct that can be deduced from treaty and customary rules by the extracting and generalizing of their most significant common points.” Antonio Cassese, *International Law*, Oxford University Press, 2005, p. 188. Also see Vaughan Lowe, *International Law*, Oxford University Press, 2007, pp. 87-88.

precautionary principle) in their implementation, even if the organizations have not formally accepted those principles. Such emerging principles of international law have been referred to, adopted or implemented by States with the belief that they are legally obliged to observe it, even before such principles are transformed into rules of international law. The ICJ emphasised the need not to avoid such emerging obligations, noting that “[o]wing to new scientific insights and to a growing awareness of the risks for mankind ..., new norms and standards have been developed ... such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past.”⁵³

During the negotiation of the Vienna Convention, there was debate over whether Article 31(3)(c) should specifically include ‘principles’ of international law.⁵⁴ This discussion did not result in the inclusion of ‘principles’ in the article.⁵⁵ Although the rules of treaty interpretation in Article 31 do not specifically include the principles of international law, they do not discourage the interpretation of treaties based on the new development of international law which is in the form of principles rather than binding rules. Whether judicial organs can rely on non-binding principles for treaty interpretation is a controversial point.⁵⁶ In some cases, such as the *Shrimp – Turtle* case, the WTO Appellate Body relied on the Rio Declaration on Environment and Development and Agenda 21 for interpreting Article XX of the General Agreement on Tariffs and Trade, although its conclusion derived from an express provision rather than an interpretation based on environmental principles.⁵⁷ On the other hand, the *Gabčíkovo - Nagymaros Project* case and the *OSPAR Arbitration* have confirmed that judicial bodies cannot rely on non-binding principles for treaty interpretation.⁵⁸ However, these cases agreed that States Parties can interpret treaties based on such principles for determining their obligations within organizations. The *Gabčíkovo -*

⁵³ *Gabčíkovo - Nagymaros Project case*, supra note 7, p. 78.

⁵⁴ ILC Report, A/CN.4/L.682, supra note 4, p. 217; McLachlan, supra note 51, p. 292.

⁵⁵ *Ibid.*

⁵⁶ See French, supra note 50, section VI.

⁵⁷ “United States – Import Prohibition of Certain Shrimp and Shrimp Products,” Report of the Appellate Body, WTO, 12 October 1998, WT/DS58/AB/R, p. 67; McLachlan, supra note 51, pp. 302-304.

⁵⁸ French, supra note 50, p. 310.

Nagymaros Project case confirmed that “[i]t is for the Parties themselves to find an agreed solution that takes account of the objective of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses.”⁵⁹ The *OSPAR Arbitration* states that “[a] treaty is a solemn understanding and States Parties are entitled to have applied to them and to their peoples that to which they have agreed and not things to which they have not agreed.”⁶⁰ Since States Parties to a treaty can apply the principles for treaty interpretation, it can be inferred that the new development under the international law in the form of principles can grant extra powers to international organizations to function beyond their express powers. Such powers may be classified as inherent powers.

Some authors, including Klabbers, are sceptical as to the existence of inherent powers and have pointed out some of the problems with the doctrine, such as that inherent powers may possibly ignore the original intent of the parties.⁶¹ In practice, an organization often performs its functions based on one power with the existence of another power⁶² and demarcation of these powers, as well as their scope, cannot be easily drawn. Thus, it can be argued that the existence of inherent powers can hardly be proved. Even if the doctrine of inherent powers was totally abandoned, States Parties could still make institutional decisions based on the relevant rules of international law or possibly principles, since Article 31 of the Vienna Convention has an obligatory nature⁶³ and is considered as a customary international law.⁶⁴ The powers granted on the basis of rules of international law or principles cannot be classified as express, implied, or customary powers, but does fit to the inherent powers doctrine. As reviewed in Chapter II, organizations implementing the new HSMPAs need to justify the desirable dependence on the principles of international

⁵⁹ *Gabčíkovo - Nagymaros Project case*, supra note 7, p. 78.

⁶⁰ *Dispute Concerning Access to Information under the Article 9 of the OSPAR Convention, Ireland v. UK*, Permanent Court of Arbitration, Final award, 2003. Available at <http://www.pca-cpa.org/> (accessed on 11 November 2008), p. 34.

⁶¹ Klabbers, *An Introduction to International Institutional Law*, supra note 30, pp. 76-77.

⁶² Schermers, and Blokker, supra note 10, p. 159.

⁶³ French, supra note 50, p. 301.

⁶⁴ McLachlan, supra note 51, p. 293; Malcolm N. Shaw, *International Law*, Cambridge University Press, 2003, p. 839.

environmental law for HSMPAs, even if their treaties do not explicitly stipulate the principle. Inherent powers might then be useful for justifying the new type of HSMPAs, and so this thesis regards inherent powers as a valid doctrine of institutional powers.

4.2. The Scope for Extending Powers

All institutional powers should be exercised within the given purposes and aims stipulated in the constitutive treaties, either based on the necessity standard or the lack of prohibitive rules standard. For example, although the General Assembly is not supposed to be involved in any 'judicial function', the ICJ decided in the *Effect of Awards* case that the General Assembly can establish a judicial organ based on Article 22 of the UN Charter: "[t]he General Assembly may establish such subsidiary organs as it deems necessary for the performance of its functions."⁶⁵ The ICJ assumed in this case that the General Assembly's functions may be extended for reasons of necessity within the express purposes and aims of the UN Charter.⁶⁶ This implies that if the purposes and aims of relevant treaties are studied it can be seen how far their functions can be extended. As a result, it can be expected that some organizations with a certain kind of purpose may be able to justify the newly required HSMPAs while others may not be able to do so. For example, if a treaty contains purposes and aims which adopt an holistic approach to the conservation of the marine environment, even though it does not contain an explicit provision on the newly required HSMPAs, its organization may swiftly adopt a new provision, or decisions on the qualities, for HSMPAs because this measure fits to its purpose of the holistic approach. Since the purpose is fundamental for the extension of institutional powers it should be ascertained which treaties include more supportive purposes for the new type of HSMPAs and how their given functions may be influenced by their purposes.

⁶⁵ Article 22 of the UN Charter. The Charter of the United Nations, adopted on 26 June 1945, entered into force on 24 October 1945, *UNTS*, Vol. 1, p. xvi. See *Effect of Awards case*, supra note 16, p.56.

⁶⁶ *Effect of Awards case*, *ibid.*, pp. 57-58. White, supra note 10, p. 84.

CHAPTER IV

The treaties which are reviewed in the following Chapters V and VI can be divided into two categories: treaties establishing international environmental protection organizations (IEOs); and treaties establishing resource exploitation management organizations which are represented by Regional Fisheries Management Organizations (RFMOs). IEO treaties include: the Convention on Biological Diversity (CBD); conventions from the IMO, especially the International Convention for the Prevention of Pollution from Ships (MARPOL); UN Environment Programme (UNEP) Regional Seas Agreement in Mediterranean region (Barcelona Convention); the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area (ACCOBAMS); the Antarctic Treaty; and, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). RFMO treaties include: the International Convention for the Regulation of Whaling (IWC Convention); the Convention for the Conservation of Antarctic Seals (CCAS); the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR); the Convention on Future Multilateral Cooperation in North East Atlantic Fisheries (NEAFC Convention); the Convention on Conservation and Management of Fisheries Resources in the South East Atlantic Ocean (SEAFO Convention); the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (NAFO Convention); the Agreement for the Establishment of the General Fisheries Commission for the Mediterranean (GFCM Agreement); the International Convention for the Conservation of Atlantic Tunas (ICCAT); the Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC Agreement); the Convention for the Establishment of an Inter-American Tropical Tuna Commission (IATTC Convention); and, the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention).⁶⁷ Before examining express and non-express support for the new type of HSMPAs under these treaties in the next chapters, the following sections will briefly review how far their purposes and aims and fundamental

⁶⁷ See more details on these conventions in Chapter V and VI.

functions are likely to lead to the incorporation of a new requirement of international environmental law, such as the new type of HSMPAs.

4.2.1. Purposes and Functions

Since the boom in world fisheries in the 1970s, RFMOs have encountered problems caused by overexploitation. The problems have been attempted to, or have required to be solved with a number of methods ranging from the sectoral management measures (such as effort control and quota management) to the application of environmental principles (such as the precautionary principle, the ecosystem approach and integrated ocean management). In recent years, a growing number of States and international organizations have depended increasingly on environmental principles to overcome the problem. However, the degree of incorporation of the principles in each organization has been different. This different degree of incorporation of environmental principles in RFMOs may be caused because they were not originally established with a focus on environmental concerns. On the other hand, IEOs were established with the primary objective of environmental protection.

This difference of fundamental concerns between RFMOs and IEOs is not notable in their express purposes and aims. The purposes of the two groups normally comprise two aspects: conservation and sustainable use (i.e., optimum utilisation, rational use, best utilisation or legitimate use). Besides those expressions directly referring to conservation or sustainable use, other aims are provided for within the meaning of conservation or sustainable use: such as equitable benefit sharing (the CBD); effective pollution control (the Barcelona Convention, MARPOL, OSPAR); sustainable benefits; international cooperation; and maintaining the population of living resources at maximum sustainable yield levels. It is not indicated whether these purposes and aims of RFMOs and IEOs are particularly weighed on either conservation or exploitation (see Appendix I). Since there is no specific difference,

other relevant provisions besides those express purposes need to be checked to evince which one of conservation or economic values is more preponderant.

Although the treaties explicitly address similar purposes and aims, the context of each treaty can imply different perspectives on which to focus (see Table 4.1). The group of treaties establishing IEOs (CBD, OSPAR Convention, UNEP Barcelona Convention, MARPOL Convention, and the Antarctic Treaty) puts the entire marine ecosystems and relevant values at the centre of concerns. Those values include economic, scientific, educational, cultural, social, recreational, ecological, genetic, aesthetic, health, wilderness, or historic values as well as the future values which can be reserved by conservation of the intrinsic value of the marine environment. On the other hand, many RFMO treaties (NAFO, NEAFC, IATTC, ICCAT, IWC, SEAFO, WCPFC Conventions, IOTC and GFCM agreements, CCAMLR, and CCAS) focus on economic, social, and research benefits through proper management of resource exploitation. Most of these RFMOs oblige member States to protect target resources or often associated species, but not the entire ecosystem. However, recently amended treaties (the NEAFC and NAFO Conventions) or recent treaties (the 2001 SEAFO and 2000 WCPFC Conventions) contain some recognition of an obligation to protect the entire marine ecosystem while they still place most emphasise on the economic use of resources. Although the CCAMLR was established in 1980, much earlier than these recent treaties, it also addresses certain concerns about the entire Antarctic marine ecosystem, probably because of the influence of the Antarctic Treaty.⁶⁸ It can be seen that these RFMOs with ecosystem considerations are capable of regulating fishing activities for ecosystem protection.⁶⁹

The different perspectives between IEOs and RFMOs on what they value most are reflected in their explicit functions under their constitutive treaties. Both groups have law-making functions as well as policy-making functions. Since RFMOs narrowly

⁶⁸ See Chapter V for more details.

⁶⁹ S.M. Garcia, "The Ecosystem Approach to Fisheries: on the Way to Implementation," in Myron H. Nordquist, Ronan Long, Tomas Heidar, and John Norton Moore (eds.), *Law, Science & Ocean Management*, Center for Oceans Law and Policy, Martinus Nijhoff Publishers, 2007, pp. 171-216, p.193. Also see "Implementing the Ecosystem Approach to Fisheries, Including Deep-sea Fisheries, Biodiversity Conservation, Marine Debris and Lost or Abandoned Fishing Gear," FAO Committee on Fisheries, December 2006, COFI/2007/8, p. 8.

focus on conservation and management of fish stocks rather than the broad context of the marine environment, RFMOs have more specific and detailed policy-making functions than IEOs. The functions of IEOs normally include: monitoring the status of the marine environment; reviewing reports on implementation of the conventions and scientific information from States Parties and subsidiary organs; adopting new protocols and annexes and amending the convention and existing protocols; establishing subsidiary organizations; considering issues on rules of procedures and financing; taking decisions and recommendations for conservation measures; and, considering international cooperation (See Appendix I).

In addition to employing and extending the functions described above, RFMOs are required to exercise more detailed resource use management functions. RFMOs are normally required to monitor the status of the marine ecosystems; in particular they monitor target and non-target fish stocks, and the relevant scientific reports and statistical data regarding the impact of fishing on those stocks. This information and data should be properly shared among States Parties and they are encouraged to improve this knowledge by further research and study. These reviews, data, and research should then result in the provision of the proper scientific advice which is necessary for effective conservation and management measures. Normally, those conservation and management measures are formalised in decisions and recommendations. The effectiveness of these measures should be evaluated and updated when required. The economic and social impact of relevant policies should be reviewed. Many RFMOs require that programmes for monitoring and surveillance be established (see details in Appendix I).

Although the express purposes and aims are not notably different between IEOs and RFMOs, the perspectives inferred from the entire context of their constitutive treaties seem to differ between the two groups. It is also notable that the four conventions covering the Atlantic (NAFO, NEAFC, SEAFO and OSPAR Conventions) share a similar perspective on the holistic approach, although NAFO, NEAFC, and OSPAR Commission comprise mostly developed countries and SEAFO is largely a developing States' organization.

Table 4. 1. Priorities on Values

| Convention | Values |
|---------------------------------|---|
| CBD | Intrinsic value of biodiversity. Ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biodiversity and its components. (Preamble) |
| UNEP Barcelona Convention | Economic, social, health, cultural, scientific, aesthetic, educational, natural, biological, ecological, research value of the marine environment. (Preamble and SPAMI Protocol Annex 1) |
| MARPOL Convention | Recognition of the value of the entire marine environment (Preamble). |
| OSPAR Convention | Recognition of the intrinsic value of the marine environment (Preamble). |
| Antarctic Treaty | Scientific value (main treaty), recognition of intrinsic value of the entire ecosystem, aesthetic values, scientific and wilderness value (Protocol on Environmental Protection to the Antarctic Treaty). Especially for Antarctic Specially Protected Areas, environmental, scientific, historic, aesthetic or wilderness values. (Annex V to the Protocol.) |
| IWC Convention | Economic and nutritional value of whales (preamble) and research value of whales (Article VIII). |
| CCAMLR | Recognition of protection of the entire Antarctic marine environment. Nutritional value of living resources. Scientific value (Preamble). |
| CCAS | Economic, ecological, research, (preamble) educational, cultural value (Article 4) of seals. |
| NEAFC Convention | Recognition of conservation of the entire ecosystems (Preamble). Economic, environmental, social benefits from management and conservation of target fish stocks and associated species. (Article 2) |
| SEAFO Convention | Recognition of conservation of the entire ecosystem. Economic value and research value of target species (Article 6(3)(j)). |
| NAFO Convention | Economic value of fish stocks (Preamble of the 1996 amendment.) Recognition of conservation of the entire ecosystems and Economic and social value of fish stocks (Preamble of 2007 amendment. Not yet enter into force). |
| GFCM Agreement | Economic and social value of living marine resources (Article III). |
| ICCAT | Economic value and research value (Article IV). |
| IOTC Agreement | Economic and social value of the fish resources and fishing (Article 5(2)(d)). |
| IATTC Convention | Economic value of fish species. Research value (Article 11). |
| WCPFC Convention | Recognition of biological value of the entire marine ecosystems and associated species. Economic and historical value of fishing (Preamble). |

<See Table of Treaties for official citations of these treaties.>

4.2.2. Statutory Support for Non-express Institutional Powers

As noted in section 4.1, Article 308 of the EC Treaty expressly stipulates implied powers. Many treaties reviewed in this thesis also include provisions indicating their non-express institutional powers (statutory non-express institutional powers). If non-express institutional powers are statutorily incorporated into the treaties, new functions can be more easily adopted without examining the existence of such powers.

Most of the conventions reviewed in the next two chapters contain an article which allows for the extension beyond explicit functions consistent with the purposes and aims of the conventions (see Appendix I). These conventions are the CBD, UNEP Barcelona Convention, Antarctic Treaty, CCAMLR, OSPAR, IWC, NEAFC, SEAFO, IATTC, ICCAT and WCPFC Conventions, and GFCM and IOTC agreements. The other three conventions, an IMO treaty (MARPOL), CCAS, NAFO⁷⁰ Convention, and the rules of procedures of their organizations do not provide such statutory support.

4.3. Chapter Conclusion

In accordance with the non-express institutional powers doctrine, although the explicit provisions in the reviewed treaties do not include the new type of HSMPAs as long as it can be argued that HSMPAs or the qualities for the new concept are necessary for achieving the purposes of the relevant treaties, their implementing organizations are competent to adopt HSMPAs. Or, unless treaties specifically prevent the adoption of the new type of HSMPAs, and as long as international law supports, the new HSMPAs and the qualities could be institutionally justified and implemented (inherent powers).⁷¹ This indicates that, in particular, implied and inherent powers of all institutional powers could be involved in the establishment of the newly required HSMPAs under treaties which do not contain a specific provision on the matter.

⁷⁰ The current Convention does not include a provision for non-express institutional powers. However, the 2007 amendment include such provision in Article 8(a). See Appendix II.

⁷¹ Seyersted, *supra* note 36, p. 23.

CHAPTER IV

The purposes and aims of constitutive treaties allowing an extension of explicit functions of relevant international organizations have been reviewed in this chapter and it was confirmed that IEO treaties adopt a more holistic approach than RFMO treaties, although some RFMOs (such as NEAFC, NAFO, SEAFO, WCPFC and CCAMLR) also adopted such holistic approach. Many IEO and RFMO treaties reviewed in this thesis stipulate their non-express institutional powers to add additional measures. Thus, it could be expected that most IEOs (except the IMO) and some RFMOs (NEAFC, SEAFO, WCPFC and CCAMLR) would adopt the new type of HSMPAs more swiftly and easily than other relevant organizations. The IMO and NAFO may also be able to provide legal support for the new type of HSMPAs more swiftly than other RFMOs. The next two chapters will examine whether this expectation conforms to their practices.

CHAPTER V. EXISTING TREATIES AS POSSIBLE LEGAL BASES FOR THE CREATION OF HSMPAS – INTERNATIONAL ENVIRONMENTAL PROTECTION TREATIES

The treaties relevant to ocean affairs normally aim to maintain a certain level of balance between conservation and development. However, the balance between conservation and development cannot be perfectly even and the primary concern of treaties is differently weighted based on what they value most. The express or implied priority on either conservation or development in relevant treaties can make the direction of decisions taken within their organizations predictable. As reviewed in Chapter IV, the treaties establishing international environmental protection organizations (IEOs) certainly focus on conservation more than treaties establishing Regional Fisheries Management Organizations (RFMOs). Chapter IV therefore concluded that IEO treaties might incorporate the newly required HSMPAs, which are primarily intended for conservation, more swiftly than treaties directly relating to resource exploitation. In addition to the IEOs, some RFMOs which are more positive on conservation than other RFMOs also expected to accept the new kind of HSMPAs swiftly. Both this chapter and the next will examine whether these expectations of swifter reactions have been realised while identifying which international treaties have the competence to establish the new type of HSMPAs. Although the conservation concerns of some RFMOs have increased recently, as the primary value in IEO treaties is fundamentally different from RFMO treaties the two groups of treaties will be dealt with in separate chapters. This chapter first identifies existing legal support for HSMPAs in IEO treaties and the next (Chapter VI) will review the legal support in RFMO treaties. The key IEO treaties which are referred to in international meetings (which were reviewed in Chapter II) as relevant to establishing HSMPAs for the protection of the high seas environment especially the three deep-sea features, seamounts, cold-water coral reefs, and hydrothermal vents are as follows:

1. Treaties for global environmental protection:
 - Convention on Biological Diversity (CBD)
 - Conventions from International Maritime Organization (IMO)

2. Treaties for regional environmental protection:
 - United Nations Environment Programme (UNEP) Regional Seas Agreement in the Mediterranean Region
 - Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area (ACCOBAMS) in connection with the Barcelona Convention
 - Antarctic Treaty- the Protocol on Environmental Protection to the Antarctic Treaty
 - Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

Since no treaty has directly stipulated explicit provisions on the new type of HSMPAs, both this Chapter and Chapter VI will need to find express or non-express bases with regard to three qualities of it as follows: a legal basis for MPAs; the ecosystem approach and the precautionary principle; and, the possibility to cover the three deep-sea features. As noted in Chapter IV, both this Chapter and Chapter VI will need to examine both the express and the non-express bases (as well as acquired bases if available) for the new type of HSMPAs while Chapter III focused solely on express bases. It is necessary to review the non-express bases in these two chapters because if any express support for the qualities of the new kind of HSMPAs exists such support under each treaty can be regarded as an agreement by States Parties for the creation and observation of HSMPAs through institutional decisions. If express support is not available for any of the qualities for the new kind of HSMPAs such HSMPAs can be established and observed collectively in an organization through institutionally adopting such qualities and HSMPAs. In addition to examining the legal bases these chapters will review the actual practice of the new kind of HSMPAs if they exist.

This chapter also attempts to inquire whether the emergence of “autonomous institutional arrangements (AIA),” which Churchill and Ulfstein suggest, could be beneficial for international environment treaties to accept the new concept of

HSMPAs more swiftly.¹ Many treaties reviewed in this chapter establish AIAs while most RFMO treaties establish Intergovernmental Organizations (IGOs). Because AIAs, such as conferences of the Parties, have a more flexible, cooperative and “*ad hoc* nature” than traditional IGOs,² they may respond more rapidly to technological developments, increases in knowledge, newly developing environmental principles, and newly emerging environmental protection measures. This flexible AIA may be able to help many IEOs to react swiftly to the new requirement by the international community to conserve the high seas.

5.1. Treaties for Global Environmental Protection

5.1.1. The Convention on Biological Diversity³

The CBD does not exclusively deal with ocean affairs but it is necessarily involved in the issue. According to the definition in Article 2 of the Convention, ‘biological diversity’ includes “marine and other aquatic ecosystems and ecological complexes of which they are part.”⁴ The Conference of Parties (COP) of the CBD has five thematic work programmes and one of these programmes is concerned with marine and coastal biodiversity.⁵ This confirms the involvement in the marine issues by the CBD.

In terms of marine issues the CBD shares some similar aspects with, and complements, the Law of the Sea Convention (LOSC). Both Conventions contain

¹ See an explanation on the concept of AIA in Robin R. Churchill and Geir Ulfstein, “Autonomous Institutional Arrangements in Multilateral Environmental Agreements: A Little-Noticed Phenomenon in International Law,” *The American Journal of International Law*, Vol. 94, No. 4, 2000, pp. 623-629, pp. 623-625.

² *Ibid*, p. 625.

³ The Convention on Biological diversity (CBD), adopted on 22 May 1992, entered into force on 29 December 1993, *UNTS*, Vol. 1760, p.79. As of July 2008, 191 States have become Parties of the CBD. Information on States Parties is available at <http://www.biodiv.org>.

⁴ See Article 2 of the CBD.

⁵ Secretariat of the Convention on Biological Diversity, *Handbook of the Convention on Biological Diversity including its Cartagena Protocol on Biosafety*, 3rd edition, Montreal Canada, 2005, p. xxx.

similar purposes, such as the sustainable use of marine resources.⁶ The LOSC is the only umbrella convention which encompasses the overall management of global ocean affairs. The CBD is the only global framework convention that “complements UNCLOS in explicitly providing for the conservation of biological diversity, the sustainable use of its components,” and elaborating the conservation of the marine environment in Part XII of the LOSC.⁷ The CBD explicitly confines its jurisdiction to being consistent with the LOSC. States Parties to the CBD, regardless of their ratification of the LOSC, do not have unilateral sovereign authority to regulate exploitation on the high seas except in relation to activities conducted by their nationals. This is because the exclusive flag State jurisdiction on the high seas which is stipulated in the LOSC is considered as customary international law,⁸ and Article 4 of the CBD limits its jurisdiction in a similar way to this custom. In addition, Article 22 of the CBD requires States Parties to “implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea.”⁹ The CBD not only repeats and confirms the jurisdictional limitations on the high seas stipulated in the LOSC but it also elaborates further on those limitations, distinguishing between jurisdiction over the components and jurisdiction over the processes and activities occurring on the high seas.¹⁰

As no one fully has exclusive sovereign authority on the high seas, cooperation and coordination among States and international organizations becomes essential to achieve collective aims on the high seas (such as the conservation of vulnerable deep-sea features). The necessity of cooperation and coordination for the conservation of high seas biodiversity has been emphasized in Article 5 of the CBD. Several meetings held by the CBD have affirmed HSMPAs as a measure which requires such

⁶ See Article 1 of the CBD; “Marine and Coastal Biodiversity: Review, Further Elaboration and Refinement of the Programme of Work – Study of the Relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea with regard to the Conservation and Sustainable Use of Genetic Resources on the Deep Seabed (Decision II/10 of the Conference of the Parties to the Convention on Biological Diversity),” CBD, 2003, UNEP/CBD/SBSTTA/8/INF/3/Rev.1, paragraph 104.

⁷ UNEP/CBD/SBSTTA/8/INF/3/Rev.1, *ibid.*, pp.6-7.

⁸ Robin. R. Churchill and A. Vaughan Lowe, *The Law of the Sea*, Manchester University Press, 1999, p. 12.

⁹ Article 22, the CBD. See also Article 4 of the CBD.

¹⁰ See Article 4 of the CBD. This article is discussed further below.

cooperation.¹¹ For example, the COP of the Convention recently discussed encouraging cooperation amongst relevant international organizations to take appropriate measures, such as MPAs, for the conservation of marine biodiversity on the high seas consistent with international law.¹² Such discussions have not yet resulted in recommending actual establishment of HSMPAs by States Parties to the CBD. However, positive discussions on HSMPAs could be generated by the existence of certain legal bases on the qualities of the new type of HSMPAs. The following subsections examine whether the CBD expressly or non-expressly requires the establishment of the new type of HSMPAs.

5.1.1.1. Existing Legal Bases for the Establishment of HSMPAs

The questions which need to be asked to explore whether the CBD expressly justifies the establishment of the new type of HSMPAs are: is the CBD equipped with provisions on protected areas and the ecosystem approach and the precautionary principle?; how far can the CBD be applied to the conservation of biological diversity on the high seas?; can the CBD be empowered to cover the three deep-sea features?

¹¹ For example, see “Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its fifth meeting,” UNGA, 2004, A/59/122, paragraph 59. Paragraph 59: “The Convention representative pointed out that the decisions of the seventh session of the Conference of the Parties to the Convention contained significant elements concerning the establishment of marine protected areas beyond national jurisdiction. Areas such as seamounts, hydrothermal vents, cold-water corals and other vulnerable ecosystems were given special attention. The Conference also established an Ad Hoc Open-ended Working Group on Protected Areas and adopted its programme of work. The terms of reference of the Working Group included exploring 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.”

¹² *Ibid.*

Does the CBD Contain Provisions on Protected Areas and the Ecosystem Approach and the Precautionary Principle?

Protected areas are often considered as one of the most effective measures for the conservation of the environment.¹³ Unlike the LOSC the CBD, which primarily focuses on the conservation of biodiversity, spells out this measure expressly in Article 8 as one of the eight issues relevant to *in-situ* conservation.¹⁴

On the other hand, the term ‘ecosystem approach’ is not specifically used in the CBD. The ecosystem approach was accepted to the CBD system through adopting institutional decisions. Decision II/8 adopted by the second meeting of the COP in 1995 first deployed this principle within the CBD system. This decision declared that the ecosystem approach should be the prior principle to be applied within the CBD system, stating that:

The Conference of the Parties,
Reaffirms that the conservation and sustainable use of biological diversity and its components should be addressed in a holistic manner, taking into account the three levels of biological diversity and fully considering socio-economic and cultural factors. However, the ecosystem approach should be the primary framework of action to be taken under the Convention.¹⁵

This short statement on the ecosystem approach was expanded and elaborated in Decision V/6, adopted in 2000, which provided an explanation and the ‘operational guidance’ of this principle. This decision encouraged the participation of States Parties and other international organizations “to apply, as appropriate, the ecosystem

¹³ William C. G. Burns and Alexander Gillespie (eds.), *The Future of Cetaceans in a Changing World*, Transnational Publishers Inc., 2002, p.105.

¹⁴ Article 8 (a) - (c) of the CBD: “(a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity; (b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity; (c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use.”

The rest of the eight issues are “protection of ecosystems, habitats and viable populations; buffer zones; ecosystem restoration and species recovery plans; biosafety; alien species; traditional knowledge, innovations and practices; and mitigation of threats.” These issues are closely interrelated. See *Handbook of the Convention on Biological Diversity*, supra note 5, p. 120.

¹⁵ Paragraph 1 of Decision II/8: Preliminary Consideration of Components of Biological Diversity Particularly under Threat and Action Which Could Be Taken under the Convention, Adopted by the second meeting of the Conference of the Parties, Jakarta, Indonesia, CBD, 1995, UNEP/CBD/COP/2/19.

approach, giving consideration to the principles and guidance contained in the annex to the present decision, and to develop practical expressions of the approach for national policies and legislation and for appropriate implementation activities, with adaptation to local, national, and as appropriate, regional conditions, in particular in the context of activities developed within the thematic areas of the Convention.”¹⁶

This principle was first explicitly combined with HSMPAs recently in Decision VIII/24 which was adopted in 2006.¹⁷ Whether the adoption of these binding decisions on the ecosystem approach is in excess of the given functions of the COP has never been questioned at the COP meetings. Since the ecosystem approach has been formally accepted and applied to HSMPAs, in addition to the precautionary principle which was already incorporated in the preamble of the CBD, protected areas under the CBD can conform to the new type of MPAs if they can be established to conserve the three deep sea features.

How Far Can the CBD Regulate?: Species Coverage and Jurisdictional Limitations on the High Seas

The concept of protected areas in the CBD conforms to the specific requirements of the incorporation of environmental principles and a provision on protected areas. If an additional quality (possible coverage of the three deep sea features) is satisfied, it seems that HSMPAs established under the CBD can perfectly conform to the new type of HSMPAs. To examine the possibility of covering these features the jurisdictional limitations to ‘components of biodiversity’ as stipulated in Article 4 of the CBD needs first to be explained because it may restrict certain objects to be protected by the CBD.

As noted in Chapter III, there are two ways to protect the marine environment: either through conserving components directly or by managing those human activities

¹⁶ Paragraph 2 of Decision V/6: Ecosystem Approach, Decisions adopted by the fifth meeting of the Conference of the Parties, Nairobi, Kenya, CBD, 2000, UNEP/CBD/COP/5/23.

¹⁷ See paragraph 39 of Decision VIII/24: Protected Areas, Curitiba, Brazil, CBD, 2006, UNEP/CBD/COP/8/31, p.225.

which threaten the environment. The CBD explicitly demarcates these two ways in areas beyond national jurisdiction in relation to the application of the Convention. According to Article 4, States Parties implement the Convention in relation to both components and human activities (processes and activities) in areas within national jurisdiction. On the high seas, States Parties can exercise jurisdiction in terms of the Convention only in relation to “processes and activities... carried out under its jurisdiction or control,” but do not have jurisdiction over “components of biological diversity.”¹⁸ This means that in terms of CBD provisions States have rights and obligations to regulate activities conducted by their nationals not to cause environmental harm on the high seas but do not have rights and obligations to safeguard natural components directly. Although the LOSC does not expressly distinguish jurisdiction over between components and processes and activities, the scope of applicability of the CBD in relation to its parties appears to coincide with the jurisdictional limitations under the LOSC, especially in terms of the exclusive flag State jurisdiction in Part VII and environmental protection stipulated in Part XII of the Convention. States Parties to the LOSC have rights to exercise their jurisdiction over ships, facilities, and individuals having their nationality, and obligations to prevent the impact of pollution from them on the high seas.¹⁹ The LOSC, however, does not confer jurisdiction over components of the high seas ecosystems to any entity. Thus, environmental protection on the high seas is conducted only through activity control in accordance with the LOSC. There is no difference in the scope and extent of jurisdiction between the CBD and international law, especially the LOSC.²⁰

Although the jurisdictional limitations in Article 4 generally coincide with those of the LOSC, since the CBD specifically aims for the conservation of ‘biological

¹⁸ Article 4 of the CBD reads “Subject to the rights of other States, and except as otherwise expressly provided in this Convention, the provisions of this Convention apply, in relation to each Contracting Party: (a) In the case of components of biological diversity, in areas within the limits of its national jurisdiction; and (b) In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.”

¹⁹ See Article 194 of the LOSC.

²⁰ “By indicating where or how each type of provision applies, article 4 does not innovate, but simply applies existing rules of international law to the subject matter of the Convention.” The IUCN Environmental Law Center, *The Convention on Biological Diversity – An Explanatory Guide*, Draft Text, IUCN, October 1993, p. 30.

diversity’ rather than the ‘environment’ as a whole, it can be argued that jurisdictional limitations within the CBD (to components of ‘biodiversity’) could have a different meaning from jurisdictional limitations to ‘components of environment’ on the high seas in general. If there is such a difference, it can be confirmed through clarifying the meaning of ‘components of biodiversity’ in the context of the CBD. This clarification is also necessary to seek the answer to the question of how the lack of jurisdiction over ‘components of biodiversity’ on the high seas prevents Article 8 of the CBD from supporting the new type of HSMPAs because the clarification can determine whether this term can include the three deep-sea features. If the ‘components’ do include the three deep-sea features, the ‘jurisdictional limitations to components’ applies to the features so that the CBD cannot require their protection as ‘components’ on the high seas if no activities threaten them. In such a case, Article 8 of the CBD also cannot require the conservation of the deep sea features on the high seas and States Parties do not have rights and obligations under the CBD to establish and observe HSMPAs which cover the deep sea features unless ‘processes and activities’ threaten them. On the other hand, if the ‘components of biodiversity’ exclude the three deep sea features, it can be argued that the ‘jurisdictional limitations’ to the components of biodiversity on the high seas does not apply to them under the CBD.

‘Biological diversity,’ which is the main objective of conservation under the CBD, means a certain condition (variability) among ‘living organisms.’ Thus, this Convention primarily aims at conservation of this condition among ‘living organisms.’ Biological diversity also means “diversity ... of ecosystems”²¹ which are defined as “a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.”²² Article 7(a) obliges States Parties to “identify components of biological diversity ... having regard to the indicative list of categories set down in Annex I” and the categories in Annex I

²¹ Article 2, the CBD.

²² *Ibid.*

include ‘ecosystems and habitats.’²³ Thus, the CBD seems to refer to ‘components of biological diversity’ as living creatures as well as the features where they reside. Since components of biological diversity refer to all living creatures as well as to the non-living environment, it cannot be true that jurisdictional limitations to components of biodiversity is particularly narrower than jurisdictional limitations to components of the marine environment.

As noted in the previous chapters, the three deep-sea features themselves are mainly comprised of both the non-living and the living parts (live corals), and form ecosystems and habitats which contain biological resources and living components. Thus, all parts of the three deep-sea features with their surrounding ecosystems can be classed as ‘components of biodiversity.’ Since they are classed as ‘components,’ the jurisdiction of States in relation to the CBD is limited to conserve them on the high seas. It follows then that Article 8 (d), which specifically addresses establishing protected areas to conserve ecosystems and habitats, may not be applied to conserve the deep sea features on the high seas unless ‘processes and activities’ occur around and impact on the features.²⁴ Since a protected area can be established around the features only if processes and activities negatively influence the features of the high seas, if no processes and activities occur around the features an HSMPA cannot be established based on Article 8. Even if some States Parties do establish one, it cannot be binding on other parties unless they agreed to observe it. Because of this in some cases, the CBD itself cannot be an agreement to establish and observe HSMPAs. This problem will be further explained in the following section.

Limitation to Establish the New Concept of HSMPAs with the Explicit Jurisdictional Limitations

The previous subsection confirmed that the CBD incompletely satisfies a quality to establish the new type of HSMPAs (competence to conserve the three deep sea

²³ Article 7(a), the CBD.

²⁴ See Article 8(d) of the CBD.

features) because of the jurisdictional limitations in Article 4. It seems that States Parties to this Convention also interpret Article 4 as hindering the CBD to lead to the establishment of HSMPAs. Although the COP of the CBD endorses the necessity of establishing HSMPAs it has not concluded that the CBD expressly requires the establishment of HSMPAs. The COP rather called for the assistance of other relevant treaties, for example the LOSC, to support HSMPAs. The decisions adopted by the COP 7 in 2004 accepted the need for HSMPAs, but required assistance as follows:

30. *Agrees* 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 the establishment of further marine protected areas consistent with international law, and based on scientific information, including areas such as seamounts, hydrothermal vents, coldwater corals and other vulnerable ecosystems;

31. *Recognizes* that the law of the sea provides a legal framework for regulating activities in marine areas beyond national jurisdiction and *requests* the Executive Secretary to urgently collaborate with the Secretary-General of the United Nations and relevant international and regional bodies in accordance with their mandates and their rules of procedure on the report called for in General Assembly resolution 58/240, paragraph 52, and to support any work of the General Assembly in identifying appropriate mechanisms for the future establishment and effective management of marine protected areas beyond national jurisdiction;²⁵

Furthermore, subsidiary bodies to the CBD have recently agreed that the Convention has a limitation to the conservation of the high seas environment. As is often pointed out, the CBD does not provide for the complete conservation of the high seas ecosystem.²⁶ A recent study prepared for the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) meeting noted that the Convention does not legitimate member States to conserve specific features, including living organisms, beyond national jurisdiction.²⁷ Documents prepared by the Executive Secretary and the recently established Ad Hoc Open-ended Working Group on Protected Areas of the CBD also pointed out that the CBD cannot provide appropriate

²⁵ Decisions VII/5: Marine and Coastal Biological Diversity, Kuala Lumpur, Malaysia, CBD, 2004, UNEP/CBD/COP/7/21, paragraph 31.

²⁶ See Marjo Vierros, Sam Johnston and Dan Ogolla, "The Convention on Biological Diversity (CBD) and Marine Protected Areas on the High Seas," in Hjalmar Thiel & J. Anthony Koslow (eds.), *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools Such as Marine Protected Areas –Scientific Requirements and Legal Aspects – Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 2001.* <http://www.bfn.de/fileadmin/MDB/documents/proceed1.pdf> (accessed on 6 October 2008), pp. 169-173.

²⁷ UNEP/CBD/SBSTTA/8/INF/3/Rev.1, supra note 6, paragraph 70.

conservation for high seas biodiversity because of the jurisdictional limitations of the Convention and that the limitations are an obstacle to the establishment of HSMPAs under the Convention.²⁸ In its first meeting, the Ad Hoc Open-ended Working Group on Protected Areas suggested a number of options to eliminate obstacles to the conservation of the high seas biodiversity and to support HSMPAs. These options included amendment of the CBD to change the jurisdictional limitations through establishing an implementing agreement.²⁹ Although the jurisdictional limitations of the CBD for HSMPAs and the option of amendment of the CBD did not reappear in the final version of the first meeting report, their appearance in an early draft version is enough to prove that the problem of HSMPAs was internally recognized. Other options the Ad Hoc Open-ended Working Group suggested include cooperation among member States for the conservation of high seas biodiversity and an agreement “for a network of subsidiary agreements in which groupings of States working within regional organizations.”³⁰ A new implementation agreement to the LOSC was also suggested in connection with the legal support for HSMPAs.³¹

Why then is it improper for States Parties to the CBD to establish HSMPAs for deep sea features in terms of the CBD with the inclusion of explicit jurisdictional limitations to the components of biological diversity? Can the control of processes and activities not be a sufficient basis from which to decide the establishment of HSMPAs? ‘Processes and activities’ are not defined in the Convention, but they can

²⁸ See “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,” Ad Hoc Open-ended Working Group on Protected Areas, CBD, 2005, UNEP/CBD/WG-PA/1/INF/2, para.27, p. 10; “Options for Cooperation for the Establishment of Marine Protected Areas in Marine Areas beyond the Limits of National Jurisdiction,” Ad Hoc Open-ended Working Group on Protected Areas, CBD, 2005, UNEP/CBD/WG-PA/1/2, para. 16(a) (c), p.5; Also see Marjo Vierros and Dan Ogolla, “The Convention on Biological Diversity – Emerging Issues in Conservation and Sustainable Use of High Seas Biodiversity,” prepared for Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, June 2003. Available at <http://www.highseasconservation.org> (accessed on 6 October 2008). p. 2 and p. 6.

²⁹ UNEP/CBD/WG-PA/1/INF/2, *ibid.*, para.182(b).

³⁰ *Ibid.*, para.182(d).

³¹ “Options for cooperation for the establishment of marine protected areas beyond the limits of national jurisdiction” in “Report of the First Meeting of the Ad Hoc Open-ended Working Group on Protected Areas,” First meeting, CBD, 14-17 June 2005, UNEP/CBD/WG-PA/1/6, currently in UNEP/CBD/COP/8/8, paragraph 4(s)(ix), p. 30.

cover all kinds of human exploration and exploitation,³² including bioprospecting, fishing, marine scientific research and mining. Since the term can cover all potential threats to deep-sea features, it seems that MPAs solely for the control of those activities result in effective conservation of deep sea features. However, the establishment of MPAs cannot be decided solely based on the control of 'processes and activities' in accordance with the definition of MPA. The meaning of MPAs defined in Chapter II indicates, in essence, that the aim of MPAs is 'safeguarding some or all of the components in marine environment' in a certain area through 'regulating activities.' In practice, area closure is not required if there is no need to conserve any elements in a specific area. For instance, a specific area can be closed to prohibit trawl fishing by a RFMO after the annual quota has been exhausted.³³ This fisheries closure primarily controls activities rather than conserves fish. However, the fundamental purpose of such closure is to restore and maintain the population level of the target species. This means that any area closures could not be created without consideration of the conservation of components of the marine environment.

It can be argued that jurisdiction over components is not required for protective measures to take specific components into consideration, consequently it follows that without jurisdiction over the components an HSMPA may still be established for the conservation of components of ecosystems. Since there is no jurisdiction over components in such HSMPAs, States can only focus on activity control within the conservation area. An area to control processes and activities without jurisdiction over components can be effective for the conservation of components if the environmental degradation in that area is caused by *in situ* 'processes and activities.' If the source of degradation is *ex situ* of the ecosystems on the high seas, an MPA should be established where the activities actually do occur so as to safeguard the targeted ecosystems rather than where the threatened ecosystems exist. MPAs which are

³² See discussions on a possible list of the 'activities' in Craig H. Allen, "Protecting the Oceanic Gardens of Eden: International Law Issues in Deep-Sea Vent Resource Conservation and Management," *Georgetown International Law Review*, Vol.13, spring 2001, pp.563-660, p. 653.

³³ It may be controversial to call such a traditional fisheries closure as an MPA since it does not usually incorporate the ecosystem approach and is oriented from management perspective rather than conservation perspective.

established where the threatened ecosystems exist cannot function properly as MPAs. For example, if sediment flow caused from distant mining sites disturbs the ecosystem of a hydrothermal vent, so even if the States Parties can create a protected area around the vent site, the MPA by itself cannot function to conserve the vent ecosystem through restricting 'the use of MPA.'³⁴ If a closure is created around the mining site, it can protect the distant ecosystem. However, if the mining prevention area does not contain the target element which requires protection, it cannot be an *in-situ* conservation measure which is established for "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings"³⁵ and Article 8 which is about *in-situ* conservation cannot be applied so as to establish it. If the source of environmental degradation is either unclear or it is not an activity or process (for example, fish stock depletion as a result of the naturally increased population of its predators), even if a certain environmental impact is expected on an ecosystem on the high seas, States Parties cannot exercise their jurisdiction to establish MPAs around the ecosystem in terms of the CBD because no activities and processes are required to be controlled in order to protect the ecosystem.

In the cases mentioned above, States Parties can establish an HSMPA around the mining site (although the CBD does not provide legal support for it), and can establish an HSMPA around the vent site or the ecosystem where the source of degradation is unknown or is not a process or activity. This is because, without jurisdiction over the components, a group of States (including Parties to the CBD) can establish a protected area on the high seas based on their exclusive flag State jurisdiction by an agreement (as noted in section 3.2). Or unless they claim jurisdiction on any part of the high seas, a group of States can agree to take protective measures for the purpose of conservation of specific ecosystems without consideration of any current activity control. Although some States Parties establish an HSMPA around the mining site, or the vent sites and the components of biodiversity, since the CBD included MPA as an

³⁴ See especially FAO's definition on MPA in section 2.3 in Chapter II.

³⁵ See Article 2 of the CBD.

in situ conservation measure and contains an explicit provision on its jurisdictional limitations, such HSMPAs cannot be binding on other States Parties unless those other parties consent.

In conclusion, if certain processes or activities threaten the three deep sea features of the high seas where they exist, the CBD can provide rules to establish and enforce the new type of HSMPAs. However, if no process or activity threatens the features where they exist, with the explicit jurisdictional limitations in Article 4 the CBD cannot be applied to conserve the components. Thus, it is not plausible for the CBD to perfectly control all sources of environmental degradation in its MPAs. This limitation does not disqualify the CBD to conserve high seas, but was one of the reasons why States Parties cannot but decline the possibility of the CBD to designate HSMPAs unless Article 4 is amended. In addition to this, the parties' intention not to lead on this issue also resulted in the postponement of the establishment of HSMPAs within the CBD system or the shift of its responsibility to other international treaties. This is further illustrated in the following section.

5.1.1.2. Additional Institutional Support

The CBD established an AIA of *ad hoc* nature, the COP, which is supported by a secretariat and other subsidiary bodies such as the SBSTTA for technical advice.³⁶ The COP functions by mainly reviewing the implementation of the Convention.³⁷ Meetings held by the COP and other bodies have constantly discussed the conservation of marine biodiversity. Seven out of nine meetings of the COP and eight meetings of thirteen SBSTTA meetings provide binding decisions and non-binding recommendations on the conservation of marine and coastal biodiversity.³⁸ The Jakarta Mandate on Marine and Coastal Biological Diversity is an implementation programme which was initiated in 1995 to entirely focus on marine and coastal issues. The initiation of this Mandate reflected the concerns of member States for marine and

³⁶ See Churchill and Ulfstein, *supra* note 1, pp. 623 -624.

³⁷ Article 23 (4), the CBD.

³⁸ See decisions of the conference of the parties of the CBD at <http://www.cbd.int>.

coastal biological diversity.³⁹ However, this does not mean that these discussions on the marine issues within the CBD have been intensive enough.⁴⁰

Marine biodiversity is only one of the seven objectives conserved through the implementation of the Convention. The two main organs, the COP and the SBSTTA, have spontaneously admitted that the Convention is not designed to provide “systematic attention” to the marine issues.⁴¹ The particular issue of conservation of the high seas among other marine and coastal issues has only recently received attention in the COP. Considering that the discussions on high seas conservation were only recently initiated, it is not surprising that this Convention which was adopted in 1992 has not actually implemented Article 8 on protected areas for the conservation of high seas ecosystems and has not provided a clear solution for the jurisdictional obstacle for HSMPAs.

Parties to the CBD have discussed marine and coastal protected areas since the second meeting of the COP in 1995, and since the first meeting of the SBSTTA in 1995.⁴² The Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas was established by COP 4 in 1998 particularly to support the work of the SBSTTA on the matter of MPAs.⁴³ In addition, the Jakarta Mandate was approved to deal with MPAs by the COP 2 in 1995.⁴⁴ A programme of the work on marine and coastal biological diversity including marine and coastal protected areas was endorsed by the COP 4 in 1998 to implement the relevant works of the Jakarta Mandate, and was

³⁹ Harry N. Scheiber, “The Biodiversity Convention and Access to Marine Genetic Materials in Oceans Law,” in Davor Vidas and Willy Ostreng (eds.), *Order for the Oceans at the Turn of the Century*, the Fridtjof Nansen Institute, Norway, 1999, p. 197.

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

⁴² Decision IV/5: Conservation and sustainable use of marine and coastal ecosystems, including a programme of work, Bratislava, Slovakia, CBD, 1998, UNEP/CBD/COP/4/27; Report of the Secretary-General, “Oceans and the Law of the Sea,” 2002, UN A/57/57, para.474; Recommendation I/8: scientific, technical and technological aspects of the conservation and sustainable use of coastal and marine biological diversity, in “Report of the First Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice,” Paris, France, CBD, 1995, UNEP/CBD/COP/2/5.

⁴³ Decision IV/5, UNEP/CBD/COP/4/27, *ibid.*

⁴⁴ “Introduction to the Jakarta Mandate on Marine and Coastal Biodiversity, including the terms of reference of the meeting of experts on marine and coastal biodiversity (Agenda item 4),” CBD, January, 1997, UNEP/CBD/JM/Expert/1/2/; A/57/57, supra note 42, para.473; Decision II/10, Conservation and Sustainable Use of Marine and Coastal Biological Diversity, Jakarta, Indonesia, CBD, 6 - 17 November 1995, UNEP/CBD/COP/DEC/II/10; Decision IV/5, UNEP/CBD/COP/4/27, *ibid.*; Report of the Secretary-General, “Oceans and the Law of the Sea,” 2003, UN A/58/65, para.145.

updated in 2004.⁴⁵ Although these meetings and programmes have dealt with MPAs since 1995, until recently they have focused mostly on coastal resources within national jurisdiction.⁴⁶ The question of the conservation of high seas features by establishing HSMPAs first appeared at the eighth meeting of SBSTTA which was held in 2003. Based on the recommendations from this meeting, the COP adopted binding decisions relating to the HSMPA in Decision VII/5 in 2004. These decisions emphasized the need for cooperation to establish HSMPAs mentioning seamounts, hydrothermal vents, and cold-water coral reefs.⁴⁷

This first outcome did not pronounce the jurisdictional obstacle of the CBD for the establishment of HSMPAs. Instead of announcing its powerlessness for the issue or amending the obstacle, in this decision the COP renders recognition a leading role of cooperation for the initiation of HSMPAs to the LOSC and UN General Assembly (UNGA). Paragraph 31 of the Decision VII/5 specifically places reliance on the General Assembly of the UN for substantial practice to establish and manage HSMPAs, rather than calling for ‘acquired legal aids (for instance amending Article 4 of the CBD)’ for self governance of the issue. This shift of the responsibility was not based on the information that the LOSC will amend its jurisdictional limitations or adopt an implementing agreement for HSMPAs. Paragraph 31 of the same decision clearly recognizes that the LOSC has the same jurisdictional limitations as the CBD has, noting that the LOSC “provides a legal framework for regulating *activities* in marine areas beyond national jurisdiction.”⁴⁸ Without referring to the need to amend the jurisdictional limitations of the LOSC or to establish an implementing agreement for HSMPAs within the LOSC, the decisions emphasised the competence of the LOSC to establish HSMPAs. However, the competence of the CBD with the same jurisdictional limitations was not pronounced. Since the COP 7 did not pronounce its jurisdictional limitations in connection with HSMPAs, it cannot be determined whether the lack of reference on the competence of the CBD in this initial discussion

⁴⁵ *Ibid.*

⁴⁶ With respect to the Jakarta Mandate, see Scheiber, *supra* note 39, p. 197.

⁴⁷ See paragraph 29-30 of Decision VII/5, UNEP/CBD/COP/7/21, *supra* note 25, p.137.

⁴⁸ Emphasis added. Paragraph 31 of Decision VII/5, *ibid.*, p.137.

resulted from recognition of a problem to establish HSMPAs under the existing jurisdictional limitations. The competence of UNGA based on the LOSC for leading the establishment of HSMPAs was emphasised again during the first meeting of the Ad Hoc Open-ended Working Group on Protected Areas in 2005 and at the next meeting of the COP 8 in 2006.⁴⁹ Except a few countries such as Tanzania during the Ad Hoc Working Group, and Venezuela and Turkey during the COP 8,⁵⁰ almost all participants of those meetings including Canada, Colombia, Cuba, and Australia preferred to entrust UNGA to deal with the issue for the time being.⁵¹

There are several reasons for the strong reliance on the LOSC to implement HSMPAs. Firstly, the CBD does not entirely cover the marine issues, while the LOSC dominates the issues. Secondly, as reviewed in Chapter II, UNGA initiated the discussions on the conservation of the high seas features based on the LOSC earlier than the CBD, so the similar project by another framework Convention could be regarded as redundant.⁵² Following these reasons, States Parties to the CBD have not had any strong intention to lead the high seas protection issues.⁵³ Some parties during the COP 8 argued that the CBD should be involved in this issue, but only complementarily at most.⁵⁴ This parties' intention has not been changed and may make parties disengaged in solving the jurisdictional obstacle for HSMPAs.

The Ad Hoc Open-Ended Working Group on Protected Areas was established by Decision VII/28 of the COP 7 for the purpose of "the establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively

⁴⁹ See paragraph 41 and 42 of Decision VIII/24., UNEP/CBD/COP/8/31, *supra* note 17, p.225. And for the discussion in the first meeting of the Ad Hoc Open-ended Working Group on Protected Areas, see reports from *Earth Negotiations Bulletin (ENB)*, International Institute for Sustainable Development (IISD). Available at <http://www.iisd.ca/biodiv/wgpa/> (accessed on 28 November 2008).

⁵⁰ *ENB*, "Working Group Highlights: Monday, 13 June 2005," IISD, Vol.9, No.322, p.2. Available at <http://www.iisd.ca/biodiv/wgpa/> (accessed on 28 November 2008); For the COP 8 discussion, see *ENB*, "CBD COP-8 Highlights: Thursday, 23 March 2006," IISD, Vol.9, No.357, p.2. Available at <http://www.iisd.ca/biodiv/cop8/> (accessed on 28 November 2008).

⁵¹ *ENB*, "Summary of the Eighth Conference of the Parties to the Convention on Biological Diversity: 20-31 March 2006," IISD, Vol. 9, No. 363. Available at <http://www.iisd.ca/biodiv/cop8/> (accessed on 28 November 2008), p.22. For Australian opinion, see *ENB*, "CBD COP-8 Highlights: Thursday, 23 March 2006," *ibid.*

⁵² See *ENB*, "Summary of the Eighth Conference of the Parties to the Convention on Biological Diversity: 20-31 March 2006," *ibid.*

⁵³ *Ibid.*

⁵⁴ *Ibid.*

managed, and ecologically representative national and regional systems of protected areas,”⁵⁵ which is similar to the goal of the World Summit on Sustainable Development. The initial preparatory studies by the Executive Secretary of the Convention for the first meeting of the Ad Hoc Working Group on Protected Areas took HSMPAs into consideration⁵⁶ and encouraged cooperation among States to establish MPAs on the high seas.⁵⁷ These initial preparatory studies also included options for the amendment of the LOSC and the jurisdictional limitations of the CBD which cause a legal complication for the establishment of HSMPAs.⁵⁸ Based on these studies, the first meeting of the Working Group actually discussed HSMPAs. However, this issue could not be further articulated and included in the final options adopted by the Working Group because the majority intention of participants was against leading issues on HSMPAs. The final options include many brackets to indicate phrases which need further negotiations at the next meetings of the Working Group.⁵⁹ The bracketed controversial issues included HSMPAs. For example, one recommendation on HSMPAs is bracketed as “[p]arties and other States use the existing legal framework as a basis to cooperate as a matter of priority and to make [early] progress in the establishment of marine protected areas [beyond the limits of national jurisdiction]...”⁶⁰ This does not mean that States Parties consider this issue not important, but again most of them wanted to shift the responsibility to other relevant international treaties including the LOSC.⁶¹

As noted above, the early recommendations in the preparatory works included the establishment of an implementing agreement to the LOSC to enhance the protection

⁵⁵ Paragraph 18 and 25 of Decision VII/28: Protected Areas (Article 8(a) to (e)), Kuala Lumpur, Malaysia, CBD, 2004, UNEP/CBD/COP/7/21, 2004, pp. 345-346.

⁵⁶ The two initial studies are contained in “Scientific Information on Biodiversity in Marine Areas beyond the Limits of National Jurisdiction,” Ad Hoc Open-ended Working Group on Protected Areas, CBD, May 2005, UNEP/CBD/WG-PA/1/INF/1, and UNEP/CBD/WG-PA/1/INF/2, *supra* note 28.

⁵⁷ See UNEP/CBD/WG-PA/1/2, *supra* note 28, pp. 2-6.

⁵⁸ For example, see UNEP/CBD/WG-PA/1/INF/2, *supra* note 28, p. 5.

⁵⁹ See “Report of the First Meeting of the Ad Hoc Open-ended Working Group on Protected Areas,” Curitiba, Brazil, CBD, 2006, UNEP/CBD/COP/8/8.

⁶⁰ Paragraph 4(s)(i) in “Options for cooperation for the establishment of marine protected areas in marine areas beyond the limits of national jurisdiction” in UNEP/CBD/COP/8/8, *supra* note 31, p.29.

⁶¹ “Notes that the establishment of marine protected areas in areas beyond the limits of national jurisdiction should be undertaken in the context of international law,” Paragraph 4(b) in UNEP/CBD/WG-PA/1/6, *ibid.*, p.25.

of high seas biodiversity and to establish a global network of MPAs including HSMPAs.⁶² During the first meeting of the Working Group, the amendment of the LOSC was disagreed by Iceland, Japan, Norway, and Australia and left in brackets.⁶³ A different group of States which may support the establishment of HSMPAs endorsed the recommendation. This group of States were Latin American and Caribbean States including Panama, Argentina, Brazil, Colombia, Costa Rica, and Chile.⁶⁴ This group argued that the recommendation on the amendment of the LOSC should be directly dealt with in the COP rather than delayed to be considered again at the next meeting of the Working Group.⁶⁵ This issue was brought to the COP 8 held in 2006. The COP 8 adopted a decision to recommend UNGA to consider this implementing agreement to the LOSC and other options as follows:

40. *Notes* the work and the report of the Ad Hoc Informal Open-ended Working Group to study issues relating to the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction established by the General Assembly, which met in New York from 13 to 17 February 2006, and *further notes* possible options and approaches identified in the summary of trends prepared by the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group and contained in annex I to the report of the Working Group, in particular for establishing marine protected areas in areas beyond national jurisdiction, including assessing the need for an implementing agreement under the United Nations Convention on the Law of the Sea;

41. *Invites* the General Assembly to decide, at its sixty-first session, to establish a timely follow-up process, taking into consideration the report mentioned in paragraph 40 above, for the enhanced conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction, *encourages* Parties and other Governments to actively participate in this process, and *requests* the Executive Secretary, to continue to provide relevant input to the Convention on Biological Diversity into this process;⁶⁶

While the Ad Hoc Working Group on Protected Areas could not reach an agreement on the inclusion of the issue on HSMPAs in its final report of the first meeting, Decision VIII/24 which was adopted by the COP 8 expressly admitted its 'supportive' role for HSMPAs as such: "[r]ecognizes that the Convention on

⁶² See UNEP/CBD/WG-PA/1/2, *supra* note 28, para.15, p. 5; paragraph 4 (s) (ix) of UNEP/CBD/WG-PA/1/6, *ibid.*, p.28.

⁶³ See ITEM 3.1 in UNEP/CBD/WG-PA/1/6, *ibid.*, pp.14-15. See also *ENB*, "Working Group Highlights: Wednesday, 15 June 2005," IISD, Vol.9, No.324, p.2. Available at <http://www.iisd.ca/biodiv/wgpa/> (accessed on 28 November 2008).

⁶⁴ See ITEM 3.1 in UNEP/CBD/WG-PA/1/6, *ibid.*; *ENB*, "Working Group Highlights: Wednesday, 15 June 2005," *ibid.*, p.1.

⁶⁵ ITEM 3.1 in UNEP/CBD/WG-PA/1/6, *ibid.*, paragraph 81, p. 15.

⁶⁶ See para. 40 and 41 of the Decision VIII/24, UNEP/CBD/COP/8/31, *supra* note 17, p.225.

Biological Diversity has a key role in supporting the work of the General Assembly with regard to marine protected areas beyond national jurisdiction.”⁶⁷ However, it still shifts the responsibility for the actual implementation of HSMPAs to UNGA based on the LOSC.⁶⁸

As noted above, the early recommendations of the Ad Hoc Working Group also included an implementing agreement to the CBD to change its jurisdictional limitations for HSMPAs.⁶⁹ While the option on the amendment of the LOSC was adopted in the COP, the recommendation on the implementing agreement to the CBD was completely deleted in the final result of the first meeting of the Ad Hoc Working Group since it was supported by only a few States such as Tanzania.⁷⁰ The amendment of the CBD option never formally appeared in the decisions adopted by the COP because States Parties are not willing to deal with HSMPAs directly. Since the amendment of the CBD has not been accepted and States Parties have not adopted any decisions to establish HSMPAs directly, the extension of institutional powers beyond its express powers has not succeeded.

All recommendations finally delivered to the COP for formal discussions by this first meeting were within the powers given to the COP by the Convention. The Working Group pointed out existing problems to the conservation of high seas biodiversity and suggested possible solutions to each problem. Problems presented by the Working Group included the lack of collective activities for ‘synthesizing’ existing qualified scientific studies both for gathering more detailed data on marine ecosystems and for taking appropriate measures for threatened ecosystems.⁷¹ This Working Group agreed that it is necessary to collect all available qualified scientific data on marine biodiversity and more information on marine ecosystems and their components.⁷² The participants especially regarded seamounts and cold-water coral

⁶⁷ See para. 42, *ibid.*, p.225.

⁶⁸ See “Options for Cooperation for the Establishment of Marine Protected Areas in Marine Areas beyond the Limits of National Jurisdiction” in Decision VIII/24, *ibid.*

⁶⁹ See UNEP/CBD/WG-PA/1/2, *supra* note 28, para.16(a), p. 5.

⁷⁰ UNEP/CBD/WG-PA/1/2, *ibid.*, para.15 and 16(a), p. 5; *ENB*, “Working Group Highlights: Monday, 13 June 2005,” *supra* note 50, p.2.

⁷¹ Paragraph 4 (f), (g) and (h), UNEP/CBD/WG-PA/1/6, *ibid.*, p.26.

⁷² Paragraph 4 (f) and (h), UNEP/CBD/WG-PA/1/6, *ibid.*, p.26.

reefs as the most imminently endangered ecosystems which are threatened by human activities and urged that States Parties immediately respond to the threatening processes and activities to the features which were conducted under their jurisdiction and control.⁷³

The second meeting of the Ad Hoc Open-Ended Working Group on Protected Areas was held in February 2008.⁷⁴ While the first meeting included a separate item of recommendations on high seas conservation, this Workshop has not significantly dealt with the high seas issue and has not resulted in the the inclusion of any recommendation relevant to the conservation of the high seas.

It has been proved through this study that the CBD requires its States Parties “as far as possible and as appropriate” to establish HSMPAs (Article 8). The CBD can only do so in respect of “processes and activities” carried out by their nationals (Article 4). Although with these jurisdictional limitations HSMPAs can effectively safeguard the deep sea features which are threatened by *in situ* processes and activities, these limitations on the high seas in other cases prevent States Parties from establishing and observing HSMPAs under the CBD, and the effective conservation of the deep-sea features through implementation of the CBD provisions including Article 8. However, if States Parties consider establishment of HSMPAs ‘as appropriate’ even if no process and activity occur they can establish HSMPAs around components through the cooperation process within its conference of parties in accordance with Articles 5 and 23(4)(i).⁷⁵ In other words, if the majority of parties enunciate the same intention, treaty provisions may be interpreted to be so by parties against express rules. However, that does not mean that the CBD itself becomes an

⁷³ Paragraph 4 (g), UNEP/CBD/WG-PA/1/6, *ibid.*, p.26.

⁷⁴ See its “Report of the Ad Hoc Open-Ended Working Group on Protected Areas on the Work of its Second Meeting,” Rome, Italy, COP of the CBD, 15 February 2008, UNEP/CBD/COP/9/8.

⁷⁵ This can be seen as *ultra vires*. See a discussion on *ultra vires* in Chapter VII.

Article 5: “Each Contracting Party shall, as far as possible and as appropriate, cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.”

Article 23(4)(i): “The Conference of the Parties shall keep under review the implementation of this Convention, and, for this purpose, shall: ... (i) Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention in the light of experience gained in its operation.”

agreement which requires the establishment and observation of such HSMPAs, unless Article 4 is amended that is. As reviewed above, States Parties to the CBD seem to consider HSMPAs ‘as appropriate’ but not so much as to deal with the issue directly, so they would not require institutional powers beyond express powers for this issue for the time being.

Since in some cases the CBD cannot be an agreement to establish and observe HSMPAs, some people have suggested an alternative legal justification for HSMPAs based on the spirit of the CBD. As noted above, at several of the meetings of the COP the concept of an ecosystem approach has expressly been endorsed as one of the key principles which should be prioritised by the Convention. This principle is viewed in several documents as the main element which may allow the CBD to overcome its jurisdictional limitations on the high seas.⁷⁶ As reviewed in this section, Decisions VIII/24 have explicitly connected this principle to HSMPAs.⁷⁷ However, this connection was not intended to overcome the jurisdictional limitations which were stipulated in Article 4, and the COP has not yet made a decision for parties to cooperate directly on the establishment of HSMPAs. Even if States Parties to the CBD would want to overcome the jurisdictional limitations to components in Article 4, the ecosystem approach by itself cannot help to do so because the ecosystem approach is not designed to create a jurisdiction over components but is designed for an “integrated management of human activities based on the knowledge of ecosystem dynamics.”⁷⁸

⁷⁶ See Vierros and Ogolla, *supra* note 28, pp.2-3; Vierros, Johnston and Ogolla, *supra* note 26, p. 171; UNEP/CBD/SBSTTA/8/INF/3/Rev.1, *supra* note 6, paragraph 70, and 87 p. 23.

⁷⁷ Decision VIII/24, UNEP/CBD/COP/8/31, *supra* note 17. The paragraph 39 is read as “*Recognizes that there is a need to achieve a more integrated approach to establishing and managing marine protected areas beyond national jurisdiction, consistent with the ecosystem approach.*”

⁷⁸ ICES definition of the ecosystem approach. See section 2.3 for the entire definition.

5.1.2. IMO Conventions

The IMO is the UN specialized agency which focuses on the regulation of marine transportation and its impact on the marine environment.⁷⁹ This organization has been primarily in charge of regulating shipping through developing routing measures, traffic separation schemes, vessel traffic management regimes, etc., and has established many treaties or non-binding resolutions on them. In addition, the IMO has regulated impact of the shipping on the marine environment. A good example of its involvement in the conservation of marine environment is its establishing the International Convention for the Control and Management of Ship's Ballast Water and Sediments (the Ballast Water Convention) which aims to conserve endemic coastal ecosystems from 'invasive species' carried by ship's ballast water.⁸⁰

The measures taken by, or considered to be taken by the IMO for the conservation of marine environment include: area-based pollution control measures, such as, special areas, particularly sensitive sea area (PSSA), areas to be avoided, precautionary areas, SOx emission control areas, and ballast water management area. All of these, except the last, were formally adopted in IMO treaties or guidelines. The last measure has been failed to be formally adopted by the IMO. The ballast water management area was introduced during the early negotiations for the recently adopted Ballast Water Convention to protect specific areas from harmful invasive species which are carried by ballast water.⁸¹ However, this measure was deleted in the final draft of the Ballast Water Convention. As the area closure against ballast water discharge was not accepted, this thesis will not deal with this measure.

During the Cairns Workshop (the Workshop on the Governance of High Seas Biodiversity Conservation) in 2003, as reviewed in Chapter II, participants suggested that special areas, and PSSAs of the IMO measures in particular, should be

⁷⁹ "Implications of the United Nations Convention on the Law of the Seas for the International Maritime Organization," IMO, January 2005, LEG/MISC/4, p.3; Louise de La Fayette, "The Marine Environment Protection Committee: The Conjunction of the Law of the Sea and International Environmental Law", *IJMCL*, Vol. 16, No.2, 2001, pp.155-238. pp.162- 163.

⁸⁰ This Convention was adopted on 13 February 2004 and has not entered into force yet. Text of this Convention is in *Ballast Water Management Convention*, IMO, 2005.

⁸¹ See detailed discussion on this area within the MEPC in La Fayette, supra note 79, p. 178 and p. 180.

established “to protect high seas biodiversity and ecological processes.”⁸² This section will focus on the conformity of these two measures to the new type of HSMPAs. Besides these two measures, other area-based management measures (such as the SOx emission control areas, precautionary areas, areas to be avoided, etc.) will not be further explored in this thesis. The SOx emission control areas are stipulated in Annex VI Regulations for the Prevention of Air Pollution from Ships in the International Convention for the Prevention of Pollution from Ships (MARPOL) which is one of the series of IMO treaties.⁸³ These areas aim to control air pollution, and despite the unknown environmental impact of ships’ SOx on deep-sea features it may not be significant. The precautionary areas and areas to be avoided are ships’ routeing measures which were adopted in relation to Regulation 10, Chapter V of the International Convention for the Safety of Life at Sea (SOLAS).⁸⁴ Especially, the areas to be avoided can be established where environmental vulnerability exists in order to avoid environmental degradation.⁸⁵ However, these measures under the SOLAS primarily aim “to improve the safety of navigation” rather than protect the environment.⁸⁶ Although they might provide certain protection of the deep sea features if located in suitable areas, because they may be less qualified for the conservation of deep sea features due to those reasons, this section will primarily focus on examining whether special areas and PSSAs can be classified as the new type of HSMPAs.

⁸² “Summary Record of Discussion and Suggestions for a Way Forward,” Workshop on the Governance of High Seas Biodiversity Conservation, Cairns, Australia, June 16-19 2003. Available at <http://www.environment.gov.au/coasts/mbp/publications/general/pubs/highseas-workshop-summary.Pdf> (accessed on 6 October 2008), p. 4.

⁸³ See “International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL),” available at <http://www.imo.org> (accessed on 19 December 2008). The International Convention for the Prevention of Pollution from Ships (MARPOL), adopted on 2 November 1973, as amended by the Protocol on 1 June 1978, entered into force on 2 October 1983, *UNTS*, Vol. 1340, p. 61.

⁸⁴ “Ships’ routeing,” IMO, available at <http://www.imo.org>. International Convention for the Safety of Life at Sea (SOLAS), adopted on 1 November 1974, entered into force on 25 May 1980, *UNTS*, Vol. 1184, p.3.

⁸⁵ See examples of the areas to be avoided and the precautionary areas in Resolution A.768(18). Ships’ Routeing, IMO, adopted on 4 November 1993, A/18/Res.768.

⁸⁶ Resolution A.572(14). General Provisions on Ships’ Routeing, IMO, 20 November 1985, Res.A.572(14), p. 85.

5.1.2.1. Express Legal Support for Special Areas and PSSAs to Be the New Type of HSMPAs

The purpose of IMO treaties is to provide international standards for shipping and environmental protection through the prevention of pollution from ships.⁸⁷ This purpose implies that the application of IMO treaties is limited to ships flying flags of, or operated by member States regardless of their existence in national or international water.⁸⁸ Since IMO treaties aim to conserve the marine environment from pollution only through regulating shipping, if no shipping occurs or is expected, a protective measure cannot be taken. This ship based jurisdiction is similar to the jurisdictional limitations under the CBD. It can be argued on this basis that the IMO provides an agreement to establish and observe HSMPAs only where ships of States Parties navigate, so it provides incomplete high seas conservation. Thus, it should first be examined, before this section examines the conformity of special areas and PSSAs to the new HSMPAs, whether or not this similarity results in a jurisdictional obstacle to the IMO treaties when establishing HSMPAs.

Section 5.1.1 noted that the jurisdictional limitations to components of biological diversity under the CBD coincides with existing international law. No State can individually or collectively claim sovereignty on any part of the high seas in accordance with Article 89 of the LOSC. Although there is no jurisdiction over any part of high seas ecosystems, States can take a protective measure to conserve components on the high seas. If any activity threatens specific components in a specific area, States can restrict the activity conducted by their ships in the area based on their exclusive flag State jurisdiction. If no process and activity threatens components of the marine ecosystems, States still can establish an area based conservation measure as long as they do not claim jurisdiction over the components. In any case, States can establish such measures for conservation of ecosystems individually or collectively. In both cases, exclusive flag State jurisdiction and

⁸⁷ LEG/MISC/4, *supra* note 79, p.2.

⁸⁸ See application of the Convention in Article 3, MARPOL.

jurisdictional limitations to components result in that the protective measures are not binding on States other than States which consent. If States collectively take a protective measure with an agreement and the agreement explicitly stipulates jurisdictional limitations to components as the CBD does, such an agreement cannot be regarded as an agreement to establish and observe HSMPAs for the conservation of components (if no process or activity threatens components). On the other hand, most of the treaties reviewed in this chapter and the next chapter do not specify such limitations to components. When it is deemed necessary, and if States Parties agree, those treaties may be regarded as agreements to establish and observe HSMPAs solely for the conservation of components of marine ecosystems.

As noted in Section 5.1.1, jurisdictional limitations to components of high seas ecosystems under the CBD are problematic for HSMPAs to be binding, particularly when a certain area requires *ex-situ* conservation or protection from unknown source or non-processes and activities. However, in the case of other treaties which aim to regulate specific human activities, when *ex-situ* threats occur, the treaties will not require the establishment of an MPA around the components threatened by the activities but they do require the area to be closed where those activities occur. The components can then be properly protected by the closure. Where unknown sources or non-processes and activities cause a negative impact on certain components, the treaties do not require the establishment of an MPA to protect the components because it is beyond their function as specified by the treaties in question. In this case, if jurisdictional limitations are not explicitly stipulated, the protection of such components can be made institutionally. Thus, jurisdictional limitations to components on the high seas do not interrupt the functioning of other treaties when it comes to what they are supposed to do or want to do.

5.1.2.1.1. The Conformity of Special Areas with the New Type of HSMPAs

The special area is defined as “a sea area where for recognized technical reasons in relation to its oceanographical and ecological conditions and to the particular

character of its traffic, the adoption of special mandatory methods for the prevention of sea pollution by oil, noxious liquid substances, or garbage, as applicable, is required.”⁸⁹ The special areas aim to control mainly the three different vessel source pollutants (oil, noxious liquid substances, and garbage). These pollutants are separately controlled by the three technical annexes of the MARPOL Convention: Annex I (Prevention of Pollution by Oil), Annex II (Control of Pollution by Noxious Liquid Substances in Bulk), and Annex V (Prevention of Pollution by Garbage from Ships).⁹⁰ These annexes explicitly stipulate special areas and explain what types of activities are prevented in the areas but do not incorporate detailed rules for designation and implementation of the measure.

Details on the designation of special areas under the current MARPOL are elaborated in the Guidelines for the Designation of Special Areas under the MARPOL 73/78. A proposed area should have special vulnerability from vessel source pollution in order to be designated as a special area: owing to oceanographic, ecological, and vessel traffic characteristics.⁹¹ All these three conditions should be met for an area to be designated as a special area. Designation of a special area requires the amendment of Annexes to the MARPOL. A proposal for a special area should include “a draft amendment to MARPOL 73/78 as the formal basis for the designation.”⁹² The Marine Environment Protection Committee (MEPC) in the IMO considers and adopts the amendment by a two-thirds majority vote of Parties to the MARPOL.⁹³ Once the date specified by the MEPC for entry into force has passed without objections from more than one-third of the Parties or Parties with fifty percent of the gross tonnage of the world merchant fleets, the amendment will become binding on all parties to the MARPOL and relevant annexes, except to the formal objectors to the amendment.⁹⁴

⁸⁹ Guidelines for the Designation of Special Areas under MARPOL 73/78, IMO, adopted on 29 November 2001, A 22/Res.927, p.3. Also see Annex I Regulation 1(10), Annex II Regulation 1(7) and Annex V Regulation 1(3) of the MARPOL 73/78.

⁹⁰ 2001 Guidelines for the Designation of Special Areas, *ibid.*, and Annex I Regulation 1(10), Annex II Regulation 1(7) and Annex V Regulation 1(3) of the MARPOL 73/78.

⁹¹ 2001 Guidelines for the Designation of Special Areas, *ibid.*, para. 2.5, pp.3-4.

⁹² Para. 3 procedures for the designation of a special area, *ibid.*, p.5.

⁹³ *Ibid.*; Article 16(2) (b) and (d), the MARPOL.

⁹⁴ Article 16(2)(f)(ii) and (iii), the MARPOL.

These special areas are also specifically referred to in Article 211 of the LOSC. Article 211 of the LOSC is a well elaborated “operative provision” which is rare in the LOSC.⁹⁵ Paragraph 6 of this article contains the detailed rules and procedures to establish special areas.⁹⁶ This paragraph requires consultations with, and determination from “the competent international organization” to designate a special area. “The competent international organization” which appears in this article is singular and regulates shipping to prevent vessel source pollution, so this international organization must be the IMO.⁹⁷ In addition, the conditions to designate a special area under this provision are similar to the MARPOL’s three conditions. A candidate area under this article should have “technical reasons in relation to its oceanographical and ecological conditions, as well as its utilization or the protection of its resources and the particular character of its traffic.”⁹⁸ From these points, it can be deduced that the LOSC might borrow the same concept from the earlier MARPOL Convention and its

⁹⁵ LEG/MISC/4, supra note 79, p.38.

⁹⁶ Article 211(6)(a) of the LOSC :

“Where the international rules and standards referred to in paragraph 1 are inadequate to meet special circumstances and coastal States have reasonable grounds for believing that a particular, clearly defined area of their respective exclusive economic zones is an area where the adoption of special mandatory measures for the prevention of pollution from vessels is required for recognized technical reasons in relation to its oceanographical and ecological conditions, as well as its utilization or the protection of its resources and the particular character of its traffic, the coastal States, after appropriate consultations through the competent international organization with any other States concerned, may, for that area, direct a communication to that organization, submitting scientific and technical evidence in support and information on necessary reception facilities. Within 12 months after receiving such a communication, the organization shall determine whether the conditions in that area correspond to the requirements set out above. If the organization so determines, the coastal States may, for that area, adopt laws and regulations for the prevention, reduction and control of pollution from vessels implementing such international rules and standards or navigational practices as are made applicable, through the organization, for special areas. These laws and regulations shall not become applicable to foreign vessels until 15 months after the submission of the communication to the organization.”

⁹⁷ Rudiger Wolfrum, “IMO Interface with the Law of the Sea Convention,” in Myron H. Nordquist and John Norton Moore (eds.), *Current Maritime Issues and the International Maritime Organization*, Martinus Nijhoff Publishers, 1999, pp. 223-250, p.223; Also see Myron H. Nordquist, Shabtai Rosenne, Alexander Yankov, and Neal R. Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, Article 192 to 278, Final Act, Annex VI, Martinus Nijhoff Publishers, 1990, p. 201; Division for Ocean Affairs and the Law of the Sea, *Law of the Sea Bulletin No. 31*, Office of Legal Affairs, United Nations, 1996. Available at <http://www.un.org/Depts/los/index.htm> (accessed on 3 December 2008), p.87.

The LOSC often refers to the IMO in its text as a “component or relevant organization” or an organization which provides “generally accepted international rules and standards.” See for example Article 211(2) of the LOSC. The IMO is identified 72 times in the LOSC. See *Law of the Sea Bulletin No. 31*, pp. 81-95. For discussions on the relationship between IMO and the LOSC, see LEG/MISC/4, supra note 79, and Wolfrum, *ibid*.

⁹⁸ Article 211(6) (a), the LOSC.

annexes.⁹⁹ However, as the relevant literature has confirmed, the “special areas” in the LOSC should not be considered as the same as the MARPOL’s, because the applicability of the two measures are fundamentally different.¹⁰⁰ First, Article 211(6) applies only within the EEZ, while the special areas of the MARPOL can be established in all marine zones. Since the LOSC special areas are to be established within national jurisdiction, Article 211(6) specifically refers to coastal States as the only entity to exercise the “jurisdiction to prescribe measures” to control vessel source pollution in the special areas.¹⁰¹ On the other hand, the rules on special areas under the IMO do not refer to any entity as having jurisdiction to take such measure, but jurisdiction would follow from the general rules of MARPOL on jurisdiction.¹⁰² Secondly, while special areas under the MARPOL cover only specific harmful substances (such as oil, noxious liquid substances, packaged harmful substances and sewage ‘from ships’),¹⁰³ Article 211(6) of the LOSC does not confine its coverage of pollution. Because of these differences, special areas in the LOSC and the MARPOL cannot be the same and the LOSC cannot supplement legal support for obstacles existing on the special areas to be the new type of HSMPAs under the MARPOL.

The MARPOL has three obstacles to cross for its special areas to be effective, particularly as the new type of HSMPAs. The first obstacle is too broad a geographical coverage of the special area. The MARPOL Convention and its annexes do not specify the geographical scale of the special areas but the Guidelines for the Designation of Special Areas under the MARPOL 73/78 provide some explanation for it. According to the guidelines, the special areas could be created on any scale and could cover an entire enclosed or semi-enclosed Sea.¹⁰⁴ Special areas have actually been created in large areas covering an entire enclosed or semi-enclosed area which

⁹⁹ The MARPOL 73 first included the concept of special areas. See “International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL),”supra note 83.

¹⁰⁰ Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, supra note 97, p. 181; Also see La Fayette, supra note 79, p.190.

¹⁰¹ Nordquist, Rosenne, Yankov, and Grandy (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, Vol. IV, *ibid.*, p. 200.

¹⁰² Tullio Scovazzi, *Marine Specially Protected Areas- The General Aspects and the Mediterranean Regional System*, Kluwer Law International, 1999. p. 31.

¹⁰³ LEG/MISC/4, supra note 79, p.39.

¹⁰⁴ See 2001 Guidelines for the Designation of Special Areas, supra note 89, paragraph 2.2, p.3.

encompasses all types of marine zones including the high seas.¹⁰⁵ So far, twelve special areas¹⁰⁶ have been established and two of them (the Mediterranean Sea and the Antarctic area) include the high seas. A possible reason to establish a special area on such a large scale may be the broad and transboundary impact of pollution by the three types of harmful substances which the special areas target to control. Since special areas are primarily for warning the particular vulnerability of a region to pollutants or a high potentiality for pollution, they need to cover large areas where such potential accidents can happen and as far as the pollutants can reach. As a result, this large area can cover all vulnerable ecosystems and resources in the specific region. Their boundaries, however, do not need to be delimited based on ecosystems or specific topography. Most of the special areas adopt coastlines as their outer boundaries. For instance, the entire areas of the Mediterranean Sea, the Baltic Sea, the Black Sea, and the Red Sea are designated as special areas.¹⁰⁷

There is no limitation of scale for MPAs. However, it is doubtful whether such large area closures can effectively function as a protected area for conservation of specific deep sea features because such broad coverage may interrupt the concentration on the specific features. Different sizes of MPAs could pursue different objectives. A large MPA can be particularly necessary where “a substantial portion of the spawning stock of a vulnerable species” needs to be protected.¹⁰⁸ However, it seems that the three deep-sea features which are “critical, sensitive or unique habitats” are more effectively conserved by small MPAs.¹⁰⁹

Secondly, the ecosystem approach which is one of the qualities distinguishing the new type of HSMPAs from traditional sectoral MPAs is not explicitly incorporated in,

¹⁰⁵ Markus Detjen, “The Western European PSSA –Testing a Unique International Concept to Protect Imperilled Marine Ecosystems,” *Marine Policy*, Vol.30, 2006, pp. 442-453, p. 452; LEG/MISC/4, supra note 79, p.51; La Fayette, supra note 79, p.185.

¹⁰⁶ The twelve special areas created under Annex I, II and V of the MARPOL are: the Mediterranean Sea, Baltic Sea, Black Sea, Red Sea, Gulfs area, North Sea, Antarctic area, Wider Caribbean region, Gulf of Aden, North West European Waters, Oman area, and Southern South African Waters. “Special Areas under MARPOL,” available at <http://www.imo.org> (accessed on 29 December 2008). See the descriptions of location of the areas in Annex I, II and V of the MARPOL.

¹⁰⁷ “Special area under MARPOL,” *ibid.* Also see provisions to special area in each annexes.

¹⁰⁸ Steven N. Murray et al, “No-take Reserve Networks: Sustaining Fishery Populations and Marine Ecosystems,” *Fisheries*, Vol. 24, 1999, pp.11-25, p. 19.

¹⁰⁹ *Ibid.*

or institutionally adopted in the MARPOL Convention, annexes, and guidelines for special areas. This special area can be established on the high seas with some ecological consideration regardless of the lack of the ecosystem approach. The ecosystem considerations may not result in consideration of interconnectivity and ecosystem dynamics, but at least these can result in the establishment of special areas where oceanographical condition makes specific ecosystems more vulnerable from vessel source pollution. According to the guidelines, special areas can be established where “depleted, threatened or endangered marine species” exist, where “high natural productivity” attracts overexploitation, or where there are “spawning, breeding and nursery areas, for important marine species,” “rare or fragile ecosystems,” and “critical habitats for marine resources.”¹¹⁰ These vulnerable ecosystems may include the three deep-sea features. However, the ecosystem considerations can result in the establishment of a special area only if they can be threatened by the three vessel source pollutants. How much these vessel source pollutants can actually negatively influence the three deep sea features is not well known. In addition, threats other than vessel source pollution by these pollutants, such as major anthropogenic threats to the deep-sea features (fishing, mining and scientific research), cannot be regulated in special areas at all. Since any of these major threats cannot be restricted in the special areas, even if the protection of deep-sea features from vessel source pollution may be required to the IMO and special areas can be established where the features exist, it is doubtful whether the special areas of the MARPOL can be effective as much as the international conferences and meetings required for the new type of HSMPAs to be. Thus, it seems that the MARPOL special areas would function better as a conventional area based management tool, rather than as the new type of HSMPAs.

¹¹⁰ 2001 Guidelines for the Designation of Special Areas, *supra* note 89, para. 2.5.2 -2.5.5, p. 4.

5.1.2.1.2. Particularly Sensitive Sea Areas

While the special areas regulate vessel source pollution by the three pollutants only, PSSAs can restrict more types of environmental damages from shipping.¹¹¹ A PSSA is defined in its guidelines as “an area that needs special protection through action by IMO because of its significance for recognised ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities.”¹¹² The ‘international shipping activities’ in this definition indicate all shipping related activities except ‘dumping’.¹¹³ Dumping is not controlled by PSSAs because the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter has regulated the activity.¹¹⁴ Although PSSAs can control more types of environmental damage relating to shipping, it is generally agreed that the PSSAs are only “complementary to the already existing concept of special areas in the MARPOL Convention”¹¹⁵ because special areas cover the most imminent vessel source pollutions. PSSAs can be established where a special area is designated to prevent additional types of potential damage to vulnerable ecosystems but the two areas are not necessarily in the same place. Some PSSAs are located where there is no special area.

Another difference between special areas and PSSAs is that special areas are stipulated in the MARPOL Convention while the PSSAs are based on non-binding guidelines. Although the IMO constitution does not mention it¹¹⁶ guidelines established by the IMO resolutions are non binding.¹¹⁷ These guidelines can become

¹¹¹ La Fayette, *supra* note 79, p.191.

¹¹² Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, IMO, adopted on 1 December 2005, A 24/Res.982, para.1.2, p.3.

¹¹³ *Ibid.*, para.4.2, p.5.

¹¹⁴ *Ibid.* The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, adopted on 29 December 1972, entered into force on 30 August 1975, *UNTS*, Vol. 1046, p. 120.

¹¹⁵ Gerard Peet, “Particularly Sensitive Sea Areas – A Documentary History,” *The International Journal of Marine & Coastal Law*, Vol. 9, No. 4, 1994, pp. 469-506, p.480. Also see a discussion in Detjen, *supra* note 105, p. 444; Julian Roberts, Martin Tsamenyi, Tim Workman, and Lindy Johnson, “The Western European PSSA Proposal: a Political Sensitive Sea Area,” *Marine Policy*, Vol. 29, 2005, pp.431-440, p. 432; Scovazzi, *Marine Specially Protected Areas*, *supra* note 102, p.38.

¹¹⁶ Detjen, *supra* note 105, p. 447.

¹¹⁷ LEG/MISC/4, *supra* note 79, p.5.

binding through being appended into a national law or an IMO treaty.¹¹⁸ Or, the binding nature of PSSAs derives from associated protective measures taken within PSSAs, such as areas to be avoided under the SOLAS Convention. States have attempted to consolidate the PSSAs into a treaty rather than depending on the binding nature of protective measures taken in the PSSAs. Consolidation of PSSA into a treaty was suggested during the negotiation for the first guidelines for PSSAs. The guidelines for PSSAs were first formally adopted in 1991,¹¹⁹ since then have been amended twice (at the IMO's 22nd Assembly meeting in 2001¹²⁰ and the 24th Assembly meeting in 2005).¹²¹ During the early negotiation for the formalization of the measure Germany suggested that MARPOL 73/78 would be appropriate for the PSSAs to be consolidated.¹²² This was not adopted as many States were cautious about expanding the existing legal obligations under the Convention and preferred instead the successful implementation of existing measures rather than the adoption of a new binding measure.¹²³ The proposal for consolidation of the PSSAs was resumed by Norway in 1994 following the adoption of the first Guidelines for PSSAs but this proposal was rejected again by the MEPC.¹²⁴ It was not clearly explained what the exact background of this rejection was but it can be conjectured from a record of the past MEPC plenary meeting on PSSAs held in 1987 in which some member States referred to "the proliferation of sensitive areas which might lead to the 'disorientation and bewilderment of seafarers'".¹²⁵

Detjen sought the binding force of PSSAs in the LOSC and on unanimous support for PSSAs within the IMO.¹²⁶ According to Detjen the IMO resolutions adopting guidelines and codes may have a binding force because the guidelines for PSSAs

¹¹⁸ *Ibid.*

¹¹⁹ See Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas, IMO, adopted by the IMO Assembly 17th Meeting in 1991, A 17/Res.720.

¹²⁰ Guidelines for the Designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, IMO, adopted by the IMO Assembly 22nd Meeting in 2001, A 22/Res.927.

¹²¹ Revised Guidelines for PSSAs, *supra* note 112.

¹²² Peet, *supra* note 115, p. 477.

¹²³ *Ibid.*

¹²⁴ *Ibid.*, p. 494.

¹²⁵ *Ibid.* p.480.

¹²⁶ Detjen, *supra* note 105, pp. 446-447.

incorporate broadly accepted marine environmental protection regime of Part XII of the LOSC, and were approved unanimously at the IMO meetings.¹²⁷ Such broadly agreed rules of international law can justify a specific measure internally to be binding with application of inherent powers as reviewed in Chapter IV, but only if the majority of States Parties intend to do so.¹²⁸ Although the guidelines were adopted unanimously they are adopted as non-binding and a provision on PSSA is not yet explicitly drawn up in any treaty. Therefore, rather than assuming the guidelines themselves to be binding it is right to explore the legal bases for PSSAs in binding measures taken within the PSSAs based on the IMO treaties. Also since the guidelines refer to a specific provision in the LOSC, how the referred provision of the LOSC can provide a binding nature for PSSAs should also be examined too.

Designation of a PSSA does not automatically guarantee special protection.¹²⁹ The content of protection should be supplemented by adopting associated protective measures. A PSSA usually comprises a group of measures. Measures for special protection in PSSAs are not specified in the Guidelines, except for a few examples.¹³⁰ Protective measures for each PSSA should be included in its proposal and submitted to relevant IMO bodies for examination. The designation of a PSSA itself is under the responsibility of the MEPC.¹³¹ The ecological, socio-economic, or scientific attributes for designating a proposed area as a PSSA is determined by the MEPC based on the information collected by a technical group which is specially formed for the assessment of the proposed area.¹³² Associated protective measures proposed with the application should be separately examined by an IMO Committee, a Sub-Committee,

¹²⁷ The two revisions of the guidelines for PSSAs were adopted unanimously. Detjen calls the guidelines “declaratory of law” because of this unanimous adoption. Detjen, *ibid.*, pp. 446-447. For a more discussion on incorporation of the LOSC into this Guidelines, see La Fayette, *supra* note 79, p.186; and Roberts, Tsamenyi, Workman, and Johnson, *supra* note 115, p.432. Alvarez also argued that the LOSC provides certain legal bases for non-binding resolutions of the IMO. See Jose E. Alvarez, *International Organizations as Law-makers*, Oxford University Press, 2005, p. 220.

¹²⁸ See further discussion on whether such rules can make the measures externally binding in Chapter VII.

¹²⁹ Detjen, *supra* note 105, p. 444.

¹³⁰ Detjen, *ibid.*, p.444; and Roberts, Tsamenyi, Workman, and Johnson, *supra* note 115, p.432.

¹³¹ Detjen, *ibid.*, p. 448; Revised Guidelines for PSSAs, *supra* note 112, para. 8.3, p.12; 2001 Guidelines for PSSAs, *supra* note 120, para. 3.1, p.5. This Committee is a primary sub-organ of the IMO for marine environmental protection. La Fayette, *supra* note 79, p.165.

¹³² Revised Guidelines for PSSAs, *ibid.*, para. 8.3.1, p.12,

or by the Assembly.¹³³ If the Committee, Sub-Committee, or the Assembly rejects the proposal, the approval procedure for the measures can be repeated or the proposed area cannot be designated as a PSSA.¹³⁴

The current guidelines advise that protection measures taken inside PSSAs should be confined to binding measures mostly from the IMO treaties.¹³⁵ The binding nature of the measures in a PSSA derives from treaties such as MARPOL and SOLAS, and not from the resolution of the IMO designating a PSSA which is not legally binding. The first and second Guidelines for PSSAs in 1991 and 2001 did not specify that the measures taken within PSSAs were mostly to be found in the IMO treaties.¹³⁶ They rather contained ambiguous sources of legal bases for associated protective measures in PSSAs. For example, the second Guidelines for PSSAs advise that the proposed measures can be:

- (i) any measure that is already available in an existing instrument; or
- (ii) any measure that does not yet exist but that should be available as a generally applicable measure and that falls within the competence of IMO; or
- (iii) any measure proposed for adoption in the territorial sea or pursuant to Article 211(6) of the United Nations Convention on the Law of the Sea.¹³⁷

The first paragraph does not explicitly state which instruments are eligible to provide the protective measures for PSSAs. The second paragraph is opened to any measure which has not been created by any source of international law.¹³⁸ As Scovazzi noted, this unlimited reception could be “a remedy” for the limited availability of marine environmental protection measures relating to shipping.¹³⁹ However, considering the significant contribution to the regulation of world shipping by the IMO, if environmental protection measures relating to shipping are limited it may be right for the IMO to establish them rather than receiving them from other

¹³³ *Ibid.*, para. 8.3.2, p.12.

¹³⁴ *Ibid.*, para. 8.3.4, p.12.

¹³⁵ *Ibid.*, para.6.1, p.8; La Fayette, *supra* note 79, p. 186.

¹³⁶ The legal basis in the IMO treaties was suggested during the early meetings in the MEPC for developing the first Guidelines for PSSAs, and especially Friends of the Earth International (FoEI) proposed that the measures should have conventional bases on the IMO treaties. However, this proposal was not adopted. Peet, *supra* note 115, p.477.

¹³⁷ 2001 Guidelines for PSSAs, *supra* note 120, p.12.

¹³⁸ Scovazzi, *Marine Specially Protected Areas*, *supra* note 102, pp.37-38.

¹³⁹ *Ibid.*, p.37.

legal instruments. In addition, such unlimited reception may cause confusion over who has authority to implement such measures. Thus, the revised third Guidelines for PSSAs by Resolution A.982 (24) in 2005 qualify the legal bases of proposed measures for PSSAs, as follows:

- (i) any measure that is already available under an existing IMO instrument: or
- (ii) any measure that does not yet exist but could become available through amendment of an IMO instrument or adoption of a new IMO instrument. The legal basis for any such measure would only be available after the IMO instrument was amended or adopted, as appropriate.
- (iii) any measure proposed for adoption in the territorial sea, or pursuant to Article 211(6) of the United Nations Convention on the Law of the Sea where existing measures or a generally applicable measure (as set forth in subparagraph (ii) above) would not adequately address the particularized need of the proposed area.¹⁴⁰

This third edition can be summarised as: all proposed protective measures should have treaty bases within the IMO framework or an approval by the IMO pursuant to relevant rules in the LOSC.¹⁴¹ Some measures, and the IMO treaties are specifically referred to in the guidelines (including, special area and SO_x emission control area under the MARPOL, and ships' routing and reporting systems including areas to be avoided under the SOLAS).¹⁴² If a protective measure required and proposed is not stipulated in any IMO treaty, the IMO can provide a legal basis for such a measure through amendment of an existing treaty or establishment of a new treaty.¹⁴³

This legal dependence on the IMO treaties does not make PSSAs binding on all IMO member States. For example, a PSSA which includes an associated protective measure of the MARPOL is binding as regards that measure on parties to the MARPOL. Since the binding measures within a PSSA are binding only on the member States of the IMO treaties which contain the measures, unless all member States have ratified all IMO treaties the PSSAs are binding on the IMO members incompletely. It can be argued from this that they may provide less effective conservation. However, the PSSAs do not need to be binding on all parties to the IMO in order to be effective if they include measures from major IMO treaties such as

¹⁴⁰ Revised Guidelines for PSSAs, *supra* note 112, para. 7.5.2.3, p.10.

¹⁴¹ *Ibid.*, para.6.1, p.8.

¹⁴² *Ibid.*, para.6, p. 8.

¹⁴³ *Ibid.*, para.7.5.2.3, p.10.

SOLAS or MARPOL because, for example, SOLAS and MARPOL are respectively binding on more than 99% of the world fleet by weight.¹⁴⁴ In addition, if provisions on the protective measures of IMO treaties constitute ‘generally accepted international rules and standards’, those measures will be binding on the IMO member States which are not parties to the treaties but are members to the LOSC in accordance with Article 94 and 211 of the LOSC.¹⁴⁵

Furthermore, the complement to the lack of binding nature of PSSAs may also be searched in the LOSC. As stipulated in paragraph 7.5.2.3 (iii) of the third guidelines, in the territorial sea, States can adopt any measures as far as the relevant international law, especially the LOSC, allows in terms of State sovereignty. In the EEZ, coastal States can establish special areas and take protective measures for the areas based on Article 211(6) of the LOSC if the IMO treaties cannot provide adequate measures for the protection of the areas.¹⁴⁶ Although the paragraph in the guidelines is non-binding, the measures taken in accordance with this paragraph should be binding on all States Parties to the LOSC and in turn those rules may not be effective to non parties to the LOSC, even if they are parties to the MARPOL or any other IMO treaties. However, if such measures are based on custom, they can be applied to all States including all

¹⁴⁴ “Summary of Status of Conventions, as at 30 November 2008,” IMO. Available at <http://www.imo.org> (accessed on 19 December 2008).

¹⁴⁵ Article 94(5), the LOSC: “In taking the measures called for in paragraphs 3 and 4 each State is required to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.” Article 211(1) and (2), the LOSC: “(1) States, acting through the competent international organization or general diplomatic conference, shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels and promote the adoption, in the same manner, wherever appropriate, of routing systems designed to minimize the threat of accidents which might cause pollution of the marine environment, including the coastline, and pollution damage to the related interests of coastal States. Such rules and standards shall, in the same manner, be re-examined from time to time as necessary. (2) States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference.”

¹⁴⁶ The special area adopted under Article 211(6) of the LOSC within a PSSA can include other measures which are not adopted within the IMO framework but which are necessary in special circumstances of the area. Such additional measures for the regulations of vessel source pollution which may have no IMO basis should be adopted after the consultation with the IMO in accordance with the LOSC. The supplementary measures should not be engaged in regulation of “design, construction, manning or equipment standards other than generally accepted international rules and standards.” These additional measures for special areas by the LOSC in a PSSA are not binding on Parties to the IMO treaties which are not Parties to the LOSC, unless the measures are custom. See Article 211(6)(c) of the LOSC. Revised Guidelines for PSSAs, *supra* note 112, para. 7.5.2.3, p.10.

parties to the IMO. In sum, within marine zones under national jurisdiction, in case of the absence of suitable measures within the framework of IMO, a legal basis of a measure for a PSSA can be obtained in accordance with international law, especially the LOSC.¹⁴⁷ Because “nature and extent of coastal State jurisdiction” is not subject to the IMO regulations, the underlying principles in the LOSC should imply the extent of coastal States jurisdiction in national waters to control vessel source pollution under any IMO treaty.¹⁴⁸

However, this reciprocity between the LOSC and the IMO regulations does not explicitly exist in so far as the PSSAs on the high seas are concerned. The PSSAs can be set up on the high seas as the Guidelines for PSSAs do not qualify the scope of their application only to national water.¹⁴⁹ So far, eleven PSSAs have been designated around the world’s oceans, mostly after 2002,¹⁵⁰ but none of these PSSAs have yet been created on the high seas. If a PSSA is created on the high seas, its protective measures should be based only on the IMO treaties in accordance with 7.5.2.3 (i) and (ii), because paragraph 7.5.2.3(iii) of the Guidelines for PSSAs does not cover the high seas. Although the Guidelines for PSSAs are not binding and the LOSC does not complement their non-binding nature through providing provisions on measures (if PSSAs are established on the high seas), as noted above PSSAs may not have a problem on their effectiveness to safeguard target environment from shipping. IMO treaties which contain protective measures would have a good coverage of relevant fleets and if the measures adopted within PSSAs are generally accepted international

¹⁴⁷ Revised Guidelines for PSSAs, *ibid.*, para.7.5.2.3 (iii), p.8.

¹⁴⁸ LEG/MISC/4, *supra* note 79, p.8.

¹⁴⁹ Nihan Unlu, “Particularly Sensitive Sea Areas: Past, Present and Future,” IMO. Available at <http://www.imo.org> (accessed on 29 December 2008); La Fayette, *supra* note 79, p.185; Kristina Gjerde and David Freestone, “Introduction – Particularly Sensitive Sea Areas – An Important Environmental Concept at a Turning-point,” *IJMCL*, Vol. 9, No.4, 1994, pp. 431-436, p. 433; Kristina M. Gjerde, “Protecting Particularly Sensitive Sea Areas from Shipping: A Review of IMO’s New PSSA Guidelines,” in Thiel & Koslow (eds.), *supra* note 26, pp. 123-131. p. 127.

¹⁵⁰ The 11 PSSAs are the Great Barrier Reef in Australia (1990), the Sabana-Camaguey Archipelago in Cuba (1997), Malpelo Island in Colombia (2002), the Florida Keys in USA (2002), the Wadden Sea by Denmark, Germany and the Netherlands(2002), Paracas National Reserve in Peru (2003), Western European Waters (2004), the Great Barrier Reef including the Torres Strait by Australia and Papua New Guinea (2005), Canary Island in Spain (2005), the Galapagos Archipelago in Ecuador (2005), the Baltic Sea by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden (2005). “Particularly Sensitive Sea Areas,” IMO. Available at <http://www.imo.org> (accessed on 29 December 2008).

rules or standards, the LOSC can make more States bound by the measure. However, since the PSSA itself is not binding, even if PSSAs conform to the new type of HSMPAs, no IMO treaty can require States Parties to establish and observe a PSSA itself.

The third difference of PSSAs from special areas is that PSSAs were designed to be similar to MPAs when they were initiated.¹⁵¹ Nevertheless, PSSAs have some limitations to properly function as the new type of HSMPAs because of the lack of an ecosystem approach and the limited coverage of threats to deep sea features. The Guidelines for the Identification and Designation of PSSAs suggest three attributes for selecting a PSSA, and these include ecological consideration.¹⁵² The ecological attribute includes certain consideration of the entire ecosystem, habitats, and other “biologically functional unit.”¹⁵³ Thus, vulnerability of the three deep sea features can possibly be used as a reason to propose a certain area to be a PSSA. The additional two attributes are socioeconomic and scientific criteria. These three attributes are not necessary conditions to select a PSSA. If any one or more of these attributes exist, the two necessary conditions, the vulnerability from shipping and “availability of associated protective measures,” should be further fulfilled to select a PSSA.¹⁵⁴ Although it is possible to select a PSSA with certain ecosystem consideration this cannot result in consideration of interconnectivity and dynamics in ecosystems because the Guidelines for PSSAs and IMO treaties have not adopted the ecosystem approach yet. Associated protective measures adopted in a PSSA would not then be taken based on the ecosystem approach too.

In addition, the limited coverage of activities under the IMO treaties can also be a limitation for PSSAs to effectively protect the deep sea features. As noted above, the IMO treaties which provide protective measures for PSSAs do not regulate other than shipping. The IMO provides conventions on at least four different subjects: shipping

¹⁵¹ La Fayette, *supra* note 79, p.191.

¹⁵² See section 4 in Revised Guidelines for PSSAs, *supra* note 112.

¹⁵³ *Ibid.*, para. 4.4.1.- 4.4.11, pp. 5-6.

¹⁵⁴ *Ibid.*, para.1.5, p.4. para.8.1, p.11.

safety; marine pollution; liability; and, marine trade.¹⁵⁵ The Guidelines for PSSAs specifically refer to at least one safety convention (SOLAS) and one pollution control convention (MARPOL) in relation to the protective measures in a PSSA. As reviewed, the MARPOL Convention regulates only pollution from vessel discharges and cannot control fishing, mining, scientific research, and bioprospecting. Regulation 21 of Annex I of the MARPOL and the Code for the Construction and Equipment of Mobile Offshore Drilling Units is specifically relevant to offshore mining facilities. However, these do not control mining operation but are simply for regulating pollution from those facilities. The SOLAS is another major IMO convention which is indicated to provide protective measures in the Guidelines for PSSAs. However, none of the provisions of the Convention regulates fishing, mining, scientific research, or bioprospecting activities.

For these reasons, even if PSSAs can be established to protect the deep sea features, perhaps with more elaborated ecological consideration than special areas,¹⁵⁶ PSSAs may not be suitable for effectively functioning as the new type of HSMPAs as well.

5.1.2.2. Additional Legal Support from IMO

Finally, this IMO research should end up with the question of whether the IMO has attempted to establish special areas and PSSAs to function as the new type of HSMPAs and has institutionally solved the common limitations of those measures to function as the new type of HSMPAs: i.e., no formal adoption of the ecosystem approach and no coverage of the major threats. The IMO has not yet discussed the adoption of the ecosystem approach. The MEPC, which is the only sub-body of the IMO which deals with marine environmental protection from vessel source pollution, has also never dealt with the adoption of the principle. The second problem has also not been attempted to be solved within the IMO. Regulation of shipping is the only

¹⁵⁵ Wolfrum, *supra* note 97, pp.225-227.

¹⁵⁶ See Revised Guidelines for PSSAs, *supra* note 112, para. 4.4.1-4.4.11, pp. 5-6.

function given to the organization. Since international treaties to regulate threatening activities other than shipping are already available the involvement of IMO on the different subjects is redundant. For the IMO to become so involved would require a fundamental change of its character which States Parties surely object to. In so far as the member States of the IMO are not actively involved in changing the primary coverage of activities of the IMO and extending their legal obligations on the marine environment, special areas and PSSAs should remain as not fully qualified to be the newly required HSMPAs. As a result, although some international meetings reviewed in Chapter II have called for the IMO to be involved in the protection of deep sea features on the high seas, it has not yet attempted to establish special areas and PSSAs to function as the new type of HSMPAs. This does not mean that certain level of conservation of the deep sea features can not be expected of them.

5.2. Treaties for Regional Environmental Protection through Pollution Control

5.2.1. UNEP Regional Seas Agreement in the Mediterranean Region

The UNEP Regional Seas Programme which was established in 1974 was distinctive from other contemporary regional arrangements for ocean affairs¹⁵⁷ because until the LOSC entered into force in 1994 this series of regional seas conventions along with the international treaties on marine pollution control by the IMO had formed a global legal framework for ocean affairs.¹⁵⁸ In February 1975 its first regional programme, the Mediterranean Action Plan, was established.¹⁵⁹ The Mediterranean Action Plan is generally considered as a follow-up action of the

¹⁵⁷ The contemporary regional marine conventions were the 1969 Bonn Agreement for Cooperation in dealing with the Pollution of the North Seas by Oil; the 1972 Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft; the 1974 Paris Convention on the Prevention of Marine Pollution from Land-Based Sources; the 1974 Helsinki Convention on the Protection of the Marine Environment in the Baltic Sea. Tullio Treves, "Regional Approaches to the Protection of the Marine Environment", in Myron Nordquist, John Norton Moore and Said Mahmoudi (eds.), *The Stockholm Declaration and Law of the Marine Environment*, Center for Oceans Law and Policy, Martinus Nijhoff Publishers, 2003, pp. 137-154. p. 142.

¹⁵⁸ Peter H. Sand, *Marine Environment Law in United Nations Environment Program*, London, Tycooly, 1998, pp. xiv-xv.

¹⁵⁹ See "Mediterranean," UNEP, available at <http://www.unep.org/regionalseas/> (accessed on 11 December 2008).

CHAPTER V

Stockholm Declaration on the Human Environment which was adopted in 1972.¹⁶⁰ This Action Plan initially established the 1976 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the 1976 Barcelona Convention) and two protocols: a Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, and a Protocol concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency.¹⁶¹ In particular the Convention was the first treaty of the series of UN-sponsored regional seas agreements under the UNEP Regional Seas Programme.

The UNEP has developed other regional seas plans since the first initiation. The Regional Seas Programme now covers eighteen regions¹⁶² with the involvement of more than one-hundred and forty coastal states. Five of these regions (the Antarctic, Arctic, Baltic, Caspian, and North-West Atlantic) are independent programmes which were not established under the auspices of the UNEP.¹⁶³ Excluding these five programmes, ten of the thirteen regional programmes have established legally binding instruments, regional seas agreements.¹⁶⁴ Among these ten agreements, six regional seas conventions (from Kuwait Action Plan region; West and Central Africa; Caribbean; East Africa; South Pacific; North-East Pacific) have provisions to establish specially protected areas. In addition, four regions have protocols on specially protected areas: the Mediterranean; the East Africa; the South-East Pacific; the Wider Caribbean.¹⁶⁵ Among these regional seas agreements and protocols

¹⁶⁰ Sand, *supra* note 158, p. xi.

¹⁶¹ Convention for the protection of the Mediterranean Sea against pollution (with annex and Protocols for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft and Protocol concerning co-operation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency), adopted on 16 February 1976, entered into force on 12 February 1978, *UNTS*, Vol.1102, p. 44.

¹⁶² The Antarctic, Arctic, Baltic, Caspian, The Mediterranean, the Caribbean, West and Central Africa, East Africa, Kuwait Action Plan Region, South-East Pacific, Red-Sea and Gulf of Aden, South Pacific Region, Black Sea, East Asian Sea, North East Pacific, South Asian Sea, North-West Pacific, North-East Atlantic. See "The Regional Seas Programmes," UNEP, <http://new.unep.org/regionalseas/programmes/default.asp> (accessed on 3 December 2008).

¹⁶³ *Ibid.*

¹⁶⁴ East Asian sea, South Asian sea, and North-West Pacific region do not have a regional convention. *Ibid.*

¹⁶⁵ Susan Gubbay (ed.), *Marine Protected Areas-Principles and Techniques for Management*, Chapman & Hall, London, 1995, pp.39-40; "The Regional Seas Programme," *supra* note 162.

containing a provision on MPAs, the Barcelona system is the only one which covers the high seas.¹⁶⁶

The high seas coverage by the Mediterranean Regional Programme may be temporary. The high seas exist in the region because many coastal States in this region have not yet declared their EEZs. As of 28 May 2008, only eight of the twenty-two coastal States (Croatia,¹⁶⁷ Cyprus, Egypt,¹⁶⁸ Italy,¹⁶⁹ Morocco,¹⁷⁰ Syria, Slovenia,¹⁷¹ and Tunisia¹⁷²) of the Contracting Parties of Barcelona Convention¹⁷³ have proclaimed their EEZs or ecological protection zones. In addition Spain, Libya, Malta, and Algeria established fisheries zones which are between 25 to 62 miles from baselines.¹⁷⁴ If all coastal States declare the EEZs, the high seas will disappear in this region.¹⁷⁵

¹⁶⁶ Kuwait Action Plan does not cover the high seas and Convention of the West and Central Africa applies only to water within national jurisdiction. The East African Protocol applies to coastal areas within national jurisdiction, the Wider Caribbean Protocol applies up to 200 miles off the coast and the South East Pacific Protocol covers waters within 200 miles and continental shelves beyond 200 miles limit. The convention for the Northeast Pacific region was adopted in 2002 and does not yet enter into force. See "The Regional Seas Programmes," supra note 162. Also see Robin Warner, "Marine Protected Areas Beyond National Jurisdiction: Existing Legal Principles and a Future International Law Framework," in Marcus Haward (ed.), *Integrated Ocean Management Issues in Implementing Australia's Ocean Policy*, Cooperative Research Center for Antarctic and the Southern Ocean; Research Report, 2001, available at <http://www.ea.gov.au.marine> (currently unavailable), p.71.

¹⁶⁷ Croatia proclaimed only for ecological and fisheries protection in Adriatic Sea in 3 October 2003. "Table of Claims to Maritime Jurisdiction (as at 28 May 2008)," DOALOS. Available at <http://www.un.org/depts/los> (accessed on 3 December 2008).

¹⁶⁸ In March 2003, Cyprus and Egypt signed an agreement on the delimitation of their EEZs. *Ibid.*

¹⁶⁹ An ecological protection zone was established by Law 21, in February 2006. *Ibid.*

¹⁷⁰ In 1981, Morocco proclaimed EEZ, but it is unclear whether this country enforces its EEZ legislation in the Mediterranean sea. Scovazzi, *Marine Specially Protected Areas*, supra note 102, p.53.

¹⁷¹ Slovenia adopted "Ecological Protection Zone and Continental Shelf of the Republic of Slovenian Act," on 4 October 2005. "Table of Claims to Maritime Jurisdiction," supra note 167.

¹⁷² Tunisia established a national legislation on the delimitation of EEZ (Act No. 50/2005 dated 27 June 2005 concerning the exclusive economic zone off the Tunisian coasts). See Division for Ocean Affairs and the Law of the Sea, *Law of the Sea Bulletin*, Office of Legal Affairs, UN, No. 58, 2005, p. 19. Available at <http://www.un.org/Depts/los/index.htm> (accessed on 3 December 2008).

"Table of Claims to Maritime Jurisdiction," supra note 167.

¹⁷³ Contracting Parties of Barcelona Convention are Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, the European Community, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey. See "Signatures and Ratifications of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols as at 25 April 2008," UNEPMAP, available at <http://www.unepmap.org> (accessed on 29 December 2008). Additionally, Spain and Tunisia proclaimed a fisheries zone up to 50m isobath off the Gulf of Gabes. See "Table of Claims to Maritime Jurisdiction," *ibid.*

¹⁷⁴ "Table of Claims to Maritime Jurisdiction," *ibid.*

¹⁷⁵ Scovazzi, *Marine Specially Protected Areas*, supra note 102, p. 53.

The Mediterranean Sea is a semi-enclosed sea surrounded by twenty-two countries¹⁷⁶ and which connects with the Atlantic Ocean by the narrow strait of Gibraltar, and to the Red Sea by the Suez Canal, and which also connects with the Black Sea. Since this semi-enclosed sea connects with the open ocean only by a narrow strait, pollutants from coastal area cannot be circulated rapidly outside the open ocean. Furthermore, many coastal States in this region are highly industrialized¹⁷⁷ and so heavy pollution is destined in this region.¹⁷⁸ Heavy pollution in this type of semi-enclosed sea could be better treated collaboratively rather than individually. Article 123 (b) of the LOSC obliges States bordering a semi-enclosed sea “to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment” in a semi-enclosed sea.¹⁷⁹ If all States establish their EEZs in this region, most of them will still have obligation to protect environment in accordance with Article 123 of the LOSC while they cannot enjoy military activities and freedom of fishing on the high seas.¹⁸⁰ In addition to this, geographical complexities have postponed the delimitation of maritime boundaries among neighbouring and opposite States in this region.¹⁸¹ Although currently the high seas exist in this semi-enclosed sea because of these reasons, there exists the possibility for more States to claim the EEZs since no coastal States has given up their rights to claim the EEZs, then the high seas in the Mediterranean may disappear.

¹⁷⁶ The U.K., Spain, France, Monaco, Italy, Slovenia, Croatia, Bosnia-Herzegovina, Montenegro, Albania, Greece, Turkey, Cyprus, Syria, Lebanon, Israel, Egypt, Libya, Malta, Tunisia, Algeria, Morocco. See Scovazzi, *Marine Specially Protected Areas*, *ibid.*, p.48.

¹⁷⁷ “Biodiversity in the Mediterranean,” RAC-SPA. Available at <http://www.rac-spa.org> (accessed on 29 December 2008).

¹⁷⁸ This semi-enclosed area needs special restoration from heavy pollution caused by demographic pressure, and multiple exploitations including tourism, marine transportation, physical, chemical and biological pollution, introduction of foreign species, overfishing, urban development, and industrialization. “Biodiversity in the Mediterranean,” *ibid.*; also see Arturo López Ornat, and Elena Correas, *Assessment and Opportunities of Mediterranean Networks and Action Plans for the Management of Protected Areas*, Gland, Switzerland and Cambridge, UK, IUCN Center for Mediterranean Cooperation, 2003, obtained from <http://www.iucn.org> (accessed in 2006. currently no longer available), p. 57.

¹⁷⁹ Article 123(b), the LOSC.

¹⁸⁰ Scovazzi, *Marine Specially Protected Areas*, *supra* note 102, p. 53. Israel, Libya, Syria, and Turkey are not parties to the LOSC.

¹⁸¹ Scovazzi, *ibid.*

5.2.1.1. Existing Legal Bases in the Barcelona Convention and its Protocol

The first protocol which explicitly introduced the protected areas in this region was the Protocol Concerning Mediterranean Specially Protected Areas (the SPA Protocol) which was adopted on 3 April 1982.¹⁸² Among the series of protocols adopted under the Barcelona Convention, only this Protocol and its revision have provided the comprehensive protection of the marine environment from all kinds of pollution (see Table 4.1). This first SPA Protocol was updated to the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (the SPAMI Protocol) in 1999.¹⁸³ This update was conducted in the course of extending the purpose of the Mediterranean Action Plan from assisting the Mediterranean States in “assessing and controlling marine pollution” to regulating the serious impact of land-based pollution and human activities on marine biodiversity in the region.¹⁸⁴

Table 5. 1. The Barcelona Convention and Protocols

| Original Convention | Revised Convention |
|--|--|
| Convention for the Protection of the Mediterranean Sea against Pollution (adopted in 1976, and entered into force in 1978) – replaced | Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (adopted in 1995 and entered into force in 9 July 2004) |
| Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (adopted in 1976, entered into force in 1978) – amended | Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (adopted in 1995, not yet entered into force) |
| Protocol Concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Case of Emergency (adopted in 1976, entered into force 1978) – replaced | Protocol Concerning Co-operation in Preventing Pollution from Ships and, in Case of Emergency, Combating Pollution of the Mediterranean Sea (adopted in 2002 and entered into force 17 March 2004) |

¹⁸² Protocol concerning Mediterranean Specially Protected Areas (SPA Protocol), adopted on 3 April 1982, entered into force on 23 March, 1986, *UNTS*, Vol. 1425, p. 160.

¹⁸³ Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPAMI Protocol), adopted on 10 June 1995, entered into force on 12 December 1999, *UNTS*, Vol. 2102, p. 181.

¹⁸⁴ IUCN, *Park, Park- International Agreements and Programs*, Vol.12, No.3, 2002, p. 7.

| | |
|--|--|
| Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (adopted in 1980, entered into force in 1983) – amended | Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities (adopted in 1996, not yet entered into force) |
| Protocol Concerning Mediterranean Specially Protected Areas (adopted 1982, entered into force in 1986) – replaced | Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (adopted in 1995, entered into force in 12 December 1999) |
| | Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (adopted in 1994, not yet entered into force) |
| | Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal (adopted in 1996, not yet entered into force) |

<Source: Barcelona Convention, and Protocols available at <http://www.unepmap.org> (accessed on 3 December 2008). Texts of these also available at the same site.>

Such extension of the purpose began with the adoption of the 1995 Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) for the period 1995-2005.¹⁸⁵ This plan aims to support the implementation and enforcement of the Barcelona Convention and its protocols, particularly focusing on more pollution issues and biodiversity and protected areas.¹⁸⁶ As a result, the amended Convention in 1995 added provisions on controlling more types of pollution, including: dumping from ships and aircraft,¹⁸⁷ incineration at sea,¹⁸⁸ discharges from ships in a very general way, exploration and exploitation of the continental shelf and seabed and its subsoil,¹⁸⁹ land-based source pollution,¹⁹⁰ transboundary movements of hazardous

¹⁸⁵ Ornat and Correas, *supra* note 178, p.68; Maria Gavouneli, “New Forms of Cooperation in the Mediterranean System of Environmental Protection,” in Nordquist, Moore and Mahmoudi (eds.), *The Stockholm Declaration and Law of the Marine Environment*, *supra* note 157, pp.223-235. p.224.

¹⁸⁶ Ornat and Correas, *supra* note 178, p.68.

¹⁸⁷ Article 5 of the Barcelona Convention. The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, adopted in 10 June 1995, entered into force in 9 July 2004, *UNTS*, Vol. 1102, p.27.

¹⁸⁸ Article 6, the Barcelona Convention.

¹⁸⁹ Article 7, the Barcelona Convention.

¹⁹⁰ Article 8, the Barcelona Convention.

wastes, and their disposal¹⁹¹ in the Mediterranean Sea. The 1995 Convention also established additional Protocols on pollution from exploration and exploitation of seabed resources and the transboundary movement of hazardous waste.

In addition to the extension of the purpose, there was a requirement for its legal system to be revised extensively to catch up with the development of world ocean management since the LOSC was adopted and the 1992 United Nations Conference on Environment and Development (UNCED) was held.¹⁹² As a result, the 1995 Barcelona system in particular added many environmental principles adopted in the Rio Declaration, including the sustainable development.

The 1976 Barcelona Convention fully corresponded to the most advanced contemporary environmental principles which were stipulated in the Stockholm Declaration in anyway although it was required to be updated with more advanced environment principles.¹⁹³ The Stockholm Declaration includes principles such as: transfer of technology, intergenerational equity to enjoy healthy environment, State responsibility to transboundary pollution control, and special responsibility to safeguard wildlife and habitats.¹⁹⁴ At the time of the adoption of the Declaration those principles were more advanced than the contemporary international environmental laws.¹⁹⁵ Those principles had the role of awakening fundamental rights and obligations to protect environment and are now underlying in various international and national laws.¹⁹⁶ The 1982 SPA Protocol, which is a part of the 1976 Barcelona system, seems to include more progressive principles than those of the Stockholm Declaration. This Protocol aims to protect biological and ecological values, genetic diversity, representative types of ecosystems, and ecological processes.¹⁹⁷ Although

¹⁹¹ Article 11, the Barcelona Convention.

¹⁹² Ornella Ferrajolo, "Specially Protected Areas and Biodiversity in the Mediterranean," Istituto di Studi Giuridici Internazionali, <http://www.isgi.cnr.it/stat/pubblicazioni/sustainable/068.pdf> (accessed on 29 December 2008). p.68.

¹⁹³ Gavouneli, supra note 185, p.224.

¹⁹⁴ Declaration of the United Nations Conference on the Human Environment (the Stockholm Declaration), Stockholm, Sweden, 1972, UN, A/CONF/48/14/REV.1.

¹⁹⁵ See Alexandre Kiss, "The Destiny of the Principles of the Stockholm Declaration," in Myron H. Nordquist, John Norton Moore and Said Mahmoudi (eds.), *The Stockholm Declaration and Law of the Marine Environment*, Martinus Nijhoff Publishers, 2003, pp. 53-66.

¹⁹⁶ *Ibid.*, pp. 53-55.

¹⁹⁷ Article 3(2)(a), the 1982 Protocol Concerning Mediterranean Specially Protected Areas.

this Protocol incorporated more advanced ecosystem and biodiversity considerations than the 1976 Convention itself, this Protocol did not cover the high seas and so could not establish SPAs on the high seas.

While the SPA Protocol did not cover the high seas, the SPAMI Protocol covers all Convention areas including the high seas and the seabed and its subsoil.¹⁹⁸ Geographical extension of this Protocol on protected areas was initially controversial because disputes among coastal states on maritime boundary delimitation still exist.¹⁹⁹ It was necessary, however, to extend the geographical scope of the Protocol to protect ecosystems and migratory species in the high seas²⁰⁰ because limited coverage could deteriorate the high seas environment in the region.²⁰¹ In addition to the expansion of its coverage, the 1995 SPAMI Protocol has considerably enhanced the original Protocol adding new provisions on the preservation of threatened or endangered species of flora and fauna (Article 3, para. 1), conservation and sustainable use of biodiversity (Article 3, para. 2-5), and the precautionary principle (Article 7).²⁰²

The 1995 Barcelona Convention and its Protocols also incorporate more environmental concerns. The 1995 Barcelona system newly appended rules concerning the degradation of coastal areas and coastal management, the protection and sustainable use of biodiversity, and a more integrated approach to development and environmental issues in the region.²⁰³ As noted above, the 1995 Convention encompasses contemporary environmental principles, particularly from the Rio Declaration, such as: the precautionary principle, the polluter pays principle, the environmental impact assessment,²⁰⁴ as well as the sustainable development.²⁰⁵ Other contemporary environmental principles are also adopted: such as integrated coastal

¹⁹⁸ Article 2, the 1995 SPA Protocol.

¹⁹⁹ Ferrajolo, *supra* note 192, p.70. For example, in Aegean Sea, the very possibility of extending the territorial sea beyond six-mile limit has been disputed between two bordering countries, Greece and Turkey. Tullio Scovazzi, "The Recent Developments in the Mediterranean against Pollution," *International Journal of Marine and Coastal Law*, Vol. 11, 1996, pp. 95-100, p.98

²⁰⁰ Scovazzi, "The Recent Developments in the Mediterranean against Pollution," *ibid.*, p. 98.

²⁰¹ Ferrajolo, *supra* note 192, p.70.

²⁰² Ferrajolo, *ibid.*, pp.72-73.

²⁰³ *Park- International Agreements and Programs*, *supra* note 184, p. 7. See also "Activity," UNEPMAP. Available at <http://www.unepmap.org> (accessed on 29 December 2008).

²⁰⁴ Article 4 (3), the Barcelona Convention.

²⁰⁵ Preamble and Article 4(6), the Barcelona Convention.

zone management, the best available technology, the best environmental practices, and the environmentally sound technology.²⁰⁶ The precautionary principle also explicitly appears in the preamble of the SPAMI Protocol. Although the 1995 Convention and its Protocols incorporate many contemporary environmental principles, as none of the LOSC and the Rio Declaration contains any specific provision on the ecosystem approach the 1995 Barcelona system (including the SPAMI Protocol) does not explicitly stipulate the principle.

Except this condition of incorporation of the ecosystem approach, the SPAMI Protocol satisfies the rest of qualities to function as the new type of HSMPAs: containing a provision on MPAs; and, competence to safeguard the three deep sea features. This Protocol establishes two types of protected areas: specially protected areas (SPA) which was the only type of protected areas designated by the previous SPA Protocol and specially protected areas of Mediterranean importance (SPAMI) which is newly introduced by the SPAMI Protocol. SPAs are established only within national jurisdiction of a State with cooperation of other States of which the boundaries of their marine zones are adjacent to the proposed protected area.²⁰⁷ On the other hand, SPAMIs can be established both in the national waters and the high seas. A proposal for a high seas SPAMI can be made by more than two “neighbouring Parties.”²⁰⁸ The proposal should be reviewed by the National Focal Points²⁰⁹ to check whether it is complied with “the common guidelines and criteria” stipulated in Article 16 of the SPAMI Protocol.²¹⁰ Proposals for high seas SPAMIs, as well as SPAMIs in national waters should also be submitted to the Regional Activity Centre for Specially Protected Areas (RAC-SPA).²¹¹ If a proposal for a high seas SPAMI is approved by the National Focal Points, the RAC-SPA forwards the proposal to the UNEP for

²⁰⁶ Article 4, the Barcelona Convention.

²⁰⁷ See Article 5, the SPAMI Protocol.

²⁰⁸ Article 9(2), the SPAMI Protocol.

²⁰⁹ According to Article 24, the SPAMI Protocol, “Each Party shall designate a National Focal Point to serve as liaison with the Centre on technique and scientific aspects of the implementation of this Protocol. The National Focal Points shall meet periodically to carry out the functions to deriving from this Protocol.”

²¹⁰ Article 9(4), the SPAMI Protocol.

²¹¹ Article 9(4), the SPAMI Protocol.

adoption by the meeting of the parties to the Protocol.²¹² As this is closing an area on the high seas the meeting of the parties to this Protocol should formally approve the proposal and its management measures by consensus.²¹³ Once the proposal is adopted, the management measures in the SPAMI should be implemented by proposed States and the member States should observe the measures.²¹⁴

The primary purpose of a SPAMI is “the conservation of natural heritage,” especially representative value of the Mediterranean ecosystems.²¹⁵ Whether the three deep-sea features can belong to natural heritage and so be protected by SPAMIs can be found in the criteria for the establishment of SPAMI.²¹⁶ The SPAMI Protocol and one of its annexes set out the criteria for determining validity of a SPAMI: physical criteria, natural conditions, and operational criteria. Article 8 (2) of the SPAMI Protocol specifies the physical criteria of regional preference: significant components of biological diversity; indigenous ecosystems or habitats of endangered species; and/or scientific, aesthetic, cultural or educational value. The three deep sea features may be able to fit in those criteria. All the deep-sea features form remote and indigenous habitats and ecosystems, so they are biologically significant and have scientific and educational value. If a site contains more than one of these physical elements, the natural conditions should be examined through assessing whether those ecosystems, habitats, and components have: “uniqueness”; “natural representativeness”; “diversity”; “naturalness”; importance to “endangered, threatened or endemic species”; and “cultural representativeness.”²¹⁷ The three deep-sea features form a ‘unique’ ecosystem, can have ‘natural representativeness,’ and are important to their

²¹² Article 9(4)(c), the SPAMI Protocol.

²¹³ Article 9(4)(c), the SPAMI Protocol.

²¹⁴ Article 9(5), the SPAMI Protocol.

²¹⁵ Annex I. A. a) and c), the SPAMI Protocol.

²¹⁶ The three deep sea features exist in the Mediterranean sea. See Adrian Kitchingman and Sherman Lai, “Inferences on Potential Seamount Locations from Mid-resolution Bathymetric Data,” in Telmo Morato and Daniel Pauly (eds.), *Seamounts: Biodiversity and Fisheries*, Fisheries Centre Research Report, Vol.12, No.5, 2004. Available at <http://www.searounds.org/> (accessed on 6 October 2008); Andre Freiwald, Jan Helge Fossa, Anthony Grehan, Tony Koslow and J. Murray Roberts, *Cold-Water Coral Reefs, Out of Sight – No Longer Out of Mind*, UNEP-WCMC, Cambridge, UK, 2004. Available at <http://www.ourplanet.com/wcmc/pdfs/Cold-waterCoralReefs.pdf> (accessed on 29 December 2008); Anna Maria De Biasi and Stefano Aliani, “Shallow-water hydrothermal vents in the Mediterranean sea: stepping stones for Lessepsian migration?” *Hydrobiologia*, Vol. 502, Nos. 1-3, 2003, pp. 37-44.

²¹⁷ Paragraph 2 of Section B in Annex I Common Criteria for the Choice of Protected Marine and Coastal Areas that Could be Included in the SPAMI List, the SPAMI Protocol.

endemic species. Additionally, if the operational criteria are fulfilled, a candidate for a SPAMI can be more prioritised: the existence of actual threats; public participation; the existence of an organization for stakeholders; potentiality for sustainable development; or the existence of integrated coastal management plan.²¹⁸ Although the threats to the deep-sea features may not be serious and are mostly only potential at present, the actual threats have been recognised. Since the three deep-sea features satisfy all these criteria, it should be concluded that the Barcelona Convention can actually establish SPAMIs to conserve those deep-sea features. The SPAMI Protocol includes lists of species which need special attention in Annex II and III, but it does not contain a specific list of ecosystems and habitats (including the deep sea features). However, since the lists are not purported to limit the subject of protection, existence of the lists does not prevent the conservation of the deep sea features by establishing SPAMIs under the Protocol.

As reviewed, the SPAMI Protocol can establish protected areas for the deep sea features on the high seas. However, SPAMIs have never yet been designated to conserve the deep sea features. The 12th Ordinary Meetings of the Contracting Parties to the Barcelona Convention and its Protocols in 2001 decided to include twelve sites in the SPAMI List: the Ligurian Sea (France, Italy and Monaco); Port Cros in France; Alboran Islands, Cabo de Gata, Almeria, Mar Menor, Cap de Creus, Medes, and Columbretes Island in Spain; La Gallite, Kneiss, and Zembar-Zembretta in Tunisia.²¹⁹ Including these sites, until January 2008, a total of twenty-one SPAMIs were established. In addition to the original twelve sites, Algeria designated two SPAMIs (Banc des Kabyles Marine Reserve and Habibas Island), Italy has five SPAMIs (Portofino, Miramare, Plemmirio, Tavolara-Punta Coda Cavallo, Torea Guaceto), and Spain has two additional SPAMIs (Maro-Cerro Gordo Cliffs and Archipelago of Cabrera National Park).²²⁰ The Pelagos Sanctuary for Mediterranean Marine Mammals (hereafter the Pelagos SPAMI) in the Ligurian Sea is particularly

²¹⁸ Paragraph 4 of Section B in Annex I, the SPAMI Protocol.

²¹⁹ Ornat and Correas, *supra* note 178, p.69.

²²⁰ "SPAMI List (January 2008)," RAC-SPA. Available at <http://www.rac-spa.org> (accessed on 8 December 2008).

noteworthy because it is first established on the high seas in this region. Other initiatives for SPAMIs on the high seas are under development (for example in the Alboran Sea).²²¹ The Pelagos sanctuary which currently is the only high seas SPAMI is not, however, aimed for the conservation of deep sea features. Details on this SPAMI are further illustrated in the following subsection.

Pelagos Sanctuary

The first high seas SPAMI was established in 1999 by France, Italy, and Monaco in the Ligurian Sea to protect cetacean populations from all human activities.²²² Fifty-three percent of the area is formed of internal water and territorial seas of the three coastal States.²²³ The rest of the area is on the high seas. The sanctuary is characterised by a very high level of primary productivity as of upwellings of deep, nutrient-rich waters, in contrast to the low productivity of other Mediterranean areas.²²⁴ Research cruises conducted between the late 1980s and early 1990s collected information about the eight cetacean species in the region which aggregate during summer for feeding: fin whale; sperm whale; Cuvier's beaked whale; long-finned pilot whale; striped dolphin; common dolphin; bottlenose dolphin; and, Risso's dolphin.²²⁵ Considerable threats existed for them by entanglement in driftnet, toxication accumulated in the cetacean's fatty tissues, noise from vessel traffic, and collision

²²¹ Ornat and Correas, supra note 178, p.75. This site include some seamounts. See "Applying the Format for the Proposal of Protected Areas for Cetaceans," Third Meeting of Contracting Parties, Dubrovnik, Croatia, ACCOBAMS, 22-25 October 2007, ACCOBAMS-MOP3/2007Inf38. This site has not been included in the list of SPAMIs until the early of 2008. See the recent SPAMI list, *ibid*.

²²² "Case Study: Pelagos Sanctuary for Mediterranean Marine Mammals," <http://www.cetaceanhabitat.org/pelagos.html> (accessed on 3 February 2008).

²²³ "Special Features: Innovation and MPAs in the Mediterranean Sea," MPA News Vol.5, No.3, September 2003, <http://depts.washington.edu/mpanews/MPA45.htm> (accessed on 29 December 2008).

²²⁴ "International Ligurian Sea Cetacean Sanctuary," Thethys Research Institute, <http://www.tethys.org/sanctuary.htm> (accessed on 27 September 2006).

²²⁵ Giuseppe Notarbartolo di Sciara, "The International Sanctuary for Mediterranean Cetaceans: a case study for MPA governance in the high seas," IUCN Conference on Protected Areas in the Mediterranean Context, Murcia, Spain, March 2003. Available at <http://www.iucn.org> (currently unavailable); and, see Tullio Scovazzi, "Current Legal Developments: Mediterranean-The Mediterranean Marine Mammals Sanctuary", *International Journal of Marine and Coastal Law*, Vol. 16, No.1, 2001, pp.132-145, p.132. Also details available in "Case Study: Pelagos Sanctuary for Mediterranean Marine Mammals," supra note 222.

with vessels.²²⁶ Most habitats of these species are located on the high seas beyond the territorial seas, so special measures for the protection of the high seas were required.²²⁷

When the idea of creating such a sanctuary was raised in the late 1980s protection of the high seas was not legally supported in the region.²²⁸ The three coastal States first made a joint declaration for the institution of a Mediterranean sanctuary for the protection and conservation of marine mammals signed on 22 March 1993 in Brussels.²²⁹ The purpose of this declaration was to protect all marine mammals through regulating whaling, research activities, whale-watching, speedboat competition, and pollution.²³⁰ The declaration was a statement of principles which had to be implemented through the enactment of corresponding legislation by the States concerned.²³¹ The area which the declaration intended to cover was between Corsica (France), Sardinia (Italy), Liguria (Italy) and Provence (France, Monaco).²³²

In 1994 the World Conservation Union (IUCN) approved the designation of the Pelagos Sanctuary adopting Recommendation 19.92 to Establishment of a Marine Sanctuary for Large and Small Cetaceans in the Ligurian Sea, Western Mediterranean.²³³ An additional international support for the Pelagos cetacean protection was initiated by the establishment of the Agreement for the Conservation of Cetacean of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) in 1996 promoted by the Convention on the Conservation of Migratory Species of Wild Animals (CMS).²³⁴

On 25 November 1999, France, Italy, and Monaco signed the Agreement on the Creation of a Mediterranean Sanctuary for Marine Mammals (the Cetacean Sanctuary

²²⁶ “International Ligurian Sea Cetacean Sanctuary,” supra note 224.

²²⁷ di Sciara, supra note 225.

²²⁸ *Ibid.*

²²⁹ “International Ligurian Sea Cetacean Sanctuary,” supra note 224.

²³⁰ *Ibid.*

²³¹ Scovazzi, *Marine Specially Protected Areas*, supra note 102, p.98.

²³² *Ibid.*

²³³ International Ligurian Sea Cetacean Sanctuary, supra note 224.

²³⁴ *Ibid.*

Agreement).²³⁵ The three Parties of the Cetacean Sanctuary Agreement established a regular meeting of Parties to discuss the implementation of the Agreement.²³⁶ Parties should adopt protective measures for the conservation of marine mammals against threatening human activities to marine mammals, for cooperation to manage marine mammal populations, and for controlling marine pollution to prevent the toxication.²³⁷ Fishing activities are regulated particularly by the relevant EU rules. The preamble and Article 7 of the Agreement refer to the rules established by the EU for the regulation of fishing activities in the sanctuary. Besides France and Italy, which are member States of the EU, a non-member State of the EU, Monaco, is also bound by the EU regulation regarding the control of driftnet fishing in the sanctuary.²³⁸ New fishing technologies should be used cautiously in order not to cause an accidental bycatch of marine mammals or their prey.²³⁹ All these regulations apply to ships flying flags of the three States Parties on the high seas and third States in consistence with the international law.²⁴⁰

During the 12th Meeting of the Parties to the Barcelona Convention and its Protocols which was held in Monaco in 2001, this Sanctuary was inscribed in the SPAMI List together with another eleven sites.²⁴¹ Therefore, all States Parties to the SPAMI Protocol²⁴² should be bound by protective measures in the SPAMI approved at the meetings of the Parties to the Protocol. The Cetacean Sanctuary Agreement entered into force on 21 February 2002.²⁴³

²³⁵ The Agreement on the Creation of a Mediterranean Sanctuary for Marine Mammals (the Cetacean Sanctuary Agreement), adopted on 25 November 1999, 21 February 2002, *UNTS*, Vol. 2176, p. 249.

²³⁶ Article 12 (1), the Cetacean Sanctuary Agreement.

²³⁷ Article 4, 5 and 6, the Cetacean Sanctuary Agreement.

²³⁸ Article 7(c), the Cetacean Sanctuary Agreement.

²³⁹ Article 7, the Cetacean Sanctuary Agreement.

²⁴⁰ Article 14 (2), the Cetacean Sanctuary Agreement.

²⁴¹ Tullio Scovazzi, "Marine Protected Areas on the High Seas: Some Legal and Policy Considerations", *International Journal of Marine and Coastal Law*, Vol. 19, No. 1, 2004, pp.1-17, p.13.

²⁴² As to 14th September 2004, States ratified this protocol are Albania, Algeria, Croatia, Cyprus, Egypt, European Community, France, Italy, Malta, Monaco, Slovenia, Spain, Syria, Tunisia, and Turkey. "Regional Profile on Mediterranean Region" available from Mediterranean Regional Seas Programme in the UNEP website, http://www.unep.org/regionalseas/programmes/unpro/Mediterranean/instruments/r_profile_med.pdf (accessed on 30 December 2008).

²⁴³ "International Ligurian Sea Cetacean Sanctuary," supra note 224.

5.2.1.2. Additional Support for the Mediterranean High Seas Specially Protected Areas

As confirmed in the previous section, the Barcelona Convention system provides an explicit legal basis for protected areas on the high seas, is competent to protect the three deep sea features, and actual protected areas have been proposed and established on the high seas. However, the ecosystem approach is not expressly incorporated into the system and SPAMIs have not yet been established to conserve the deep-sea features on the high seas. The ecosystem approach is an essential quality which distinguishes the new type of MPAs from the traditional protected areas. While the CBD adopted this essential principle institutionally, the Barcelona Convention and the SPAMI Protocol have never incorporated it institutionally.

The Barcelona Convention does not establish an intergovernmental organization for its implementation. This Barcelona system was negotiated under the auspices of the UNEP and designated the UNEP to function as a secretariat instead of establishing its own permanent secretariat. The UNEP carries out the following functions: convening meetings; giving notice to contracting parties; dealing with enquiries from non-governmental organizations and the public; performing its functions assigned by this Convention and Protocols and parties; reporting regularly on the implementation of this Convention and Protocols; and, making sure of the coordination with other competent international bodies.²⁴⁴

Implementation of the Convention is conducted by an AIA which is titled the ‘Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean against Pollution and its Protocols’ (the Meeting of the Contracting Parties).²⁴⁵ Contracting Parties to each Protocol are also convened for meetings relating to implementation of the Protocol “in conjunction with the ordinary meetings of the Contracting Parties to the Convention.”²⁴⁶ The Meeting of the Contracting

²⁴⁴ Article 17, the Barcelona Convention.

²⁴⁵ Article 18, the Barcelona Convention. See “Regional Profile on Mediterranean Region,” *supra* note 242, Section 1.4.2. Also see Churchill and Ulfstein, *supra* note 1, p. 624.

²⁴⁶ For the SPAMI Protocol, see Article 26 (1) of the Protocol.

Parties is held once every two years.²⁴⁷ When the Meeting of the Contracting Parties is not held, the Bureau of Contracting Parties, which was established by Article 19 of the Barcelona Convention, is in charge of “guiding and advising the Secretariat.”²⁴⁸ The Meeting of the Contracting Parties are advised and supported by several subsidiary organizations. One of the subsidiary bodies in charge of implementing the SPAMI Protocol is the RAC-SPA, established in 1985.²⁴⁹

Meetings of the Contracting Parties have recently discussed the ecosystem approach. The 13th Ordinary Meeting of the Contracting Parties in 2003 first adopted a non-binding declaration (the Catania Declaration) to encourage the European Community towards the implementation of an ecosystem-based ocean management.²⁵⁰ Since the Catania Declaration was adopted, relevant issues to the ecosystem approach have continuously appeared at the Meetings of the Contracting Parties.²⁵¹ The relevant issues are mostly about the application of the ecosystem approach to the European Marine Policy and collaboration with the Mediterranean Action Plan on that issue.²⁵² As a result of the Catania Declaration, the 14th Meeting of the Contracting Parties held in 2005 approved a joint task with the EC to research “the implications of applying the ecosystem approach to the management of human

²⁴⁷“Regional Profile on Mediterranean Region,” supra note 242, Section 1.4.3.

²⁴⁸ *Ibid.*, Section 1.4.3.

²⁴⁹ *Ibid.*, Section 1.4.5.4.

Although the primary responsibility for managing SPAMI remains in the competent national authorities, the coordination of implementation measures is entrusted to the RAC-SPA. The RAC-SPA is one of the regional activity centres of the Mediterranean Action Plan for assisting the Mediterranean countries with the implementation of the SPAMI Protocol. The functions of RAC-SPA are assisting States Parties to establish and manage SPA and SPAMI, to conduct scientific and technological research, to exchange the results of the research between parties, to provide management plans for protected areas, to develop cooperation programs, and to prepare educational materials for various groups. There are also other missions for RAC-SPA: preparing meetings of National Focal Points; recommending the guidelines and common criteria for selection, establishment and management of SPAs and SPAMIs; creating and updating databases on SPA; preparing reports and technical studies; elaborating and implementing the training programs; cooperating with other regional and international organizations involving in the similar subject; other functions assigned to it by the action plans and contracting parties. “The Regional Activity Centre for Specially Protected Areas (RAC/SPA),” RAC/SPA, <http://www.rac-spa.org> (accessed on 30 December 2008).

²⁵⁰ “Applying the Ecosystem Approach in the Mediterranean,” Government-Designated Expert Meeting on the application of the Ecosystem Approach by the Mediterranean Action Plan, UNEP, Mediterranean Action Plan, MED POL, Athens, 20-21 February, 2007, UNEP (DEPI)/MED WG.306/2, <http://www.unepmap.org> (accessed on 4 November 2008). p. 4.

²⁵¹ *Ibid.*, p. 4.

²⁵² *Ibid.*, p. 4.

activities in the Mediterranean region.”²⁵³ However, the Declaration and joint task focus on the EC’s role to lead the implementation and encourage further research rather than on the actual implementation of the principle under the Barcelona system. This indirect approach to this principle in the Barcelona system was pointed out in a recent document which was prepared in relation to the Mediterranean Action Plan.²⁵⁴ An indirect approach to the principle means that SPAMIs do not satisfy a quality for the new type of HSMPAs, and are thus more eligible as traditional area closures. For example, the Pelagos sanctuary without consideration of correlation among ecosystem components does not protect other components besides the target species, and does not regulate activities other than ones which negatively influence whales, so is not distinctive from a traditional whale sanctuary as established under the IWC Convention (The International Convention for the Regulation of Whaling). Regardless of this disqualification to one quality of the new type of HSMPAs, it should not be disregarded that SPAMIs can have a certain effectiveness of conservation of the deep sea features and surrounding ecosystems if they can be established in the right place.

If the Barcelona system may incorporate the ecosystem approach for SPAMIs in the near future SPAMIs can function as the new HSMPAs. However, some implementation problems are expected to interrupt SPAMIs from effectively safeguarding the deep sea ecosystems. These implementation problems go beyond the main question of this chapter, but it is especially worth mentioning the following problem because it interrupts the effective implementation of high seas SPAMIs. The Barcelona Convention has a framework character which provides general obligations to member states. The details of its implementation have to be stipulated in the Protocols.²⁵⁵ For example, the 1976 Barcelona Convention has never contained any provision on the establishment of the protected areas, but the SPA Protocol was established based on the general obligation on taking protective measures which was stipulated in Article 4 of the Convention and the article provided the express legal

²⁵³ *Ibid.*

²⁵⁴ *Ibid.*; “The Regional Activity Center for Specially Protected Areas(RAC/SPA),” *supra* note 249.

²⁵⁵ Ferrajolo, *supra* note 192, p. 74.

justification of establishing protected areas.²⁵⁶ The idea of a framework convention with separate optional protocol was distinctive at that time of its adoption and the success in the UNEP Regional Seas Program inspired other UNEP sponsored treaties to follow the same system.²⁵⁷ However, this enhancement by protocols can retard the prompt implementation of a new development. Since States Parties ratify only preferred protocols, broad participation in protocols is not guaranteed. In addition, if States ratify protocols later, they will enact relevant domestic legislations later. This can delay implementation of the protocols. Even if domestic legislation for protected areas can be swiftly enacted, delaying implementation of domestic legislation may also devastate the swift implementation of this framework convention system.²⁵⁸ For example, Italy enacted legislation on protected areas in 1982 and explicitly prioritized twenty areas for marine reserves, but only seven areas were designated as reserves in the ten years until 1991.²⁵⁹

5.2.1.3. Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area²⁶⁰

The CMS is another framework convention which was established under the auspices of the UNEP to conserve wild migratory animals through establishing subsidiary agreements.²⁶¹ This Convention does not include an explicit provision on MPAs. However, one of its subsidiary agreements, the ACCOBAMS, has been involved in the establishment of MPAs in the Mediterranean region. This Agreement covers only cetaceans²⁶² and applies to the high seas since it covers all Mediterranean

²⁵⁶ Articles 4(5) and 21, the 1976 Barcelona Convention.

²⁵⁷ Sand, *supra* note 158, p. xi.

²⁵⁸ Ferrajolo, *supra* note 192, pp. 74-75.

²⁵⁹ *Ibid.*, pp. 74-75.

²⁶⁰ Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Sea (ACCOBAMS), adopted on 24 November 1996, entered into force on 1 June 2001, *UNTS*, Vol. 2183, p.321.

²⁶¹ See "Introduction to the Convention on Migratory Species," CMS, available at <http://www.cms.int/about/intro.htm> (accessed on 11 January 2008). The Convention on the Conservation of Migratory Species of Wild Animals (CMS), adopted on 23 June 1979, entered into force on 1 November 1983, *UNTS*, Vol. 1651, p. 333.

²⁶² Article I(2), the Agreement.

waters.²⁶³ One of its two annexes, Annex II, contains an article on specially protected areas to protect the habitats of cetaceans.²⁶⁴ Such protected areas “should be established within the framework” of the Barcelona Convention²⁶⁵ and its protocols to “optimise effectiveness and resources, and avoid duplication of effort and overlap.”²⁶⁶ Recent meeting results or resolutions adopted under this Agreement refer to the ecosystem approach. However, such references are only about the adoption of the principle under the other convention (the CBD), recommending studies to be carried out on the influence of the principle to actual conservation,²⁶⁷ or in academic papers rather than actually calling for its implementation. Thus, MPAs created under this Agreement seem to be closer to traditional protected areas as SPAMIs under the Barcelona Convention. Since MPAs under the ACCOBAMS should be established within the framework of the Barcelona Convention and the Barcelona Convention was reviewed in this section, this thesis will not further elaborate on the legal justification for the new concept of HSMPAs under this agreement.

5.2.2. Antarctic Treaty²⁶⁸

The 1959 Antarctic Treaty is the main treaty of the Antarctic Treaty System (ATS) which is comprised with two additional conventions and one protocol: the 1972 Convention for the Conservation of Antarctic Seals (CCAS),²⁶⁹ the 1980 Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR),²⁷⁰ and the 1991 Protocol on Environmental Protection to the Antarctic

²⁶³ Article I(1)(a), the Agreement.

²⁶⁴ Article 3, Annex II, the Agreement.

²⁶⁵ *Ibid.*

²⁶⁶ Annex 2. Guidelines for the Establishment and Management of Marine Protected Areas for Cetaceans of Resolution 3.22: Marine Protected Areas for Cetaceans in “Report of the Third Meeting of the Contracting Parties to ACCOBAMS,” Dubrovnik, Croatia, ACCOBAMS, October 2007, p. 270.

²⁶⁷ See “Report of the Second Meeting of the Parties to ACCOBAMS,” Palma de Mallorca, Spain, ACCOBAMS, November 2004.

²⁶⁸ The Antarctic Treaty, adopted 1 December 1959, entered into force 23 June 1961, *UNTS*, Vol. 402, p. 71.

²⁶⁹ The Convention for the Conservation of Antarctic Seals (CCAS), adopted on 1 June 1972, entered into force on 11 March 1978, *UNTS*, Vol. 1080, p.187.

²⁷⁰ The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), adopted on 20 May 1980, entered into force on 7 April 1982, *UNTS*, Vol.1329, p. 72.

Treaty.²⁷¹ This treaty system is the only international law which governs all issues relating to Antarctica where human consumption of resources is limited by permanent thick ice sheet and a frozen sea.²⁷² The first human activity conducted in this extreme environment was scientific exploration. The feasibility of scientific exploration made this remote and extreme environment worthwhile to be claimed as territories. In the early period of scientific exploration seven States, including Australia, Norway, Argentina, UK, New Zealand, Chile, and France, claimed territories in Antarctica. These territorial claims on the Antarctica by the States with the technology for exploration were considered to be controversial in the international community. The establishment of the Antarctic Treaty was prompted by this controversial situation relating to the territorial claims.²⁷³ The territorial claims were never legitimated and were delayed to be solved later, but they have continuously existed after the Antarctic Treaty was established in 1959.²⁷⁴ Since the only human activity initially conducted on the Antarctica was scientific exploration, this Treaty takes into account mainly, but is not limited to, scientific activities.

In spite of this background with territorial claims and scientific research, this Treaty covers far-reaching issues on the continent and its surrounding sea South of 60° S. New issues came up after the Antarctic Treaty entered into force in 1961 have been handled by the adoption of additional legal instruments, such as the 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora, the 1991 Protocol, the CCAS, and the CCAMLR. The protected area was one of the new issues introduced to the ATS by these supplementing legal instruments. The Antarctic Treaty itself does not contain any provision on the protected area, but all supplementing protocol and follow-up agreements and conventions have provisions for it.

²⁷¹ "The Antarctic Treaty," Antarctic Treaty Secretariat. Available at <http://www.ats.aq/> (accessed on 30 December 2008).

²⁷² Donald Rothwell, "The Antarctic Treaty: 1961 – 1991 and Beyond," *Sydney Law Review*, Vol. 14, 1992, pp.62-85, p.62; William M. Welch, "The Antarctic Treaty System: Is It Adequate to Regulate or Eliminate the Environmental Exploitation of the Globe's Last Wilderness?," *Houston Journal of International Law*, 1991, pp.597-657, p. 600.

²⁷³ Welch, *ibid.*, pp.616-617. Also see "The Antarctic Treaty," *supra* note 271.

²⁷⁴ Welch, *ibid.* pp.613-617.

The marine area covered by this ATS currently is comprised almost entirely of the high seas. Thus, if marine protected areas are established under the ATS, they will be mostly HSMPAs. This current status of the sea area under the convention could be changed by claiming the marine jurisdiction off the coast of the Antarctica by claimants of Antarctic territory. Until recently only one claimant, Australia, has declared all types of marine zones off its claimed territory in the Antarctica and Australia's claim is arguably contrary to Article IV of the Treaty. Legally, it is controversial whether the seven claimants can declare marine zones off their claimed territories on the Antarctica. As the territorial claims have not been legitimated, no sovereignty exists on the Antarctica. No sovereignty on the continent means that no sovereignty, sovereign right, or jurisdiction can be claimed in the adjacent sea.²⁷⁵ According to Churchill and Lowe, Article IV of the Antarctic Treaty expressly rules out the claiming of marine zones²⁷⁶ because Article IV prohibits any "enlargement of an existing claim, to territorial sovereignty in Antarctica...while the present Treaty is in force."²⁷⁷ Despite this provision, Australia has practised the declaration of all marine zones off its claimed territory.²⁷⁸ Australia declared the Antarctic territorial sea in 1990 and the Antarctic EEZ in 1994.²⁷⁹ Furthermore, Australia submitted information on the limits of continental shelf beyond 200 miles from the baseline off its Antarctic territory to the Commission on the Limits of the Continental Shelf.²⁸⁰ The legitimacy of the Australian claims of marine zones off its claimed Antarctic territory is contentious because as explained the Antarctic Treaty does not allow any extension or addition of territorial claims. So far, although there have been a few

²⁷⁵ Christopher C. Joyner, *Antarctica and the Law of the Sea*, Martinus Nijhoff Publishers, 1992, p. 75.

²⁷⁶ Churchill and Lowe, *supra* note 8, p. 165.

²⁷⁷ Article IV (2), the Antarctic Treaty. See Vicuna for opposite opinion to this issue. Francisco Orrego Vicuna, "The Law of the Sea and the Antarctic Treaty System: New Approaches to Offshore Jurisdiction," in Christopher C. Joyner and Sudhir K. Chopra (eds.), *The Antarctic Legal Regime*, Martinus Nijhoff Publishers, 1988, pp. 97-127, p. 99.

²⁷⁸ Susie M. Grant, "Challenges of Marine Protected Area Development in Antarctica," *Parks, High Seas Marine Protected Areas*, Vol. 15, No.3, 2005, p.42.

²⁷⁹ Victor Prescott and Clive Schofield, *The Maritime Political Boundaries of the World*, Brill, 2004, p. 536.

²⁸⁰ Anna Homan, "Maritime Zones in Antarctica," *Australian & New Zealand Marine Law Journal*, Vol. 20, 2006, pp. 69-77, p. 74.

protests to the Australia's Antarctic marine zones²⁸¹ the protests have not resulted in the annulment of the Australian claim. Although no other territorial claimant has yet claimed marine jurisdiction within the Antarctic Treaty area, and the Australian claims do not make other States' claims valid, it is plausible that other claimants may also declare and have all of the marine zones off their claimed territories on the Antarctic as Australia has done. If all other territorial claimants in the continent declare jurisdiction to the adjacent sea area, the high seas regulated by this ATS will be significantly reduced.

How much of the high seas in the Antarctic sea will be reduced by claiming the marine zones largely depends on where the baselines set up. Where the baselines can set up is not easy to determine in this region because of thick ice covering the Antarctic. There are several types of ice covering the Antarctic continent and the sea around it.²⁸² Of special importance is the ice shelf which is formed by the extended part of continental glaciers over the adjacent sea.²⁸³ Because the glacial ice covering the continent has such a long lasting character and the ice shelf is its extension it may possibly be insisted that the ice shelf is significant that it can be determined to be a part of the landmass of Antarctica. Even if the ice shelf can be dealt with as a part of the land, the question of how to draw a baseline on the ice shelf is still complicated to answer. There are several types of ice shelf available but to date no single rule of drawing baselines which fits all types has been developed. Some of the ice shelf lays down on the sea floor and so vertically both occupies the entire water column and the above of the sea surface.²⁸⁴ Other types exist only beneath the sea surface or are floating on the sea.²⁸⁵ Watts describes these differences as the different stages of a single transformation process from continental glaciers (ice sheet) to ice shelf.²⁸⁶

²⁸¹ Churchill and Lowe, *supra* note 8, p. 165.

²⁸² See Christopher C. Joyner, "Ice-Covered Regions in International Law," *Natural Resources Journal*, Vol. 31, 1991, pp.213-242.

²⁸³ *Ibid.*, p.225.

²⁸⁴ *Ibid.*, p.225.

²⁸⁵ *Ibid.*, p.225.

²⁸⁶ Arthur Watts, *International Law and the Antarctic Treaty System*, Cambridge University Press, 1992, pp. 142-143.

The determination of the status of the ice shelf is important because the area of the current high seas in the Convention area can be minimized or enlarged depending on the status of different types of ice shelf, and so whether the currently available MPAs under the ATS covers the high seas can be determined. However, none of the applicable international law, including the LOSC, defines the legal status of the ice. The only treaty which applies to the ice shelf in the Antarctic region,²⁸⁷ the Antarctic Treaty, does not classify this ice either as sea or as land and neither does it determine which part of ice shelf should be sea or land.²⁸⁸ So the question of whether the Antarctic sea legally starts from actual coastline of the land or low water line along the sunken ice shelves or floating ice shelf is controversial. Since the Antarctic Treaty made the territorial claims in abeyance, it did not adopt and define any terms relating to marine zones. However, the Antarctic Treaty system does not disapprove the LOSC from supplementing ocean governance in this region.²⁸⁹ If marine zones off the Antarctica are allowed to be declared, it is right to create marine zones in accordance with the LOSC. The LOSC does not refer to the status of the ice, but whether the current high seas start from or the baseline can set up on the edge of ice can be implied from the relevant provisions.

In accordance with the relevant provisions of the LOSC (especially, Articles 5, 6, 9, 10, and 11), it seems that the integrity of a feature to the coast is the most important factor to determine whether it can constitute the coast and provide the baseline. If the Antarctic glaciers are considered as an integral part of the landmass because of its long lasting character, some types of ice shelf which are the extension of the glaciers can also be part of the landmass, provide the baseline, and so the Antarctic sea starts from their edge. However, not all types of ice shelf may be able to be classified as part of the land because some types of ice shelf are not attached to the landmass. The ice shelf on the seabed could be considered as an integral part of the land, and so the Antarctic sea can start from and the baseline can be drawn along its low water line.

²⁸⁷ Article VI, the Antarctic Treaty.

²⁸⁸ Joyner, "Ice-Covered Regions in International Law," *supra* note 282, pp.225-226; Rothwell, *supra* note 272, 1992, p. 70.

²⁸⁹ Joyner, *Antarctica and the Law of the Sea*, *supra* note 275, p. 75.

However, the floating part of ice shelf is not attached to the land and so cannot be considered as integrated to the land. Thus, Joyner argued that the ice shelf attached to the seafloor should be considered as the land and floating ice shelf should be regarded as the sea.²⁹⁰

As noted above, Australia is the only claimant which has so far declared marine zones off its Antarctic territory. The baseline for the marine zones seems to be the outer edge of the Antarctic ice shelf as shown on the map rather than the edge of the land itself.²⁹¹ Since the baseline was drawn up on the edge of the ice shelf as shown on the map, this may mean that Australia considered the floating ice shelf as being also an integral part of the land rather than the sea. If all claimants establish marine zones with baselines designated along the edge of the ice shelf regardless of the types of ice shelf, claimants can have the largest territory and marine area under their jurisdiction but the high seas area will be significantly reduced. Possibly, the ice shelf can be enlarged if the glacial period returns as a result of global warming. If the ice shelf is enlarged, the high seas in the Treaty area mostly off the claimed territories of Australia and French may possibly disappear because of the claims of marine jurisdiction. However, even if enlargement of the ice shelf actually occurs, the high seas in the Treaty area would hardly completely disappear. More than half the Antarctic coastline does not extend beyond 70° S. That means that there are at least 600 miles between the coastline and the outer limit of the Treaty area, 60° S (1° of latitude = 60nm, so 10° = 600nm). Even if ice shelves assimilated to land (which is controversial), it would have to be more than 400 nm in breadth for the high seas to disappear. Unless there are quite unforeseen effects of global climate change because of the currently developing stage of global warming the high seas can temporarily be larger by melting down of the ice shelf. Thus, the ATS is highly likely to be involved in the conservation of the deep-sea features by establishing protected areas on the high seas even if all claimants claim all marine zones and glacial period returns. As reviewed, the status of the ice shelf is also important in order to determine where the

²⁹⁰ Joyner, "Ice-Covered Regions in International Law," *supra* note 282, p. 228.

²⁹¹ See "Australia's Maritime Zones," 3rd Edition, Australian Government – Geoscience Australia, 2005, http://www.ga.gov.au/image_cache/GA8896.pdf (accessed on 11 September 2007).

current high seas start in this region. The status of ice shelf is controversial but for the purpose of measuring whether existing MPAs under the ATS are located on the high seas and for convenience this thesis will assume that the Antarctic sea starts from the edge of ice shelf as Australia has decided to do.

It has not reportedly been confirmed that this convention area may contain cold-water coral reefs, hydrothermal vents, and seamounts with commercially important fish stocks. As far as available information is concerned, however, some seamounts and cold-water coral reefs seem to exist in these ATS areas.²⁹² Besides the vulnerable deep-sea features, the Antarctic area deserves particular attention for special protection because of its highly endemic living creatures, its role as a reservoir of frozen fresh water, and the potential impact of the sea level rise caused by global warming. Because of these ecological and environmental significances it was once suggested to designate the whole of Antarctica as a “world park” to protect its valuable environment from resource extraction activities.²⁹³

Since MPAs on the high seas are realistic under the ATS, and some of the deep-sea features may need protection within the convention area, this section needs to examine whether MPAs under the ATS can conform to the new type of MPAs. This section will explore this question through analysing the relevant protected areas regimes under the Agreed Measures and the supplementary Protocol to be HSMPAs. Two associated conventions, the CCAS and the CCAMLR, narrowly aim at the conservation of specific species or resources. Thus, these conventions will be reviewed in Chapter VI.

²⁹² See maps available in “3. Status of the Cold-Water Coral Reefs of the World,” International Coral Reef Initiative, at <http://www.icriforum.org/secretariat/cold/scr2004v1-03.pdf> (accessed on 30 December 2008); and, Kitchingman and Lai, *supra* note 216.

²⁹³ See Michael T. Kyriak, “The Future of the Antarctic Treaty System: An Examination and Evaluation of the “Common Heritage” and “World Park” Proposals for an Alternative Antarctic Regime,” *Auckland University Law Review*, Vol. 7, 1992, pp.105-126; Welch, *supra* note 272, p. 647.

5.2.2.1. Explicit Legal Support in the Antarctic Treaty

While the Antarctic Treaty does not contain any provision about protected areas, protected areas were first incorporated into the ATS by the Agreed Measures in 1964. Article VIII of the Agreed Measures provides rules on the establishment of “specially protected areas.” This specially protected area was purported to protect “unique natural ecological system” with “outstanding scientific interest”,²⁹⁴ and allowed activities relating to scientific research only.²⁹⁵ In these specially protected areas the activities relating to scientific research were allowed only with a permit.²⁹⁶ After the specially protected areas were first adopted under the Agreed Measures seven different types of protected areas were additionally introduced by recommendations under the ATS: Sites of Special Scientific Interest (Recommendation VII-3 in 1972 and Recommendation VIII-3 in 1975); Areas of Special Tourist Interest (Recommendation VIII-9 in 1975); Historic Sites and Monuments (Recommendation I-9 in 1961); Tomb (Recommendation XI-3 in 1981); Specially Reserved Areas (Recommendation XV-10 in 1989); Marine Sites of Special Scientific Interest (Recommendation XIV-6 in 1987); and, Multiple-use Planning Areas (Recommendation XV -11 in 1989).²⁹⁷ This proliferation of protected areas in the ATS was rearranged after the adoption of the 1991 Protocol on Environmental Protection to the Antarctic Treaty.

The 1991 Protocol was adopted to amend the Antarctic Treaty through accepting the newly arising environmental requirements and concerns.²⁹⁸ The primary concern with respect to the Protocol was initially a mining ban which is stipulated in Article 9.²⁹⁹ Protected areas were not originally dealt with in this Protocol. The relevant provisions to protected areas were added in 2002 by Annex V of the Protocol on Environmental Protection to the Antarctic Treaty – Area Protection and Management.

²⁹⁴ Article VIII (1), the Agreed Measures.

²⁹⁵ Article VIII (4), the Agreed Measures.

²⁹⁶ Article VIII, the Agreed Measures.

²⁹⁷ “General Information-Antarctic Protected Area System,” Antarctic Treaty Secretariat, <http://cep.ats.aq/cep/apa/introduction/index.html> (accessed on 23 June 2007).

²⁹⁸ See Welch, *supra* note 272, p. 632.

²⁹⁹ *Ibid.*, p. 640.

CHAPTER V

Annex V of the Protocol which entered into force in 2002 sets up the rules relating to the establishment of the Antarctic Specially Protected Areas (ASPAs) in Article 3 and the Antarctic Specially Managed Areas (ASMA) in Article 4. Existing specially protected areas and sites of special scientific interest were replaced by ASPAs.³⁰⁰ All other protected areas except the historic sites and monuments were recategorised into either ASPAs or ASMAs.³⁰¹ ASPAs focus on safeguarding “outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research.”³⁰² Article 3 (2) of Annex V enumerates nine detailed examples of ASPA as follows:

- (a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities;
- (b) representative examples of major terrestrial, including glacial and aquatic, ecosystems 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;
- (e) areas of particular interest to ongoing or planned scientific research;
- (f) examples of outstanding geological, glaciological or geomorphological features;
- (g) areas of outstanding aesthetic and wilderness value;
- (h) sites or monuments of recognised historic value; and
- (i) such other areas as may be appropriate to protect the values set out in paragraph 1 above.

Although these examples do not specify in particular paragraphs (b), (c), and (d) may be able to apply to protect the three deep sea features. While ASPAs are purported to safeguard specific value, ASMAs particularly aim “to assist in the planning and co-ordination of activities, avoid possible conflicts, improve cooperation between Parties or minimise environmental impacts.”³⁰³ The ASMAs particularly include following areas:

- (a) areas where activities pose risks of mutual interference or cumulative environmental impacts; and
- (b) sites or monuments of recognised historic value.

³⁰⁰ “General Information- the Antarctic Protected Area System,” supra note 297; Article 3 (3), the Annex V, the Protocol on Environmental Protection to the Antarctic Treaty – Area Protection and Management.

³⁰¹ “Old Categories (SPA, SSSI) – the Antarctic Protected Area System,” Antarctic Treaty Secretariat, <http://cep.ats.aq/cep/apa/introduction.index.html> (accessed on 23 June 2007).

³⁰² Article 3 (1), Annex V, the Protocol.

³⁰³ Article 4(1), Annex V to the Protocol.

Access to an ASPA is denied without a permit issued in accordance with Article 7 of Annex V to the Protocol.³⁰⁴ A permit is not required to enter into an ASMA.³⁰⁵ An ASPA can be established in an ASMA, then a permit is required to access to the ASPA in the ASMA.³⁰⁶

Up to June 2008, seventy-seven ASPAs and ASMAs were established.³⁰⁷ Several ASPAs include coastal areas which are currently the high seas. For instance, ASPA 146 (South Bay, Doumer Island, Palmer Archipelago), ASPA 152 (Western Bransfield Strait off Low Island, South Shetland Island) and ASPA 153 (Eastern Dallann Bay off Brabant Island, Palmer Archipelago) were designated particularly for the research of marine ecology or communities on the high seas.³⁰⁸ A few ASMAs also include sea areas alongside coastline, such as ASMA 1 (Admiralty Bay, King George Island), and ASMA 4 (Deception Island) which are established for coordinating research activities among States Parties.³⁰⁹

Although the Treaty area currently includes the high seas, the Protocol includes express provisions on protected areas, and it has competence to protect the three deep sea features, ASMAs or ASPAs do not satisfy a quality for the new type of HSMPAs (the ecosystem approach) and there is also a problem with implementation. Firstly, human activities including major threats to the three deep sea features on the high seas may not be regulated by the Treaty. Article VI of the Treaty addresses its inapplicability that "nothing in this Treaty shall prejudice or in any way affect the rights or the exercise of the rights of any States under international law with regard to the high seas within that area."³¹⁰ The Agreed Measures contain the same provision.

³⁰⁴ Article 3(4), Annex V to the Protocol.

³⁰⁵ Article 4 (3), Annex V to the Protocol.

³⁰⁶ Article 4(4), Annex V to the Protocol.

³⁰⁷ "Status of Antarctic Specially Protected Area and the Antarctic Specially Managed Area Management Plans," Antarctic Treaty Secretariat, updated June 2008. Available at <http://www.ats.aq> (accessed on 22 December 2008).

³⁰⁸ "Antarctic Specially Protected Areas Summary Descriptions," Antarctic Treaty Secretariat, <http://cep/ats/aq/cep/apa/index.html> (accessed on 23 June 2007).

³⁰⁹ See "Management Plan for Antarctic Specially Protected Area No.1, Admiralty Bay, King George Island," Measure 2 (2006) Annex, Antarctic Treaty Secretariat, available at <http://www.ats.aq> (accessed on 22 December 2008); and, "Deception Island Management Package," Measure 3 (2005) Annex, Antarctic Treaty Secretariat, available at <http://www.ats.aq> (accessed on 22 December 2008).

³¹⁰ Article VI, the Antarctic Treaty.

The Protocol should apply within the framework of the Antarctic Treaty,³¹¹ so Article VI should apply to the Protocol as well. This article can be arguably interpreted as the Antarctic Treaty and its Protocol cannot actually apply to regulate human activities by any States on the high seas.³¹² Since the rights relating to the freedom of the high seas including the freedom of fishing, scientific research and other activities should not be interrupted by this Treaty, if a protected area is established on the high seas by the Protocol and prevents fishing activities in the area, it is against the express rule of the Antarctic Treaty. Although some argued that the high seas have been practically managed by the Treaty,³¹³ Article VI can disincline member States from observing or approving protected areas on the high seas where they may have to give up the freedom of fishing, researching and other activities which are listed or not listed in Article 87 of the LOSC. Actually protected areas under the Protocol have not been broadly implemented in the sea because of concerns about hampering the freedom of high seas.³¹⁴ Existing ASPAs and ASMAs which include the high seas mostly cover coastal water with land, so they would hardly contain any deep sea features. Then these protected areas are not likely to hamper human activities which impact on deep sea features.

Some may argue that ASPAs or ASMAs are *lex specialis* and *lex posterior* that supplant any rights which Parties have under Article VI of the Treaty, so high seas protected areas established under the Protocol should be effective to prevent any activities in it. However, it can be debated if Annex V of the Protocol, which contains provisions on protected areas, is *lex specialis* and *lex posterior* and Article VI of the Treaty is *lege generali* and *legi priori*. *Lex specialis* “can only apply where both the specific and general provisions concerned deal with the same substantive matter,”³¹⁵

³¹¹ Article 4 of the Protocol addresses that “this protocol shall supplement the Antarctic Treaty and shall neither modify nor amend that Treaty.”

³¹² See Elaine F. Foreman, “Protecting the Antarctic Environment: Will a Protocol be Enough?” *American University Journal of International Law and Policy*, Vol. 7, 1992, pp. 843- 879.

³¹³ Rothwell, *supra* note 272, p.70.

³¹⁴ Grant, *supra* note 278, p. 42.

³¹⁵ A reference from Gerald Fitzmaurice in a ILC report, “Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law,” Report of the Study Group of the International Law Commission, ILC, 13 April 2006, A/CN.4/L.682, p. 63.

and *lex posterior* also applies to rules on the same subject matter.³¹⁶ Annex V of the Protocol provides explicit justification for protected areas to regulate human activities in them, but is not specifically for prohibiting human activities ‘on the high seas,’ while Article VI is about the rights on the high seas. Therefore, both provisions cannot always be on the same subject matter. Article VI of the Treaty merely determines the scope of applicability of Annex V to the Protocol, but Annex V is not “the rule with a more precisely delimited scope of application”³¹⁷ which means *lex specialis*. Thus, it is highly debatable whether Annex V on protected areas can derogate Article VI.

Some may argue that the Antarctic Treaty has another limited applicability before its protected areas may be effectively implemented on the high seas. According to Article IX of the Antarctic Treaty, a protective measure can be adopted only if all Consultative Parties agree on it.³¹⁸ The Consultative Parties do not include all parties to the Treaty. Consultative Parties are Contracting Parties which virtually participate in decision making process in the Antarctic Treaty Consultative Meeting (ATCM).³¹⁹ Any Contracting Parties which are able to conduct actual scientific research in Antarctica can be appointed to be a Consultative Party.³²⁰ It can be inferred that Contracting Parties which can conduct only fishing in the Antarctic Treaty sea area cannot be appointed as Consultative Parties. At present, twenty-eight countries of forty-six parties are Consultative Parties.³²¹ Technically, the Contracting Parties which are not Consultative Parties are not bound by a decision taken by Consultative

³¹⁶ Antonio Cassese, *International Law*, Oxford University Press, 2005, p. 154.

³¹⁷ “Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law,” A/CN.4/L.682, supra note 315, p. 35.

³¹⁸ Article IX (4), the Antarctic Treaty.

³¹⁹ Rothwell, supra note 272, p.71.

³²⁰ Article IX (2), the Treaty.

³²¹ Consultative Parties are Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, UK, USA, and Uruguay. Contracting Parties are, in addition to consultative Parties, Austria, Belarus, Canada, Colombia, Cuba, Czech Republic, Denmark, Estonia, Greece, Guatemala, Hungary, North Korea, Papua New Guinea, Romania, Slovak Republic, Switzerland, Turkey, Ukraine, and Venezuela. See “Parties,” Antarctic Treaty Secretariat. Available at <http://www.ats.aq> (accessed on 30 December 2008).

Parties, although they should have some influence from those decisions.³²² No provision in the Treaty endows the obligation on non-Consultative Parties to observe the decisions or recommendations adopted by the ATCM.³²³ However, this is not true in terms of the environmental protection measures adopted under the Protocol. This Protocol explicitly endows a legal obligation relating to compliance of the Protocol³²⁴ to all parties to the Protocol. Parties to the Protocol include all Consultative Parties and four non-Consultative Parties (Canada, Czech Republic, Greece, and Romania).³²⁵ Any management plan for protected areas should be adopted by the ATCM.³²⁶ When the plan is approved by the ATCM, it may be regarded as binding on all parties to the Protocol, including the non-Consultative Parties. Thus, if an HSMPA is approved by ATCM notwithstanding Article VI of the Treaty, non-Consultative Parties which are parties to the Protocol should be bound by it.³²⁷

The second problem is that the Antarctic Treaty and its Protocol have not formally adopted the ecosystem approach.³²⁸ The Antarctic Treaty fully covers an entire continent and surrounding sea. This gives the Treaty an environment for implementing a true ecosystem approach. Consultative Parties' meetings have discussed collecting appropriate knowledge on the entire ecosystems within the Convention area.³²⁹ However, the ecosystem approach has not been explicitly adopted under this Treaty. Since this Convention has not adopted the ecosystem approach, and its protected areas cannot legally prevent major threats to the deep sea features, the Antarctic Treaty and its Protocol may not be narrowly regarded as an agreement to establish the new type of HSMPAs. However, this does not mean that the ATCM

³²² See "Frequently Asked Questions," Antarctic Treaty Secretariat. Available at <http://www.ats.aq> (currently unavailable).

³²³ However, amendment or modification of the Antarctic Treaty should be observed by non-consultative parties, even if they cannot participate in the decision making process. See Article XII of the Antarctic Treaty.

³²⁴ Article 13, the Protocol to the Antarctic Treaty.

³²⁵ See information on parties at <http://www.ats.aq>.

³²⁶ Article 6, Annex V, the Protocol.

³²⁷ If the HSMPA which restricts certain activities rather than encourages (for example, scientific research) is adopted, however, because of Article VI of the Treaty it may be considered as *ultra vires*. See further discussion on *ultra vires* in Chapter VII.

³²⁸ It is controversial whether CCAMLR has adopted the principle or not. See the further discussion on this issue in Chapter VI.

³²⁹ See "Report of the Committee for Environmental Protection," Edinburgh, CEP, 12-16 June 2006, CEP IX.

cannot practice HSMPAs at all. As long as it is for the purpose of the Antarctic Treaty and it does not restrict activities, the ATCM has explicit powers to adopt HSMPAs.

5.2.2.2. Additional Institutional Assistance

The legal system for the management and conservation of the Antarctic area has evolved with the addition of a supplementing protocol and new treaties. The Treaty and Protocol are implemented by recommendations adopted at the ATCM where only Consultative Parties can participate in, but the ATCM is not an intergovernmental organization.³³⁰ The ATCM is arranged under Article IX of the Treaty for information exchange, discussions on any matter relating to the Antarctica, and development and suggestion of measures to regulate exploration and exploitation in the region. This Meeting can be classified as an AIA.³³¹ It is observed that the AIA seems to be more adaptable to new development by a more rapid adoption of a new norm.³³² The ATCM as an AIA has been flexible enough, incorporating many additional measures through adopting recommendations.³³³ Requirements for upgrading environmental protection under the Antarctic Treaty were also achieved through adopting the Protocol to the Antarctic Treaty.³³⁴

The Protocol to the Antarctic Treaty established the Committee on Environmental Protection (CEP) as a subsidiary body of the ATCM.³³⁵ This Committee develops advice for the ATCM on environmental issues with respect to the implementation of the Protocol.³³⁶ At its first meeting held in 1998, the CEP incorporated the issue of

³³⁰ Rothwell, *supra* note 272, p.73.

³³¹ Churchill and Ulfstein barely considered this Meeting as an autonomous institutional arrangement since at the time of the writing of their article the Antarctic Treaty Secretariat was not likely to be established. However, the Antarctic Treaty Secretariat was established in 2004 by the Meeting of the consultative parties. Information on the Antarctic Treaty Secretariat is available at <http://www.ats.aq>; and Churchill and Ulfstein, *supra* note 1, p. 657.

³³² Churchill and Ulfstein, *ibid.*, p. 625.

³³³ Rothwell, *supra* note 272, p.73.

³³⁴ The Meeting in 1990 and 1991 adopted this Protocol. Rothwell, *ibid.*, p.74.

³³⁵ Article 11, the Protocol to the Antarctic Treaty.

³³⁶ Article 12, the Protocol to the Antarctic Treaty.

protected areas as a primary subject under its consideration.³³⁷ The CEP has a primary responsibility to examine the adequacy of a proposed protected area and its management plan before the ATCM designates the area and approves its management plan.³³⁸ Three informal workshops had been held to review the implementation of the Antarctic protected areas system under the auspices of the CEP in 1998, 1999 and 2006.³³⁹ These workshops provided recommendations on the enhancement of an existing protected area system under the Protocol and knowledge on ecosystems. However, this has not yet resulted in the formal adoption of, or discussion on the ecosystem approach, or amending the inapplicability stipulated in Article VI of the Antarctic Treaty in the ATCM.

5.2.3. Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention)

The OSPAR Convention aims at the elimination and prevention of almost all kinds of marine pollution for the protection of the marine environment in the North-East Atlantic region.³⁴⁰ This main objective reflects the purposes of two original conventions which were replaced by the OSPAR Convention: preventing dumping and land-based source pollution respectively by the 1972 Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention), and the 1974 Convention for the Prevention of Marine Pollution from Land-based Sources (Paris Convention).³⁴¹ The 1992 OSPAR Convention combined,

³³⁷ Donald Rothwell, "Polar Environmental Protection and International Law: The 1991 Antarctic Protocol," *European Journal of International Law*, Vol. 11, No. 3, 2000, pp. 591-614, p. 598.

³³⁸ Article 6, the Annex V, the Protocol to the Antarctic Treaty.

³³⁹ See "Report of the Antarctic Protected Areas Workshop," Tromsø, Norway, Norsk Polarinstitutt, Antarctic Treaty Secretariat, 23 May 1998, <http://www.ats.aq> (accessed on 8 December 2008) and "Report of the Second Workshop on Antarctic Protected Areas," Lima, Peru, Ministerio de Relaciones Exteriores, Instituto Antártico Chileno, Antarctic Treaty Secretariat, 22-23 May, 1999, <http://www.ats.aq> (accessed on 8 December 2008). "Antarctica's Future Environmental Challenges, Report of the CEP Workshop, Edinburgh, UK, 9-10 June 2006," CEP, June 2006, available at <http://www.ats.aq> (accessed on 8 December 2008).

³⁴⁰ Louise de La Fayette, "The OSPAR Convention Comes into Force: Continuity and Progress," *International journal of marine and coastal law*, Vol. 14, No. 2, 1999, pp. 247-297, p. 250.

³⁴¹ The Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention), adopted on 15 February 1972, entered into force on 7 April 1974, *UNTS*, Vol. 932, p. 3.

enhanced and extended the two previous conventions. The OSPAR Convention has two more States Parties³⁴² and controls more types of pollution than the previous treaties. While the Oslo Convention and the Paris Convention dealt with limited sources of pollution (pollution by dumping and land-based sources) respectively, the OSPAR Convention extended the coverage to pollution by incineration (Article 4),³⁴³ offshore sources (Article 5),³⁴⁴ and other sources (Article 7). ‘Ship source pollution’ and marine pollution from atmospheric depositions are not covered by the OSPAR Convention, as other competent international bodies already exist for the issues.³⁴⁵ Not only can pollution, also “the adverse effects of human activities” to “human health and marine environment” be controlled by this Convention.³⁴⁶ MPAs are recently introduced to the OSPAR Convention system as one of the tools to govern ‘the adverse effects of human activities.’³⁴⁷

As the Barcelona Convention contains comprehensive provisions and detailed rules are elaborated in protocols and annexes, the obligations to control the different types of pollution in the OSPAR Convention are further developed in three annexes on land-based source pollution (Annex I), dumping or incineration (Annex II), and offshore source pollution (Annex III).³⁴⁸ Annex IV elaborates on the obligations

The Convention for the Prevention of Marine Pollution from Land-Based Sources (Paris Convention), adopted on 4 June 1974, entered into force on 6 May 1978, *UNTS*, Vol. 1546, p. 119.

³⁴² Contracting parties of the OSPAR Convention are Belgium, Denmark, the European Community, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland and new two parties, Luxembourg and Switzerland. “OSPAR Commission - Contracting Parties,” the OSPAR Commission, available at <http://www.ospar.org> (accessed on 30 December 2008).

³⁴³ The Oslo Convention in the early stage dealt with “the incineration at sea of liquid industrial wastes.” This pollution was deleted later. See “History (Oslo and Paris Commissions),” the OSPAR Commission. Available at <http://www.ospar.org> (accessed on December 2008).

³⁴⁴ The Paris Convention covered pollution from offshore platforms. See “History (Oslo and Paris Commissions),” *ibid.* The OSPAR Convention covers broader offshore sources of pollution from “offshore installations and offshore pipelines which substances or energy reach the maritime area.” See Article 1(k), the OSPAR Convention.

³⁴⁵ Ship-source pollution is controlled under the IMO Conventions and atmospheric source marine pollution is controlled by the Convention on the Long-Range Transport of Air Pollution of the United Nations Economic Commission for Europe (UN/ECE). La Fayette, “The OSPAR Convention comes into Force: Continuity and Progress,” *supra* note 340, p. 252.

³⁴⁶ Detkef Czybulka, “The Convention on the Protection of the Marine Environment of the North-East Atlantic,” in Thiel & Koslow (eds.), *supra* note 26, pp.175-184, p. 178.

³⁴⁷ Article 2, the Annex V, the OSPAR Convention.

³⁴⁸ Annex I on the Prevention and Elimination of Pollution from Land-based Sources, Annex II on the Prevention and Elimination of Pollution by Dumping or Incineration and Annex III on the Prevention by Elimination of Pollution from Offshore Source.

stipulated in Article 6 of the Convention, which are the assessment of status of the marine environment and effectiveness of protective measures. While these annexes control and focus on the negative impact (pollution) of human activities, Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area directly focuses on human activities. This annex was added during the 1998 Ministerial Meeting of the OSPAR Commission³⁴⁹ and particularly supplements the general obligation stipulated in Article 2 of the Convention.³⁵⁰

Details on how to cope with specific pollution and pollutants are supplemented in six strategies adopted by the OSPAR Commission. The Strategies aim at controlling: eutrophication (Eutrophication Strategy), pollution by releasing hazardous substances and radioactive substances (Hazardous Substances Strategy, and Radioactive Substances Strategy), and adverse impact from offshore energy use facilities (Offshore Oil and Gas Industry Strategy). Another strategy on monitoring and assessment was added in 2003 to encourage research and improve implementation of the Convention.³⁵¹ The most important strategy relating to the MPAs is the Biological Diversity and Ecosystem Strategy. This strategy regulates human activities, which devastate or are likely to devastate the marine environment. The human activities regulated by this strategy do not include activities which could cause pollution,³⁵² since pollution can be controlled by the relevant provisions and annexes of the Convention and other strategies. One of the specified protective measures taken under this strategy are MPAs. This strategy requests the initiation of developing guidelines

³⁴⁹ "The OSPAR Convention," the OSPAR Commission, available at <http://www.ospar.org> (accessed on 30 December 2008).

³⁵⁰ Article 2(1)(a), the OSPAR Convention: "The Contracting Parties shall, in accordance with the provisions of the Convention, take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected."

³⁵¹ Para. 4, A. Objective in Section 1 in the Strategy for a Joint Assessment and Monitoring Programme (JAMP), (2006 Revision), the OSPAR Commission, Reference number 2003-22, available at <http://www.ospar.org> (accessed on 30 December 2008).

³⁵² See OSPAR Biological Diversity and Ecosystem Strategy in the 2003 Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, Bremen, the OSPAR Commission, 25 June 2003, Reference number 2003-21, available at <http://www.ospar.org> (accessed on 30 December 2008). The OSPAR Commission can make assessment of impact of human activities which cause pollution on marine biodiversity and ecosystem, based on this strategy. See 2.4.a. of the Biological Diversity and Ecosystem Strategy.

and recommendations for MPAs.³⁵³ MPAs may also be established under the Offshore Oil and Gas Industry Strategy in order to prevent adverse impact by offshore energy extraction.³⁵⁴ MPAs created under this Strategy prevent adverse impacts relating to oil and gas extraction, and construction of relevant facilities but do not control pollution relating to oil and gas extraction.³⁵⁵

The primary purpose of this Convention is marine environment protection through particular pollution control and regulation of human activities and it contains an annex and a strategy to focus on the conservation of biodiversity and ecosystems through the establishment of MPAs. Whether the OSPAR can require the establishment of the new type of HSMPAs, however, is questionable because this Convention has some limitations for satisfying the qualities of the new concept of HSMPAs, as other conventions reviewed in this chapter do. The following section will first review the details of express legal support for HSMPAs in the OSPAR Convention before examining whether the MPAs under the OSPAR Convention can narrowly conform to the new type of MPAs, and if the deep-sea features on the high seas can effectively be conserved in the OSPAR MPAs from major potential threats by human.

5.2.3.1. Existing Explicit Legal Support for HSMPAs

Legal support for HSMPAs can be found in Article 2(1) of the OSPAR Convention and Article 3(1)(b)(ii) of Annex V.³⁵⁶ Article 2(1)(a) obliges contracting parties to protect the Convention area and restore marine areas deteriorated by human activities. Annex V repeats this obligation and particularly Article 3(1)(b)(ii) of the Annex obliges the OSPAR Commission to search appropriate protective measures for already devastated specific sites. These provisions apply to ‘maritime area’ which is defined as “the internal waters and the territorial seas of the Contracting Parties, the

³⁵³ Para. 4.1 of the OSPAR Biological Diversity and Ecosystem Strategy, *ibid*.

³⁵⁴ Para. 3.4 and 3.5 of the Offshore Oil and Gas Industry Strategy, in the 2003 Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, *supra* note 352.

³⁵⁵ Para. 3.4 of the Offshore Oil and Gas Industry Strategy, *ibid*

³⁵⁶ See OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas, the OSPAR Commission, June 2003, OSPAR 03/17/1-E, ANNEX 9, p.1.

sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and *the high seas*, including the bed of all those waters and its sub-soil”³⁵⁷ within the Convention area. So they can cover the high seas. None of these provisions directly quotes ‘marine protected areas.’ However, the contracting parties have interpreted these provisions as particularly referring to MPAs to safeguard marine biodiversity and ecosystems. Based on this interpretation, a non binding recommendation and several guidelines were adopted for the establishment of MPAs. Since the purpose of the establishment of MPAs is to protect biodiversity and ecosystems, this recommendation and guidelines were adopted particularly in connection with the implementation of the Biological Diversity and Ecosystem Strategy.

The MPA related recommendation is the OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas which was prepared by the Biodiversity Committee and adopted by the OSPAR Commission meeting in 2003.³⁵⁸ This Recommendation is implemented by several guidelines³⁵⁹ which were prepared by the Biodiversity Committee and the OSPAR Working Group on Marine Protected Areas and Species & Habitats.³⁶⁰ The Recommendation includes aims for the establishment of the initial network of MPAs in the OSPAR Convention area until 2006 and “an ecologically coherent network of well-managed marine protected areas” until 2010.³⁶¹ These targets were originally developed and agreed at the second Ministerial Meeting of the OSPAR Commission held in Bremen 2003, earlier than the Recommendation

³⁵⁷ Article 1(a), the OSPAR Convention. Emphasis added.

³⁵⁸ “Summary Record of the Meeting of the OSPAR Commission 2003,” OSPAR Commission, 2003, OSPAR 03/17/1-(A-B)-E, p. 15.

³⁵⁹ “Developing the Concept of an Ecologically Coherent Network of OSPAR Marine Protected Areas,” Joint Nature Conservation Committee, September 2004, JNCC 04 N08, <http://www.jncc.gov.uk/PDF/comm04N08.pdf> (accessed on 30 December 2008). p. 2.

³⁶⁰ See Summary Records of the Meeting of the OSPAR Commission from 2003 to current, OSPAR Commission, available at <http://www.ospar.org>. The Biodiversity Committee has two sub groups including the working group on Marine Protected Areas and Species & Habitats. The Biodiversity Committee is a sub-organization of the OSPAR Commission. See “Organization – Committee and Working Groups of the OSPAR Commission,” the OSPAR Commission, at <http://www.ospar.org/eng/html/welcome.html>; Susan Gubbay, “Marine Protected Areas in the Context of Marine Spatial Planning – Discussing the Link,” A report for WWF-UK, November 2004, <http://www.wwf.org.uk/filelibrary/pdf/MPAs-marinespatialplanning.pdf> (accessed on 6 January 2007), p.4.

³⁶¹ OSPAR 03/17/1-E, Annex9, supra note 356, para.2.1, p. 2.

was adopted in the same year.³⁶² This second Ministerial Meeting of the OSPAR Commission specifically supported the adoption of the Recommendation 2003/3.³⁶³ The North Sea Conference also set up a similar target for MPAs at its fifth meeting in 2002, earlier than the Recommendation was adopted and the ministerial meeting was held, although it is unclear whether this meeting influenced the OSPAR Commission to adopt the same target.³⁶⁴

Besides the target, the Recommendation 2003/3 provides details on the implementation of the MPA related provisions in the Convention and Annex V.³⁶⁵ According to paragraph 3 programmes and measures in the Recommendation, States Parties can designate any MPA in their jurisdiction and then should report the MPA to the Commission to be included in the OSPAR Network of Marine Protected Areas. On the high seas, the OSPAR Commission can designate a high seas area as a component of the OSPAR Network of Marine Protected Areas. The definition of the OSPAR Network of Marine Protected Areas includes “any other area in the maritime area outside the jurisdiction of the Contracting Parties which has been included as a component of the network by the OSPAR Commission.”³⁶⁶ After the adoption of the Recommendation, the OSPAR Commission has actually discussed the establishment of the high seas MPAs. The initial concern of the OSPAR Commission in relation to HSMPAs was focused on the water column above the continental shelf beyond 200 miles from the baseline rather than the international seabed and the water column above it.³⁶⁷ This may mean that the OSPAR Commission would prefer to cooperate with coastal States to establish MPAs on the high seas rather than solely undertake such a project. If an area above the continental shelf beyond the EEZ needs a special

³⁶² “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” Biodiversity Series, OSPAR Commission, 2006, available at <http://www.ospar.org> (accessed on 30 December 2008), p. 5; “Ministerial Meeting of the OSPAR Commission-Bremen Statement,” Draft Summary Record, the OSPAR Commission, OSPAR 03/17/1-E, ANNEX 33, paragraph 11.

³⁶³ “Ministerial Meeting of the OSPAR Commission-Bremen Statement,” OSPAR 03/17/1-E, *ibid.*,

³⁶⁴ Gubbay, “Marine Protected Areas in the Context of Marine Spatial Planning – Discussing the Link,” *supra* note 360, p.4.

³⁶⁵ Recommendations adopted under the OSPAR Convention are not binding in accordance with Article 13 (5) of the Convention.

³⁶⁶ OSPAR 03/17/1-E, Annex9, *supra* note 356, para. 1.1, p. 2.

³⁶⁷ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” *supra* note 362, p. 10.

concern, a protected area can be created by cooperation between the coastal State and the OSPAR Commission.³⁶⁸ A coastal State can propose a site on the high seas above its continental shelf for nomination as an MPA, but cannot designate a high seas MPA solely under its authority. When such a proposal is submitted with the information on the reason of selection, the OSPAR Commission reviews and approves the proposal and develops the management plan for the protected area.³⁶⁹ Since the discussion on this issue only recently began, more detailed procedures for the establishment and implementation of HSMPAs have not yet been determined.

The initial concern on HSMPAs above the outer continental shelf have not yet resulted in the actual establishment of HSMPAs above the outer continental shelf. Until recently, MPAs on the high seas have been actually practised neither above the extended continental shelf nor above the international seabed.³⁷⁰ The effort to conserve biodiversity and ecosystems through establishing MPAs has been concentrated mostly on coastal area.³⁷¹ This is confirmed in three recent reports on the status of the OSPAR MPAs. The first report on the status of MPAs evaluated details of the accomplishment relating to the target of ‘initial network of MPAs until 2006.’³⁷² Until early 2006, eighty-one MPAs were established within the Convention area and seventy-seven sites of these were located in the territorial sea of France, Germany, Norway, Portugal, Sweden, and the UK.³⁷³ The rest of the MPAs were within the EEZs of Germany and Norway.³⁷⁴ The MPAs created in the Norwegian EEZ aims to safeguard cold-water coral reefs.³⁷⁵ Besides the six nations which have already designated MPAs other States Parties were also prepared for the MPA

³⁶⁸ See *Ibid.*

³⁶⁹ Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area, the OSPAR Commission, 2003, Reference number:2003-17, OSPAR 03/17/1-E, Annex 10, p. 2; Also see Guidelines for the Management of Marine Protected Areas in the OSPAR Maritime Area, the OSPAR Commission, 2003, Reference number: 2003-18.

³⁷⁰ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” *supra* note 362, p. 5; “Summary Record OSPAR 2006,” the OSPAR Commission, 2006, OSPAR 06/23/1-E, p.12. The most recent data on MPAs established by OSPAR Commission are available in reports on the status of the OSPAR Network of Marine Protected Areas. Last updated on 10 July 2008.

³⁷¹ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” *ibid.*, p. 4.

³⁷² *Ibid.*, p. 5. Also OSPAR 03/17/1-E, Annex 33, *supra* note 362, para. 11, p. 2.

³⁷³ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” *ibid.*, pp.4-5. Also see “Summary Record OSPAR 2006,” OSPAR 06/23/1-E, *supra* note 370, p.12.

³⁷⁴ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” *ibid.*, p.7.

³⁷⁵ Summary Record OSPAR 2006, OSPAR 06/23/1-E, *supra* note 370, p.13.

nominations³⁷⁶ but none of the candidates for MPAs by the parties was located beyond national jurisdiction.³⁷⁷ This lack of HSMPAs was recognised by the OSPAR Commission in 2006.³⁷⁸ The Commission urged particular attention for the selection of HSMPAs.³⁷⁹

After the first report of the status of MPAs was published, between April and December 2006 six more MPAs were added to the list of the OSPAR MPAs by Portugal.³⁸⁰ For the purposes of updating this information, the second status report was completed by the Commission in early 2007. According to this report one MPA by Portugal was allegedly established on the continental shelf beyond the EEZ,³⁸¹ although Portugal has not yet submitted the information on the outer limit of their continental shelf beyond the EEZ.³⁸² This MPA is called the Rainbow Hydrothermal Vent which covers the Portuguese EEZ and the potential continental shelf beyond it.³⁸³ Currently the only human activities which can threaten this vent ecosystem are scientific research and tourism.³⁸⁴ As reviewed in Chapter III, it is not clear whether coastal States have sovereign rights to regulate exploration and exploitation of vent microbes on the continental shelf beyond the EEZ and coastal States do not have jurisdiction to conserve ecosystems and habitats on the continental shelf beyond the EEZs. Then, as noted in the second status report by the commission, cooperation and coordination between coastal States and relevant international organizations, including the OSPAR Commission, is necessary in order to conserve the vent

³⁷⁶ “2005/2006 Report on the Status of the OSPAR Network of Marine Protected Areas,” supra note 362, p. 6.

³⁷⁷ *Ibid.*, p. 4.

³⁷⁸ “Summary Record OSPAR 2006, OSPAR 06/23/1-E, supra note 370, p.13.

³⁷⁹ *Ibid.*, p.13.

³⁸⁰ “2006 Report on the Status of the OSPAR Network of the Marine Protected Areas,” the OSPAR Commission, 2007, available at <http://www.ospar.org> (accessed on 30 December 2008), p.6.

³⁸¹ *Ibid.*

³⁸² Portugal plans to submit the information on the outer limit of their continental shelf beyond the EEZ until May 13th 2009. “Statement on the Jurisdiction of the Rainbow Hydrothermal Vent Field,” presented by Portugal, OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic-Meeting of the Working Group on Marine Protected Areas Species and Habitats (MASH), the OSPAR Commission, 2-5 October 2006, MASH 06/5/1-E.

³⁸³ “2006 Report on the Status of the OSPAR Network of the Marine Protected Areas,” supra note 380, p.6.

³⁸⁴ See section C in “Proforma for compiling the characteristics of a potential MPA,” WWF, http://www.ngo.grida.no/wwfneap/Publication/Submissions/OSPAR2005/Rainbow_Proposal_WWF_4_May05.pdf (accessed on 29 October 2005).

ecosystems on the outer continental shelf through regulating the activities.³⁸⁵ So far no management plan for this MPA has been set up by Portugal, and no cooperation plan seems to be prepared between the coastal State and relevant organizations.³⁸⁶ Thus it is unclear whether this MPA aims for the conservation of the entire vent and its surrounding ecosystem, and whether it can be an HSMPA. According to the second report, the OSPAR Commission considers this MPA to be on the Portuguese continental shelf. This implies that the OSPAR Commission currently does not regard this MPA as covering an area beyond national jurisdiction.³⁸⁷

After the second report was completed, in 2007 twenty more MPAs within national jurisdiction were added to the OSPAR Commission's network of MPAs.³⁸⁸ In addition, the Commission agreed to develop two more MPAs which were suggested initially by the World Wildlife Fund (WWF) during the 2006 Meeting of the Working Group on Marine Protected Areas, Species and Habitats (MASH).³⁸⁹ These MPAs on the Mid Atlantic Ridge and Charlie Gibbs Fracture Zone are located on the high seas in the OSPAR Convention area.³⁹⁰ The Commission agreed further to consider positively these proposed sites to be protected by its Network of Marine Protected Areas, and many participants have supported these initiations of HSMPAs.³⁹¹ However, the Commission has not yet approved the proposal during its meeting. Thus, currently no HSMPA exists in the OSPAR Convention area.

It can be concluded that the OSPAR Convention and its annex contain explicit rules to adopt area-based management on the high seas and the subsequent recommendation and guidelines have embodied details on the implementation of the rules. Although those rules refer to a broad concept of protective measures rather than to specific protected areas, and the protection and conservation of biodiversity and

³⁸⁵ "2006 Report on the Status of the OSPAR Network of the Marine Protected Areas," *supra* note 380, p. 12.

³⁸⁶ *Ibid.*, p. 12 and p. 14.

³⁸⁷ *Ibid.*, p. 12.

³⁸⁸ "2007/2008 Summary Record of Meeting of the OSPAR Commission," Brest, France, the OSPAR Commission, 23-27 June 2007, OSPAR 08/24/1-E, p. 18.

³⁸⁹ *Ibid.*; "Summary Record of the Meeting of the Working Group on Marine Protected Areas, Species and Habitats (MASH)," Horta, the Azores, the OSPAR Commission, 2-5 October 2006, MASH 06/9/1-E, p. 23.

³⁹⁰ "2007/2008 Summary Record of Meeting of the OSPAR Commission," *ibid.*

³⁹¹ *Ibid.*, pp.18-19.

ecosystems by Annex V does not solely depend on the success of MPAs,³⁹² the comprehensive provisions were interpreted by member States as obliging the establishment of MPAs.³⁹³ As these provisions can be applied to the area beyond national jurisdiction, although HSMPAs have not yet been designated, the OSPAR Convention can be an agreement to establish and observe HSMPAs. The rest of this section will examine whether HSMPAs under the OSPAR Convention can be classified as the new type of HSMPAs.

Can HSMPAs under the OSPAR Convention Conform to the New Type of HSMPAs?

Although the OSPAR Convention can provide explicit legal obligations relating to HSMPAs, three limitations make the HSMPAs under the OSPAR Convention less effective to function as the new type of MPA. The first limitation is related to the ecosystem approach. The 1992 OSPAR Convention with annexes are studied with contemporary environmental principles such as: the precautionary principle, the sustainable management, the polluter pays principle, the best available techniques, and the best environmental practice.³⁹⁴ Annex V especially is significantly influenced by the international events on ecosystems and biodiversity protection which occurred in 1992 (such as the adoption of the CBD, the EU Habitat Directive and the Agenda 21 of the UNCED).³⁹⁵ This annex includes a paragraph on the ‘integrated ecosystem approach.’ According to Article 3(1)(iv) combined with Article 4 of Annex V, the OSPAR Commission can apply the integrated ecosystem approach in relation to cooperation with other international organizations to “complement and support”

³⁹² “Guidance on Developing an Ecologically Coherent Network of OSPAR MPA,” the OSPAR Commission, 2006, Reference number 2006-3, p.1.

³⁹³ “Ten-year High Seas Marine Protected Area Strategy: A ten-year strategy to promote the development of a global representative system of high seas marine protected area networks,” Summary Version, as agreed by Marine Theme Participants at the Vth IUCN World Parks Congress, Durban, South Africa, IUCN, 8-17 September 2003, available at <http://www.iucn.org/themes/marine> (accessed on 30 December 2008).

³⁹⁴ See Preamble and Article 2 of the OSPAR Convention and Article 3(1)(b)(iv) of Annex V of the Convention.

³⁹⁵ La Fayette, " The OSPAR Convention comes into Force: Continuity and Progress," supra note 340, pp. 265-266.

fisheries management and the regulation of marine transportation.³⁹⁶ However, this integrated ecosystem approach is not supposed to be applied to issues other than ‘complementing and supporting’ fisheries management and the regulation of marine transportation by other international organizations.

The interest of the OSPAR Commission in the ecosystem approach for the management of activities other than fishing and marine transportation appeared when the North Sea Ministerial Meeting on Fisheries and the Environment was held in 1997 within the OSPAR.³⁹⁷ This meeting concluded that the ecosystem approach is essential to safeguard the marine environment from all human activities.³⁹⁸ Later this ecosystem approach was actually incorporated into the OSPAR Convention system through the adoption of the 2003 Statement on the Ecosystem Approach to the Management of Human Activities, which was accepted at the first joint Ministerial Meeting of the Helsinki and OSPAR Commission.³⁹⁹ The adoption of this Statement resulted in the incorporation of the ecosystem approach into the OSPAR Strategies which were also updated in 2003.⁴⁰⁰ Strategies for Eutrophication, Radioactive Substances, and Biological Diversity and Ecosystem contain the principle. The Statement, however, has not yet influenced the Recommendation and Guidelines relating to MPAs. The Recommendation for the OSPAR Network of MPAs highlights the report from the World Summit on Sustainable Development (WSSD) with respect to the target for the establishment of MPAs with the ecosystem approach.⁴⁰¹ This reference to the ecosystem approach by the WSSD does not imply that MPAs under the OSPAR system should be implemented with the ecosystem approach. The Guidelines for creating MPAs do not specifically mention the ecosystem approach,

³⁹⁶ Article 3(1)(b)(iv), Annex V: “subject to Article 4 of this Annex, to aim for the application of an integrated ecosystem approach.”

³⁹⁷ Alan Simcock, “OSPAR’s development of an Ecosystem Approach,” in a presentation provided for UNICPOLOS Discussion Panel “Ecosystem Approach and Oceans,” DOALOS, UN, 2006, available at http://www.un.org/Depts/los/consultative_process/7thmeetingpanel.htm (accessed on 30 December 2008). pp.1-2.

³⁹⁸ *Ibid.*

³⁹⁹ “Statement on the Ecosystem Approach to the Management of Human Activities” – “Towards and Ecosystem Approach to the Management of Human Activities,” First Joint Ministerial Meeting of the Helsinki and OSPAR Commissions 2003, Annex 5, Bremen, 25-26 2003, Ref. §6.1.

⁴⁰⁰ See preamble of “the 2003 Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic,” *supra* note 352.

⁴⁰¹ OSPAR 03/17/1-E, Annex 9, *supra* note 356, preamble.

although some ecosystem consideration is included. In addition, those Statement and Strategies are not binding but only provide guidance for the implementation of the relevant provisions in the Convention. The ecosystem approach does not need to be incorporated into the treaty text or a binding decision to lead a certain action by an international organization to be based on it. The ecosystem approach is more a principle of management than a prescription for a specific course of action. Even if the principle of management is not binding, if a certain action is formally adopted as binding in an organization based on the ecosystem approach guided by the non-binding Statement, the action implementing the ecosystem approach should be binding on parties to the Convention. This will result in the implementation of the principle in the organization. On the other hand, although States Parties should observe such action with the ecosystem approach, since parties are not bound by the Statement on the ecosystem approach, the OSPAR Convention cannot require the establishment of HSMPAs with the ecosystem approach.

In addition to this limitation in relation to the ecosystem approach, another environmental principle which is essential to distinguish traditional MPAs from the new MPAs, the precautionary principle, may not be applied relating to the implementation of some MPAs under the OSPAR Convention. The OSPAR Convention explicitly requires the application of the precautionary principle in Article 2(2)(a). However, the provisions and Recommendation on MPAs mainly aim to remedy ‘actually occurred impact’ on human health and the marine environment rather than potential impact. Article 2 (1)(a) of the Convention and Article 2 of Annex V designate protected areas where have been “adversely affected.”⁴⁰² Only if this actual impact exists, two more qualifications can be examined: where environmental degradation needs to be prevented in advance according to the precautionary principle, and where the representativeness of ‘species, habitats and ecological processes’ needs to be protected.⁴⁰³ The existence of an actual impact is a necessary precondition to select an MPA and the other two qualifications, including the application of the

⁴⁰² Article 2(1)(a), the OSPAR Convention and Article 2, Annex V, the OSPAR Convention.

⁴⁰³ OSPAR 03/17/1-E, Annex 9, *supra* note 356, para.1.1, p. 2.

precautionary principle, are not necessary.⁴⁰⁴ This can be interpreted as an MPA can be established without the precautionary consideration on potential impact by human activities.

The third limitation is that the most threatening activity to the deep-sea features is not regulated in the OSPAR MPAs. The OSPAR MPAs mainly control the adverse effects by human activities.⁴⁰⁵ The human activities, however, do not include fishing.⁴⁰⁶ It was found on review in Chapter II that fishing is the most imminent threats to the cold-water coral reefs and seamounts. The cold-water coral reefs are specially considered by the OSPAR Commission in relation to its work towards the conservation of the biodiversity and ecosystems.⁴⁰⁷ The OSPAR Ministerial Meeting held in 2003 adopted the Bremen Statement which mentioned the significance of cold-water coral reefs as follows:

‘We are particularly concerned about the status of vulnerable cold-water coral reefs, many of which are threatened with destruction. Bearing in mind the ecological importance of these reefs and the practical irreversibility of their damage, we shall take immediate measures to protect coral reefs from further damage due to use of active fishing gear on the reefs. Furthermore, we shall ensure that steps are taken by 2005 to identify additional threats to the cold-water reefs and that measures are taken to protect the reefs against these threats.’⁴⁰⁸

This priority is confirmed in the Initial OSPAR List of Threatened and Declining Species and Habitats which was developed in 2003.⁴⁰⁹ This list aims to set priorities for the work of OSPAR Commission for implementing Annex V to the Convention.⁴¹⁰ One species of cold-water coral reefs, *Lophelia pertusa*, is specifically included in this list.⁴¹¹ Annex V of the OSPAR Convention and Strategy on biodiversity and ecosystem conservation can particularly apply for the protection of these deep-sea

⁴⁰⁴ “Guidance on Developing an Ecologically Coherent Network of OSPAR MPA,” supra note 392, p.3.

⁴⁰⁵ Article 2, the Annex V, the OSPAR Convention.

⁴⁰⁶ Article 4(1), the Annex V, the OSPAR Convention.

⁴⁰⁷ Bremen Statement, OSPAR 03/17/1-E, Annex 33, supra note 362, para. 12, pp. 2-3.

⁴⁰⁸ *Ibid.*, paragraph 12, p. 2; Also see Freiwald, Fossa, Grehan, Koslow and Roberts, supra note 216, p. 60.

⁴⁰⁹ “Extract from Annual Report of the OSPAR Commission 2002-2003,” Vol. 1, the OSPAR Commission, 2003, (This document was available at <http://www.ospar.org> but is now currently unavailable), p. 7 and 10.

⁴¹⁰ *Ibid.*

⁴¹¹ *Ibid.*

features. However, since the major threat to this species, fishing, cannot be prohibited,⁴¹² HSMPAs established under the OSPAR Convention may not function effectively to safeguard the corals. If fishing causes some environmental concerns, the OSPAR Commission can challenge to manage the issue through cooperation with relevant authorities or international organizations.⁴¹³ For instance, as certain fishing activities destroyed *Lophelia* reefs on the western slopes of the Rockall Bank, the OSPAR Commission corresponded to the North East Atlantic Fisheries Commission to draw attention on the protection of the cold-water coral reefs from the fishing activities in the area.⁴¹⁴ The role of the OSPAR Commission in relation to the management of fishing and transportation is, however, confined “to complement and support action by those authorities or bodies.”⁴¹⁵

Besides fishing, some other threatening activities to the deep-sea features are governed by general obligations of Article 2, Article 5, Annex III, and Annex V of the OSPAR Convention.⁴¹⁶ Dumping from offshore installations can be prevented by Annex III of the Convention. The pollution from mining facilities and disturbance to marine organisms by mining activities can also be managed by Annex V. Mining activities (including oil and gas extraction) have recently begun to be regulated under the OSPAR system following the adoption of Annex V in 1998.⁴¹⁷ As the regulation of mining was added, regulation of other threatening activities which are not currently specifically regulated under the OSPAR system can be supplemented. According to Article 3 of Annex V of the Convention, the Commission has the obligation “to draw up programmes and measures for the control of the human activities identified by the application of the criteria in Appendix 3” which is: Criteria for Identifying Human

⁴¹² In addition to fishing, marine transportation is also not regulated under the OSPAR Convention. Article 4 of the Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area, to the OSPAR Convention.

⁴¹³ Article 4, Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area, OSPAR Convention.

⁴¹⁴ “Report of the 23rd Annual Meeting of the North-east Atlantic Fisheries Commission,” Volume I: Main Report, NEAFC, 8-12 November 2004, p.39.

⁴¹⁵ Article 4, Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area, OSPAR Convention.

⁴¹⁶ Offshore Oil and Gas Industry Strategy in the 2003 Strategies of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, *supra* note 352.

⁴¹⁷ “Extract from Annual Report of the OSPAR Commission 2002-2003,” *supra* note 409, p.2.

Activities for the Purpose of Annex V.⁴¹⁸ Based on this criteria, the potential disturbing human activities which may need to be prevented, especially through adopting MPAs, have been identified in the Guidelines for the Management of Marine Protected Areas in the OSPAR Maritime Area.⁴¹⁹ The potential list of human activities in the Guidelines includes almost all kinds of threat which could damage the deep-sea features, including mining, construction, aquaculture, fishing (even if it cannot be regulated by the Convention), shipping, laying pipelines, tourism, researching, bioprospecting, etc.⁴²⁰

5.2.3.2. Additional Institutional Support for HSMPAs

The OSPAR Convention established an intergovernmental organization, the OSPAR Commission. The character of this Commission could be quite confusing. This organization seems to have an independent legal personality, as IGOs normally have, although the OSPAR Convention or rules of procedure of the OSPAR Commission do not provide any basis for an independent legal personality for the Commission. This Commission has a separate Head of Delegation as a subcommittee, while the AIA itself usually serves as a body for heads of delegation. The Commission has a permanent secretariat which is normally of an IGO's character. Thus, Churchill and Ulfstein classified it as an IGO.⁴²¹ However, this commission does not have an independent headquarters while other IGOs have. Thus, the meetings of the Commission are not held in one place. Because of this mixed up character, Churchill and Ulfstein pointed out that, “[s]uch regional IGOs are often much less formal and bureaucratic than their global counterparts, and in fact the distinction between these IGOs and the AIA is much less clear-cut.”⁴²² This less formal IGO has been more flexible to accept the new type of MPAs than other AIAs or the IGO reviewed in this chapter.

⁴¹⁸ Article 3, Annex V, the OSPAR Convention.

⁴¹⁹ Guidelines for the Management of Marine Protected Areas in the OSPAR Maritime Area, the OSPAR Commission, 2003, Reference number:2003-18.

⁴²⁰ *Ibid.*

⁴²¹ Churchill and Ulfstein, *supra* note 1, p. 631.

⁴²² *Ibid.*, p. 631.

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As can be recognised in the chronological development of the OSPAR system, it has been evolved by incorporating MPAs. The previous treaties replaced by the 1992 OSPAR Convention did not have any provision on MPAs or specific site protection and restoration. The 1992 OSPAR Convention contains a general obligation for the vulnerable site protection. This general obligation was embodied by Annex V to the OSPAR Convention which was adopted in 1998 as the result of the Ministerial Meeting of the OSPAR Commission held in Sintra.⁴²³ Although the general provision and the Annex in the convention do not refer to an MPA specifically, member States interpreted them as implying conservation of the marine environment through establishing MPAs. As a result, the recommendation and guidelines on MPAs in relation to implementing Annex V have been adopted. This may be seen as a result of the application of implied powers. While the Barcelona Convention and the Antarctic Treaty have enhanced rules on MPAs, adding legally binding protocols or subsidiary treaties, the OSPAR Convention system remains in the framework character and the actual substances on MPAs are decided in the forms of a non-binding recommendation and guidelines. This way is more flexible to accepting and implementing the new development than an amendment of the treaty would be. The ecosystem approach was incorporated to the OSPAR system in the same way.

As noted above, notwithstanding such swift reaction to the requirements of the high seas conservation, some limitations for MPAs under the OSPAR system to function as the narrowly defined new type of HSMPAs were detected. Within the OSPAR, for example, the connection between the ecosystem approach and MPAs have not been announced and the Commission still does not have the competence to deal with the fishing issue. Although the OSPAR system currently has to implement the new type of HSMPAs with some limitations and there has been no practice of HSMPAs as of yet, these problems may be able to be overcome in the near future. For example, two candidates of HSMPAs have been considered in the OSPAR Commission to be designated as MPAs and many States Parties support their

⁴²³ Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Areas, Bremen, the OSPAR Commission, 23-27 June 2003, OSPAR 03/17/1-E, Annex 10.

establishment. Thus, it seems that the OSPAR Commission is most positively responding to the recent requirement of the conservation of the deep sea features through establishing HSMPAs of all the IEOs reviewed in this chapter.

5.3. Chapter Conclusion

It was anticipated that the IEOs reviewed in this chapter would respond to the recent calls for the new kind of HSMPAs more swiftly and practise them earlier than RFMOs, since their primary purposes and aims seem to be more supportive for the new type of HSMPAs and many of these treaties are implemented by the flexible AIAs. This expectation does not necessarily mean that the IEO treaties would explicitly satisfy all the qualities for the new type of HSMPAs. Since the new type of HSMPAs was required only recently as a result of the expansion and development of capacity to use the ocean by human which has gone beyond the competence of the conventional ocean treaties, the reviewed treaties should have limitations to satisfy some qualities for the new type of HSMPAs. If any quality is not incorporated, those qualities need institutionally to be incorporated into their treaty systems. This chapter reviewed whether the IEO treaties contain express provisions on some qualities for the new type of HSMPAs and have adopted additional qualities for the HSMPAs institutionally. As a result, this chapter could check whether those treaties have limitations for their protected areas to function properly as required in the international meetings as reviewed in Chapter II, and whether they have actually established the new type of HSMPAs regardless of those limitations.

The CBD has jurisdictional limitations to components of deep-sea features on the high seas, although it has adopted the ecosystem approach institutionally. Thus, although it can establish the new type of HSMPAs in some cases, if no process or activity occurs the CBD does not have competence to establish such HSMPAs. The IMO conventions and guidelines cannot cover the major threatening human activities to the deep-sea features (such as fishing, mining, scientific research and bioprospecting) and have not implemented the ecosystem approach yet. The

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Barcelona Convention has established one high seas whale sanctuary, but has not incorporated the ecosystem approach. The Antarctic Treaty cannot affect the freedom of the high seas, and does not explicitly incorporate the ecosystem approach. The OSPAR excludes the regulation of fishing and marine transportation and has not announced the connection between the ecosystem approach and MPAs.

Among these treaties, only CBD and OSPAR have attempted to apply institutional powers in relation to the new concept of HSMPAs. The Ad Hoc Working Group of the CBD once considered the amendment of Article 4 of the Convention for the effective conservation of high seas components. OSPAR Commission applied implied powers to incorporate MPAs in non-binding recommendation and guidelines and may need such powers to connect the ecosystem approach with HSMPAs if it is required for the two HSMPAs candidates. Among the IEO treaties reviewed in this chapter, these two can establish MPAs which would function exactly or closely to the new type of HSMPAs, although their institutional attempts have not yet resulted in the adoption of complete qualities for the new type of HSMPAs and an actual practice. The rest of the IEO treaties can establish HSMPAs (although in the case of the Antarctic Treaty this is arguable) which seem to be closer to traditional MPAs. It cannot be denied that those MPAs also have certain effects to conserve the high seas ecosystems to some degree.

CHAPTER VI. EXISTING TREATIES AS POSSIBLE LEGAL BASES FOR THE CREATION OF HSMPAS – REGIONAL FISHERIES MANAGEMENT CONVENTIONS

Most of international environmental protection organizations (IEOs) were expected to be generally supportive of the implementation of the new type of HSMPAs, but they are also expected to have limitations in satisfying some of the qualities for the new type of HSMPAs. Although many international meetings have called for IEOs to contribute to the conservation of deep sea features through establishing HSMPAs (as reviewed in Chapter II), they have not been actively involved in eliminating those limitations and to date have not yet practiced a new type of HSMPA. Compared to the IEOs, marine resource use organizations, especially Regional Fisheries Management Organizations (RFMOs), were expected to be less supportive in general of the new type of HSMPAs because RFMOs put more value on sustainable exploitation than conservation (although Northwest Atlantic Fisheries Organization (NAFO), North East Atlantic Fisheries Commission (NEAFC), South-East Atlantic Fisheries Organization (SEAFO), Western and Central Pacific Fisheries Commission (WPCFC), and Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) place more value on conservation than other RFMOs tend) and have been somewhat sceptical to the absolute effectiveness of MPAs. Evidence of such scepticism by RFMOs can be found in a recent report from the Food and Agriculture Organization (FAO) which was prepared with a view to be considered in the twenty sixth meeting of the Committee on Fisheries for the purpose of providing recommendations on MPAs to the FAO Council.¹ This report on the effectiveness of MPAs for fisheries resource conservation warned of the possible illusion of the exaggerated effectiveness of MPAs because of the recent proliferation of reports and

¹ “Marine Protected Areas (MPAs) and Fisheries,” Committee on Fisheries, Twenty-sixth Session, Rome, Italy, FAO, 7-11 March 2005, COFI/2005/8; and “Matters Requiring the Attention of the Council,” in “Report of the twenty-sixth session of the Committee on Fisheries,” FAO Fisheries Report No. 780, Rome, FAO, March 2005, pp. xx-xxi.

discussions on MPAs.² This report also pointed out that MPAs are intricate measures because these often require other human activities to be regulated at the same time.³ Such multipurpose MPAs are more complicated to implement than MPAs for a single activity control.⁴ Participants to the meeting agreed that the application of MPAs, either in national waters or on the high seas, should be deliberately circumscribed within scientifically and legally supported circumstances.⁵ The establishment of marine protected areas on the high seas was particularly controversial during the meeting.⁶ Although the primary purpose and intention of RFMOs in general may not be quite supportive of the new type of HSMPAs, their involvement in this issue is unavoidable because of the worldwide recognition of the imminent impact of deep sea fishing on the deep sea features. As reviewed in Chapter II, the imminent impact by deep sea fishing inspired many international conferences to encourage RFMOs to be involved in protection of the deep sea features through establishing HSMPAs. There is a possibility for some RFMOs to have responded to the recent calls for the new type of HSMPAs positively.

RFMO treaties, as is the case with the IEOs treaties, are also expected to have limitations in satisfying some of the qualities of the new type of HSMPAs. This chapter will examine what legal limitations RFMOs treaties have in requiring the new type of HSMPAs, and whether each RFMO has practiced HSMPAs responding to the recent calls regardless of the existence of the limitations. In the course of reviewing the express, the acquired, and the non-express legal bases and actual practice for the new type of HSMPAs by all relevant RFMOs (see Table 6.1), this chapter will also examine how much RFMOs have been influenced by the international pressure for establishing the new type of HSMPAs.

² See COFI/2005/8, *ibid.*

³ *Ibid.*

⁴ According to this report, "The adaptive, precautionary and ecosystem-conscious transition process that is required has significant economic, social and political costs. It is further complicated by the need to deal with the impacts of other human activities threatening biodiversity and ecosystem structure through pollution, chemical and radioactive contamination, habitat degradation, etc." *Ibid.*, p.1.

⁵ FAO Fisheries Report No. 780, *supra* note 1, para. 102, p. 17.

⁶ *Ibid.*, pp.16-17.

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Besides the RFMO treaties, there are other legal instruments which are relevant to fishing which may provide the legal support for HSMPAs. For example, the FAO report on MPAs, which was referred to above, addressed the possible involvement of the Code of Conduct for Responsible Fisheries in the establishment of HSMPAs through providing guidelines to manage all types of high seas fisheries.⁷ Although the FAO report refers to the connection of the Code with HSMPAs, this reference means that there is indirect support for HSMPAs in the Code. This Code is non-binding, and does not contain any direct provision which implies the new concept of HSMPAs. In addition to this Code, the FAO Compliance Agreement was regarded as an international treaty which can be involved in the conservation of high seas biodiversity and the establishment of HSMPAs for regulating the most threatening human activities to the deep-sea features.⁸ However, this Convention mainly provides rules on compliance of measures adopted under other treaties, and as such it does not establish HSMPAs on its own. Thus, this chapter does not review the legal justification for the new type of HSMPAs under the FAO legal instruments.

The conventions and agreements on marine living resource use represented by RFMO treaties have been very regionalized. For example, around seventeen regional fisheries management agreements cover almost all of the world's oceans. No matter what species exploitation is regulated in which part of the world's oceans, these conventions are illustrative of quite similar purposes, management measures, and institutional functions and structures. The organizations which are established by such conventions have also experienced similar problems, such as conflicts on resource use, overexploitation and depletion of target resources, and free rider problems. Member States of these conventions are divided into two groups: States whose interests lie mostly in resource exploitation, and States whose main interests are in resource conservation. This distinction is quite clear when compared to the IEO treaties. Such

⁷ COFI/2005/8, *supra* note 1, p.2. The text of the Code of Conduct for Responsible Fisheries is available at <http://www.fao.org/fishery/ccrf/en> (accessed on 9 January 2009).

⁸ Elizabeth Foster, Tia Flood, Alistair Graham and Martin Exel, "Improved Oceans Governance to Conserve High Seas Biodiversity," *Parks, High Seas Marine Protected Areas*, Vol.15, No.3, IUCN, 2005. Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the FAO Compliance Agreement), adopted on 24 November 1993, entered into force on 24 April 2003, *UNTS*, Vol. 2221, p. 91.

different interests have resulted in many disputes relating to resource use management. To enable both groups of States to participate most of these agreements contain similar provisions on objection procedures and considerations of economic development. The ‘conservation and management measures’ for marine living resource management in these conventions are standardized and commensurable.⁹ Closed areas are one of the fisheries management measures which have been broadly accepted by these RFMOs.

RFMOs which can establish the closed areas on the high seas can be divided into three categories. The first category of RFMOs has practised HSMPAs with explicit provisions on MPAs. These RFMOs, however, do not incorporate the ecosystem approach in connection with HSMPAs and have not attempted to conserve the deep-sea features with MPAs. Secondly, some RFMOs have practised HSMPAs with the advanced ecosystem considerations aiming for the conservation of deep-sea features. The third category of RFMOs manages tuna fisheries and has considered establishing, or has established fisheries closures on the high seas. However, considering the character of tuna (i.e., being a highly migratory species) closed areas would be less frequently used for fisheries management than other RFMOs and these treaties have not, as of yet, been involved in ecosystem conservation. Table 6.1 illustrates this categorisation and other RFMOs which are not dealt with in this chapter. The following sections will review the legal justification for the new type of HSMPAs under, and practice by, RFMOs based on this categorisation.

Table 6. 1. International Fisheries Management Conventions and Organizations

| Regional Fisheries Management Conventions | Regional Organizations Established by Regional Conventions |
|---|--|
| HSMPAs without Ecosystem Approach | |
| <ul style="list-style-type: none"> • The 1946 International Convention for the Regulation of Whaling • The 1972 Convention for the Conservation of Antarctic Seals (CCAS) | <ul style="list-style-type: none"> • International Whaling Commission (IWC) • No IGO |

⁹ Shabtai Rosenne, “Reflection on Fishery Management Disputes informal Panel I/III, 9 December 2002,” *GA 57-Fishery Management Disputes-2*, April 2003, 1/1, p.8.

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| | |
|---|---|
| <ul style="list-style-type: none"> • The 1980 Convention on the Conservation of Antarctic Marine Living Resources | <ul style="list-style-type: none"> • The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) |
| <p>HSMPAs with Ecosystem Approach for Seamount Protection</p> | |
| <ul style="list-style-type: none"> • The 1949 Agreement for the Establishment of the General Fisheries Commission for the Mediterranean • The 1978 Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries • The 1982 Convention on Future Multilateral Cooperation in North East Atlantic Fisheries • The 2001 Convention on Conservation and Management of Fisheries Resources in the South East Atlantic Ocean | <ul style="list-style-type: none"> • General Fisheries Commission for the Mediterranean (GFCM) • Northwest Atlantic Fisheries Organization (NAFO) • North East Atlantic Fisheries Commission (NEAFC) • South-East Atlantic Fisheries Organization (SEAFO) |
| <p>Tuna Conventions with Traditional Fisheries Closures</p> | |
| <ul style="list-style-type: none"> • The 1949 Convention for the Establishment of an Inter-American Tropical Tuna Commission • The 1966 International Convention for the Conservation of Atlantic Tunas • The 1993 Agreement for the Establishment of Indian Ocean Tuna Commission • The 1993 Convention for the Conservation of Southern Bluefin Tuna • The 2000 Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean | <ul style="list-style-type: none"> • Inter-American Tropical Tuna Commission (IATTC) • International Commission for the Conservation of Atlantic Tunas (ICCAT) • Indian Ocean Tuna Commission (IOTC) • Commission for the Conservation of Southern Bluefin Tuna (CCSBT) • Western and Central Pacific Fisheries Commission (WCPFC) |
| <p>Other RFMO Treaties Covering High Seas</p> | |
| <ul style="list-style-type: none"> • The 1982 Convention for the Conservation of Salmon in the North Atlantic Ocean • The 1992 Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean • The 1994 Convention on the Conservation and Management of the Pollock Resources in the Central Bering Sea | <ul style="list-style-type: none"> • North Atlantic Salmon Conservation Organization (NASCO) • North Pacific Anadromous Fish Commission (NPAFC) • No IGO |

<Pacific Salmon Commission and International Baltic Sea Fishery Commission (IBSFC) are excluded because these do not cover the high seas and are bilateral at present. IBSFC was terminated after January 2006, but the Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and Belt which established IBSFC is still effective on two member States, Poland and Russia Federation. The classification of IWC and CCAS to fisheries management bodies is in accordance with FAO's description. Source: "Regional Fisheries Management Bodies," FAO, Fisheries and Aquaculture Department, <http://www.fao.org/fi/body/rfb/index.htm> (accessed on 2 January 2009).>

6.1. Treaties Practising Traditional MPAs on the High Seas

6.1.1. Express Legal Support for HSMPAs and Practice

The international treaties which manage the exploitation of marine mammals and/or are derived from the Antarctic Treaty explicitly stipulate protected areas and have practised MPAs on the high seas. This category of treaties includes: the IWC Convention; the CCAS; and, the CCAMLR. The CCAS and the IWC Convention deal exclusively with seals and whales respectively. The CCAMLR regulates exploitation of the ‘Antarctic marine living resources’ including birds, “found south of the Antarctic Convergence.”¹⁰ However, the ‘Antarctic marine living resources’ under the CCAMLR may not encompass marine mammals such as whales and seals. Article VI of the CCAMLR addresses that “nothing in this Convention shall derogate from the rights and obligations of Contracting Parties under the International Convention for the Regulation of Whaling and the Convention for the Conservation of Antarctic Seals.”¹¹ This article can be interpreted as this convention may not regulate the exploitation of whales and seals in the convention areas of the IWC Convention and the CCAS.¹²

The primary purpose of the two conventions on marine mammals is placed on recovering and retaining stocks at the optimum level.¹³ Once a stock has been recovered it can be kept at the optimum stock level through its sustainable utilization. The CCAMLR emphasizes “rational use,” although it seems to weigh more on

¹⁰ Article 1(2), the CCAMLR. The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), adopted on 20 May 1980, entered into force on 7 April 1982, *UNTS*, Vol. 1329, p. 47.

¹¹ Article VI, the CCAMLR.

¹² Erik Jaap Molenaar, “CCAMLR and Southern Ocean Fisheries,” *IJMCL*, Vol. 16, No. 3, 2001, pp. 465-499, p.470.

¹³ See preambles of the IWC Convention and the CCAS. The International Convention for the Regulation of Whaling (the IWC Convention), signed on 2 December 1946, entered into force on 10 November 1948, *UNTS*, Vol. 161, p.74. The Convention for the Conservation of Antarctic Seals (CCAS), adopted on 1 June 1972, entered into force on 11 March 1978, *UNTS*, Vol. 1080, p.187.

This optimum level may allow more or less influx of efforts to catch slightly more or less yield than maximum sustainable yield (MSY) in terms of economics. This term is defined as “the yield ... based on MSY as modified by economic, social or ecological factors,” by NOAA. “Definition of Fisheries Technical Terms,” NOAA, NMFS. Available at http://www.nefsc.noaa.gov/techniques/tech_terms.html (accessed on 9 January 2009).

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conservation than exploitation when compared to the IWC Convention.¹⁴ The dilemma is balancing the needs of member States between conservation and exploitation in all resource management conventions. Opening the possibility for more exploitation is especially important for motivating major resource users to participate in the resource use conventions. Thus, all three conventions explicitly require in their preambles that the consumptive values of marine living resources are not overlooked. Conservation and management, according to the preamble of the IWC Convention, should not induce “widespread economic and nutritional distress.”¹⁵ Both the preamble of the CCAS and the Article II (2) of the CCAMLR say that conservation and management measures should not discourage ‘rational use’ of target resources. The preamble of the CCAMLR requires that the importance of those resources as a source of protein is not overlooked. This support for consumption can be reinforced by an objection procedure which is adopted in all three conventions. The objection procedure allows States Parties to actually avoid the observation of specific conservation and management measures. For instance, Japan objected to the prevention of catching the Antarctic minke whale stocks in the Southern Ocean Sanctuary under the IWC Convention.¹⁶ Since whaling is entirely prevented by the moratorium imposed by the IWC, Japan could not start whaling in the Southern Ocean due to its objection anyway. If the moratorium is lifted, however, the whaling ban still remains in force thanks to the adoption of this sanctuary, thus if Japan kept its objection to the sanctuary it can exploit resources in the sanctuary.

These three conventions apply to a similar area in the Southern Ocean and cover the high seas. The CCAS covers exactly the same area that the Antarctic Treaty applies to. The CCAMLR applies to a larger area than the Antarctic Treaty area. Its boundary is along the Antarctic Convergence where the cold surface water submerges towards the seafloor.¹⁷ These two conventions in the Antarctic Treaty System contain

¹⁴ Article II, the CCAMLR.

¹⁵ Preamble, the IWC Convention.

¹⁶ See a footnote for Paragraph 7(b) of the Schedule, as amended by the Commission by the 58th Annual Meeting, June 2006, IWC. Available at <http://www.iwcoffice.org> (accessed on 2 January 2009).

¹⁷ Harold V. Thurman and Elizabeth A. Burton, *Introductory Oceanography*, Ninth Edition, Prentice Hall, 2001, p. 227.

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the same provisions as Article IV of the Antarctic Treaty on the prevention of any new claims, or enlargement of existing claims in Antarctica. Thus, all sea water covered by these treaties should at present have high seas status. The IWC Convention does not have a specific boundary of applicable area because it applies wherever whales migrate. This convention prohibits whaling in the Southern Ocean Sanctuary, which largely overlaps with the convention area of the CCAMLR.

All these conventions have explicit provisions on protected areas, such as closed areas, special areas, sanctuaries, and reserves. The IWC Convention can establish protected areas in accordance with Article V. The conservation measures specified in this article include “open and closed waters, including designation of sanctuary area.”¹⁸ Details of the designated protected areas are set out in the Schedule of regulations. This Schedule “forms an integral part” of the Convention in accordance with Article I of the Convention.¹⁹ The new addition of a conservation measure to this schedule would require the amendment of the convention, and the amendment needs a decision by IWC with a three-fourths majority of voting members.²⁰ According to Article V, several conditions should be satisfied for this new addition. The adoption of a measure should be “necessary to carry out the objectives and purposes of the Convention” and based on scientific evidence, and the needs of consumers and the relevant industry should be considered.²¹ Problems have been pointed out with respect to the application of these conditions for the new addition of conservation measures, especially, sanctuaries.

So far, two whale sanctuaries have been created under the current IWC Convention: the Southern Ocean Sanctuary and the Indian Ocean Sanctuary. These two sanctuaries cover the high seas. The predecessor of the current IWC Convention, the 1937 Convention on the Regulation of Whaling, established a sanctuary in the eastern South Pacific area of the Southern Ocean in 1938, before the current

¹⁸ Article V (1), the IWC Convention.

¹⁹ Article I, the IWC Convention.

²⁰ Articles V and III(2), the IWC Convention.

²¹ Article V(1) and (2), the IWC Convention. See debates on the establishment of Southern Ocean Sanctuary in Alexander Gillespie, “The Southern Ocean Sanctuary and the Evolution of International Environmental Law,” *IJMCL*, Vol. 15, No.3, 2000, pp.293-316.

Convention was adopted and the present two sanctuaries were established.²² The earliest sanctuary under the 1937 Convention lasted until 1954 and regulated the baleen whale catch.²³ The Indian Ocean Sanctuary was the first sanctuary adopted under the 1946 IWC Convention. The sanctuary was first suggested by the Seychelles in 1979 when they proposed that it be set within an 'ecologically coherent boundary.'²⁴ Instead of the ecologically coherent boundary, the Indian Ocean Sanctuary was created with a compromised geographical boundary: between 20°E and 130°E and between the equator and 55°S, and between African coast to 100°E of the northern part of the equator including the Red and Arabian Seas and the Gulf of Oman.²⁵ The Southern Ocean Sanctuary is located in the southern part of water within a boundary connected by the following coordinates: 40°S, 50°W; 40°S, 20°E; 55°S, 20°E; 55°S, 130°E; 40°S, 130°E; 40°S, 130°W; 60°S, 130°W; 60°S, 50°W.²⁶ This sanctuary was first proposed by France in 1992.²⁷ Although this sanctuary was adopted by consensus in the IWC, two whaling States (Norway and Japan) initially considered this sanctuary as contentious.²⁸ Norway and Japan argued that no scientific evidence proved the necessity of the sanctuary and that the objectives and purposes of the convention were not upheld by the establishment of the sanctuary.²⁹ Since whaling is in any case prevented in the area by the moratorium set up in 1986, the establishment of the sanctuary is redundant.³⁰ Also, since this sanctuary currently

²² "Annex II – IWC Conservation Work (An Annotated Compilation) (1976-2001)," Annex to IWC Resolutions 2003 in "Chair's Report of the Fifty Fifth Annual Meeting," Berlin, Germany, IWC, 2003. Available at <http://www.iwcoffice.org> (accessed on 2 January 2009), p.21. This Sanctuary was originally established by Article 2 of the 1938 Protocol Amending the International Whaling Agreement. See Patricia W. Birnie, *International Regulation of Whaling: from Conservation of Whaling to Conservation of Whales and Regulation of Whale Watching*, Vol.1, Oceana, New York, London, 1985, p.127; See also "Whale Sanctuaries," IWC, <http://www.iwcoffice.org/conservation/sanctuaries.htm> (accessed on 2 January 2009).

²³ *Ibid.*

²⁴ "Annex II – IWC Conservation Work," *ibid.*, p.23.

²⁵ Paragraph 7(a), the Schedule. Also see Annex II – IWC Conservation Work, *ibid.*, p.21.

²⁶ Paragraph 7(b), the Schedule.

²⁷ "Annex II – IWC Conservation Work," *supra* note 22, p.23.

²⁸ *Ibid.*, section 8 (c).

²⁹ See details in Gillespie, *supra* note 21, p. 299.

³⁰ See discussions in William T. Burke, "Legal Aspects of the IWC Decision on the Southern Ocean Sanctuary," *Ocean Development and International Law*, Vol.28, 1997, pp.313-327. For moratorium see the Schedule of the IWC Convention.

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does not set up rules stricter than under the moratorium,³¹ it does not have actual effectiveness for the conservation of whales. For example, in accordance with Article VIII of the Convention, scientific whaling cannot be eliminated either by the sanctuary or moratorium because both prohibit commercial whaling only.³² Nevertheless, this sanctuary was reviewed in 2004 and renewed without a specific termination period being set.³³ At the 58th IWC meeting which was held in 2006, Japan again raised a question on the justification of the renewal and proposed the elimination of the sanctuary.³⁴ The proposal for eliminating paragraph 7(b) of the Schedule by Japan failed to gain the necessary three-quarter majority votes.³⁵

In 1999, Australia and New Zealand suggested in the Commission the establishment of another sanctuary in the South Pacific Ocean, but this was unsuccessful.³⁶ During the 57th session of the IWC which was held in 2005, in the Scientific Committee Brazil proposed another sanctuary, the South Atlantic Whale Sanctuary which would also have covered the high seas.³⁷ This proposal was not voted upon.³⁸ Other unsuccessful proposals for designating sanctuaries include the North West Atlantic Sanctuary, the North East Atlantic Sanctuary and the Mediterranean Sanctuary.³⁹

³¹ This is currently true but would change if the moratorium is lifted.

³² See paragraph 7(a) and (b) of the Schedule, *supra* note 16.

³³ "Chair's Report of the 58th Annual Meeting," St. Kitts and Nevis, IWC, 16-20 June 2006, pp.36-37.

³⁴ *Ibid.*, pp.36-37.

³⁵ *Ibid.*, p.37.

³⁶ "Annex II – IWC Conservation Work," *supra* note 22, p.25.

³⁷ "Chair's Report of the 58th Annual Meeting," *supra* note 33, pp.34-36.

³⁸ *Ibid.*, p. 36.

³⁹ Annex II – IWC Conservation Work, *supra* note 22, p.25.

Convention to adopt a new conservation measure, including these protected areas.⁴² The CCAS sets six closed areas where Crabeater seals, Leopard seals, and Weddell seals are prohibited from being caught and three reserves where the killing or capture of any seals is banned in order to protect their breeding.⁴³ Closed areas are not permanently shut down and are arranged to be closed “in numerical sequence” for six months per year, from 1 September to the end of the following February.⁴⁴ The six closed areas altogether cover the whole convention area south of 60°S. The three reserves are the South Orkney Island, the south western Ross Sea area, and the Edisto Inlet area.⁴⁵ These closed areas and reserves have not actually prevented any sealing after their establishment. Since the conclusion of the CCAS commercial sealing has not commenced again in the Antarctic Treaty sea area⁴⁶ because of its practical insignificance. Traditional sealing countries are located in the northern hemisphere, so sealing in the Arctic rather than in the Antarctic is economically more cost-efficient. Moreover, the seal skin market has been deflated by the embargo on its import into EU countries and the USA.⁴⁷

The CCAMLR does not require any amendment of the Convention to add special areas or closed areas. The Commission established by this Convention adopts the conservation and management measures through binding decisions instead of amending the treaty.⁴⁸ The CCAMLR has not so far developed any special area. However, many parts of convention areas (see Figure 6.1) are closed to fisheries targeting specific species (see Table 6.2). Many of these closed areas have not set a time for termination. Besides the area based management measures specified in its Convention, CCAMLR institutionally adopted another area based management

⁴² Article 9, the CCAS.

⁴³ Annex 1, the CCAS.

⁴⁴ Paragraph 4, Annex 1, the CCAS.

⁴⁵ Paragraph 5, Annex 1, the CCAS.

⁴⁶ Molenaar, “CCAMLR and Southern Ocean Fisheries,” *supra* note 12, p.474.

⁴⁷ The Commission of the European Communities recently presented a proposal for import ban of seal products. Currently Belgium and the Netherlands of the EU countries ban seal skin import. See “Proposal for a Regulation of the European Parliament and of the Council concerning trade in seal products,” Brussels, Belgium, the Commission of the EC, 23 July 2008, COM(2008) 469 final. In USA, seal skin imports have been banned since 1972 by US Marine Mammal Protection Act. For details on this law, see Marine Mammal Protection Act (MMPA) of 1972, NOAA, NMFS, at <http://www.nmfs.noaa.gov/pr/laws/mmpa/> (accessed on 2 January 2009).

⁴⁸ Article IX (6) (b), the CCAMLR.

measure, the Convention's Ecosystem Monitoring Program (CEMP) protected areas in 1990.⁴⁹ This CEMP protected area aims to protect seals and seabirds, and currently one site at Cape Sheriff, which covers a little part of the marine area, is designated as the CEMP protected area.⁵⁰

Table 6.2. Closed Areas in the CCAMLR Subareas

| Statistical Subarea | Species Prohibited to Be Taken | Period in Force |
|---------------------|---|--|
| 48.1 | Finfish/Marbled rockcod | from 2002/2003 season onward |
| 48.2 | Finfish/Marbled rockcod | from 2002/2003 season onward |
| 48.3 | Mackerel Icefish Marbled rockcod Humped rockcod Blackfin icefish South Georgia icefish Grey rockcod Yellowfin notothen Lanternfishes | from 1 April 1998 to the end of the Commission meeting in 1998 from 1 April to 30 November 1999 from 1 March to 31 May 2000 from 1 March to 31 May 2001 from 2002/2003 season onward from 2003/2004 season onward |
| 48.5 | Antarctic toothfish | from 1 December 2002 to 30 November 2003 from 2003/2004 season onward |
| 58.4.1 | Antarctic toothfish | from 1 December 2002 to 30 November 2003 |
| 58.4.4 | Antarctic toothfish Grey rockcod | from 2002/2003 season onward from 2002/2003 season onward |
| 58.5.1 | Antarctic toothfish Patagonian toothfish | from 1 December 2002 to 30 November 2003 from 2003/2004 season onward |
| 58.5.2 | Antarctic toothfish Patagonian toothfish | from 1 December 2002 to 30 November 2003 from 2003/2004 season onward |
| 58.6 | Patagonian toothfish | from 2002/2003 season onward |

⁴⁹ Martin Holdgate, "the Antarctic Protected Areas System in the New Millennium," in Birgit Njastad, "Report of the Antarctic Protected Areas Workshop," Tromsø, Norway, Antarctic Treaty Secretariat, 23 May 1998, p. 11, available at http://www.ats.aq/documents/cep/first_protected_workshop_e.pdf (accessed on 11 January 2009); also see Conservation Measure 18/IX, Procedure for According Protection to CEMP Sites in "Schedule of Conservation Measures in Force 1990/1," CCAMLR, 1990, pp. 5-10.

⁵⁰ Holdgate, *ibid*; Conservation Measure 91-02 (2004) protection of the Cape Sheriff CEMP site, in "Schedule of Conservation Measures in Force 2008/9," CCAMLR, 2008, pp. 171-178.

| | | |
|------|----------------------|--|
| 58.7 | Patagonian toothfish | from 2002/2003 season onward |
| 88.2 | Antarctic toothfish | from 1 December 2002 to 30 November 2003 from 2003/2004 season onward |
| 88.3 | Antarctic toothfish | from 1 December 2002 to 30 November 2003 from 2003/2004 season onward |

<source: "Schedule of Conservation Measures in Force," Commission for the Conservation of Antarctic Marine Living Resources, available from <http://www.ccamlr.org> (accessed on 2 January 2009). From 1997/98 season to 2008/2009 season.>

Although these treaties have express provisions on protected areas and practised high seas closures, the protected areas under these conventions have two limitations so as to prevent them being classified as the new type of the MPAs: their RFMOs do not incorporate the ecosystem approach (and the precautionary principle) into MPAs, and they do not have competence directly to conserve the deep sea features. Given the time when they were adopted,⁵¹ it is not surprising that these three conventions do not explicitly embody contemporary environmental principles (such as the precautionary approach and the ecosystem approach) in their treaty text.⁵² The only relevant principle which is included in these treaties is that the best available scientific evidence should be used when making decisions,⁵³ which is also contained in many other regional fisheries agreements. In addition, these treaties are not competent to conserve deep sea features. All these treaties can establish protected areas where target species need protection, but do not say that their protected areas are to be adopted for regulating fishing in cases where certain ecosystems need protection. Therefore these conventions cannot require the establishment of the new type of HSMPAs.

Whether institutional attempts have been made to overcome the lack of an ecosystem approach, and whether the organizations established by these treaties have

⁵¹ The IWC Convention was signed in 1946, the CCAS was signed in 1972 and the CCAMLR was signed in 1980. See "Regional Fisheries Bodies," FAO, Fisheries and Aquaculture Department, <http://www.fao.org/fi/body/rfb/index.htm> (accessed on 2 January 2009).

⁵² It is controversial whether some ecosystem considerations in the CCAMLR should be regarded as the ecosystem approach or not. See a further discussion in section 6.1.2.

⁵³ See Article IX of the CCAMLR and Article 3 of the CCAS.

attempted to create protected areas to safeguard deep sea features without express competence will be discussed in the following section.

6.1.2. Additional Institutional Support

This group of treaties has explicit provisions for sanctuaries, closed areas, reserves, or special areas. The main problems which require institutional support are the lack of an ecosystem approach and a precautionary principle in connection with MPAs; and the lack of competence to conserve ecosystems directly.

It is obvious that the three treaties do not explicitly stipulate the two environmental principles. The CCAMLR, CCAS, and IWC Convention were established in 1980, 1972, and 1946 respectively. As reviewed in section 5.1.1, the ecosystem approach was first incorporated internationally into the Convention on Biological Diversity (CBD) system in 1995. The precautionary principle was first put into a statutory form in a domestic jurisdiction in Germany in 1968 and first internationally adopted in the 1985 Vienna Convention for the Protection of the Ozone Layer.⁵⁴ Thus, it is impossible for the original texts of the three conventions to include both principles. There has been no amendment of any of these treaties to incorporate the principles since the three treaties were established. Although an express provision is deficient, several authors have insisted that the CCAMLR implicitly requires the application of the principles. Miller et al.⁵⁵ argued that the CCAMLR is incorporated with those principles specifically in Article II (3).⁵⁶

⁵⁴ Steve Suppan, *U.S. vs. EC Biotech Products Case – WTO Dispute Backgrounder*, a publication of the Institute for Agriculture and Trade Policy, trade global governance program, September 2005 available at http://www.itsd.org/think_tank.htm (accessed on 2 January 2009). p. 2. For further discussion on international adoption of the precautionary principle and an official citation of the Vienna Convention, see section 7.2.

⁵⁵ Denzil G.M. Miller, Eugene N. Sabourenkov and David C. Ramm, “Managing Antarctic Marine Living Resources: The CCAMLR Approach,” *IJMCL*, Vol. 19, No. 3, 2004, pp.317-363. p.317.

⁵⁶ Article II (3): “Any harvesting and associated activities in the area to which this Convention applies shall be conducted in accordance with the provisions of this Convention and with the following principles of conservation:

(a) prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual increment;

Constable⁵⁷ emphasized that the CCAMLR was the first international convention to adopt the ecosystem approach and has implemented it since 1982.⁵⁸ Molenaar agrees that this Convention implies those principles, especially the precautionary principle.⁵⁹ The precautionary principle actually applies to the conservation and management measures under the CCAMLR. It explicitly appears in the Schedule of Conservation Measures in Force adopted and amended by the Commission.⁶⁰ The ‘best scientific evidence available’ in Article IX of the CCAMLR also supports the application of the precautionary principle, since it requires the Commission to depend not only on a complete set of data and knowledge to adopt a conservation measure.⁶¹ It can be inferred that for the sake of precaution conservation measures can be adopted with incomplete scientific evidence.

It is true that the CCAMLR has a broader purpose than conserving target fish stocks. Article II (3)(b) obliges resource users to maintain not only certain stock levels of target species but also “the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources.”⁶² This is the ecosystem consideration without ecosystem dynamics which is found in many other regional fisheries management agreements. Chapter II explained that this type of ecosystem consideration is not considered as an ecosystem approach in this thesis because it is too weak to encourage the conservation of the deep-sea habitats. In addition, since it

(b) maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in sub-paragraph (a) above; and

(c) prevention of changes or minimisation of 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 of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.”

⁵⁷ Andrew J. Constable, “International Implementation of the Ecosystem Approach to Achieve the Conservation of Antarctic Marine Living Resources,” Presentation in UNICPOLOS, June 2006, Discussion Panel “Ecosystem Approach and Oceans,” available at http://www.un.org/Depts/los/consultative_process/7thmeetingpanel.htm (accessed on 2 January 2009).

⁵⁸ Constable, *ibid.* Also see section 2.1.1. of this thesis. The third World Parks Congress held in 1982 recommended RFMOs to follow the CCAMLR’s fisheries management on “ecosystem as a whole” basis.

⁵⁹ Molenaar, “CCAMLR and Southern Ocean Fisheries,” *supra* note 12, p.467

⁶⁰ For example, see the most recent schedule amended in the 27th Meeting for 2008/9 season, “Schedule of Conservation Measures in Force 2008/9 Season,” CCAMLR, available at http://www.ccamlr.org/pu/e/e_pubs/cm/08-09/all.pdf (accessed on 2 January 2009).

⁶¹ Constable, *supra* note 57, p.4.

⁶² Article II(3)(b), the CCAMLR.

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is clear that the CCAMLR excludes the regulation of whaling and sealing in accordance with Article VI, the ecosystem approach would be implemented incompletely under the Convention even if the CCAMLR adopts it. Nevertheless, CCAMLR has recently responded to the call for the protection of deep sea features with the ecosystem approach (especially UNGA Resolution 61/105) through adopting a conservation measure which prevents bottom fishing.⁶³ However, this conservation measure does not establish a protected area in which bottom fishing is prohibited, but instead prohibits fishing in almost the entire convention area.

The IWC also adopted several non-binding resolutions entailing the precautionary principles and concerns about marine ecosystems. The Resolution adopted at the 44th Annual Meeting of IWC, which was held in 1992, first noted the precautionary principle.⁶⁴ Since then it has incorporated the principle into the management of whaling. When the legitimacy of the Southern Ocean Sanctuary was discussed in the IWC in 1995, the precautionary approach appeared to support the sanctuary.⁶⁵ The IWC has recently confirmed the Southern Ocean Sanctuary as “a valuable precautionary measure”⁶⁶ and its Scientific Committee has also constantly underpinned the precautionary principle as being necessary for resource management.⁶⁷ However, the ecosystem approach has never adopted in its meetings.

While the IWC Convention and the CCAMLR established intergovernmental organizations, the CCAS is the only convention which established the flexible nature of an autonomous institutional arrangement (AIA) of all marine resource use treaties which cover the high seas. The meeting of contracting parties by the CCAS seems even less formal than an AIA because the CCAS meetings are not regularly held and

⁶³ Conservation Measure 22-06 (2007), Bottom Fishing in Convention Area, in “Schedule of Conservation Measures in Force 2007/8,” CCAMLR, 2007, pp. 57-61.

⁶⁴ See 1992-Appendix 2, Resolution on the Need for Research on the Environment and Whale Stocks in the Antarctic Region, IWCRE544 1992.doc, in “Chair’s Report of the Forty-Fourth Meeting,” IWC, 1992, pp. 39-40.

⁶⁵ Gillespie, *supra* note 21, p. 103.

⁶⁶ See IWC Resolution 2001 – 7 Resolution on Southern Hemisphere Minke Whales and Special Permit Whaling, London, UK, IWC, 2001, IWCRE53 2001.doc.

⁶⁷ See IWC Resolution 2002 – 1 Guidance to the Scientific Committee on the Sanctuary Review Process, Shimonoseki, Japan, IWC, 2002, IWCRE54 2002.doc.

no subsidiary bodies are established under the Convention.⁶⁸ Any scientific tasks relating to this Convention are entrusted to an external research institute, the Scientific Committee on Antarctic Research of the International Council of Scientific Union (SCAR).⁶⁹ Since the CCAS entered into force no meeting of the contracting Parties has been held. So, no institutional assistance for the adoption of the environmental principles has yet been undertaken.

To date no protected areas have been established by these three organizations in order to conserve specific ecosystems or features which are beyond their express capacities. Consequently their existing protected areas could hardly narrowly be classed as the new type of HSMPAs. Although their protected areas do not target the conservation of specific features, if any of the areas include those features, they can be protected indirectly from sealing, whaling or fishing. In particular the CCAMLR has recently applied the ecosystem approach to regulate bottom fishing in its convention area. Even so, as the conventions do not incorporate the ecosystem approach and do not have express competence to establish protected areas directly for the features, they cannot require the establishment of the new type of HSMPAs.

6.2. Treaties Protecting the Deep Sea Features Establishing HSMPAs Similar to the New Type of HSMPAs

Besides the group of conventions establishing protected areas on the high seas reviewed in the previous section, another group of RFMO treaties have established closed areas on the high seas. This group of conventions can be distinguished from the previous group because it has practised HSMPAs to safeguard the deep-sea features applying either the ecosystem approach or more advanced ecosystem considerations. The four conventions are the NEAFC Convention, the SEAFO Convention, the NAFO Convention, and the GFCM Agreement. These are all regional fisheries management agreements covering neighbouring regions and established

⁶⁸ See Article 5 and 6 of the CCAS.

⁶⁹ Article 5, the CCAS.

intergovernmental organizations. These conventions specialise in fisheries management, mostly of straddling fish stocks.

Normally RFMO treaties have established protected areas where target species need protection rather than where specific ecosystems need protection as reviewed in section 6.1. Although some closed areas by RFMOs can have a number of certain positive effects on the conservation of ecosystems, it is not required for those treaties to establish protected areas for the conservation of fragile ecosystems in accordance with their provisions on closed areas and purposes of the treaties. This narrow subject of conservation by RFMO treaties can be broadened if they adopt an ecosystem approach. The four RFMO treaties either expressly, or institutionally, broadened the subject of conservation recently or were established recently with broader considerations on marine ecosystems than the other conventional RFMO treaties.

These four fisheries management conventions were established in different eras. The GFCM Agreement, NAFO and NEAFC Conventions were established before the 1992 Rio Declaration was adopted. Thus, the original texts of these three conventions did not incorporate any environmental principles from the declaration, while the SEAFO Convention was created in 2001 with many of those principles. The incorporation of the advanced environmental principles into the two North Atlantic Conventions was achieved through the most recent amendments which were made in 2006 and 2007 by the NEAFC and NAFO respectively. The purpose of the recent amendments was to catch up with new developments after the adoption of the LOSC. Through the reforming process of 2006, the NEAFC Convention added a provision for the best scientific evidence available, the precautionary approach, advanced ecosystem considerations, and the conservation of biodiversity.⁷⁰ The newly adopted amendment to the NAFO Convention in September 2007 explicitly includes both the ecosystem approach and the precautionary principle.⁷¹ GFCM first included the

⁷⁰ See Article 4 of the NEAFC Convention.

⁷¹ Preamble, the Amendment of the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, Annex 17 in "Report of the General Council Meeting 29th Annual Meeting," Lisbon Portugal, NAFO, September 2007, NAFO/GC Doc. 07/5; "NAFO Celebrates a Modern Convention," 2007 Annual Meeting Press Release, NAFO, 28 September 2007, available at <http://www.nafo.int> (accessed on 11 January 2009).

precautionary principle through an amendment in 1997,⁷² but it has not yet attempted to include the ecosystem approach either explicitly into the convention text or as an institutional decision. Rather, it has implemented broader ecosystem considerations to fisheries management through endorsing fisheries closures for the protection of deep sea features. The SEAFO Convention was born in the period of flourishing international environmental principles of the post-Rio Declaration. The SEAFO Convention originally embraced many of those principles obliging States Parties to implement fisheries management measures in light of the best scientific evidence available, the precautionary approach, the advanced ecosystem considerations, and conservation of marine biodiversity.⁷³

How these treaties advanced their fisheries closures and practised the common denominator (i.e., closed areas for the conservation of deep sea features) will be examined in the following subsections.

6.2.1. Express and Acquired Support, and Institutional Practice for HSMPAs in the NEAFC Convention

Since it was established in 1980, the NEAFC Convention has been amended twice, in 2004 and 2006.⁷⁴ The 1980 NEAFC Convention was no different from other contemporary RFMO conventions which describe fish stocks as the sole subject of concern. The discussion on marine ecosystem conservation as a whole was ignited in this organization only recently in order to catch up with the developing international concerns on environmental protection.⁷⁵ This discussion was particularly accelerated by the adoption of Agenda 21 and the World Summit on Sustainable Development

⁷² See discussions on inclusion of the precautionary principle into the amendment in paragraph 63 in "Report of the Tenth Session of the GFCM Committee on Fisheries Management," Rome Italy, GFCM, 17-20 June 1997, GFCM/XXII/97/Inf.5.

⁷³ See Article 3 for general principles and Article 7 for the precautionary approach, specifically.

⁷⁴ Convention on future multilateral co-operation in North-East Atlantic Fisheries (NEAFC), adopted on 18 November 1980, entered into force on 17 March 1982, *UNTS*, Vol. 1285, p. 129; "Text of "new" NEAFC Convention with amendments in 2004 and 2006," NEAFC, available at <http://www.neafc.org> (accessed 11 January 2009).

⁷⁵ See "Report of the 21st Annual Meeting of the North-East Atlantic Fisheries Commission," Volume 1: Main Report, NEAFC, 12-15 November 2002, p.37.

(WSSD) Plan of Implementation.⁷⁶ As a result of the incorporation of the new development, this Convention became able to establish closed areas which may function as the new kind of HSMPAs.

The NEAFC Convention is the only one of the three Atlantic fisheries management conventions which contains an explicit provision on closed areas. Article 7(c) illustrates conservation and management measures, including the closed areas.⁷⁷ The management measures including closed areas should be “concerning fisheries,” according to Article 5(1) of the Convention. Human activities other than fishing cannot be regulated in the closed areas. If there is no potential damage by fishing, this closed area may not be established solely for the purpose of the conservation of specific habitats or ecosystems against other activities. This Convention manages exploitation of all kinds of fish stock, except highly migratory fish stocks as listed in Annex I of the Law of the Sea Convention (LOSC)⁷⁸ and anadromous stocks.⁷⁹ The convention does not exclude the management of the exploitation of deep-sea fish stocks which directly destroys cold-water coral reefs and ecosystems on seamounts.

Until recently fisheries managed by NEAFC mainly exploited five species, including: blue whiting, herring, mackerel, redfish, and haddock.⁸⁰ Although other fish stocks, such as deep sea species, have been heavily exploited by the deep-sea fisheries in the region since the late 1980s, the need for the protection of species was only recently agreed in NEAFC.⁸¹ The issue of protecting deep-sea species was raised for several years before a Working Group in NEAFC in 2002 examined the possible

⁷⁶ “Ecosystem Approach in the Context of NEAFC and Trends in the Management of Marine Resources,” London, UK, Working Group on the Future of NEAFC, May 2003, available at <http://www.neafc.org> (accessed on 8 January 2009).

⁷⁷ See Article 7(c) of the NEAFC Convention.

⁷⁸ The list of the highly migratory fish stocks includes albacore tuna, bluefin tuna, bigeye tuna, skipjack tuna, yellowfin tuna, blackfin tuna, little tuna, southern bluefin tuna, frigate mackerel, pomfrets, marlins, sail-fishes, swordfish, sauries, dolphin, oceanic sharks, and cetaceans. Annex I, the LOSC.

⁷⁹ Article 1(b), the NEAFC Convention.

⁸⁰ Matthew Gianni, *High Seas Bottom Trawl Fisheries and their Impacts on the Biodiversity of Vulnerable Deep-Sea Ecosystems: Options for International Action*, Gland, Switzerland, IUCN, 2004, available at http://www.iucn.org/themes/marine/pdf/Gianni_HS-BottomTrawling_FullVersion.pdf (accessed on 2 March 2005). p.56.

⁸¹ According to a meeting result in 2002, the deep sea species suggested to be protected in the Convention Area are ling, tusk, blue ling, great silver smelt, orange roughy, grenadiers, black scabbardfish, sea breams, alfonsinos/golden eye perch, squalid sharks, and greater forkbeard. “Meeting of NEAFC Working Group on the Appraisal of Regulatory Measures for Deep-Sea Species,” Bergen, Norway, NEAFC, 11-13 June, 2002, p. 17.

options of conservation and management measures, including MPAs for the protection of deep-sea fish stocks.⁸² This Deep Sea Working Group paid attention to the international concerns on the impact of fishing activities on deep-sea ecosystems and its attention to MPAs for the protection of the deep sea habitats could subsequently follow.⁸³ Participants to this meeting did not request immediate implementation of, nor did they object to the involvement of NEAFC in ecosystem protection. They rather requested scientific evidence on the necessity for the protection.⁸⁴ This discussion continued in the 21st Annual Meeting of NEAFC held in the same year. As a result, the Report of the 21st Annual Meeting included a reference to the international concerns relating to the impact of the fishing activities on deep sea ecosystems.⁸⁵ In this Annual Meeting, NEAFC also started formal discussions on the ecosystem approach to fisheries management.⁸⁶

Discussions on deep-sea fisheries continued in following years.⁸⁷ After these discussions, HSMPAs were formally suggested as an effort control measure for protecting deep-sea features in the 23rd Annual Meeting which was held in 2004. This first formal suggestion on the establishment of HSMPAs for ecosystem considerations was contained in a Norwegian Proposal.⁸⁸ The proposal included the prohibition of trawling in specific areas on the high seas and was suggested based on ecosystem concerns.⁸⁹ Although it was not proposed in conjunction with the discussion on the ecosystem approach to fisheries management in the same meeting, it was motivated

⁸² "Meeting of NEAFC Working Group on the Appraisal of Regulatory Measures for Deep-Sea Species," *ibid.*

⁸³ *Ibid.*, p.3.

⁸⁴ *Ibid.*

⁸⁵ "Report of the 21st Annual Meeting of the NEAFC," *supra* note 75, pp.36-37.

⁸⁶ See "14. Ecosystem Approach to Fisheries Management," *ibid.*, pp. 36-37.

⁸⁷ See "NEAFC Working Group to Examine Historic Catches of Deep-Sea Species and Effort Deployed in Catching these Species by Contracting Parties," Reporting from the Meeting Held in the NEAFC Headquarters, London, NEAFC, March 2003.

⁸⁸ "Proposal from Norway to Consider Mechanisms to Protect Vulnerable Habitats Including Deep-Sea Species by Prohibiting Trawling on Identified Seamount in the Regulatory Area," in "Report of the 23rd Annual Meeting of the North-East Atlantic Fisheries Commission," Volume I: Main Report, NEAFC, 8-12 November 2004, pp.39-41; see "Proposal for a Recommendation for the Protection of Vulnerable Deep-water Habitats," Agenda item 14, NEAFC, 2004, AM2004/57; Also see "Deep Water Habitats Vulnerable to Fishing Activities. Closing of Areas for Closing in the Regulatory Area by the Delegation of Norway," Agenda Item 14 – for information and discussion, NEAFC Annual Meeting, 8-12 November 2004, AM/2004/16.

⁸⁹ "Proposal from Norway to Consider Mechanisms to Protect Vulnerable Habitats Including Deep-Sea Species by Prohibiting Trawling on Identified Seamount in the Regulatory Area," *ibid.*, p. 41.

by international calls for the conservation of deep sea features with the ecosystem approach and the justification of taking the measure was searched for in the general provisions on environmental protection in the LOSC (especially Article 116-119).⁹⁰ Russia made a reservation to this proposal and argued that there is not enough available information to indicate the vulnerability of the area and consequently the effectiveness of the measure is doubtful.⁹¹ Notwithstanding this reservation, the proposal was adopted as a binding recommendation. The Recommendation which was based on the Norwegian proposal designated three high seas closed areas for the protection of deep-sea habitats. In these closed areas bottom trawling and using static gears, such as bottom gill-nets and long lines, are prohibited.⁹² These closed areas protect deep-sea habitats on a number of seamounts: specifically the Hecate, Faraday, Altair, and Antialtair seamounts.⁹³ Some part of the Reykjanes Ridge is also covered by one of the closed areas.⁹⁴ These areas were originally effective from 1 January 2005 to 31 December 2007,⁹⁵ and extended until 31 December 2008.⁹⁶ This first practice of HSMPAs for the protection of deep sea ecosystems was in some degree stimulated by relevant discussions in UN General Assembly.⁹⁷

Other regional organizations such as NAFO and the International Council for the Exploration of the Sea (ICES) have been involved in, and cooperated with NEAFC for, the deep-sea species and ecosystem protection.⁹⁸ OSPAR also influenced NEAFC

⁹⁰ "Deep Water Habitats Vulnerable to Fishing Activities. Closing of Areas for Closing in the Regulatory Area by the Delegation of Norway," supra note 88, pp. 1-5.

⁹¹ "Report of the 23rd Annual Meeting of the NEAFC," supra note 88, 40.

⁹² Recommendation for the Protection of Vulnerable Deep-water Habitats by Denmark (in respect of the Faroe Islands and Greenland), Estonia, The European Community, Iceland, Norway and Poland, adopted in the 23rd Annual Meeting of NEAFC, Management Measures 2004, NEAFC, AM 2004/57.

⁹³ *Ibid.*

⁹⁴ *Ibid.*

⁹⁵ *Ibid.*

⁹⁶ Annex I – Recommendation VII:2008, Recommendation by The North East Atlantic Fisheries Commission in Accordance with Article 5 of the Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries at its Annual Meeting in November 2007 to Adopt a Recommendation for the Protection of Vulnerable Deep-Water Habitats in the NEAFC Regulatory Areas, in "Report of 26th Annual Meeting of the North-East Atlantic Fisheries Commission," Vol. II – Annexes, NEAFC, 12-16 November 2007, p. 13.

⁹⁷ Norwegian representative referred to some relevant issues discussed in the UNGA. This includes a discussion on bottom trawling ban. See details on bottom trawling ban in Chapter II. "Report of the 23rd Annual Meeting of the NEAFC," supra note 88, pp. 39-40.

⁹⁸ "Meeting of the NEAFC Working Group on the Appraisal of Regulatory Measures for Deep sea Species," supra note 81, p. 2.

to contribute to deep-sea ecosystem protection, especially for the cold-water corals on the Rockall Bank.⁹⁹ In relation to this involvement by OSPAR, it was recently suggested that OSPAR identification criteria of vulnerable deep-sea habitats are to be used when NEAFC establishes new closed areas.¹⁰⁰ The formal consultation with OSPAR relating to MPAs and deep-sea habitats protection began in the 2004 Annual Meeting and has since continued.¹⁰¹ During the 2004 Annual Meeting of NEAFC, the OSPAR Commission introduced the vulnerability of cold-water corals on the western part of the Rockall Bank.¹⁰² This issue was brought in conjunction with the ecosystem approach to fisheries management. This area was already closed by NEAFC in which trawling is prohibited but did not aim at the protection of deep-sea corals.¹⁰³ The issue of the protection of deep water corals in this area was formally raised by a proposal from the EU at the 2005 Annual Meeting of NEAFC. This proposal by the EU suggested protecting the deep-sea features through prohibiting fishing activities, not only in the western Rockall Bank but also in the Hatton Bank, North West Rockall, South Rockall, South West Rockall, West Rockall Mounds, and Logachev Mounds.¹⁰⁴ This proposal was declined at the 2005 Meeting. However, an amended proposal for area closures in the Hatton Bank and the western slopes of the Rockall Bank was adopted at the 25th Annual Meeting in 2006.¹⁰⁵ In these high seas areas bottom trawling, bottom gillnets and long lines have been prohibited from 1 January 2007 to

⁹⁹ See "Report of the 23rd Annual Meeting of the NEAFC," *supra* note 88, p. 39.

¹⁰⁰ "Proposal for a mandate to the Permanent Committee on Management and Science – Protection of Vulnerable areas," NEAFC, 2006, AM 2006/33, p.2.

¹⁰¹ See a report on the meeting between two organizations in "Report of the 25th Annual Meeting of the North-East Atlantic Fisheries Commission," NEAFC, 13-17 November 2006, p.101. Also see "Report of the 21st Annual Meeting of the NEAFC," *supra* note 75, p. 38.

¹⁰² "Report of the 23rd Annual Meeting of the NEAFC," *supra* note 88, p. 39. The OSPAR Convention area is exactly same as the NEAFC Regulatory Area.

¹⁰³ "Report of the 23rd Annual Meeting of the NEAFC," *Ibid.*, p.39. The area of the Rockall Bank was closed to all fishing except longlines to protect haddock in 2003. See Recommendation by the European Community and the Russian Federation on the top of regulatory measures for the protection of Haddock in ICES Area Vib for 2004, NEAFC, 2003, AM 2003/59.

¹⁰⁴ "Report of 24th Annual Meeting of the North-East Atlantic Fisheries Commission," 14-18 November 2005, NEAFC, Commission Report AM/2005, p. 26.

¹⁰⁵ See Press Release, 20 November 2006, NEAFC, <http://www.neafc.org> (currently unavailable), p. 57. Also see Recommendation by the North East Atlantic Fisheries Commission at its Annual Meeting in November 2006 to Adopt Conservation and Management Measures by Closing Certain Areas in the Regulatory Area in Order to Protect Deep-water Corals, Recommendation IX – 2007 in "Report of the 25th Annual Meeting of the NEAFC," *supra* note 101, pp. 54-55.

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31 December 2009.¹⁰⁶ Although this issue was raised in connection with the ecosystem approach, the adoption of this decision was not explicitly intended for implementing the ecosystem approach. However, these HSMPAs are obviously more advanced for ecosystem conservation than those of other conventional RFMOs.

The discussions on deep-sea fisheries management and the conservation of high seas ecosystems from deep sea fisheries ended up with several decisions adopting the HSMPAs and the amendment of the NEAFC Convention. This amendment was suggested in 2005 by a proposal from Iceland¹⁰⁷ and was adopted in August 2006.¹⁰⁸ As the purpose of the 2006 amendment is to reflect the recent development in international oceans law since the LOSC was adopted,¹⁰⁹ the new Preamble of the amendment notes the influence from the LOSC, the 1995 UNFSA, the 1993 UN Compliance Agreement, and the Code of Conduct for Responsible Fisheries. As a result of this amendment, the new NEAFC Convention addresses advanced ecosystem considerations, the precautionary principle and conservation of marine biodiversity. Until this amendment enters into force, such new additions will be voluntarily observed by member States in accordance with the Declaration on the Interpretation and Implementation of the Convention on the Future Multilateral Cooperation in North East Atlantic Fisheries.¹¹⁰ It is noteworthy that HSMPAs for the ecosystem protection were institutionally adopted before the new amendment was actually adopted and becomes legally binding. This can be interpreted as the NEAFC exercising its powers beyond those explicitly given under its treaty. This will be further discussed in section 6.2.4.

¹⁰⁶ Recommendation IX – 2007, *ibid.*

¹⁰⁷ See “A Proposal by Iceland to Amend the Convention on Future Multilateral Cooperation in the North-East Atlantic (the NEAFC Convention),” Agenda item 12a for discussion, NEAFC, 2005, AM2005/16.

¹⁰⁸ See “Text of “new” NEAFC Convention with amendments in 2004 and 2006,” *supra* note 74.

¹⁰⁹ See “Report of the 24th Annual Meeting of the NEAFC,” *supra* note 104, p.32.

¹¹⁰ See *ibid.*, p.33.

6.2.2. Express and Acquired Bases, and Institutional Practices for the Establishment of HSMPAs in the SEAFO and NAFO Conventions

The NAFO and SEAFO Conventions contain provisions on the general functions of their organizations. One of these functions includes taking conservation and management measures. NAFO comprises the General Council, the Scientific Council, the Fisheries Commission, and the Secretariat.¹¹¹ According to Article XI of the NAFO Convention, the Fisheries Commission is responsible to adopt the binding international measures in the Regulatory Area of this Convention.¹¹² SEAFO has the Commission, the Compliance and Scientific Committees and the Secretariat.¹¹³ The Commission of the SEAFO adopts conservation and management measures in accordance with Article 6 of the SEAFO Convention. These general provisions of both conventions do not refer specifically to closed areas as a management measure. However, both organizations have adopted closed areas based on these provisions. Such general provisions should not prevent the adoption of a single specific measure and it has not been practiced as such because if the general provision is interpreted so it can “lead to unreasonable or even impossible results.”¹¹⁴

6.2.2.1. SEAFO

SEAFO adopted its first two conservation and management measures on monitoring fisheries and interim port State control at its second Annual Meeting in 2005.¹¹⁵ These measures are within the given functions of the organization. The next

¹¹¹ Article II (2), the NAFO Convention. Convention on future multilateral co-operation in the Northwest Atlantic fisheries (NAFO Convention), adopted on 24 October 1978, entered into force on 1 January 1979, UNTS, Vol. 1135, p. 369.

¹¹² Article XI (5) and (7), the NAFO Convention.

¹¹³ Article 5, the SEAFO Convention. The Convention on the conservation and management of fishery resources in the South East Atlantic Ocean (SEAFO Convention), adopted on 20 April 2001, entered into force on 13 April 2003, UNTS, Vol. 2221, p. 189.

¹¹⁴ Finn Seyersted, “International Personality of Intergovernmental Organizations – Do their Capacities Really Depend upon their Constitutions?” *Indian Journal of International Law*, Vol.5, 1964, pp.1-74, p. 23.

¹¹⁵ Appendix 7 and 8 in “the Report of the Second Annual Meeting of the Commission,” Windhoek, Namibia, SEAFO, 3-6 October 2005.

annual meeting which was held in 2006 introduced three additional conservation and management measures: “sharks caught in association with fisheries managed by SEAFO” (Conservation Measure 04/06), by-catch of seabirds (Conservation Measure 05/06), and deep-sea habitats and ecosystems (Conservation Measure 06/06).¹¹⁶ Among these, Conservation Measure 06/06 (deep-sea habitats and ecosystems) is arguably beyond the scope of the provisions on conservation and management measures as well as the explicit purpose of achieving a sustainable use of target fish resources.

Conservation Measure 06/06 established HSMPAs for safeguarding seamounts. This Conservation Measure was adopted by the Commission with the intention of considering the ecosystem approach based on a proposal by the Scientific Committee on the protection of seamounts through establishing closed areas.¹¹⁷ This proposal was approved during the third Annual Meeting of the SEAFO Commission held in 2006.¹¹⁸ Based upon the proposal and advice from the Scientific Committee, the Commission adopted ten high seas closed areas covering fourteen seamounts: 1. Dampier Seamount; 2. Malahit Guyot Seamount; 5. Molloy Seamount; 6. Vema Seamount; 7. Wust Seamount; 8. Africana Seamount; 9. Schnidt-Ott Seamount; 10. Panzarini Seamount; 11. Discovery, Junoy, Shannon Seamounts; and, 12. Schwabenland & Herdman Seamounts (the location of these areas is shown on Figure 6.2).¹¹⁹ All fishing activities in these closed areas are banned from 1 January 2007 to 31 December 2010.¹²⁰ However, from 1 January 2008 certain fishing can be allowed in some parts of those closed areas.¹²¹ Any fishing boat which bycatches hard corals in the limited fishing areas within the closed areas should immediately inform the Executive Secretary.¹²² Such a report should result in ‘a temporary closure’ of the

¹¹⁶ See section 8. Conservation and Management Measures to Further the Objectives of the Convention in “Report of the 3rd Annual Meeting of the Commission,” Windhoek, Namibia, SEAFO, 2-5 October 2006, p. 5.

¹¹⁷ “Report of the 3rd Annual Meeting of the Commission,” *ibid.*, p. 5.

¹¹⁸ *Ibid.*, p. 4.

¹¹⁹ Conservation Measures 06/06 on the Management of Vulnerable Deep Water Habitats and Ecosystems in the SEAFO Convention Area, Approved 10/2006, SEAFO.

¹²⁰ *Ibid.*

¹²¹ *Ibid.*

¹²² *Ibid.*

fishing area until the Commission decides what to do for the protection of the corals at the next annual meeting.¹²³

Conservation Measure 06/06 is not within the explicit functions of SEAFO because according to Article 3(d) conservation and management measures under the SEAFO Convention are supposed to be taken “for species belonging to the same ecosystem as, or associated with or dependent upon, the harvested fishery resources” rather than for ecosystems themselves.¹²⁴ Hamukuaya argues that this Article 3 of the Convention (general principles), which requires consideration of both the associated and dependent species as well as all biodiversity of a marine ecosystem, implies the broad concept of the ecosystem approach.¹²⁵ The implication of certain ecosystem considerations is also indicated in the preamble of the Convention, such as “safeguarding the environment and marine ecosystems in which the resources occur.”¹²⁶ Thus, it can be argued that conservation and management measures can be taken to protect ecosystems based on this implication, so the Conservation Measures of 06/06 are within the given function of the SEAFO Convention. However, it can be debated whether the closure of the seamounts, which have never been exploited,¹²⁷ could be for the protection of the biodiversity of the marine environment “in giving effect to the objective of the Convention,”¹²⁸ which is “the long-term conservation and sustainable use of the fishery resources.”¹²⁹ Nevertheless, since the decision was adopted based on the implication, it can be seen that the SEAFO exercised implied powers, and the adoption of this measure indicates that the member States accepted ecosystem conservation as one of their duties under the Convention. Although the ecosystem conservation in the express provisions of the Convention may not be equal to the ecosystem approach, as noted above the Commission indicates that the Conservation Measure 06/06 was adopted ‘in considering the

¹²³ *Ibid.*

¹²⁴ Article 3(d), the SEAFO Convention.

¹²⁵ Hashali Hamukuaya, “South East Atlantic Fisheries Organization: A Modern Instrument to Address Typical Fisheries Management Issues,” in Aldo Chircop, Scott Coffen-Smout and Moira McConnell (eds.), *Ocean Yearbook 21*, New York: Transnational Publishers, 2007, pp. 203-236. p. 206.

¹²⁶ Preamble, the SEAFO Convention.

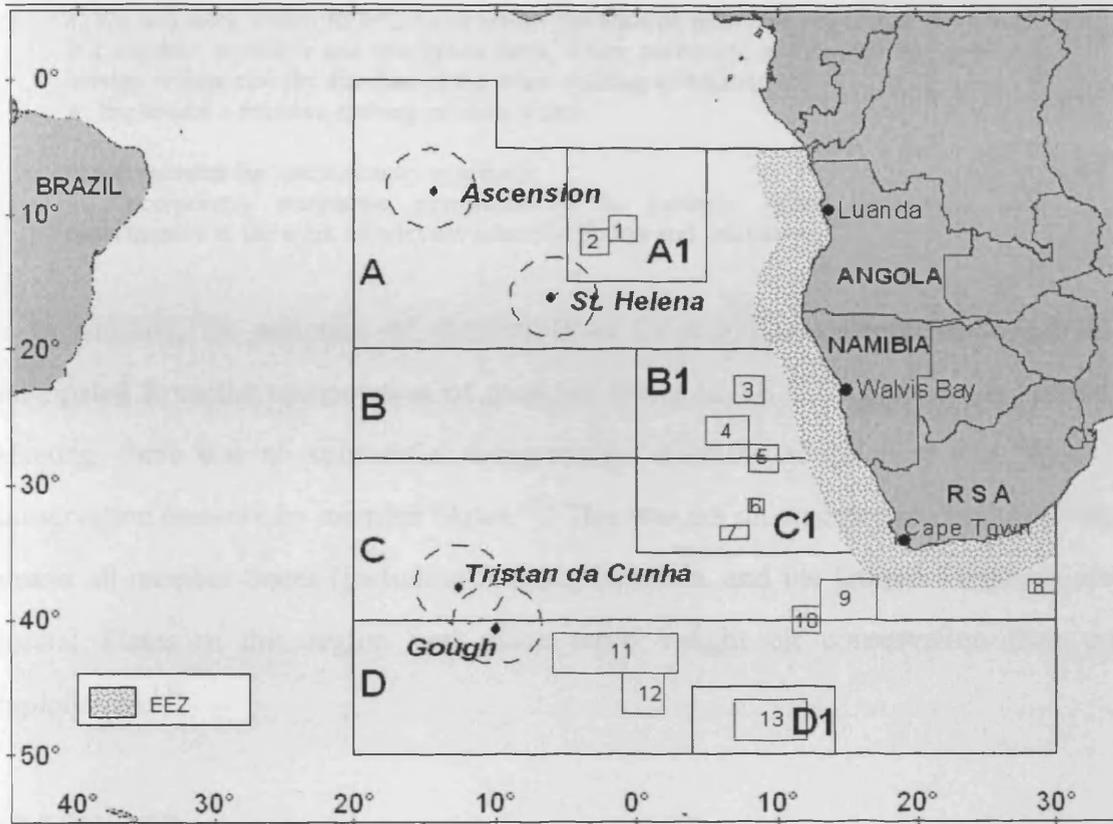
¹²⁷ See SEAFO Conservation measures 06/06, *supra* note 119.

¹²⁸ Article 3, the SEAFO Convention.

¹²⁹ Article 2, the SEAFO Convention.

ecosystem approach.’ In addition since it aims to conserve deep sea feature, those closures seem to be very similar to the new type of HSMPAs.

Figure 6.2. The SEAFO Convention Area with Seamounts Areas



<Source: Conservation Measures 06/06 on the Management of Vulnerable Deep Water Habitats and Ecosystems in the SEAFO Convention Area, SEAFO, Approved 10/2006.>

This actual practice of ecosystem conservation through adopting HSMPAs was influenced by the recent declaration of the St. John's Conference in 2005.¹³⁰ The Ministerial Declaration of the Conference on the Governance of High Seas Fisheries and the UN Fish Agreement of May 2005 which was held in St. John's, Canada encouraged RFMOs to take a new role in implementing the advanced ecosystem considerations and the precautionary principle, and safeguarding 'sensitive marine ecosystems,'¹³¹ as follows:

¹³⁰ See SEAFO Conservation measures 06/06, supra note 119.

¹³¹ See Ministerial Declaration from Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving from Words to Action, St. John's Newfoundland and Labrador, Canada, May 1-5, 2005, available at http://www.dfo-mpo.gc.ca/fgc-cgp/decaraion_e.htm (accessed on 8 January 2009).

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Recognizing that RFMO/As today face new challenges and responsibilities, and while the governance of some RFMO/As has been improved by incorporating the principles and provisions of newly developed international instruments and tools, including, inter alia, those related to ecosystem considerations in fisheries management, other RFMO/As remain to be so improved and, to that end, there is a need for political will to further strengthen and modernize RFMO/As to ensure that such challenges and responsibilities are effectively addressed;

.....

4. We will work within RFMO/As of which the State or REIO we respectively represent is a member, to review and strengthen them, where necessary, in a manner that does not overlap or duplicate the mandate of the other existing RFMO/As, to:

A. Implement a decision-making process which:

...

ii) incorporates the precautionary approach;

iii) incorporates ecosystem considerations in fisheries management with due consideration to the work of relevant scientific bodies and initiatives;¹³²

In addition, the adoption of the HSMPAs for ecosystem conservation can be anticipated from the composition of member States in SEAFO. During the Annual Meeting, there was no substantial disagreement over the adoption of this SEAFO conservation measure by member States.¹³³ This was not an unexpected result because almost all member States (including Angola, Namibia, and the United Kingdom) are coastal States in this region and place more weight on conservation than on exploitation.¹³⁴

6.2.2.2. NAFO

The current NAFO Convention which is in force does not incorporate either the ecosystem approach or the precautionary principle explicitly or implicitly. Although this treaty had been amended three times since it was established in 1979 (in 1980, 1987, and 1996), such amendments were merely about changing the boundaries of

¹³² *Ibid.*

¹³³ All decisions since the first meeting of the SEAFO have been adopted by consensus. This information was provided by Hashali Hamukuaya who is the Executive Secretary of the Secretariat in SEAFO through email correspondence on 19 September 2007.

¹³⁴ Norway is a party to this Convention but is not a coastal State. So is the EU. See Andrew Jackson, "The Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean, 2001: an Introduction," *IJMCL*, Vol. 17, pp.33-49, 2002, p. 35 and p. 46; Also see "General Introduction," SEAFO, available at <http://www.seafo.org> (accessed on 11 January 2009).

sub-areas within the Convention area¹³⁵ and did not explicitly add the ecosystem approach. The Fisheries Commission in NAFO used to establish high seas fisheries closures as other RFMOs have done. For example, two high seas areas near the Flemish cap off the Canadian EEZ and the Grand Bank have been closed to shrimp fishing and partly closed to squid fishing for several months per year.¹³⁶ These closures were established on the high seas but were not implemented with ecosystem considerations.

Since the amendment in 1996 which changed the boundaries of sub-areas, demand for updating the Convention with modern environmental principles has increased. The implementation of the precautionary principle has long been discussed in the organization's Working Group on the Precautionary Principle. This principle was formally adopted by the Fisheries Commission in 2004 after the Scientific Council recommended the Commission to adopt its proposal, the Framework for a Precautionary Principle.¹³⁷ As a result, in the same year, as suggested by a Canadian proposal, this principle was applied by the Fisheries Commission to yellowtail flounder fishing in Division 3LNO and shrimp fishing in Division 3M.¹³⁸ After this breakthrough, corresponding to the requirement for modernization (particularly by the WSSD and the St. John's Ministerial Meeting)¹³⁹ this organization accelerated discussions on the application of other environmental principles including the ecosystem approach to fisheries management.

This acceleration began after agreement on modernization of the Convention was reached. Before the agreement, the implementation of the ecosystem approach was

¹³⁵ Introduction in "Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries," Dartmouth Nova Scotia, Canada, NAFO, 2004, available at <http://www.nafo.int> (accessed on 11 January 2009), p. v.

¹³⁶ Article 14, Area and Time Restrictions, in the NAFO Conservation and Enforcement Measures, NAFO, 2007, NAFO.FC Doc.07/1.

¹³⁷ "Report of the Fisheries Commission Meeting," 26th Annual Meeting, September 13-17, 2004, FC Doc. 04/17, p. 97 in "Meeting Proceedings of the General Council and Fisheries Commission for 2004/5," NAFO, September 2004 – August 2005.

¹³⁸ Annex 10. Precautionary Approach Framework (Proposal by Canada), FC Doc. 04/12 in "Meeting Proceedings of the General Council and Fisheries Commission for 2004/2005," *ibid.*

¹³⁹ See "Meeting Proceedings of the General Council and Fisheries Commission for 2005/2006," NAFO, p.61, especially Annex 18. Discussion Paper- NAFO Convention in the context of recent developments concerning ocean governance (presented by Norway), GC WP 05/01, and Annex 14. Reform of NAFO, GC Doc. 05/2.

discussed occasionally but not actively. The ecosystem approach was mentioned in conjunction with the implementation of the precautionary principle during the discussions for the adoption of the precautionary principle, but it did not result in the adoption of the ecosystem approach right away.¹⁴⁰ Ecosystem protection has occasionally appeared in several relevant symposiums held by the organization as well as in the studies on the impact of orange roughy fishing on seamounts off New Zealand and cold-water coral reef protection off the coast of Norway.¹⁴¹ Implementation of the ecosystem approach has also been discussed at an inter-organizational meeting between RFMOs in the North Atlantic (IBSFC, The North Atlantic Marine Mammal Commission (NAMMCO), NASCO, NEAFC and NAFO) which is called the North Atlantic Regional Fisheries Management Organizations (NARFMO). This meeting was first suggested at the 18th Annual Meeting of NEAFC in 1999 to exchange information on fisheries management in the region.¹⁴² The first meeting was held in 2002 and following the third meeting in 2004 experience or information on the application of the ecosystem approach to fisheries management has been exchanged.¹⁴³ These meetings have not whole-heartedly supported the application of the ecosystem approach since, as pointed out at the meetings, there is a generally agreed lack of definition and content of the principle and its practice.¹⁴⁴ However, the symposiums, studies, and the cooperative meetings have provided the preparatory stage which is required before the actual incorporation and implementation of the principle.

Actual incorporation of the principle into the NAFO Convention could be achieved through amendment of the Convention. The amendment was particularly

¹⁴⁰ See "Report of the Scientific Council Workshop on the Precautionary Approach to Fisheries Management," SCPA Workshop, NAFO, 31 March – 4 April 2003, NAFO SCS Doc.03/05.

¹⁴¹ "Symposium on Deep-Sea Fisheries" in Annual Report 2001, NAFO, pp. 139-142, p. 140.

¹⁴² "Report of the 20th Annual Meeting of NEAFC," NEAFC, 5-9 November, 2001.

¹⁴³ "Meeting Proceedings of the General Council and Fisheries Commission for 2004/2005," supra note 136, p. 5.

¹⁴⁴ See "Points Arising from the Fourth Meeting of the Secretariats of the North Atlantic Regional Fisheries Management Organizations (NARFMOs)," Rome, Italy, NEAFC, 15-16 March 2005, AM 2005/05, pp. 1-2.

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ignited by the St. John's Ministerial Meeting which was held in May 2005.¹⁴⁵ Right after this meeting, NAFO decided the 'modernization' of its Convention at the 27th Annual Meeting which was held in September 2005.¹⁴⁶ This modernization included the incorporation of the ecosystem approach for fisheries management. In relation to the implementation of this ecosystem approach, a proposal for collecting scientific data on vulnerable seamount areas was adopted during the 2005 Annual Meeting.¹⁴⁷ This Ecosystem Approach to Fisheries (EAF) Interim Measures initiated the implementation of the ecosystem approach through:

- a) Fisheries Commission requests the Scientific Council for advice on:
 - i) The development of criteria for determining areas of marine biological and ecological significance,
 - ii) The identification of such areas in the NAFO Regulatory Area
- b) Amendment of Article 20 of the NAFO Conservation and Enforcement Measures to accommodate the collection of the following data for EAF purposes: species composition in number and weight, length frequencies, otoliths, set location, latitudes and longitudes, fishing gear, depth fished, time of day, duration of set, tow opened (for mobile gear), and other biological sampling such as maturity where possible.¹⁴⁸

After the initiation of the reform process and the adoption of the interim measures, at the next Annual Meeting in 2006 Canada proposed the 'precautionary closure' of the four seamounts based on the ecosystem approach in the Convention area.¹⁴⁹ This Proposal on the Precautionary Closure to Four Seamount Areas based on the Ecosystem Approach to Fisheries originally suggested a prohibition on all fishing activities within the four seamount areas.¹⁵⁰ The measure finally adopted by consensus¹⁵¹ was modified to close these areas to demersal fishing gears as suggested

¹⁴⁵ "NAFO Starts a Reform Process," 2005 Annual Meeting Press Release, NAFO, 23 September 2005, available at <http://www.nafo.int> (accessed on 11 January 2009).

¹⁴⁶ *Ibid.*

¹⁴⁷ Annex 4. EAF Interim Measures (proposed by Canada), FC Doc. 05/7, in "Meeting Proceedings of the General Council and Fisheries Commission for 2005/2006," supra note 136, p. 140.

¹⁴⁸ "Report of the Fisheries Commission Meeting," 27th Annual Meeting, Tallinn, Estonia, 19-23 September 2005, FC Doc.05/15 in "Meeting Proceedings of the General Council and Fisheries Commission for 2005/2006," *ibid.*, p. 115.

¹⁴⁹ Annex 13. Proposal on Precautionary Closure Four Seamount Areas based on the Ecosystem Approach to Fisheries, FC Doc. 06/5 in "Report of the Fisheries Commission," 28th Annual Meeting, Dartmouth, Nova Scotia, Canada, NAFO, 18-22 September 2006, NAFO/FC Doc.06/14, pp. 48-49.

¹⁵⁰ "Report of the Fisheries Commission," 28th Annual Meeting, *ibid.*, p. 9.

¹⁵¹ This information was provided by email correspondence with the NAFO Executive Secretary, Johanne Fischer on 5 October 2007.

by Russia.¹⁵² The four closures aim to protect seamounts including Orphan Knoll, Corner Seamounts, Newfoundland Seamounts, and the New England Seamounts.¹⁵³ All demersal fisheries were banned in the four areas from 1 January 2007 to 31 December 2010.¹⁵⁴ Conservation measures in these areas are very similar to the measures adopted for the HSMPAs by SEAFO. These seamounts areas can be partly opened for small scale fishing and exploratory fishing after 1 January 2008.¹⁵⁵ If hard corals (probably including cold-water corals) are discovered by the fishing allowed in any of those closed areas, the fishing should be instantly prohibited in the area until the next annual meeting reaches a decision on it.¹⁵⁶

Although the measures implementing the ecosystem approach and the precautionary principle were adopted in 2006, the early proposals for the amendment of the NAFO Convention¹⁵⁷ which were revised in the same year did not include the term of ‘the ecosystem approach,’ but ‘the precautionary principle’ was explicitly incorporated. The Scientific Council pointed out the absence of the term.¹⁵⁸ The third revised text suddenly included the ecosystem approach to fisheries management in its preamble, as follows.

COMMITTED to applying an ecosystem approach to fisheries management in the Northwest Atlantic area which includes safeguarding the marine environment, conserving its marine biodiversity, minimizing the risk of long term or irreversible adverse effects of fishing activities in the area, and taking account of the relationship between all components of the ecosystem;¹⁵⁹

¹⁵² NAFO/FC Doc. 06/14, *supra* note 148.

¹⁵³ Paragraph 5 of Article 14 of the NAFO Conservation and Enforcement Measures, *supra* note 135.

¹⁵⁴ *Ibid.*

¹⁵⁵ Paragraph 6 of Article 14 of the NAFO Conservation and Enforcement Measures, *ibid.*

¹⁵⁶ Paragraph 9, Article 14, the NAFO Conservation and Enforcement Measures, *ibid.*

¹⁵⁷ See the revised convention in “Report of the Working Group on the Reform of NAFO,” Montreal, Quebec, Canada, NAFO, 25-28 April 2006, GC Doc. 06/1, pp. 218-233. Also see “Working Paper by the Chair, Convention on Cooperation in the Northwest Atlantic Fisheries,” Reform W.G. W.P. 06/1 Revision 2, in “Report of the Working Group on the Reform of NAFO,” Dartmouth, Nova Scotia, Canada, NAFO, 12-15 September 2006, 17 September 2006, NAFO/GC Doc.06/3.

¹⁵⁸ “Annex 5. Scientific Council Response on the Issues referred to SC by the NAFO Reform WG (Extracted from the Report of the Scientific Council, June 2006),” Reform WG WP 06/17, in “Report of the Working Group on the Reform of NAFO,” September 2006, *ibid.*, p.35.

¹⁵⁹ “Annex 4. Chair’s Working Paper (WG WP 06/1, Revision 3, Corr.), Convention on Cooperation in the Northwest Atlantic Fisheries,” in “Report of the Working Group on the Reform of NAFO,” September 2006, *ibid.*, p. 12.

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The reason why the first two revised texts did not include the term may be because of the difficulty to define the term and a lack of practice.¹⁶⁰ However, the significant level of acceptance of this approach by other international conventions has resulted in the inclusion of this approach to the third and the final text of the new NAFO Convention.¹⁶¹ The amendment of the Convention which was finally adopted explicitly includes the approach in its preamble and broader ecosystem considerations in Articles II and III.¹⁶² As the Scientific Council has pointed out, the definition of the approach has not been properly provided in the revised text. The EAF Interim Measures adopted in 2005, however, provides a clue to the concept of the ecosystem approach as: “gives due consideration to all elements of the marine ecosystem when taking decisions regarding the management of fish stocks under its jurisdiction.”¹⁶³

As these recent HSMPAs by NAFO apply the ecosystem approach and protect deep sea features, they can truly be classified as the new type of HSMPAs. It is important to note that this new addition was not exercised based on express provisions because HSMPAs with the ecosystem approach were practiced before the adoption of the amendment.¹⁶⁴ This indicates that NAFO exercised its powers beyond its express provisions for their HSMPAs.

¹⁶⁰ This information was provided by email correspondence with the NAFO Executive Secretary, Johanne Fischer on 5 October 2007.

¹⁶¹ This information was provided by email correspondence with the NAFO Executive Secretary, Johanne Fischer on 5 October 2007.

¹⁶² Article II of the amendment is read as “The objective of this Convention is to ensure the long term conservation and sustainable use of the fishery resources in the Convention Area and, in so doing, to safeguard the marine ecosystems in which these resources are found.” Article III (d) of the amendment is read as “take due account of the impact of fishing activities on other species and marine ecosystems and in doing so, adopt measures to minimize harmful impact on living resources and marine ecosystems.” Text of the amendment is available in Annex 17. Amendment to the Convention on Future Multilateral Cooperation in “Report of the General Council and its Subsidiary Body (STACFAD),” 29th Annual Meeting, Lisbon, Portugal, 24-28 September 2007, in “Meeting Proceedings of the General Council and Fisheries Commission for 2007/2008,” General Council, NAFO, 2007/8.

¹⁶³ Annex 4. EAF Interim Measures (proposed by Canada), supra note 146, p. 140.

¹⁶⁴ The amendment was adopted on 28 September 2007. Nine of twelve members should ratify the amendment to be legally binding. See NAFO website for more information at <http://www.nafo.int>.

6.2.3. Explicit Provision and Institutional Practice for High Seas Fisheries Closures in the Mediterranean

While the three Atlantic RFMOs established fisheries closures either in consideration of the ecosystem approach or through advanced ecosystem considerations based on a relevant express provision, or in the course of amending treaties, the GFCM has practised HSMPAs for the conservation of deep sea features without any attempt to amend the current convention or providing any relevant express provision on ecosystem considerations. The GFCM Agreement contains a provision on closed areas for the purpose of “rational management and best utilization of living marine resources,”¹⁶⁵ which is similar to that of other conventional RFMOs. Any management measures adopted by a binding recommendation should be based on the precautionary principle and the best scientific evidence available.¹⁶⁶ However, the Agreement does not include any provision relating to ecosystem conservation, an ecosystem approach, or consideration of the correlation between associated species or habitats. Without an explicit provision or a relevant provision to the ecosystem approach, the GFCM has recently practiced the conservation of ecosystems, including a recommendation to prohibit deep-sea bottom trawling on the three deep-sea habitats of: “Lophelia reef off Capo Santa Maria di Leuca,” “the Nile Delta area cold hydrocarbon seeps,” and “the Eratosthemes seamount.”¹⁶⁷ This recommendation aims at protecting deep-sea habitats not only from fishing activities but also from “any other activities”, as follows:

2. For the same areas, Members shall call the attention of the appropriate authorities in order to protect these areas from the impact of any other activity jeopardizing the conservation of the features that characterize these particular habitats.¹⁶⁸

¹⁶⁵ Article III (1), the GFCM Agreement. Agreement for the Establishment of the General Fisheries Commission of the Mediterranean (GFCM Agreement), adopted on November 6 of 1997, entered into force on 29 April 2004, *UNTS*, Vol. 2275, p. 157.

¹⁶⁶ Article III (2), the GFCM Agreement.

¹⁶⁷ Recommendation 2006/3: Establishment of Fisheries Restricted Areas in Order to Protect the Deep Sea Sensitive Habitats, GFCM, 2006, REC/GFCM/30/2006/3.

¹⁶⁸ *Ibid.*

As noted in Chapter V, many coastal States in the Mediterranean sea have not, as of yet, declared some types of maritime zones, the relevant law has not been implemented, and/or boundaries with neighbouring and opposite States have not yet been determined. Thus, it is not simple to determine whether the three areas cover the high seas. ‘Lophelia reef off Capo Santa Maria di Leuca’ exists both in Italy’s territorial sea and its ecological protection zone which used to be the high seas up until 8 February 2006. The ecological protection zone was declared by the Italian Law 61 of 8 February 2006, which sets up exclusive jurisdiction to protect the marine environment beyond its territorial sea.¹⁶⁹ This law, however, does not apply to fisheries and Italy does not have exclusive jurisdiction over marine resources in the zone.¹⁷⁰ Then the zone is neither the EEZ nor the high seas strictly. However, the FAO which established GFCM considers this closure as partly located on the high seas.¹⁷¹

‘The Eratosthemes Seamount’ is located between Egypt and Cyprus. Cyprus declared its EEZ through establishing A Law to Provide for the Proclamation of the Exclusive Economic Zone by the Republic of Cyprus in 2004.¹⁷² Egypt declared an EEZ and has an agreement with Cyprus to determine the boundary of their EEZs: Agreement between the Republic of Cyprus and the Arab Republic of Egypt on the Delimitation of the Exclusive Economic Zone on 17 February 2003.¹⁷³ In accordance with Article 1 of this Agreement, the boundary of their EEZs is the median line from the baselines of the two countries. Their EEZs cover almost all areas of the seamount closure but an eastern part of it exists on the high seas off the coast of Israel. ‘The

¹⁶⁹ “Table of claims to maritime jurisdiction as at 28 May 2008,” Division for Ocean Affairs and the Law of the Sea, UN, <http://www.un.org/Depts/los/index.htm> (accessed on 11 January 2009).

¹⁷⁰ See Article 2 of Legge 8 febbraio 2006, n. 61, ‘Istituzione di zone di protezione ecologica oltre il limite esterno del mare territoriale’, pubblicata nella Gazzetta Ufficiale n. 52 del 3 marzo 2006, available on the official web-site of the Italian Parliament, at <http://www.parlamento.it/parlam/leggi/060611.htm> (accessed on 11 October 2007).

¹⁷¹ This information is provided by a FAO Consultant of Fishery and Aquaculture Economics and Policy Division, Jessica Sanders through email correspondence on 10 October 2007.

¹⁷² This law entered into force on 21 March 2003. See this law at http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/cyp_2004_eez_proclamatio n.pdf (accessed on 11 January 2009).

¹⁷³ Agreement between the Republic of Cyprus and the Arab Republic of Egypt on the Delimitation of the Exclusive Economic Zone, adopted on 17 February 2003, entered into force on 7 March 2004. Text of this Agreement is available at <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/EGY-CYP2003EZ.pdf> (accessed on 11 January 2009).

Nile Delta area cold hydrocarbon seeps' seems to be located mostly in Egyptian territorial sea, but a small part of it exists on the high seas off the coast of Israel.¹⁷⁴

The FAO considers these two closures also to exist on the high seas.¹⁷⁵

These closed areas are provided for safeguarding ecosystems but are not adopted precisely for implementing the ecosystem approach. The issue of the adoption of the ecosystem approach was first raised by a Japanese delegate at the 2000 meeting of the Commission.¹⁷⁶ In 2002, the Commission decided to hold a workshop to study this approach.¹⁷⁷ This discussion on the ecosystem approach persists, although it has encountered a few disagreements on the adoption of the ecosystem approach to fisheries management within the organization.¹⁷⁸ However, this discussion did not directly lead to the adoption of the closed areas. Recommendation GFCM/2006/3 for the area closures does not specifically refer to the ecosystem approach, but it can be argued that it indicates an ecosystem approach through reference to a relevant UNGA resolution. The Recommendation notes that the decision was made in consideration of UNGA Resolution 59/25 which endorses the ecosystem approach to fisheries management.¹⁷⁹ This Recommendation particularly emphasised paragraphs 66 and 67. These paragraphs call for the application of the precautionary principle and regulation

¹⁷⁴ See the coordinates of these fisheries closures in REC/GFCM/30/2006/3, *supra* note 166.

¹⁷⁵ This information is provided by a FAO Consultant of Fishery and Aquaculture Economics and Policy Division, Jessica Sanders through email correspondence on 10 October 2007.

¹⁷⁶ See "Report of the Twenty-fifth Session of the GFCM," Sliema, Malta, FAO, September 2000, GFCM Report. No. 25.

¹⁷⁷ This workshop is the Workshop on Ecosystem-based Management Approach in "Report of the Twenty-Sixth Session of the GFCM," Lacco Ameno, Ischia, FAO, 10-13 September 2001, GFCM Report. No. 26.

¹⁷⁸ During the 2002 meeting, it was pointed out that it is too early to establish a Working Group for the ecosystem approach. In the 2005 meeting, the Sub-Committee on Marine Environment and Ecosystem (SCMEE) noted that implementation of this approach is very complicated. "Report of the Twenty-Seventh Session of GFCM," Rome, Italy, FAO, 19-22 November 2002, GFCM Report. No. 27. p.5 and "Report of the Twenty-ninth Session of GFCM," Rome, Italy, FAO, 21-25 February 2005, GFCM Report. No. 29, p. 6.

¹⁷⁹ "RECALLING the Resolution 59/25 of the United Nation General Assembly and in particular paragraph 66 and 67 calling the regional fisheries management organizations to adopt appropriate conservation and management measures in order to protect vulnerable marine ecosystems;" Recommendation 06/03 – Establishment of Fisheries Restricted Areas in Order to Protect the Deep Sea Sensitive Habitats, *supra* note 166.

of bottom fisheries to protect the three deep-sea features, but they do not explicitly call for the application of the ecosystem approach.¹⁸⁰

In spite of this lack of direct connection to the ecosystem approach, since those closed areas were adopted to conserve deep sea features with advanced ecosystem considerations and aim to control all threats by human including fishing these areas may very closely function as the new type of HSMPAs.

6.2.4. Application of Institutional Powers

The four conventions established IGOs instead of AIAs. These theoretically less flexible IGOs added the ecosystem approach or advanced the conventional ecosystem considerations and practiced HSMPAs very closely to the new type of HSMPAs through amendment of treaties and/or through adopting institutional decisions faster than AIAs established by IEOs. As expected, these conventions have legal limitations in establishing the new type of HSMPAs. Current conventions of NEAFC, NAFO and GFCM do not satisfy the two qualities necessary for the new type of HSMPAs (i.e., application of the ecosystem approach and competence to conserve deep sea features). The SEAFO Convention includes advanced ecosystem considerations but not the ecosystem approach. However, its HSMPAs were taken in consideration of the ecosystem approach. This implies that HSMPAs by the four RFMOs had to be adopted by institutionally exercising non-express powers. SEAFO exercised implied powers to establish the ecosystem conservation measure based on the implications of pre-existing relevant provisions on environment protection. NEAFC, NAFO, and GFCM exercised inherent powers to adopt HSMPAs depending on the ecosystem approach which was not expressly adopted within their systems but is a principle of international law widely recommended among their peers. In all cases, international

¹⁸⁰ The ecosystem approach is mentioned in Paragraph 58 of this resolution which “encourages States to apply by 2010 the ecosystem approach.” UNGA Resolution 59/25, Sustainable fisheries, including through 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, and related instruments, the General Assembly, 2005, UN A/RES/59/25.

pressure (UNGA Resolutions, the St. John's Ministerial Meeting, the WSSD, relevant RFMOs' practices, and regional IEOs' involvement) has stimulated them to adopt both the principles and the more advanced MPAs which very closely function as the new type of HSMPAs.

Although these four RFMOs have practiced HSMPAs similar to the new type of HSMPAs, their legal limitations indicate that they cannot currently require the establishment of the new type of HSMPAs. However, if the amendment of the NAFO Convention enters into force, it will become an agreement which can require the establishment of the new type of HSMPAs.

6.3. Tuna Conventions with Traditional Fisheries Closures

One last group of RFMO treaties with closed areas is comprised mostly of tuna conventions. As these tuna conventions cover the waters wherever tuna migrates, they can apply to the high seas. Four of the five international tuna conventions have already established or have discussed the establishment of closed areas. The tuna conventions which established or have at least discussed closed areas are: the ICCAT; the IOTC Agreement; the IATTC Convention; and, the WCPFC Convention.

It is questionable whether these treaties on highly migratory species can effectively implement the area based management measures and whether a closed area for highly migratory species (such as tuna) can be effective enough to properly conserve the resources due to their expansive migration area. Some experts have suggested that MPAs may be used as a proper conservation measure for tuna like species. During the 2001 Vilm Workshop, Fonteneau noted that the area of tuna migration is not too wide to be covered with an MPA.¹⁸¹ However, as will be reviewed in this section, this idea of conservation of tuna by MPAs rather than

¹⁸¹ Alain Fonteneau, "Potential Use of Marine Protected Areas Applied to Tuna Fisheries and Offshore Pelagic Ecosystems," Hjalmar Thiel & J. Anthony Koslow (eds.), *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools Such as Marine Protected Areas –Scientific Requirements and Legal Aspects – Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 2001*. Available at <http://www.bfn.de/fileadmin/MDB/documents/proceed1.pdf> (accessed on 6 October 2008). pp. 55-65, p. 56.

traditional fisheries closures was considered as untimely by the RFMOs on tuna fisheries.

These tuna conventions establish IGOs and subsidiary bodies, and bestow the functions of the organs but they do not elaborate details of the management measures. The detailed measures are usually determined by their Commissions and recommended by their Scientific Committees. The Commissions add a conservation and management measure through adopting a proposal for joint actions (Article II (5) of the IATTC Convention), a binding decision on conservation and management measures (Article 20(5) of the WCPFC Convention), a binding recommendation (Article VIII of the ICCAT), and a binding resolution on conservation and management measure (Article IX (1) of IOTC Agreement).¹⁸²

IATTC adopted area closures in the eastern Pacific Ocean by prohibiting specific fishing gears, such as sets on floating objects, and purse-seine fishery.¹⁸³ The IOTC adopted a binding resolution to encourage the adoption of area closures.¹⁸⁴ This Commission has also discussed placing a moratorium on floating objects in certain areas, for example in a convention area off the coast of Somalia including the high seas.¹⁸⁵ To date proposals for closed areas, including this proposal, have not been adopted within the IOTC. In a meeting which was held in 2001, MPAs were suggested by the EC as an effective tool to reduce the catch levels of tuna and its

¹⁸² International Convention for the Conservation of Atlantic Tunas (ICCAT), adopted on 14 May 1966, entered into force on 21 March 1969, *UNTS*, Vol. 673, p. 63 ; Convention between the United States of America and the Republic of Costa Rica for the establishment of an Inter-American Tropical Tuna Commission (IATTC Convention), adopted on 31 May 1949, entered into force on 7 February 1951, *UNTS*, Vol. 80, p. 3; Convention for the Conservation and Management of Highly Migratory Fish stocks in the Western and Central Pacific Ocean (WCPFC Convention), adopted on 5 September 2000, not yet entered into force, *UNTS*, Vol. 2275, p. 43; Agreement for the establishment of the Indian Ocean Tuna Commission (IOTC Agreement), adopted on 25 November 1993, entered into force on 27 March 1996, *UNTS*, Vol. 1927, p. 329.

¹⁸³ See Closed Area Option to Reduce Bigeye Catches, 74th Meeting, Busan, Korea, IATTC, 2006, Document IATTC-74-05 SUP. And Resolution for a Program on the Conservation of Tuna in the Eastern Pacific Ocean for 2007, 74th Meeting, Busan, Korea, IATTC, 2006, Resolution C-06-02.

¹⁸⁴ See Appendix VIII, Resolution 99/01 on the Management of Fishing Capacity and on the Reduction of the Catch of Juvenile Bigeye Tuna by Vessels, Including Flag of Convenience Vessels, Fishing for Tropical Tunas in the IOTC Area of Competence, in "Report of the Fourth Session of the Indian Ocean Tuna Commission," Kyoto, Japan, IOTC, 13-16 December 1999, IOTC/S/04/99R[E], pp.42-43.

¹⁸⁵ See "Report of the Fourth Session of the Indian Ocean Tuna Commission," *ibid.*, and "Report of the Fifth Session of the Indian Ocean Tuna Commission," Victoria, Seychelles, IOTC, 11-15 December 2000, IOTC/S/05/00/R[E].

bycatch species.¹⁸⁶ However, this idea was considered by the majority of member States to be too early because the potential social and political impact of establishing MPAs is not yet known.¹⁸⁷ ICCAT closed an area to specific fishing gears from 1999 to 2001.¹⁸⁸ This area closure included the high seas. The WCPFC Convention was adopted in 2000, therefore, it contains the concurrent environmental principles (such as the precautionary principles and some ecosystem considerations) in Article 5 of the Convention.¹⁸⁹ This Commission adopted a non-binding resolution about a possible option for area closures “to control sets on floating objects” in 2004.¹⁹⁰

Whether or not a closed area has ever been created under these conventions on the high seas, this group of conventions has never considered the establishment of closed areas for the protection of the deep-sea features and they have not adopted the ecosystem approach institutionally. Then their closed areas cannot be classified as the new type of HSMPAs.

6.4. Significant Role of Other Potential Sources of Institutional Powers for RFMOs’ Decisions on HSMPAs

This chapter has confirmed that some RFMOs practised HSMPAs which are very close to the new type of HSMPAs earlier than those IEOs which were expected to be more supportive for the new type of HSMPAs than RFMOs because IEOs place more value on conservation than exploitation. As some IEOs are positively reviewing the establishment of the new type of HSMPAs and many RFMOs have not been involved in this issue as of yet, it should not be concluded that the express purposes of

¹⁸⁶ See “Report of the Sixth Session of the Indian Ocean Tuna Commission,” Victoria, Seychelles, IOTC, 10-14 December 2001, IOTC/S/06/01/R[E], p. 7 and p. 64.

¹⁸⁷ *Ibid.*

¹⁸⁸ See Recommendation by ICCAT Concerning the Establishment of a Closed Area/Season for the Use of Fish Aggregation Devices (FADs), entered into force in June 21, 1999, ICCAT, 1998-01 and Recommendation by ICCAT on the Establishment of a Closed Area/Season for the Use of Fish-Aggregation Devices (FADs), entered into force in June 15 2000, ICCAT, 1999-01.

¹⁸⁹ Article 5(d) is engaged in ecosystem approach, noting that “assess the impacts of fishing, other human activities and environmental factors on target stocks, non-target species, and species belonging to the same ecosystem or dependent upon or associated with the target stocks.”

¹⁹⁰ Resolution on Conservation and Management Measures, Pohnpei, Federated States of Micronesia, WCPFC, inaugural session, 9-10 December 2004, CMM-2004-04.

international organizations do not determine the direction of development of policy in the organizations. The early practice by RFMOs may be generated by other elements and those should be searched.

It is obvious that the intention of parties of the four RFMOs were a significant element which resulted in their early practice. If parties have a definite intention, the express purposes and functions in the RFMO Conventions can be interpreted as the organizations may practice HSMPAs for ecosystem protection, but if they do not those treaties are to be interpreted *a contrario*, and prevent such measures.¹⁹¹ Unless the purpose and function of an organization is very narrowly confined there is the possibility of a different interpretation on the potential functions of organizations which used to be determined by the parties' intention at the plenary meetings. This intention of parties has crucial importance to the institutional powers because an international organization cannot make any decision deviating from its express treaty provisions without the parties' intention to do so. This intention of the parties can easily be influenced, at least in the field of international oceans law, by the intention of the international community. The RFMOs with HSMPAs similar to the new type of HSMPAs considered the global support for the ecosystem approach as significantly challenging to their traditional functions and required the upgrading of traditional closed areas. Such global support was highlighted in UNGA Resolutions and the recent conferences and meetings of relevant IEOs. UNGA Resolutions in particular have significantly influenced the RFMOs' decisions on ecosystem protection by establishing HSMPAs. Thus, before concluding this chapter it is necessary to review those UNGA Resolutions which have encouraged the particular roles of RFMOs to conserve deep sea ecosystems.

While UNGA Resolutions are not binding they can suggest the development of a certain norm, or detect the emergence of a collective opinion of the international community. These resolutions are also used to influence significantly the formation of

¹⁹¹ See discussion on the ordinary meaning of treaty provisions and its extension by parties' intention in Patricia Birnie, "Opinion on the Legality of the Designation of the Southern Ocean Whale Sanctuary by the International Whaling Commission," IWC/47/41 Agenda Item 13, available at http://www.highnorth.no/Library/Management_Regimes/IWC/op-on-th.htm (accessed on 12 January 2009).

customary international law and may possibly form the evidence of customary international law.¹⁹² UNGA Resolutions first included suggestions for RFMOs to implement an ecosystem approach in 2001.¹⁹³ This suggestion on the ecosystem approach reappeared in Resolution 59/25 on sustainable fisheries in 2005, which also recommended RFMOs in the application of the precautionary principle so as to regulate bottom trawling and the protection of the three deep-sea features on the high seas.¹⁹⁴ This requirement to RFMOs has continued in the resolutions on sustainable fisheries which have since followed (i.e., 60/31 and 61/105). Especially the recent resolution in 2007 has synthesized all suggestions appeared before relating to the ecosystem approach and the precautionary principle for proper protection of the deep-sea features, and it has added paragraphs on area-based conservation measures (paragraphs 83(c) and (d)) as follows:

5. *Calls upon* all States, directly or through regional fisheries management organizations and arrangements, to apply widely, in accordance with international law and the Code, the precautionary approach and an ecosystem approach to the conservation, management and exploitation of fish stocks, including straddling fish stocks, highly migratory fish stocks and discrete high seas fish stocks, and also calls upon States parties to the Agreement to implement fully the provisions of article 6 of the Agreement as a matter of priority;

70. *Urges* further efforts by regional fisheries management organizations and arrangements, as a matter of priority, in accordance with international law, to strengthen and modernize their mandates and the measures adopted by such organizations or arrangements, to implement modern approaches to fisheries management as reflected in the Agreement and other relevant international instruments relying on the best scientific information available and application of the precautionary approach, and incorporating an ecosystem approach to fisheries management and biodiversity considerations, where these aspects are lacking, to ensure that they effectively contribute to long-term conservation and management and sustainable use of marine living resources;

80. *Calls upon* States to take action immediately, individually and through regional fisheries management organizations and arrangements, and consistent with the precautionary approach and ecosystem approaches, to sustainably manage fish stocks and

¹⁹² Marko Divac Oberg, "The Legal Effects of Resolutions of the UN Security Council and General Assembly in the Jurisprudence of the ICJ," *The European Journal of International Law*, Vol. 16, No. 5, 2006, pp. 879-906. pp. 896-904.

¹⁹³ See paragraph 17 of UNGA Resolution/56/13: "*Encourages* States to give effect to the principles elaborated in article 5 of the Agreement, including ecosystem considerations, in the conservation and management of straddling fish stocks and highly migratory fish stocks, and to incorporate those principles in fisheries management at the national level and in subregional or regional fisheries management organizations or arrangements to which they are party or in which they are participants, or as appropriate at the global level."

UNGA Resolution 56/13, 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, 2001, UN A/RES/56/13.

¹⁹⁴ See paragraph 66 of A/RES/59/25, *supra* note 179.

protect vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals, from destructive fishing practices, recognizing the immense importance and value of deep sea ecosystems and the biodiversity they contain;

83. *Calls upon* regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries to adopt and implement measures, in accordance with the precautionary approach, ecosystem approaches and international law, for their respective regulatory areas as a matter of priority, but not later than 31 December 2008:

(a) To assess, on the basis of the best available scientific information, whether individual bottom fishing activities would have significant adverse impacts on vulnerable marine ecosystems, and to ensure that if it is assessed that these activities would have significant adverse impacts, they are managed to prevent such impacts, or not authorized to proceed;

(b) To identify vulnerable marine ecosystems and determine whether bottom fishing activities would cause significant adverse impacts to such ecosystems and the long-term sustainability of deep sea fish stocks, inter alia, by improving scientific research and data collection and sharing, and through new and exploratory fisheries;

(c) In respect of areas where vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals, are known to occur or are likely to occur based on the best available scientific information, to close such areas to bottom fishing and ensure that such activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;

(d) To require members of the regional fisheries management organizations or arrangements to require vessels flying their flag to cease bottom fishing activities in areas where, in the course of fishing operations, vulnerable marine ecosystems are encountered, and to report the encounter so that appropriate measures can be adopted in respect of the relevant site;¹⁹⁵

The competence of international organizations other than RFMOs to implement the ecosystem approach was also confirmed in the 2004 UNGA Resolution 58/240 which read as follows: “[w]elcomes the work of the Convention on Biological Diversity, the Food and Agriculture Organization of the United Nations and other relevant global and regional organizations in the development of strategies and programmes for the implementation of an integrated ecosystem-based approach to management.”¹⁹⁶ This resolution also encouraged the organizations to apply both an ecosystem approach and the precautionary principle beyond national jurisdiction.¹⁹⁷

¹⁹⁵ UNGA Resolution 61/105, Sustainable fisheries, including through 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, and related instruments, March 2007, UN A/RES/61/105. The Code in paragraph 5 refers to the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations.

¹⁹⁶ Paragraph 50 of UNGA Resolution 58/240, Oceans and Law of the Sea, Resolution adopted by the General Assembly, March 2004, UN A/RES/58/240.

¹⁹⁷ Paragraph 52, A/RES/58/240: “Invites the relevant global and regional bodies, in accordance with their mandates, to investigate urgently how to better address, on a scientific basis, including the application of precaution, the threats and risks to vulnerable and threatened marine ecosystems and biodiversity in areas beyond national jurisdiction; how existing treaties and other relevant instruments can be used in this process consistent with international law, in particular with the Convention, and with the principles of an integrated ecosystem-based approach to management, including the

While UNGA resolutions have continued referring to the competence of RFMOs on the application of the ecosystem approach, further reference to other international organizations disappeared after the Resolution of 2004. This may imply that the international community has paid more attention to the role of RFMOs for deep-sea feature protection and has more strongly required RFMOs to implement the new type of HSMPAs.

As reviewed, the intention of the international community reflected in UNGA Resolutions includes support for the specific principles of international law to encourage the adoption of the new type of HSMPAs especially by RFMOs. The support created in UNGA resolutions has influenced the amendment of RFMOs' constitutive treaties to incorporate the advanced ecosystem considerations and RFMOs to practice HSMPAs for the conservation of deep sea features before the amendments or without such incorporation. Thus, it is only right that such external support be considered as a backup for the interpretation of a treaty and non-express powers based on the principles of international law.

6.5. Chapter Conclusion

Chapter V and VI divided those treaties which may be able to support HSMPAs into two categories: treaties on global and regional marine environmental protection (IEOs) and treaties on marine living resource use (RFMOs). Many IEOs have been purposely and functionally more supportive for the new type of HSMPAs, established AIAs rather than IGOs, and some of them are positively reviewing the establishment of HSMPAs, which can be close to the new type of HSMPAs. They were expected to have some legal limitations to fully support the new type of HSMPAs, but were also expected to overcome such limitations and practice the HSMPAs more swiftly than

identification of those marine ecosystem types that warrant priority attention; and to explore a range of potential approaches and tools for their protection and management; and requests the Secretary-General to cooperate and liaise with those bodies and to submit an addendum to his annual report to the General Assembly at its fifty-ninth session, describing the threats and risks to such marine ecosystems and biodiversity in areas beyond national jurisdiction as well as details on any conservation and management measures in place at the global, regional, subregional or national levels addressing these issues;"

RFMOs. Contrary to this expectation, most of IEO treaties have not attempted to solve the limitations and no IEOs have yet practiced HSMPAs which exactly coincide with the new type of HSMPAs (even though the CBD can in some cases require the establishment of the new type of HSMPAs and the IEOs can establish different types of MPAs which may have positive effect for the conservation of deep sea features). RFMO treaties were also expected to have limitations to fully support the new type of HSMPAs, and most of them except some RFMOs (NEAFC, SEAFO, NAFO, WCPFC and CCAMLR) were expected to be less involved in solving the limitations and adopt the HSMPAs. NAFO, SEAFO, and NEAFC, as expected, have amended their treaties to incorporate advanced ecosystem considerations and/or adopted HSMPAs for conservation of deep sea features. In addition to these, the GFCM has already practised HSMPAs for conservation of the deep-sea features. Among these RFMOs, the NAFO Convention is the only one which can require the establishment of the new type of HSMPAs if its new amendment enters into force.

It can be argued that since these RFMO treaties can apply only to fishing and their organizations except NAFO did not adopt the HSMPAs by explicitly applying the ecosystem approach, HSMPAs by those organizations cannot be fundamentally different from MPAs established by most of IEOs. If so, although HSMPAs by the RFMOs can have some positive impact upon conserving deep sea features, it can be debatable that they are categorised as the new type of HSMPAs. However, as noted in Chapter II, fishing is the most imminent threat to the deep-sea features of all and has primarily been targeted by meetings and conferences. GFCM attempted to regulate not only fishing but also all human threats within its new protected areas. Moreover, the HSMPAs by the RFMOs specifically aim to conserve deep sea features and so are clearly aiming for the conservation of different subjects from traditional fisheries closures and current MPAs under IEOs. Most importantly, as reviewed in this chapter, the adoption of those HSMPAs has been influenced by calls from international meetings on the new type of HSMPAs. Thus, it is right to consider that at least the recent HSMPAs by NAFO are classified as the new type of HSMPAs and the other

HSMPAs are very close to the new type of HSMPAs. The conclusions of Chapters V and VI are recapitulated in Appendix II.

This swift reaction by the four RFMOs can be justified by application of non-express institutional powers, especially implied and inherent powers. As reviewed in Chapters V and VI, RFMOs as well as IEOs need to depend on non-express powers for adopting some qualities for the new type of HSMPAs. If there is no specific provision on any of the qualities a decision of the parties is necessary to impose a new function of an organization based on the non-express powers doctrines. An organization can perform an activity without constitutive justification and the intention of the parties so long as the activity is not relevant to ‘imposing obligations on member States.’¹⁹⁸ Otherwise, the decisions of an organization should be based on the treaty and the parties’ intention. Implementation of HSMPAs belongs to the category of ‘imposing obligations on member States’ beyond express purposes and functions. It follows from this that legal justification by institutional powers based on the intention of parties is necessary for the establishment of HSMPAs.

As noted above, both IEOs and RFMOs needed to depend on non-express powers to practise the HSMPAs, and only some RFMOs actually responded to the recent calls on conservation of deep sea features through adopting HSMPAs, mostly for the conservation of seamounts. This can be argued as States Parties to those RFMOs might have had a stronger desire to catch up with the new development than IEOs’ and other RFMOs. It is true that the members of the four RFMOs have a strong will to conduct the conservation of deep-sea ecosystems. However, this argument is not absolutely accurate as the IEOs’ member States, for example those of OSPAR also have a strong desire to conserve the high seas. Such swift reaction by RFMOs is better understood as generated by additional factors, such as external influence from peer institutions. This chapter has confirmed that the parties’ intention could be facilitated by international pressures including by: UNGA Resolutions, the St. John’s Ministerial Meeting, the WSSD, relevant RFMOs’ practices, and discussions by other relevant regional IEOs. This chapter specifically reviewed the relevant UNGA Resolutions as

¹⁹⁸ Seyersted, *supra* note 114, p. 25.

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an example. Such external influence implies that the parties' intention not only results in acceptance of new developments but is also significantly influenced by the development of international law, which is mostly in the form of soft law.

It is also noteworthy that, as reviewed in Chapters V and VI, some of the treaties and their organizations (which can require the establishment of the new type of HSMPAs and/or practised HSMPAs close to the new type of HSMPAs) have specifically referred to the provisions on environmental protection in the LOSC as they justify the new type of HSMPAs. For example, the CBD considers that the LOSC is competent to establish the new type of HSMPAs and the proposal for HSMPAs by NEAFC justified the HSMPAs based on Section 2 of Part VII of the LOSC.

The question of whether or not this influence from developing international law and the LOSC indicates that the new type of HSMPAs can distinctively function from traditional area closures will be examined in the following chapter.

CHAPTER VII. EVOLVING INTERNATIONAL OCEANS LAW FOR MARINE ENVIRONMENT PROTECTION?

Chapters III, V, and VI have reviewed all of the available international treaties (including the constitutional Law of the Sea Convention (LOSC) and its implementing agreements) which are likely to provide any legal basis for, or have discussed the inclusion of HSMPAs. These three chapters concluded that:

- (1) The LOSC cannot be an agreement for the integrated conservation of all parts of deep sea features together with their surrounding ecosystems through establishing the new type of HSMPAs, but instead requires relevant agreements to elaborate its general provisions on environmental protection;
- (2) A few relevant conventions (such as the Convention on Biological Diversity (CBD) and the Northwest Atlantic Fisheries Organization (NAFO) Convention) can or will be able to require the establishment of the new type of HSMPAs;
- (3) Some regional fisheries management organizations (RFMOs) have already established HSMPAs similar to the new type of HSMPAs through exercising non-express powers (although only NAFO will be able to require States Parties to establish and observe the new type of HSMPAs);
- (4) Such practices reflect the parties' intention, which was significantly influenced by developments in international law; and,
- (5) Some of the treaties referred to the general provisions on environmental protection in the LOSC to justify the adoption of the new type of HSMPAs.

Of these points, the last two will be further elaborated in this chapter. Firstly, international pressure for an ecosystem approach has facilitated the discussion on, or the practice of, the new type of HSMPAs. This pressure convinced the States Parties to the four RFMOs to initiate a swift reaction with regard to HSMPAs. Secondly, such a swift reaction was justified as it is an elaboration of the general provisions on the environmental protection in the LOSC. Thus, although there was no express provision

for the new type of HSMPAs when the four RFMOs adopted HSMPAs similar to the new type of HSMPAs, there was little disagreement by States Parties in authorising the new measure. This implies that the RFMOs exercised non-express institutional powers to adopt the HSMPAs and that non-express powers depend upon the States Parties' intention to determine the 'implication' of their constitutive treaties so as to authorise an act. Therefore, a lack of common intention among the parties prevents resort to the non-express institutional powers in order to incorporate a new development. As indicated in Chapter VI, the International Whaling Commission (IWC) represents two extreme groups of stakeholders: whaling countries and anti-whaling countries. Each group weighs values differently; either sustainable use of, or the conservation of whale stocks. These opposing intentions within an organization could be a significant reason for the slow progress in adopting conservation measures.

Since the practices of the four RFMOs were not actually based on express provisions on the qualities of the new type of HSMPAs in their constitutive treaties but largely based on intention, it can be debated whether the practices by the four RFMOs are *ultra vires*. Whether a certain practice by an international organization is *ultra vires* or not can be determined by questioning the legitimate limits of its institutional powers. As reviewed in Chapter IV, the legitimate limits of institutional powers differ in theory that different institutional powers doctrines allow the different scopes of extension beyond express powers. Thus, each doctrine of institutional powers determines *ultra vires* differently. For instance, under the doctrine of implied powers, a practice which cannot be implied from an express provision or is contrary to the purposes and aims of a constitutive treaty can be *ultra vires*. In accordance with the inherent powers doctrine, if a practice is directly contrary to any purpose of a constitutive treaty or if an express provision directly prohibits such a practice, such a practice is *ultra vires*.¹ This suggests that doctrines of institutional powers are used to justify an action of an international organization which could be considered as *ultra vires*. The four RFMO treaties did not or have not expressly incorporated some qualities for the new type of HSMPAs, in particular the ecosystem approach and

¹Nigel D. White, *The Law of International Organizations*, Manchester University Press, 2005, p.88.

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competence to conserve deep-sea features, and so institutional decisions without such express qualities could arguably not be within the given functions or purposes of the organizations. However, as reviewed in Chapter VI, those practices were justified through a broad interpretation of existing provisions, by the obligation of environmental protection under the LOSC, and by practice and pressure from peer institutions. They could be explained within existing institutional powers doctrines, including inherent powers which is not as widely accepted as the implied powers doctrine. Thus it should be assumed that the practices by the RFMOs are not *ultra vires*.

The new type of HSMPAs has been required as a legitimate measure for the high seas conservation by many international meetings and practised by some RFMOs. However, whether such new developments can result in the more effective conservation of marine ecosystems than would have been the case using traditional methods does not solely depend on the effectiveness of the method itself but also relies on compliance. It is generally agreed that international organizations have competence over States Parties as far as their constitutive treaties authorise them to do so.² This means that an organization cannot have competence either over its parties on the matters which the constitutive treaty does not cover, or over non-parties to the treaty. An act of an international organization depending on either express or non-express powers, thus, should normally preclude imposing obligations on third States. This follows from general law of treaties as explained further below.

HSMPAs with an ecosystem approach are to be established with a core objective of conserving all connected elements of ecosystems in the closed areas. The ecosystem approach was especially welcomed as an alternative to the conventional ocean management system and was expected to eliminate obstacles to the existing ocean use management. One of the major problems of conventional high seas

² Finn Seyersted, "International Personality of Intergovernmental Organizations – Do their Capacities Really Depend upon their Constitutions?" *Indian Journal of International Law*, Vol.5, 1964, pp.1-74, p. 24.

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management is the free rider problem.³ This problem results from the limited applicability of treaty law stipulated in Article 34 of the Vienna Convention on the Law of the Treaties (VCLT)⁴ and also connects with jurisdictional limitations to protect the high seas environment under the LOSC. Therefore, simply adopting more advanced conservation measures within a treaty system itself cannot help to eliminate the problem. For example, even if a new type of HSMPA is adopted by NAFO, bottom trawling by third parties cannot legally be restricted in the closure and the subsequently unregulated trawling can result in the destruction of the cold-water coral reefs and other essential deep-sea habitats. The true evolution of international oceans law and the true achievement of the purpose of the new type of HSMPAs requires resolution of the third parties issue.⁵

Following the research on legal justification of the new type of HSMPAs in previous chapters, which has confirmed the existence of some treaties which can require and/or practised the HSMPAs, it must be asked if the new measure can truly be effective and innovative to safeguard the high seas through resolving the third parties issue. Although HSMPAs by the RFMOs were adopted in treaty system, they were also justified by external rules and principles. As noted above, States Parties to the RFMOs were convinced to establish HSMPAs by pressures on implementing the principles of international law and justified the new measure by depending on the general provisions on the environmental protection under the LOSC. Then, it should be asked whether a decision on the HSMPAs can overcome the free riders if it founded on universally or widely accepted legal obligations or principles. In addition,

³ The free rider means “anyone who does not live up to his or her part of the agreement will still benefit from all the actions of others who do their part to clean up the air or water.” Jonathan A. Lesser, Daniel E. Dodds, Richard O. Zerbe, Jr, *Environmental Economics and Policy*, Addison-Wesley Educational Publishers, 1997, p. 116.

⁴ Article 34: “A treaty does not create obligations or rights for a third State without its consent.” The Vienna Convention on the Law of Treaties (VCLT), adopted on 23 of May 1969, entered into force on 27 January 1980, *UNTS*, Vol. 1155, p.332. This provision is widely considered to represent custom.

⁵ See paragraph 11 in “Conclusions and Summary Record of the Expert Workshop on Managing Risks to Biodiversity and the Environment on the High Seas, Including Tools such as Marine Protected Areas”, Hjalmar Thiel & J. Anthony Koslow (eds.), *Managing Risks to Biodiversity and the Environment on the High Sea, Including Tools Such as Marine Protected Areas –Scientific Requirements and Legal Aspects – Proceedings of the Expert Workshop held at the International Academy for Nature Conservation, Isle of Vilm, Germany, 2001*. Available at <http://www.bfn.de/fileadmin/MDB/documents/proceed1.pdf> (accessed on 6 October 2008), pp. 15-30.

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since the four RFMOs practised the HSMPAs covering neighbouring regions in the Atlantic and the Mediterranean Sea, it can be argued that such swift reactions by them could form a local custom. If so, it needs to be further asked if a local custom can influence the scope of treaty law for regulating third parties.

Many of the treaties which can require and/or have practised HSMPAs similar to the new type of HSMPAs have contained provisions on third parties. Article XVI (2)(b) of the new NAFO Convention notes the following, “Contracting Parties ... take measures *consistent with* this Convention and *international law* to deter fishing activities of vessels entitled to fly the flag of any non-Contracting Party that undermine the effectiveness of the conservation and management measures adopted by the Commission.”⁶ The South East Atlantic Fisheries Commission (SEAFO) Convention contains a similar provision in Article 6(5), “[t]he Commission shall adopt measures, *in accordance with international law*, to promote compliance by vessels flying the flag of non-parties to this Convention with measures agreed by the Commission.”⁷ The North East Atlantic Fisheries Commission (NEAFC) added a similar regulation through adopting a Non-Contracting Party Scheme, which was recently replaced by the Scheme of Control and Enforcement which instructs in Article 38 that “NEAFC inspectors shall request permission to board and inspect non-Contracting Party vessels sighted or by other means identified by a Contracting Party as engaging in fishing activities in the Convention Area. ...Where evidence so warrants, a Contracting Party may take such action as may be appropriate *in accordance with international law*.”⁸ The General Fisheries Commission for the Mediterranean (GFCM) Agreement does not contain a similar provision, although it encourages cooperation with other international organizations.⁹ In accordance with these provisions, the scope of the authority of the RFMOs for regulating third parties activities is to be determined by depending on the meaning of ‘consistent with or in

⁶ Emphasis added. The new NAFO Convention is available at <http://www.nafo.int>.

⁷ Emphasis added. See reference of this treaty in *UNTS* in section 6.2.2.

⁸ Emphasis added. Article 38 of the Scheme of Control and Enforcement, May 2007, NEAFC, <http://www.neafc.org> (accessed on 12 December 2008). The Non-Contracting Parties Scheme was adopted in 2003 and included a similar provision in Article 4. This scheme was replaced by adoption of the Scheme of Control and Enforcement in 2007.

⁹ See Article VIII of the GFCM Agreement. See a reference of this convention in *UNTS* in section 6.2.3.

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accordance with international law.’ This chapter reviews whether regulating third parties based on the external rules and principles for HSMPAs is ‘consistent with international law.’

7.1. Regulation of Third States Based on the General Obligation of the High Seas Conservation under the LOSC

Generally speaking a treaty does not bind a third party unless it has intention and has expressly accepted to be bound by the treaty.¹⁰ The powers of international organizations also cannot extend to non-member States, since such organizations can be established only by treaties.¹¹ This general rule now found in Article 34 of the VCLT seems to have been reversed at least a part, by an advisory opinion of the International Court of Justice (ICJ). The *Reparation for Injuries Suffered in the Service of United Nations Opinion* (the *Reparation* case) is about establishing the international personality of the UN and its capacity to bring claims which are based on customary international law. In this case, the ICJ advised that the UN has objective international personality which is “valid also vis-à-vis non-member States and does not depend upon recognition.”¹² This personality is expressly confirmed in Article 2(6), Article 35(2), and Article 103 of the UN Charter.¹³ These articles provide certain

¹⁰ See Article 35 of the VCLT; Lord McNair, *The Law of Treaties*, Oxford at the Clarendon Press, 1961, p. 309; Chapter 14 in Anthony Aust, *Modern Treaty Law and Practice*, Cambridge University Press, 2000.

¹¹ Finn Seyfersted, “Objective International Personality of Intergovernmental Organizations-Do their Capacities Really Depend upon the Conventions Establishing Them?” *Nordisk Tidsskrift Int'l Ret*, Vol.3, 1964, pp. 3-122, pp. 9-10 and 12; Josef L. Kunz, “Book Review on Objective International Personality of Intergovernmental Organizations. Do Their Capacities Really Depend upon Their Constitutions? By Finn Seyfersted. Copenhagen: 1963. pp. 112,” *American Journal of International Law*, Vol.58, No.4, 1964, pp. 1042-1044, p. 1042.

¹² August Reinisch, *International Organizations Before National Courts*, Cambridge University Press, 2000, p. 71; Jose E. Alvarez, *International Organizations as Law-makers*, Oxford University Press, 2005, p. 93; also see *Reparation for Injuries Suffered in the Service of United Nations*, Advisory Opinion, I.C.J. Reports, 1949, p. 174. pp. 184-185.

¹³ Seyfersted, *Nordisk Tidsskrift Int'l Ret*, supra note 11, p.12; Aust, supra note 10, p. 209; UN Charter, Article 2(6) - “The Organization shall ensure that states which are not Members of the United Nations act in accordance with these Principles so far as may be necessary for the maintenance of international peace and security.” Article 35(2) - “A state which is not a Member of the United Nations may bring to the attention of the Security Council or of the General Assembly any dispute to which it is a party if it accepts in advance, for the purposes of the dispute, the obligations of pacific settlement provided in the present Charter,” and Article 103 - “In the event of a conflict between the obligations of the Members

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rights (Article 35), and obligations (Article 2 (6) and 103) of third States.¹⁴ Although this case introduced personality of an organization which is valid in relation to non-member States, such an exception may not be applicable to other international organizations. There are two distinctive circumstances which permitted the auspices of the UN to claim against a non-member State: the nature of the damage and the character of the organization. The damage, which was the death of a UN staff member, was caused by a breach of an obligation by a non-member State to protect a UN agent who conducted his duties under the UN.¹⁵ The obligation was determined to be the responsibility of a non-member State to the UN, as well as of a member State.¹⁶ As long as any damage can be recognized as the responsibility of 'a State,' the State is obliged to pay reparations for the damage caused in accordance with customary international law as made clear in the Draft Articles on Responsibility of States for Internationally Wrongful Acts (the Draft Articles on State Responsibility).¹⁷ The Advisory Opinion to the *Reparation* case was given in 1949 before the International Law Commission (ILC) started to deal with State responsibility from 1954. Therefore, the court did not refer to the work of the ILC but mainly depended on the universal character of the UN to impose the obligation on the third State: "the Court's opinion is that fifty States, representing the vast majority of the members of the international community, had the power, in conformity with international law, to bring into being an entity possessing objective international personality, and not merely personality recognized by them alone, together with capacity to bring international claims."¹⁸

Although this opinion was excused by the special character of the UN, there have been reservations expressed by many writers about the existence of institutional

of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail." The Charter of the United Nations, adopted on 26 June 1945, entered into force on 24 October 1945, *UNTS*, Vol. 1, p. xvi.

¹⁴ Seyersted noted that Article 103 creates certain obligations to third parties since it includes treaties applying to third parties. See Seyersted, *supra* note 11, p. 12.

¹⁵ *Reparation case*, *supra* note 12, p. 184.

¹⁶ *Ibid*, p. 185.

¹⁷ "Draft Articles on Responsibility of States for Internationally Wrongful Acts with commentaries," *Yearbook of International Law Commission*, Vol. II, Part Two, 2001, UN, Document A/56/10, pp. 20-143, pp. 59-62; Vaughan Lowe, *International Law*, Oxford University Press, 2007, p. 120.

¹⁸ *Reparation case*, *supra* note 12, p. 185.

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capacity which can be exercised in relation to third States.¹⁹ On the other hand, after this case was concluded some writers, including McNair and Seyersted, attempted to apply such an exception to other international treaties and organizations. Their idea of the applicability of treaty law and institutional powers to third States was based on, for example, objective regimes and custom. As will be reviewed shortly, the general obligation of marine environment protection is allegedly a custom and an obligation *erga omnes*. Can such a legal status of the obligation create an exemption from the general position in Article 34 of the VCLT to a decision establishing HSMPAs? The following two subsections will examine this.

7.1.1. General Obligation of Marine Environmental Protection under the LOSC

The obligation of marine environmental protection in general in the LOSC reiterates the existing customary international law²⁰ as well as being codified in many international framework conventions. Thus, there might be a few objections to the view that the obligation to conserve the marine environment, especially the high seas, is a general principle of international law,²¹ and so is possibly already becoming customary international law. The obligation of high seas conservation is broadly stipulated in framework conventions and regional treaties, and referred to at meetings and conferences to justify the new type of HSMPAs. This general principle has been pursued to different degrees and by using various expressions depending on the purpose of the treaties and meetings incorporating it.

Certain restriction on the exploitation of the high seas appeared in Article 2 of the 1958 Convention on the High Seas, which obliges that the freedom of the high seas “shall be exercised by all States *with reasonable regard to the interests of other States* in their exercise of the freedom of the high seas.”²² This article is “declaratory

¹⁹ See such reservations in Seyersted, *Nordisk Tidsskrift Int'l Ret*, supra note 11, pp. 9-11.

²⁰ Patricia Birnie and Alan Boyle, *International Law & the Environment*, Oxford University Press, 2002, pp. 351-352.

²¹ See Chapter IV for the definition of this term.

²² Emphasis added. A reference of this treaty in *UNTS* is in section 3.2.

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customary international law.”²³ Therefore, all States, including non-parties, have agreed to regulate their activities on the high seas for other States to enjoy their use of undamaged high seas resources.

Another treaty among the 1958 Law of the Sea Conventions, the Convention on Fishing and Conservation of the Living Resources of the High Seas, imposed a more substantive obligation on the careful exploitation of the high seas living resources. Article 3 of this Convention obliges parties to adopt national protective measures for high seas resources.²⁴ Articles 4 and 5 oblige parties fishing in a particular area on the high seas to adopt collective conservation measures, and oblige other participants who joined the fishing later to observe the existing measures.²⁵ This rule, however, had not been globally supported by major fishing nations²⁶ and as a result is not to be found in the later 1982 LOSC.

The obligation to conserve the high seas environment is also stipulated in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration: “the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”²⁷ The importance of this principle was confirmed in several

²³ See Robin R. Churchill and A. Vaughan Lowe, *The Law of the Sea*, Manchester University Press, 1999, p. 332. Also see Brian D. Smith, *State Responsibility and the Marine Environment – The Rules of Decision*, Oxford University Press, 1988, p. 86.

²⁴ Article 3 of this Convention addresses that “A State whose nationals are engaged in fishing any stock or stocks of fish or other living resources in any area of the high seas..... shall adopt, for its own nationals, measures in that area when necessary for the purpose of the conservation of the living resources affected.” A reference of this treaty in *UNTS* is in section 3.2.1.

²⁵ Article 4 (1) – “If the nationals of two or more States are engaged in fishing the same stock or stocks of fish or other living marine resources in any area or areas of the high seas, these States shall, at the request of any of them, enter into negotiations with a view to prescribing by agreement for their nationals the necessary measures for the conservation of the living resources affected”; Article 5 (1) – “If, subsequent to the adoption of the measures referred to in articles 3 and 4, nationals of other States engage in fishing the same stock or stocks of fish or other living marine resources in any area or areas of the high seas, the other States shall apply the measures, which shall not be discriminatory in form or in fact, to their own nationals not later than seven months after the date on which the measures shall have been notified to the Director-General of the Food and Agriculture Organization of the United Nations. The Director-General shall notify such measures to any State which so requests and, in any case, to any State specified by the State initiating the measure.”

²⁶ Churchill and Lowe, *supra* note 23, p. 287.

²⁷ Principle 2 of the Rio Declaration of Environment and Development, Rio de Janeiro, Brazil, UNCED, June 1992, available at <http://www.unep.org> (accessed on 6 October 2008). Principle 21 of the Declaration of the United Nations Conference on the Human Environment, (the Stockholm Declaration), Stockholm, Sweden, 1972, UN, A/CONF/48/14/REV.1.

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pronouncements by the ICJ.²⁸ For instance, the Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons* confirms that, “[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.”²⁹ This paragraph is quoted in the 1997 *Gabčíkovo-Nagymaros Project* case.³⁰ This principle is also reiterated in Article 192 and 194 of the 1982 LOSC³¹ and Article 3 of the CBD. According to this principle, flag States have the responsibility to regulate and ensure that their ships under ‘their jurisdiction and control’ do not harm the high seas environment. So the role of flag States has become more emphasised so as to contribute to the protection of the high seas environment.

This general obligation closely relates to the Law of State Responsibility as the obligation reflects the ‘common concern’ to the international community.³² The issue of common concern relates to the responsibility of all States and any States can invoke such common responsibility against other States.³³ Such common responsibility has a certain resemblance to obligations *erga omnes*, thus, it is worthwhile examining whether the general obligation of environment protection, including protection of the high seas, could possibly form an obligation *erga omnes*.³⁴ Since obligations *erga omnes* relate to the Law of State Responsibility,³⁵ the connection between the general obligation and the Draft Articles on State Responsibility can be confirmed. Further discussion on obligations *erga omnes* appears in section 7.1.2.

²⁸ Birnie and Boyle, supra note 20, pp. 107-109.

²⁹ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports, 1996, p. 226, pp. 241-242. Also see Birnie and Boyle, *ibid.*, pp. 107-108

³⁰ Jutta Brunnée, “The Stockholm Declaration and the Structure and Processes of International Environmental Law,” in Myron H. Nordquist, John Norton Moore & Said Mahmoudi (eds.), *The Stockholm Declaration and Law of the Marine Environment*, Centre for Oceans Law and Policy, Martinus Nijhoff Publishers, 2003, pp. 67-84, pp. 75-76; *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, I. C. J. Reports, 1997, p. 7, p. 41.

³¹ See Birnie and Boyle, supra note 20, p. 112; Smith, supra note 23, p. 93.

³² Brunnée, supra note 30, p. 76.

³³ *Ibid.*

³⁴ Birnie and Boyle, supra note 20, pp. 98-99; Brunnée, *ibid.*, pp. 76-77.

³⁵ See commentary relating to Article 48 in Draft Articles on Responsibility of States for Internationally Wrongful Acts with commentaries, supra note 17, pp. 126-128.

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State necessity in Article 25 of the Draft Articles on State Responsibility also relates to the general obligation of environmental protection. The applicability of State necessity to the alleged obligation of environmental protection by Hungary was examined by the ICJ in the *Gabčíkovo-Nagymaros Project* case.³⁶ In this case, Hungary argued that abandoning the construction plan of the Gabčíkovo and Nagymaros barrages could be justified by State necessity because such construction could have environmental risks, including a problem of water quality.³⁷ Although the ICJ determined that there is no imminence in this particular case and so State necessity is irrelevant,³⁸ this case provides an example of the possible connection between State necessity and environmental issues. In addition, there is another case which was more specifically focused on environmental protection on the high seas and which was justified by State necessity. This case, referred to in the ILC Commentary on Article 25 of the Draft Articles on State Responsibility, involves not only the general obligation but also establishing a high seas closure.³⁹ In 1893, Russia declared the closure of a sealing ground on the high seas adjacent to its territorial sea through adopting a decree to exclude British and US fishermen.⁴⁰ The decree was implemented and enforced based on the reason of “absolute necessity of immediate provisional measures” which has an “essentially precautionary character”,⁴¹ although the measure was not in conformity with international law. The ILC explained detailed conditions which would justify this necessity claim, especially in its commentary on the same article in its 1980 report which stated that, “the absolutely exceptional nature of the alleged situation, the imminent character of the danger threatening a major interest of the State, the impossibility of averting such a danger by other means, and the necessarily temporary nature of this “justification”, depending on the continuance

³⁶ *Gabčíkovo-Nagymaros Project case*, supra note 30, pp. 39-46. The concept of ‘State of necessity’ is explained as “to justify conduct different from that required of it in the circumstances under an international obligation incumbent on it.” *Yearbook of the International Law Commission*, 1980, vol. II, part two, UN, A/CN.4/SER.A/1980/Add.1(part 2), p. 35. This State Necessity is considered as custom. See *Gabčíkovo-Nagymaros Project case*, *ibid.*, p.40.

³⁷ *Gabčíkovo-Nagymaros Project*, *ibid.*, pp. 39-46.

³⁸ *Ibid.*

³⁹ “Draft Articles on Responsibility of States for Internationally Wrongful Acts with commentaries,” supra note 17, p. 81.

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

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of the danger feared.”⁴² Although it can be argued that these conditions have a certain similarity to the reasons of closing seamounts which were used by the four RFMOs, it is obvious that the conditions for claiming necessity should apply to a more extreme situation which is either ‘absolutely exceptional,’ or where there is ‘imminent danger,’ and it must be able to be solved by the designated measure only. Certain threats surely exist to the deep-sea features, but whether or not such threats are ‘imminent’ is controversial point of debate. In addition, as reviewed in Chapter V and VI, the relevant international organizations do not believe that HSMPAs are the only measure available which are able to protect the deep-sea features. Considering the lack of imminence and availability of other measures for the conservation of deep-sea features, it seems inappropriate to depend on the State necessity to strengthen the general obligation in the LOSC to justify HSMPAs. Thus, this thesis will not further refer to the necessity in Article 25 of the Draft Articles on State Responsibility.

This general obligation of high seas protection has not evolved in a more specific way to include the conservation of specific elements of ecosystems or for taking specific measures. Although it has not been more specified itself, it has been broadly accepted as a rule or general principle of international law⁴³ and has provided a legal basis for detailed measures such as the new type of HSMPAs. Many of the participants in conferences and meetings which were reviewed in Chapter II, and some of those organizations reviewed in Chapters V and VI, have justified the new type of HSMPAs based on this general obligation. Considering its legal status as a general principle of international law, and allegedly customary international law,⁴⁴ it can be argued that protective measures founded in the obligation should be binding on third States. However, if anyone wants to justify an HSMPA based on this general principle of international law and to apply the measures universally he or she will

⁴² *Yearbook of the International Law Commission* 1980, supra note 36, p.39. These conditions were deleted in 2001 commentary as a result of shortening the explanation on the case.

⁴³ Principle 21 is considered as customary international law. For example, see Alexandre Kiss, “The Destiny of the Principles of the Stockholm Declaration,” in Nordquist, Moore & Mahmoudi (eds.), supra note 30, pp. 53-66, p. 61.

⁴⁴ Smith argues that “the overwhelming opinion of contemporary authors appears in accord with the view that the obligation to prevent material injury to the high seas environment has achieved customary legal status.” Smith, supra note 23, p. 94. This is also supported by the *Nuclear Weapons case*, supra note 29, pp.241-242.

encounter the fundamental limitation of the generally accepted applicability of customary international law, that is a general principle of customary international law of itself does not produce any universal legal obligation of specific practice relating to it.⁴⁵ As argued in the *Gulf of Maine* case, it is axiomatic that general customary international law with its nature for providing ‘guidelines’ or ‘principles’ does not generate universal legal obligation to observe the technical matters which are related to it.⁴⁶ It is a matter of course that if there is a customary rule to protect the high seas environment, there must surely be some kind of conduct which would be caught by it, otherwise it can hardly be said to be an obligation. What that conduct is can possibly be identified by the decisions of international organizations, such as the decisions on HSMPAs by the four RFMOs. Some of the decisions are surely based on the general obligation, so it can be said that the general obligation has provided certain legal obligations to the practice. Also such decisions would identify some of the content of the pre-existing obligation not to damage the high seas environment. However, such specific institutional decisions based on the general environmental protection provisions of the LOSC cannot have binding force on third States, although these provisions of the LOSC can be considered to be customary international law.

7.1.2. Obligations *Erga Omnes*

What if safeguarding high seas ecosystems under the LOSC is acknowledged as an obligation *erga omnes* which are “higher in authority than law stipulated in treaties or developed in custom”?⁴⁷ These obligations under international law are “obligations on States against the community of States as a whole.”⁴⁸ The question to be asked in

⁴⁵ Churchill and Lowe, *supra* note 23, p. 8.

⁴⁶ *Delimitation of the Maritime Boundary in the Gulf of Maine Area*, Judgment, I.C.J. Reports, 1984, p. 246. p. 290. Also see a discussion on customary international law relating marine environmental protection in Churchill and Lowe, *supra* note 23, p. 332.

⁴⁷ Stefan Kadelbach, “Chapter II Jus Cogens, Obligations Erga Omnes and other Rules – The Identification of Fundamental Norms,” in Christian Tomuschat and Jean-Marc Thouvenin (eds.), *The Fundamental Rules of the International Legal Order- Jus Cogens and Obligations Erga Omnes*, Martinus Nijhoff Publishers, 2006, pp. 21-40.

⁴⁸ *Ibid.*, p. 28.

this section is whether such a universal obligation obliges third States to observe HSMPAs?

Although there is no precise definition of, and list of obligations *erga omnes*,⁴⁹ this concept is generally understood as those obligations which are “owed to the international community as a whole.”⁵⁰ An obligation *erga omnes* should be involved in safeguarding “interests” of the entire international community.⁵¹ The concept of *erga omnes* imposes obligations on each individual State or on the entire international community⁵² to observe such norms.⁵³ Since all States have a responsibility and interest to be involved in such matters, a primary characteristic of the concept is that any State can “invoke the responsibility of another State for breaches of such obligations.”⁵⁴ Such invocation of responsibility can be done by States which are not impacted by the breaches of the obligations, so the obligations *erga omnes* can be recognized if “States not directly affected by an international wrong took counter-measures without being held liable for a wrongful act themselves.”⁵⁵ This characteristic is especially stipulated in Article 48(1)(b) of the Draft Articles on State Responsibility which states that “[a]ny State other than an injured State is entitled to invoke the responsibility of another State in accordance with paragraph 2 if: ... (b) The obligation breached is owed to the international community as a whole.”⁵⁶

Kadelbach pointed out the further characteristics of the obligations *erga omnes* in the law of State responsibility; i.e., *jus cogens* and serious breaches of international law.⁵⁷ These characteristics of *erga omnes* were confirmed in the recent case of the

⁴⁹ Maurizio Ragazzi, *The Concept of International Obligations Erga Omnes*, Oxford University Press, 1997, p. 16.

⁵⁰ ILC Commentary on Article 48, para. 8 in *YILC 2001*, supra note 17.

⁵¹ Alexander Orakhelashvili, *Peremptory Norms in International Law*, Oxford University Press, 2006, p.268.

⁵² Smith divided the concept of *erga omnes* into these two different types. See Smith, supra note 23, pp. 96-97.

⁵³ *Legality of the Threat or Use of Nuclear Weapons*, supra note 29, p. 257.

⁵⁴ ILC Commentary on Article 48, para. 10 in *YILC 2001*, supra note 17.

⁵⁵ Kadelbach, supra note 47, p. 35.

⁵⁶ See Draft Articles of State Responsibility, supra note 17, pp.319-321; Jacqueline Peel, “New State Responsibility Rules and Compliance with Multilateral Environmental Obligations: Some Case Studies of How the New Rules Might Apply in the International Environmental Context,” *Review of European Community and International Environmental Law*, Vol.10, No.1, 2001, pp. 82-97, p. 84; Birnie and Boyle, supra note 20, pp.99-100 and pp. 195-198.

⁵⁷ Kadelbach, supra note 47, pp. 36-39.

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Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory.⁵⁸ In this case, the ICJ described that “the construction and maintenance of the wall in the Occupied Palestinian Territory constitutes grave breaches” of articles in the relevant convention⁵⁹ which contain peremptory norms,⁶⁰ and is a breach of certain obligations *erga omnes*.⁶¹ These two characteristics derive from *jus cogens* and are not necessary conditions of the obligations *erga omnes* because *erga omnes* is not necessarily *jus cogens*, although *jus cogens* are definitely obligations *erga omnes*.⁶²

These characteristics are consequences of an *erga omnes* rule. Thus, even if these are satisfied it does not prove the existence of an obligation *erga omnes*. However, since these are common consequences, if they are not satisfied it can be hard to prove that an obligation *erga omnes* exists. It can be argued that protecting deep-sea features through HSMPAs relates to the interests of the entire international community, or a characteristic of the concept (any State can raise responsibility of another State) is detected in the recent adoption of HSMPAs. The collective adoption of HSMPAs by the RFMOs is a result of international criticism of destructive fishing gears and their impact on the deep-sea ecosystems. In this case, HSMPAs are not an obligation breached but a type of preemptive measure. Nor can they be a countermeasure in response to a serious breach of international law as such a serious breach has not happened. The practices of HSMPAs also cannot have the characteristics of *jus cogens*. *Jus cogens* means “a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.”⁶³ As reviewed in previous chapters, HSMPAs have been accepted and broadly recognised as a useful measure for high seas conservation but

⁵⁸ *Ibid.*, pp. 37-38.

⁵⁹ *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Report, 2004, p. 136, p. 196.

⁶⁰ Kadelbach, *supra* note 47, p. 38.

⁶¹ *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, *supra* note 59, p. 199.

⁶² See Orakhelashvili, *supra* note 51, p. 269.

⁶³ Article 53, the VCLT.

they are not so much an absolute measure as no derogation is permitted. Thus, an HSMPA itself cannot be an obligation *erga omnes*. The obligation which was argued and which can be breached in this case is the protection of high seas environment including deep sea features which can be broadly covered by the provisions on environmental protection in the LOSC. This obligation does not have the character of *jus cogens* because HSMPAs were not taken in response to a serious breach of international law. However, it may be possible to argue that the general obligation of high seas conservation is an obligation *erga omnes*. If so, it should be asked if those HSMPAs justified by the general obligation, which might be an *erga omnes* rule, are binding on third States.

Whether the conservation of the marine environment beyond national jurisdiction is an obligation *erga omnes* is a controversial question. Birnie and Boyle, Ragazzi, and Crawford have suggested that such an obligation is potentially an obligation *erga omnes*.⁶⁴ On the other hand, other authors have included lists of obligations *erga omnes* which have not included the conservation of the high seas.⁶⁵ In addition, the imposition of the *erga omnes* obligations have mainly been observed in international disputes where the concept of *erga omnes* has been used to invoke responsibility for damage as a consequence of the breach of the obligations, but as yet no judicial decision has recognised high seas protection as an obligation *erga omnes*.⁶⁶ For example, the *Barcelona Traction* case in which the concept was first articulated by the ICJ did not refer to the conservation of the high seas as an obligation *erga omnes*, although the ICJ in this case provided other examples of obligations *erga omnes* including the prevention of aggression, genocide, slavery and racial discrimination,

⁶⁴ Birnie and Boyle, *supra* note 20, p. 197; James Crawford, "Third Report on State Responsibility," Addendum, ILC, 4 August 2000, UNGA, A/CN.4/507/Add.4. Paragraph 379. "If there are no specific, identifiable victims (as may be the case with certain obligations *erga omnes* in the environmental field, e.g. those involving injury to the "global commons"), and if restitution is materially impossible, then other States may be limited to seeking cessation, satisfaction and assurances against repetition. Again, however, these are significant in themselves, and any State party to the relevant collective obligation should be entitled to invoke responsibility in these respects." This paragraph disappeared in Forth Report on State Responsibility; Ragazzi, *supra* note 49, p. 162.

⁶⁵ See the list of obligations *erga omnes* in Urfan Khaliq, *Ethical Dimensions of the Foreign Policy of the European Union*, Cambridge University Press, 2008, pp. 36-38.

⁶⁶ Birnie and Boyle, *supra* note 20, p. 196.

and protecting basic human rights.⁶⁷ This lack of a judicial pronouncement does not prove the lack of an obligation *erga omnes* on the high seas protection. Judicial decisions may articulate the source of an *erga omnes* obligation, but they are not the source of themselves.⁶⁸ This argument applies also to the literature which does not include high seas conservation as an obligation *erga omnes*. The concept is still developing and could possibly include such an obligation in the future,⁶⁹ although the obligation *erga omnes* on the high seas conservation is not currently widely supported, and what the content of that obligation would be has not yet been elaborated upon by those authors who support the existence of that obligation.⁷⁰ It is beyond the scope of this thesis to elaborate upon the question of whether high seas conservation is an obligation *erga omnes* and if it is an obligation what is the content of that obligation. Detecting the possibility for the obligation to become binding on all States at some point in the future is enough for this thesis to proceed to the next step of asking what will be a key question of this section: if the RFMOs' decisions on HSMPAs for the protection of deep sea features are justified by the obligation *erga omnes*, can they bind third States? This question may be examined through questioning whether the concept of *erga omnes* can generate universal legal obligations of specific measures and if such specific measures can include HSMPAs.

While customary international law does not generate subsequent legal obligations to observe specific measures to third States, the concept of *erga omnes* possibly provides obligations for observing specific measures by third States. For instance, Article 41(1) of the Draft Articles on State Responsibility notes that one of the characteristics of obligations *erga omnes*, *jus cogens*, is the notion that all States should take lawful measures to stop the breach of such obligations.⁷¹ Such measures are in accordance with Article 48 (2) of the Draft Articles for any State to request another State of "cessation" and "assurance of non-repetition" of and "reparation,"

⁶⁷ *Barcelona Traction, Light and Power Company, Limited*, Judgement, I.C.J. Report, 1970, p.3, p. 32.

⁶⁸ See *East Timor (Portugal v. Australia)*, Judgement, I.C.J. Reports, 1995, p. 90, para 34.

⁶⁹ See para. 9 of the ILC Commentary on Article 48 of the Draft Articles on State Responsibility, *supra* note 17, pp. 126-128.

⁷⁰ See an example of the content in Ragazzi, *supra* note 49, p. 162.

⁷¹ Article 41(1) of the Draft Article of State Responsibility: "States shall cooperate to bring to an end through lawful means any serious breach within the meaning of article 40."

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and these measures can be taken in response of a breach of obligations *erga omnes*.⁷² Although it is a controversial point and not specifically specified in the article, non-injured States can possibly take countermeasures against States who breach obligations *erga omnes*.⁷³ If these measures are taken under a treaty, by the definition of the obligations *erga omnes* those should be binding on third States to the treaty. In this case, the binding nature of such measures is not derived from treaty itself (see further discussion below). However, in accordance with the Draft Article on the State Responsibility such measures are only available for ‘cessation,’ ‘assuring non-repetition,’ and ‘reparation’ and not for the prevention of obligations being breached. Since those measures are supposed to be taken only after an injury occurs, it may be argued that such measures may not include a precautionary measure before any damage occurs.⁷⁴ To examine whether obligations *erga omnes* can generate universal obligations for HSMPAs it is first necessary to check whether international law allows the taking of preventive measures in relation to the *erga omnes* obligations before breaches of the obligations occur.

The Draft Articles on State Responsibility refers to the concept of *erga omnes* only in the context of the responsibility of States. The concept exists independently without relying on the relevant rules laid down in the State Responsibility. The first appearance of the concept was in the *Barcelona Traction* case in 1970 where it is used without any reference to the Draft Articles on State Responsibility.⁷⁵ In this case the ICJ noted that “[s]uch obligations derive, for example, in contemporary international law, from the outlawing of acts of aggression, and of genocide, as also from principles and rules concerning the basic rights of human person ... Some of the corresponding rights of protection have entered into the body of general international law...others

⁷² Article 48(1)(b), the Draft Articles on State Responsibility.

⁷³ Article 54: “This chapter does not prejudice the right of any State, entitled under article 48, paragraph 1, to invoke the responsibility of another State, to take lawful measures against that State to ensure cessation of the breach and reparation in the interest of the injured State or of the beneficiaries of the obligation breached.” For controversy on third parties’ countermeasure, see Orakhelashvili, *supra* note 51, pp. 270-272; and, James Crawford, *The International Law Commission’s Article on State Responsibility, Introduction, Text and Commentaries*, Cambridge University Press, 2002, pp. 302-305.

⁷⁴ See discussions on types of countermeasures in Christian Hillgruber, Chapter XII, “The Right of Third States to Take Countermeasures,” Tomuschat and Thouvenin (eds.), *supra* note 47, pp. 265-293.

⁷⁵ See *Barcelona Traction* case, *supra* note 66, p. 32.

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are conferred by international instruments of a universal or quasi-universal character.”⁷⁶ Since the concept can be confirmed in various sources of international law, the measures under the concept cannot be confined to the scope of measures taken under the Draft Articles on State Responsibility.

Logically the breach of an obligation *erga omnes* could be ‘prevented’ through certain measures. If an obligation of *erga omnes* is recognized as breached, such an obligation should exist before it is breached. Since an obligation must exist before its breach, the breach of the obligation should also be able to be ‘prevented’ if a proper measure is available. Thus, the concept of *erga omnes* might not be limited to taking measures for dealing with breaches already occurred but could also possibly be used for dealing with a potential breach of such a concept. For example, a potential obligation *erga omnes* which has been suggested by Ragazzi includes the protection of high seas environment through the ‘prevention’ of the disposal of radioactive wastes on the high seas.⁷⁷ The measure which prevents disposal should be a preventive measure. In addition, in the *Gabčíkovo-Nagymaros Project* case, it was argued by Hungary that “an obligation of *erga omnes* of prevention of damage pursuant to the “precautionary principle” ” exists.⁷⁸ If this is true, and the general obligation of high seas protection becomes an obligation *erga omnes*, HSMPAs can possibly be used as a measure to prevent the breach of the obligation *erga omnes* and they could be binding on third parties.

Since the Draft Articles on State Responsibility is not the only international law which involves in the concept of *erga omnes*, the concept is not limited to involve in the responsibility of States. This implies that entities of international law other than States are also entitled to invoke responsibility for a breach of such obligations or to take measures to prevent a breach of the obligations. Although most authors describe

⁷⁶ *Ibid.*, p. 32.

⁷⁷ Ragazzi, *supra* note 49, p. 162. Ragazzi quotes this example from Paolo Picone’s “Obblighi reciproci ed obblighi *erga omnes* degli Stati nel campo della protezione internazionale dell’ambiente marino dall’inquinamento,” in Vincenzo Starace ed., *Diritto Internazionale e protezione dell’ambiente marino*, 1983.

⁷⁸ *Gabčíkovo-Nagymaros Project case*, *supra* note 30, p. 26.

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erga omnes obligations as States' responsibility⁷⁹ and have not attempted to connect them with other entities of international law, Birnie and Boyle have argued that international organizations on behalf of the international community can be placed in charge of compliance with such obligations.⁸⁰ If this is true, treaties establishing such organizations should be able to provide express provisions with the characteristic of *erga omnes* or their functions could be extended by non-express powers to have such a function because international organizations should perform functions given by, or extended from constitutive treaties. Such provisions or decisions with the characteristic of *erga omnes* should be binding on third States without their intention and or a written acceptance to do so.

The existence of treaties obligations binding on third States without their intention and written acceptance of a treaty was advocated by McNair. He argued the existence of obligations *erga omnes* in treaties such as a treaty on the Suez Canal and that such treaty obligations apply to all States.⁸¹ This idea was not denied by ILC in its 1966 comments on the VCLT but it was not incorporated into the VCLT. The reason for this failure of formal inclusion was that there were different views between States on this matter and that a provision (Article 36) possibly covers the treaties imposing obligations *erga omnes*.⁸² States which rejected the inclusion of a provision on *erga omnes* while drafting the VCLT denied the connection between an *erga omnes* effect and treaty law.⁸³ Since it is contentious that a treaty itself can have *erga omnes* effect for third States, it is also contentious whether an international organization conducting functions given by or extended based on a treaty can overcome the *pacta tertiis nec nocent nec prosunt*.

⁷⁹ See Kadelbach, *supra* note 47, p. 35.

⁸⁰ Birnie and Boyle, *supra* note 20, p.100.

⁸¹ Lord McNair, *supra* note 10, pp. 265-271.

⁸² *Yearbook of the International Law Commission*, 1966, Vol. II, UN, A/CN.4/SER.A/1966/Add.1, p. 231. Article 36 of the VCLT is: "1. A right arises for a third State from a provision of a treaty if the parties to the treaty intend the provision to accord that right either to the third State, or to a group of States to which it belongs, or to all States, and the third State assents thereto. Its assent shall be presumed so long as the contrary is not indicated, unless the treaty otherwise provides; 2. A State exercising a right in accordance with paragraph 1 shall comply with the conditions for its exercise provided for in the treaty or established in conformity with the treaty."

⁸³ *Ibid.*

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The inherent powers doctrine as advocated by Seyersted was found in the assumption that treaties can in certain circumstances be binding on third States. The *Reparation* case which Seyersted referred to in relation to inherent powers is a good example of exercising such binding power to third States. He argued that since an international organization fundamentally is as much a subject of international law as a State, an international organization should be able to conduct the same activities based on constitutive provisions as States do based upon their constitutions.⁸⁴ This implies that if a State can take measures binding on third States based on *erga omnes*, an international organization can also perform those functions which are binding on third States. If McNair and Seyersted are right, what Birnie and Boyle argued about international organizations on performing functions of *erga omnes* character should also be correct. However, since the idea on treaty with an *erga omnes* effect failed to be incorporated into the VCLT and has not as yet reached the stage of general acceptance it may not be right to conclude that an international organization itself has powers to oblige third States to be involved in their activities based on the obligations *erga omnes*. This lack of powers of international organizations to oblige all States does not necessarily mean that the decision, which is the content of an obligation *erga omnes*, does not oblige third States to observe it. If the general obligation on the environment protection under the LOSC is an obligation *erga omnes* and if protection of deep sea features by HSMPAs is the content of that obligation, the HSMPAs themselves by definition of the obligation *erga omnes* are binding on third parties. This potentially binding nature of the new type of HSMPAs based on the obligation *erga omnes* cannot help to distinguish them from traditional MPAs on the high seas since such traditional MPAs should also be binding on third States if the high seas conservation is an obligation of *erga omnes* and those MPAs are allegedly (and possibly) based on the general obligation under the LOSC.

It is important to confirm whether an organization other than a State can be involved in the compliance of obligations *erga omnes* because the practices by RFMOs could possibly be practices of organizations rather than States. The HSMPAs

⁸⁴ Seyersted, *Nordisk Tidsskrift Int'l Ret*, supra note 11, pp. 28-29.

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for safeguarding high seas environment were adopted by international organizations but the question of whether or not it should be considered as practices of States or organizations is not very clear. This issue of whether the HSMPAs are State practice or institutional practice will be further discussed in section 7.3.

7.2. Regulation of Third States Based on the Ecosystem Approach and the Precautionary Principle

The ecosystem approach and the precautionary principle have recently provided the foundation for the structural changes of oceans law. The ecosystem approach and the precautionary principle can be used to effectively safeguard deep sea features because they help to focus on where protection is actually needed. These principles have been widely recognised as significant for ocean management and the recognition of their significance for deep-sea ecosystem protection by majority States could put pressure on States Parties of the RFMOs to establish the new type of HSMPAs. Since these principles are a substantive requirement by the majority of the stakeholders especially in the international oceans law field (as shown in various UNGA Resolutions and St. John's Conference in Chapter VI), they could not be ignored when the RFMOs made decisions on the management of marine resource uses. Thus, the question of whether this majority intention on the principles can force third States to observe the new type of HSMPAs will be examined in due course. To do so it is first necessary to know what the legal status of these principles is, how widely they have been accepted, and whether these are custom as opposed to soft law.

The ecosystem approach and the precautionary principle have been broadly incorporated into domestic laws and international treaties which relate to ocean affairs. The precautionary principle has had a longer history than the ecosystem approach, which first explicitly emerged in the 1992 Convention on the Biological Diversity⁸⁵ of

⁸⁵ Preamble of the CBD: "Noting also that where there is threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat." The COP of the CBD adopted Decision II/10 in 1995

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treaties relating to ocean affairs. The precautionary principle has also been more widely implemented than the ecosystem approach has been, either expressly in many ocean treaties or adopted by decisions or recommendations.⁸⁶ It also appears in non-binding instruments such as the North Sea Conference in 1984, in the 1990 Bergen Ministerial Declaration on Sustainable Development, and in the 1992 Rio Declaration.⁸⁷ Since States are encouraged to be involved in preventive activities when the environmental harm is merely 'foreseeable' or 'probable' in accordance with this principle,⁸⁸ this principle is necessary to justify the new concept of HSMPAs which are used for safeguarding deep-sea features from potential damage.

Several authors have attempted to examine whether the precautionary principle has become customary or not. If this principle has achieved customary status it can impose legal obligations on all States and so facilitate and lead to the proper implementation of some existing treaty provisions on it which have hardly been practised.⁸⁹ However, customary status seems to be hardly achieved because of the vague meaning of the principle. Principle 15 of the Rio Declaration provides a definition of the principle and it is widely accepted but it is not clear enough to be adopted as a global definition and so can hardly be seen to be an 'authoritative' definition.⁹⁰ Besides the definition in the Principle,⁹⁰ no other definition is even close to

which specifically mentions the precautionary approach. See a reference of the CBD in *UNTS* in section 5.1.1.

Among all international treaties, the 1985 Vienna Convention for the Protection of the Ozone Layer first adopted the precautionary principle explicitly. See Preamble in the Vienna Convention for the Protection of Ozone Layer, adopted on 22 March 1985, entered into force on 22 September 1988, *UNTS*, Vol. 1513, p. 293; Malcolm N. Shaw, *International Law*, Cambridge University Press, 2003, p. 776.

⁸⁶ See Article 4 of the 1995 Barcelona Convention; Preamble of the CBD and its Decision II/10; Preamble and Article 2 of OSPAR Convention; Article 5 of the 1995 UN FSA; IWC actually implements it but not explicitly stipulates it in its treaty; CCAMLR in its conservation and management measures; Article 4 (2)(b) of the NEAFC Convention; Article 3 of the 2007 Amendment of the NAFO Convention; Article 3 of the SEAFO Convention; Article 3(2) of the GFCM Agreement; Article 4 of the IATTC Convention (2003 Antigua Convention); and the ICCAT has held meeting of the Ad Hoc Working Group on the Precautionary Principle, but the principle has not been adopted yet. See references of these treaties in *UNTS* in Chapter V and VI.

⁸⁷ Birnie and Boyle, *supra* note 20, p. 116.

⁸⁸ *Ibid.*, p. 115.

⁸⁹ Jaye Ellis, "Overexploitation of a Valuable Resource? New Literature on the Precautionary Principle," *The European Journal of International Law*, Vol. 17, No.2, 2006, pp.445-462. p. 450.

⁹⁰ Birnie and Boyle, *supra* note 20, p. 116.

an ‘authoritative’ definition.⁹¹ Terms used to explain the principle such as ‘risk’ and ‘foresee-ability’ as well as the principle itself have “uncertainties in the meaning, application, and implications.”⁹² For example, the precautionary principle allows earlier reaction to a plausible risk. However, it is difficult to standardise how plausible the risk should be and in what degree the risk should be so it can be prevented.⁹³ Thus, there is global consensus on the significance of this principle but the role of the principle in most treaties is to provide guidance and standards rather than to act as a “mandate for action.”⁹⁴

Besides the problems over the definition of the principle, *opinio juris* and practice are not enough for insisting it is more than a principle of international law. No international tribunal has ever referred to this as customary law. The Appellate Body of the World Trade Organization has denied the existence of customary international law as far as this principle is concerned. For example, in the *Beef Hormones* case, the Body determined that the precautionary principle has not achieved customary status.⁹⁵ The most recent dispute which confirms the legal status of the precautionary principle is the *Biotech Products* case which was heard by the Appellate Body in 2006.⁹⁶ In this case, the Appellate Body was once again sceptical as to the existence of customary international law on the principle.⁹⁷ The broad acceptance of this principle is undoubted but not all subjects of international environmental law and policy apply this principle.⁹⁸ For example, according to Gillespie, the stakeholders in the policy of world forestry have not yet accepted the precautionary principle for regulating

⁹¹ Brunnée, supra note 30, p. 72.

⁹² Birnie and Boyle, supra note 20, pp. 115-121.

⁹³ Birnie and Boyle, supra note 20, pp. 117-120; Philip Bender, “The Precautionary Approach and Management of the Antarctic Krill,” *Journal of Environmental Law*, Vol. 18, No.2, 2006, pp. 229-244. p. 239.

⁹⁴ Birnie and Boyle, *ibid.*, pp. 118-119; Bender, *ibid.*, p. 238. Brunnée, supra note 30, p. 72; Alexander Gillespie, “The Precautionary Principle in the Twenty-First Century: A Case Study of Noise Pollution in the Ocean,” *IJMCL*, Vol. 22, No.1, 2007, pp. 61-87, p. 72.

⁹⁵ Campbell McLachlan, “The Principle of Systemic Integration and Article 31(3)(c) of the Vienna Convention,” *International & Comparative Law Quarterly*, Vol.54, April 2005, pp. 279-320, p. 303; “EC Measures Concerning Meat and Meat Products (Hormones),” Report of the Appellate Body, WTO, 16 January 1998, WT/DS/26/AB/R, p. 38.

⁹⁶ Gillespie, supra note 94, p. 72.

⁹⁷ *Ibid.* Also see “European Communities – Measures Affecting the Approval and Marketing of Biotech Products,” Reports of the Panel, WTO, 29 September 2006, WT/DS291/R, WT/DS292/R, WT/DS293/R, p. 152.

⁹⁸ Gillespie, *ibid.*, p. 70.

environmental concerns.⁹⁹ Since there are different levels of importance to different subjects and there is no *opinio juris*, few would agree that the principle might have achieved customary status¹⁰⁰ while many others have concluded that this principle is still merely the principle of international law, and hardly creates customary obligations.¹⁰¹

If customary status should be endowed on the principle, as Gillespie suggested, only the 'weak version' of the principle can substantially sustain the possibility to become a custom.¹⁰² The 'weak' precautionary principle means that States cannot take preventive measures unless "the threats must be serious, the standard of proof must be substantive, and the burden of proof must not be imposed on any particular party."¹⁰³ It is questionable whether this weak principle can support HSMPAs in order to safeguard the deep-sea features, because the seriousness of threats to deep-sea features is controversial. It is true that threats to deep sea features (mostly from fishing) have left a huge impact on a few reef sites but the amount of its further impact (where the fishing grounds of bottom trawling and the deep water coral reefs overlap) is uncertain. Potential threats to deep-sea features by other activities, at present, are only recognised as needing to be of concern when based on the available scientific research. Such threats with "reasonable grounds for concern based on reliable scientific data" can be regulated under a 'strong precautionary principle,' and seem not to be prevented by a 'weak precautionary principle.'¹⁰⁴ Thus, the potential customary rule of the weak precautionary principle cannot be assimilated into the precautionary principle in order to be incorporated for the new concept of HSMPAs.

The ecosystem approach also has the constitutional characteristic (providing guidance and standard), as the precautionary principle does, and provides a necessary conceptual distinction for the new type of MPAs from the conventional closed areas. The conventional area closures normally do not directly consider the interrelations of

⁹⁹ *Ibid.*

¹⁰⁰ See Brunnée, *supra* note 30, p. 77.

¹⁰¹ Birnie and Boyle, *supra* note 20, p. 120; Bender, *supra* note 93, pp. 238-239.

¹⁰² Gillespie, *supra* note 94, p. 74.

¹⁰³ *Ibid.*

¹⁰⁴ See ranges of damage covered by the weak and strong precautionary principle in Gillespie, *ibid.*, p. 75.

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target and non-target species, and their habitats. For example, traditional fisheries closures aim for the conservation of only those species which are targeted and/or associated.¹⁰⁵ The new type of MPAs with the ecosystem approach allows resource managers directly to cover all areas where the interrelation needs to be protected.

This ecosystem approach is different from the precautionary principle because this approach has been less incorporated in international legal instruments and has been less articulated. While the precautionary principle has a non-authoritative but broadly referred definition, the ecosystem approach lacks even a widely quoted definition.¹⁰⁶ There have been some efforts to articulate and define this concept and detailed explanation of the approach has been attempted.¹⁰⁷ It can be argued that these definitions and explanations, as well as current practices, show the clear purposes and core strategies of the approach.¹⁰⁸ For example, Arico divided the current application of the ecosystem approach into three types: the CBD's ecosystem approach; the ecosystem approach to fisheries management; and, integrated ocean management.¹⁰⁹ He demonstrated that these three types are implemented with similar purposes and core strategies.¹¹⁰ However, those core strategies and purposes are not sufficient to elaborate the detailed meaning of this complicated principle. As proved in the process of the reforming NAFO Convention, there was a hesitation of adopting the ecosystem approach because of its ill-defined characteristic. The seventh meeting of the United Nations Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) also pointed out the ill-defined character of the principle, as "there is no universally agreed definition of an ecosystem approach, which is interpreted

¹⁰⁵ See Figure 1 in S.M. Garcia, "The Ecosystem Approach to Fisheries: on the Way to Implementation," in Myron H. Nordquist, Ronan Long, Tomas Heidar, and John Norton Moore (eds.), *Law, Science & Ocean Management*, Center for Oceans Law and Policy, Martinus Nijhoff Publishers, 2007, pp. 171-216, p. 175.

¹⁰⁶ For the available definitions see section 2.3.

¹⁰⁷ Scott Parsons, "Ecosystem Considerations in Fisheries Management: Theory and Practice," *IJMCL*, Vol. 20, No.3-4, 2005, pp. 381-422, p. 405.

¹⁰⁸ Salvatore Arico, "Implementing the Ecosystem Approach: the Importance of Analyzing Stakeholders and their Interests," prepared for the Discussion Panel on Ecosystem Approach and Oceans, UNICPOLOS, 2006, http://www.un.org/Depts/los/consultative_process/consultative_process.htm (accessed on 2 February 2009).

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*

differently in different contexts".¹¹¹ Since it is not well articulated as of yet, it needs to be assisted by other environmental principles including sustainable development, the precautionary principle, and integrated ocean management.¹¹² This implies that the ecosystem approach can be an even more comprehensive concept than those other environmental principles which are presently available.

While the precautionary principle is incremental in almost all environment issues in a weak sense, the ecosystem approach is preponderantly involved in only limited issues of ocean affairs. The application of the principle to fisheries management seems to be considered as having the highest priority amongst all of its applications to other issues on ocean affairs. As noted in Chapter II, the 1982 World Parks Congress has already recommended the application of a certain type of ecosystem approach to fisheries management by RFMOs.¹¹³ The priority of the application of the principle to fisheries management is further evidenced in recent resolutions adopted by UNGA. A UNGA Resolution adopted in 2007 relating to the UN Fish Stocks Agreement recommends the application of the principle to fisheries management, while a Resolution on the LOSC which was adopted in the same year recommends merely consideration should be given to discussing the principle in relation to ocean affairs in general.¹¹⁴

¹¹¹ "Report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its seventh meeting," seventh meeting of UNICPOLOS, UNGA, 17 July 2006, A/61/156, p.2.

¹¹² See Parsons, *supra* note 107, p. 397 and p. 402; Fisheries Management – 2. Ecosystem Approach to Fisheries, FAO Technical Guidelines for Responsible Fisheries No. 4, suppl.2, FAO, 2003, <http://www.fao.org/DOCREP/005/Y4470E/Y4470E00.HTM> (accessed on 2 February 2009), p. 85; see also Arico, *supra* note 108; Garcia, *supra* note 105, pp. 207-208.

¹¹³ Recommendation 3. Marine and Coastal Protected Areas, Jeffrey A. McNeely, and Kenton R. Miller (eds.), *National Parks, Conservation, and Development - The Role of Protected Areas in Sustaining Society*, Washington, D.C., IUCN, 1984, p.767. See also section 2.1.1.

¹¹⁴ "Calls upon all States, directly or through regional fisheries management organizations and arrangements, to apply widely, in accordance with international law and the Code, the precautionary approach and an ecosystem approach to the conservation, management and exploitation of fish stocks, including straddling fish stocks, highly migratory fish stocks and discrete high seas fish stocks, and also calls upon States parties to the Agreement to implement fully the provisions of article 6 of the Agreement as a matter of priority." UNFA Resolution 61/105, Sustainable fisheries, including through 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, and related instruments, March 2007, UN A/RES/61/105, p.5.

"Welcomes the report on the work of the Consultative Process at its seventh meeting, and invites States to consider the agreed consensual elements relating to ecosystem approaches and oceans, as suggested

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In addition, the ecosystem approach is significantly dealt with by more fisheries management organizations than organizations on other ocean affairs. The first formal adoption of the principle by a treaty was by the CBD Decision II/8 in 1995, although it is argued that limited or informal implementation of the approach has a longer history as it dates from the early 1980s.¹¹⁵ Since the initiation of the CBD, this approach has appeared in relation to many treaties and international conferences on marine environment protection. The OSPAR Commission has adopted a non-binding statement on this principle and has discussed this issue with other regional organizations, such as the Helsinki Commission. The EC recognized the future necessity of the principle¹¹⁶ and decided to cooperate over the implementation of the principle with the States Parties of the Barcelona Convention.¹¹⁷ This principle has appeared in the Fifth North Sea Conference and the Plan of Implementation of the World Summit on Sustainable Development in 2002.¹¹⁸ Except for the relevant decisions adopted by the Conference of Parties of the CBD, those organizations on marine environment protection have rarely discussed implementation of, or expressly incorporated, the principle as of yet. On the other hand, as reviewed in Chapter VI, there are already at least five RFMOs (NAFO, NEAFC, SEAFO, GFCM, and CCAMLR) which have explicitly endorsed, practised, or actively discussed this principle either through the recent amendment of conventions or through institutionally practising the principle without its explicit inclusion. Besides the five RFMOs, many RFMOs which have been especially established by the FAO have been involved in different degrees in the implementation of the principle relating to these

by the Consultative Process,” UNGA Resolution 61/222, Oceans and the Law of the Sea, 2007, UN A/RES/61/222, p. 20.

¹¹⁵ Chris Frid, Odette Paramor, Catherine Scott, “Ecosystem-based fisheries management: progress in the NE Atlantic,” *Marine Policy*, Vol. 29, 2005, pp. 461-469, p. 463.

¹¹⁶ John Richardson, Head of the Maritime Policy Task Force, European Commission, “Ecosystem-based management: from principles to implementation,” prepared for the Discussion Panel on Ecosystem Approach and Oceans, UNICPOLOS, 2006, available at http://www.un.org/Depts/los/consultative_process/consultative_process.htm (accessed on 2 February 2009).

¹¹⁷ “Applying the Ecosystem Approach in the Mediterranean,” Government-Designated Expert Meeting on the Application of the Ecosystem Approach by the Mediterranean Action Plan, UNEP MED, 9 January 2007, UNEP(DEPO)/MED WG.306/2, p. 4.

¹¹⁸ “Marine Environment, Marine Resources and Sustainable Use: Implementing the Ecosystem Approach,” submitted by the delegation of Norway, UNICPOLOS, fourth meeting, 20 May 2003, UNGA, A/AC.259/7, pp. 1-2.

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issues.¹¹⁹ In 2003 the Committee on Fisheries (COFI) of the Food and Agriculture Organization (FAO) endorsed the application of the ecosystem approach to fisheries management. They did this as a result of the 2002 Reykjavik Conference on the Responsible Fisheries in the Marine Ecosystem.¹²⁰ All of these examples indicate that it is considered appropriate that RFMOs should need to contribute their efforts to implement the ecosystem approach for the achievement of sustainable development. The ecosystem approach has assisted, or can assist RFMOs for better fisheries management, in particular for those issues which involve overfishing, fishing impact on non-target species, discards, critical habitats, illegal fishing, fishing impact on fishing communities, climate changes, and pollution.¹²¹

Besides this lack of a broad implementation, technical limitations currently prevent the ecosystem approach from being developed further than a management concept which has 'political and conceptual' implications.¹²² It is obvious that the current delay of a broad implementation of this principle is happening because scientific knowledge and technology is not yet ready to fulfil the full implementation of the principle. As noted in Chapter II, incorporation of ecosystem dynamics into the approach is strongly desirable for the effective conservation of the marine ecosystems. However, in practice it is frequently found that ecological understanding and quantitative analysis of ecosystem dynamics is too complicated.¹²³ In addition, the social and economic implications relating to the implementation of this principle are difficult to measure.¹²⁴ Because these ecological, economic, and social elements are varied in different regions, ecosystems, etc. the application of the principle is difficult to be generalised and should be multifarious depending on the specifics of each situation.¹²⁵ Thus, there is a lack of agreement over whether the knowledge of ecosystem dynamics should be necessarily used for the implementation of the

¹¹⁹ Garcia, *supra* note 105, pp. 193-195.

¹²⁰ *Ibid.*, p. 172.

¹²¹ *Ibid.*, p. 193. Also see "Implementing the Ecosystem Approach to Fisheries, Including Deep-sea Fisheries, Biodiversity Conservation, Marine Debris and Lost or Abandoned Fishing Gear," FAO Committee on Fisheries, December 2006, COFI/2007/8, p. 8.

¹²² See Garcia, *ibid.*, p. 173.

¹²³ Parsons, *supra* note 107, p. 405.

¹²⁴ *Ibid.*

¹²⁵ A/AC.259/7, *supra* note 118, p. 3.

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approach and whether the approach should be 'holistic' in a social and economic sense. Some argue that without applying the knowledge of ecosystem dynamics the goal of the ecosystem approach can still eventually be achieved.¹²⁶ This limited ecosystem approach is not new in fisheries management. As was noted in Chapter VI the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) has considered target-associated species interaction for its resource management since it was established in 1980.¹²⁷ This approach to fisheries management, however, does not provide an integrated consideration of an entire ecosystem and the interrelations between components in it, including direct concerns on habitat destruction by fishing gears. This is why simple species interaction management is not regarded as an ecosystem approach in this thesis. However, if the other extreme approach with ecosystem dynamics is taken it is almost impossible to practise holistic management with a view to the currently available knowledge and technology.¹²⁸ The limited technical feasibility is the principal reason behind the approach being ill-defined and not widely utilised. If the approach is so ill-defined and not widely practised, it may be inappropriate to argue that it becomes a custom,¹²⁹ and to date no one has actually attempted to argue that this principle has customary status.

If both concepts are merely principles of international law and are not even general principles of international law or customary international law, as Bernhardt notes, "it is not easy to find decisive arguments for the opinion that treaty rules expressing such constitutional norms have a higher rank and a more universal validity."¹³⁰ Thus, treaty provisions and also institutional decisions incorporating these principles cannot provide legal obligations on third States to observe the new type of HSMPAs under international law.

¹²⁶ Parsons, *supra* note 107, pp. 405-406.

¹²⁷ Article XI of the CCAMLR. Also see Parsons, *ibid.*, pp. 408-411.

¹²⁸ Parsons, *ibid.*, pp. 405-406.

¹²⁹ Rudolf Bernhardt, "Custom and Treaty in the Law of the Sea," *Recueil des Cours de l'Academie de droit International de La Haye*, Vol 205, 1987 – V, pp. 251-330. p, 268.

¹³⁰ *Ibid.*, p.273.

7.3. Regulation of Third States Based on Local Custom on HSMPAs

Previous sections of this chapter have concluded that the external rules and principles which justified or distinguished the new type of HSMPAs are highly unlikely to give the RFMOs powers to impose obligations on third States.¹³¹ As noted previously in this chapter, it is possible that a local custom exists for the new type of HSMPAs. This section will first examine whether such a custom actually exists. It then needs to be asked if it is possible that instead of depending on the external rules and principles the new type of HSMPAs adopted by the RFMOs which is a local custom can be binding on third States.

It is obvious that there is no custom for the protection of deep-sea features through establishing HSMPAs at the global level. Currently practice by international organizations is concentrated mostly on the Atlantic Ocean and are not a global phenomena. The four RFMOs have established the new type of HSMPAs because their States Parties have a strong belief that HSMPAs are essential for implementing the precautionary principle and the ecosystem approach and vice versa, and that they are obliged to safeguard the vulnerable deep-sea ecosystems under international law. However, this is not the *opinio juris* for the international custom as far as the new type of HSMPAs is concerned. Although it is hard to prove that an international custom exists for the new type of HSMPAs, current practices indicate the possibility of a local custom.

A custom available in a particular region is denominated as a local or regional custom. Such local customs should be proved with more specific and detailed evidence of existence than a general custom.¹³² A general custom can be mainly recognised by two sources: general practice by broad participation and belief as a legal obligation (*opinio juris*). Article 38 of the Statute of the International Court of Justice illustrates these conditions describing customary international law as

¹³¹ If the high seas conservation is an obligation *erga omnes* and if HSMPAs can be the content of the obligation, HSMPAs themselves are possibly binding on third parties. However, this cannot be a proof that the new type of HSMPAs are more advanced than traditional MPAs because traditional MPAs should also be binding on third parties if they are to be allegedly justified by the obligation.

¹³² Shaw, *supra* note 85, p. 87.

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“evidence of a general practice accepted as law.”¹³³ Article 24 of the Statute of the International Law Commission which was adopted in 1947 by the General Assembly also preserves the similar conditions: “the Commission shall consider ways and means for making the evidence of customary international law more readily available, such as the collection and publication of documents concerning State practice and of the decisions of national and international courts on questions of international law, and shall make a report to the General Assembly on this matter.”¹³⁴

Besides the two main evidences of customary international law, other conditions, such as uniformity or generality can be required depending on the content and nature of the cases. For example, the ICJ supported the condition of universal acceptance in the *North Sea Continental Shelf* case and the *Lotus* case.¹³⁵ *Opinio Juris* was emphasised in many cases, such as the *Lotus* case,¹³⁶ the *Nicaragua* case,¹³⁷ and the *North Sea Continental Shelf* case.¹³⁸ Many authors agree that the time element is not necessary to create a custom,¹³⁹ and the *North Sea Continental Shelf* case has confirmed this view.¹⁴⁰ Uniformity has not been strongly required to prove customary international law. The ICJ in the *Lotus* case noted that “[t]he Court does not consider that, for a rule to be established as customary, the corresponding practice must be in

¹³³ Article 38(1)(b) of the Statute of the International Court of Justice, adopted on 26 June 1945, entered into force on 24 October 1945, UNTS, Vol. 33, p.993.

¹³⁴ Article 24 of the Statute of the International Law Commission, adopted by GA Resolution 174 (II) of 21 November 1947, as amended by resolutions 485 (V) of 12 December 1950, 984 (X) of 3 December 1955, 985 (X) of 3 December 1955 and 36/39 of 18 November 1981, available at http://untreaty.un.org/ilc/texts/instruments/english/statute/statute_e.pdf (accessed on 3 February 2009). Also see “Report of the International Law Commission on its Second Session,” 5 June to 29 July 1950, Official Records of the General Assembly, Fifth session, Supplement No. 12 (A/1316), *Yearbook of the International Law Commission*, 1950, Vol. II, ILC, A/CN.4/34, pp. 367-374.

¹³⁵ *North Sea Continental Shelf*, Judgement, I.C.J. Reports, 1969, p. 3. p. 43; *The Case of the S.S. “Lotus”*, Series A, No. 10, September 7 1927, the Permanent Court of International Justice, p. 25-27. The Court determined that there was no absolutely exclusive jurisdiction of flag States on the high seas because there is no such consistent States practice on criminal jurisdiction on their ships, although there were many publications which support the existence of such jurisdiction.

¹³⁶ The *Lotus* case, *ibid.*, p. 28.

¹³⁷ *Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v. United States of America), Merits, Judgement, I.C.J. Report 1986, p. 14.

¹³⁸ *North Sea Continental Shelf* case, *supra* note 135, pp. 44-45.

¹³⁹ For example see Bernhardt, *supra* note 129, p. 266.

¹⁴⁰ “the passage of only a short period of time is not necessarily, or of itself, a bar to the formation of a new rule of customary international law on the basis of what was originally a purely conventional rule,” *North Sea Continental Shelf* case, *supra* note 135, p.43.

absolutely rigorous conformity with the rule.”¹⁴¹ This point is repeated also in the *Nicaragua* case.¹⁴² However, the *Fisheries* case and the *North Sea Continental Shelf* case has both emphasised the need for uniformity when creating a new customary rule.¹⁴³

While the two main conditions (State practice and *opinio juris*) are firmly required to prove an international custom, and other conditions are flexibly required, the existence of a local custom needs to be proved with more articulated evidence.¹⁴⁴ The existence of local custom was referred to by the ICJ in the 1950 *Colombian-Peruvian Asylum* case. In this case, the ICJ ruled that such a local custom should be: i) “established in such a manner that it has become binding on the other Party...ii) in accordance with a constant and uniform usage practised by the States in question, and ...iii) the expression of a right appertaining to the State granting asylum and a duty incumbent on the territorial State.”¹⁴⁵ A local custom requires more articulated evidence especially for higher uniformity, and it could take longer to reach to the higher level of ‘uniformity’ which was required by the ICJ in the *Asylum* case. Thus, although common understanding by all regional actors may be more readily available than by the entire international community, it cannot be right to say that a local custom is more easily created than a general custom.

The higher standard of uniformity for HSMPAs in the Atlantic oceans and the Mediterranean seems to exist in accordance with the practices at the RFMOs (as stated in Chapter VI). Thus, whether or not the two main conditions are fulfilled needs to be examined in order to confirm the existence of a local custom for HSMPAs. The

¹⁴¹ *Lotus* case, supra note 135, p. 98.

¹⁴² *Nicaragua* case, supra note 137, p. 14., para. 186.

¹⁴³ *Fisheries* case, Judgement of December 18th, 1951, I.C.J. Report, 1951, p. 116. p. 131 and 138. *North Sea Continental Shelf*, Judgement, supra note 135, p. 43. With regard to the flexible requirement of other conditions for creating a general custom is explained by Judge Tanaka in the *North Sea Continental Shelf* case that: “the process of generation of a customary law is relative in its manner...Not only must each factor generating a customary law be appraised according to the occasion and circumstances, but the formation as a whole must be considered as an organic and dynamic process. We must not scrutinise formalistically the conditions required for customary law and forget the social necessity...” “Dissenting Opinion of Judge Tanaka,” the *North Sea Continental Shelf* case, p. 178, available at <http://www.icj-cij.org/docket/files/52/5579.pdf> (accessed on 23 February 2009).

¹⁴⁴ Shaw, supra note 85, p. 73.

¹⁴⁵ *Colombian-Peruvian asylum case*, Judgement of November 20th, 1950: I.C.J. Reports 1950, p. 266, p. 276.

starting point to examine the existence of local custom on HSMPAs is to examine who is the subject of the practice and whether the practice can form the evidence of States Practice for the purpose of custom. As seen in many cases, a practice by an individual State can obviously be the necessary evidence and as such is an essential element of customary international law,¹⁴⁶ although according to some authors it is possible that “instant custom” without the States practice can exist.¹⁴⁷ What legal foundation the practice depends on is not important for it to be seen as evidence of a custom, as long as it is practised by ‘States.’ Treaty rules may be able to be used as a foundation of customary law,¹⁴⁸ if the rule is broadly practised not only by member States but also by non-members (general practice) and is considered as a legal obligation especially by non-members (*opinion juris*). Binding and non-binding decisions adopted by international organizations can become customary law, if these two conditions are fulfilled.¹⁴⁹ However, whether the practice of other entities besides States can form custom is not yet expressly explained in either relevant treaties or judicial decisions. There are some discussions over whether the practice of other international actors besides States (such as a commercial company) can develop customary international law, but as yet no agreement on this issue has been reached.¹⁵⁰

As noted in section 7.1.2, the entity establishing the HSMPAs could not be clearly determined. Individual RFMOs cannot perform the adoption of HSMPAs without collective opinions from member States to the organizations. Also individual States cannot establish HSMPAs on the high seas which can be binding on other States without a collective decision within a multilateral legal framework. Although the decisions on HSMPAs are taken within multilateral legal frameworks by collective intention, they are not binding on member States who object. As noted in Chapter VI, the decision making procedure of RFMOs allows that some parties can raise

¹⁴⁶ See discussions in Lowe, *supra* note 17, pp. 36-38; Ian Brownlie, *Principles of Public International Law*, Oxford University Press, 2003, pp.4-11.

¹⁴⁷ See Bernhardt, *supra* note 129, p.266. Instant custom is very exceptional.

¹⁴⁸ See Churchill and Lowe, *supra* note 23, p. 8.

¹⁴⁹ See Chapter 6 in White, *supra* note 1, pp. 158-188.

¹⁵⁰ See Lowe, *supra* note 17, p. 45.

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objections and so refuse to be bound by the decisions. If a number of parties object to a decision within an organization, it can be confusing to determine whether the implementation of such a decision should be seen as the practice of the international organization which is supposed to represent all member States including States who object.

This characteristic of the practice of HSMPAs is caused by the legal status of the high seas. On the high seas where no jurisdiction over components of the marine environment exists, any decision on resource management should be taken by an agreement based on the common understanding of member States to effectively safeguard the high seas. However, once an agreement is reached, practising it (for example establishing HSMPAs with ecosystem consideration) solely remains in the institution. Member States can suggest possible candidates for HSMPAs to be discussed and merely observe the decisions, unless they are making an objection. The practice of the establishment of HSMPAs was suggested and decided by States Parties collectively within the legal framework of the international organizations, implemented by the organizations, but observed by individual States Parties, and may not be absolutely binding on all States Parties. This may be seen as collective practice through an institution by parties to a multilateral treaty which can be slightly different from the individual States practice which is, for instance, establishing EEZs. Thus, it is better that the collective practice of HSMPAs is not regarded as an individual State practice, but the adoptions of HSMPAs by RFMOs may be conceived as closer to institutional practice. Institutional practice is not always supported by State practice. Some States may oppose the conduct of institutional practice¹⁵¹ (although in the case of HSMPAs, there has been no objection raised to establishing HSMPAs in the four RFMOs), or they may agree to adopt a decision to the institutional practice without the need to practise. If similar institutional practices are manifested by the majority of regional or multilateral organizations, can this be a foundation of customary international law?

¹⁵¹ See further discussion on this issue in Alvarez, *supra* note 12, p. 87.

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International courts have ruled many cases pertinent to customary international law and almost all cases relate to custom among States rather than institutions.¹⁵² There is only one case which mentions the creation of customary international law by institutional practice (such as military activities of the UN Security Council), that is the *Reservations to the Genocide Convention* case.¹⁵³ However, generalising that all institutional practices can create customary international law based on this case is controversial. The institution referred to in this case, of which practice forms custom, was the UN. As the capacity of the UN to bring a claim against a third party in the *Reparation* case was criticised, or was excused as an exception, the creation of international custom based on the practice of the UN could also be considered as an exception because of the universal character of the organization. Thus, it is correct that there is still a lack of precedents on the customary law formed by the practice of international organizations in general. Besides the judicial decision only a few authors have referred to institutional practice as a source of custom.¹⁵⁴ The ILC answered this issue once in a report on customary international law. This report referred to the possibility of the development of customary international law with institutional practice which is limited only to “States’ relations to the organizations.”¹⁵⁵ The question of whether institutional practice besides the States’ relations to the organizations can be used as evidence of customary international law is the same as asking whether international organizations themselves can develop and change

¹⁵² Relevant cases are the *Asylum* case (1951), the *Lotus* case (1927), the *Fisheries* case (1951), the *Nicaragua* case (1986), the *North Sea Continental Shelf* cases (1969), the *Fisheries Jurisdiction* cases (1974), the *Continental shelf* cases (Tunisia/Libya in 1982 and Libya and Malta in 1985), and the *Gulf of Maine* case (1984), the *Legality of Nuclear Weapons* case (1997). Official citations of the *Fisheries jurisdiction* cases are: *The Fisheries Jurisdiction (United Kingdom v. Zeeland)*, Merits, Judgment, I.C.J. Reports 1974, p. 3 and the *Fisheries Jurisdiction (Federal Republic of Germany v. Zeeland)*, Merits, Judgment, Z.C.J. Reports 1974, p. 175. Official citations of the *Continental shelf* cases are: the *Continental Shelf (Tunisia/Libyan Arab Jamahiriya)*, Judgment, I.C.J. Reports 1982, p. 18 and the *Continental Shelf (Libyan Arab Jarnahiriya/Malta)*, Judgment, I. C.J. Reports 1985, p. 13.

¹⁵³ “Statement of Principles Applicable to the Formation of General International Law,” Final Report of the Committee on Formation of Customary (General) International Law, in *Report of the Sixty-Ninth Conference Held in London, 25-29th July 2000*, The International Law Association, pp. 712-789, p. 730.

¹⁵⁴ See Yamamoto Soji, *International Law*, Tokyo, 1994 in Japanese. Also see ILA 2000 Report, *ibid*.

¹⁵⁵ The report notes that “records of the cumulating practice of international organizations may be regarded as evidence of customary international law with reference to States’ relations to the organizations.” “Report of the International Law Commission on its Second Session,” *supra* note 134, p. 372.

international law.¹⁵⁶ This question has not been clarified since the ILC report dealt with it in 1950.

Due to the lack of clarity on this issue, the existence of a local custom on HSMPAs would be better confirmed through asking a different question rather than asking whether HSMPAs by institutions can create customary international law. The exclusivity of flag State jurisdiction on, and the freedom of, the high seas, results in it being legitimate for a State to practise any activities on the high seas, either individually or collectively, in conformity with generally accepted international law. The unilateral or collective designation of HSMPAs is not prohibited on the high seas, but these are not legally binding on third States. Even if many States unilaterally practise HSMPAs, and those States believe it to be legitimate, it cannot be evidence of customary international law, unless third States indicate that they consider themselves bound by those practices or they act in conformity with such practice.¹⁵⁷ Thus, the existence of a local custom on HSMPAs can be confirmed through examining whether there is a custom for observation by third States and by determining whether or not those HSMPAs have been adopted in a manner that considers them binding on all States.

Voluntary observation of HSMPAs by third parties was not expected when the four RFMOs established HSMPAs for the protection of the deep-sea ecosystems. If all parties to the four RFMOs are overlapped and include all of the coastal States and fishing nations in the region, all States involved in fishing in the region would observe the restriction of fishing activities in the designated areas. Table 5.2 shows that only the EC and Japan are common participants in all RFMOs and all of the other parties of the four RFMOs are not exactly overlapped. While all parties to NEAFC have ratified the NAFO some parties to NAFO are not parties to NEAFC. In the case of the GFCM, one Mediterranean coastal State, Bosnia-Herzegovina, is not a party to the GFCM. Distant fishing nations, such as Korea, Taiwan, and China, have not ratified

¹⁵⁶ Lowe, *supra* note 17, p. 45.

¹⁵⁷ Churchill and Lowe, *supra* note 23, p.p. 7-8.

this convention.¹⁵⁸ If all interested States are bound by the RFMOs treaties and decisions taken under them, it is probable that that is the source of the obligation and not local custom. As noted above, the attitude of non-parties is important in order to confirm the existence of a customary rule on HSMPAs, and non-parties exist in the region. If those non-parties observe HSMPAs as if they are bound by them, the existence of a local custom for the new type of HSMPAs can be confirmed. However, the third parties of the four RFMOs have not yet voluntarily participated in the observation of HSMPAs by the RFMOs. Since the RFMOs can hardly exclude fishing by third States and they have not agreed to the legal obligations imposed by the RFMOs, it is difficult to claim the existence of such a local custom.

Even if the decisions on HSMPAs could form a local custom, they do not have a binding effect on third States on their own. The ILC in its comments on the VCLT noted that treaties creating customary international law cannot “have legal effects for third parties” on their own, and “the source of the binding force of the rules is custom, not the treaty.”¹⁵⁹ Applying this to the decisions on HSMPAs, they do not bind third parties, but third parties would observe the measures if they are custom.

Table 7. 1. Member States of the Four Atlantic RFMOs

| NEAFC | NAFO | SEAFO | GFCM |
|---|--|--|---|
| EC the Faroe Islands Greenland Iceland Norway Russian Federation <Cooperative parties> Belize Canada Cook Island Japan New Zealand | EC Canada Cuba Denmark (in respect of Faroe Islands and Greenland) France (in respect of Saint Pierre and Miquelon) Iceland Japan Korea Norway Russian Federation Ukraine USA | EC Namibia Norway Angola <Participated for negotiation but not ratified> Japan Russian Federation Ukraine South Africa | EC Albania Algeria Bulgaria Croatia Cyprus Egypt France Greece Israel Italy Japan Lebanon Libya Malta Monaco |

¹⁵⁸ See information on fishing nations in the Mediterranean in Roberto Mielgo Bregazzi, “The Plunder of BlueFin Tuna in the Mediterranean & East Atlantic during 2006 and 2007,” available at <http://www.illegal-fishing.info/index.php> (accessed on February 2009).

¹⁵⁹ *YILC* 1966, Vol. II, supra note 82, p. 231,

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| | | | |
|--|--|--|--|
| | | | Morocco Romania Slovenia Serbia and Montenegro Spain Syria Tunisia Turkey |
|--|--|--|--|

<Sources: Contracting parties and cooperative non-contracting parties of NEAFC at <http://www.neafc.org> (accessed on 28 January 2009); "List of Contracting Parties to the Convention and Dates of Accession" in "Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries," Dartmouth Nova Scotia, Canada, NAFO, 2004, available at <http://www.nafo.ca> (accessed on 11 January 2009); "About SEAFO: Membership," SEAFO, <http://www.seafo.org/welcome.htm> (accessed on 28 January 2009); "Members," GFCM, <http://www.gfcm.org/gfcm/about/5/en> (accessed on 28 January 2009)>

7.4. Chapter Conclusion

This chapter has examined whether a primary source of the failure of traditional ocean management, the free rider problem, can be overcome by the new type of HSMPAs which were advocated based on the general obligation of high seas conservation under the LOSC and advanced from the traditional area closures incorporating the ecosystem approach and the precautionary principle. Whether the general principle under the LOSC is customary or an obligation *erga omnes* does not influence the decisions establishing the new type of HSMPAs to be binding on third States or the HSMPAs to be more advanced than traditional MPAs. The general principle which is allegedly a general custom does not generate a legal obligation of a specific measure to all States. The legal effect of a treaty provision, which is an obligation *erga omnes*, to third parties has not been agreed. However, if the conservation of the high seas is an obligation *erga omnes* and the protection of deep sea features by HSMPAs is the content of that obligation HSMPAs by definition of the obligations *erga omnes* are binding on all States. If so, that binding power is not derived from the advanced characteristics of the new type of HSMPAs but can also be possessed by the traditional HSMPAs. The ecosystem approach and precautionary principle do not have authoritative definitions as they are not yet very well elaborated, and are not custom. Thus, although the new concept of HSMPAs is obviously more effective in conserving all components of the marine ecosystems because of the

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environmental principles, they cannot as yet make the new measure more effective in dealing with third States. The new type of HSMPAs cannot overcome the third States issue by a local custom on HSMPAs because such a local custom does not exist. In conclusion, the new kind of HSMPAs protect the deep-sea ecosystems with a higher standard of conservation and can induce more voluntary participation than the older traditional closed areas, but they are not legally more effective and advanced measures which can overcome the major conventional ocean management problem.

CHAPTER VIII. CONCLUSION

Each State places different emphasis on the exploitation and conservation of the marine environment. States either encourage or intervene in the new development of international oceans law in the light of how they value the marine environment in addition to their need for economic and market dependence. Especially on the high seas where jurisdictional limitations to the marine environment exist, the intention of States based on what they most value is an important element of the effective implementation of environmental protection. This is because the intention of States will determine whether or not they participate in protecting the marine environment on the high seas and such participation cannot be forced without jurisdiction over the high seas. If one State believes that the establishment of an HSMPA is appropriate, it is able to designate an area on the high seas within which it restricts activities by its nationals without being required to seek the explicit authorisation to do so under relevant international conventions. If a number of States share the same view, what one State could do individually those States can do collectively by an agreement. HSMPAs combined with an ecosystem approach for the conservation of specific deep sea features have been suggested as a new measure to reflect the views and needs of major actors of the international community and to be established collectively either under existing international treaties or through establishing a new treaty. Because the intention of major actors does not represent those of all users such intentions from major actors for the creation of HSMPAs is the key, but not the only, element, for the effective implementation of the new type of HSMPAs.

Chapter II of this thesis found that there has been a considerable number of calls in recent international meetings for the establishment of the new type of HSMPAs. Chapter II also noted that traditional MPAs can be effective to safeguard vulnerable ecosystems without applying the ecosystem approach as long as they exclude all human threats in them. However, following the suggestions of the recent international meetings this thesis has adopted the view that incorporating the ecosystem approach

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into HSMPAs is highly desirable for the conservation of deep sea features because complete cooperation for restricting all human activities in an MPA is impossible in the high seas but incorporation of the ecosystem approach can increase voluntary participation in the deep sea conservation. Since this attempted incorporation of an ecosystem approach into HSMPAs for the conservation of high seas ecosystem reflects recent scientific and political requirements this has not as of yet been expressly incorporated into existing international treaties. Therefore, current literature has mostly focused on searching the legal justification of HSMPAs under international law in general but has not yet examined how the measure with the distinctive functions can be specifically justified under international law and its legal effectiveness to overcome problems of conventional high seas management.

Distinct from the relevant literature, this thesis has attempted to examine whether it is legally possible to create a new type of HSMPAs which would be effective. Two recommendations on the effectiveness of the new type of HSMPAs can be made considering jurisdictional limitations to components of the high seas ecosystems (no one can claim jurisdiction over any part of the high seas in accordance with Article 89 of the LOSC) and exclusive flag State jurisdiction on the high seas. Firstly, HSMPAs should be collectively required by an agreement for the involvement of multiple States so as to effectively safeguard target ecosystems. Secondly, the new type of HSMPAs would be better able to regulate third States and so would be more effective than traditional area closures. Chapters III, V, and VI asked, in terms of the first recommendation, how the existing treaties and organizations can provide a legal basis for the new type of HSMPAs. Chapter III confirmed that the LOSC may not provide a legal basis for the new type of HSMPAs because although the LOSC imposes obligations to protect the high seas ecosystems through establishing an agreement, the Convention itself does not directly provide rules to require their States Parties to establish the new type of HSMPAs. Although coastal States can establish HSMPAs which are binding on other States (within the general nature of the sovereign rights of coastal States) and the ISA can require States to observe HSMPAs in terms of regulating mining activities in the international seabed area, these HSMPAs cannot

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holistically protect all components of the deep sea features and the lack of an actual mandate on the ecosystem approach prevents such HSMPAs from being classed as the new type of HSMPAs. Chapters V and VI found that some treaties (such as the Convention on Biological Diversity (CBD) and the new Northwest Atlantic Fisheries Organization (NAFO) Convention) can be classed as agreements which can require States to establish and observe the new type of HSMPAs. In addition, the NAFO and other Regional Fisheries Management Organizations (RFMOs) (such as the North-East Atlantic Fisheries Commission (NEAFC), South-East Atlantic Fisheries Organization (SEAFO) and General Fisheries Commission for the Mediterranean (GFCM)) have actually practised the new type of HSMPAs or HSMPAs similar to it. The results of the swift reaction and amendment for adopting the new type of HSMPAs by RFMOs are contrary to what might have been generally expected based on what these treaties value most because international environment protection organizations (IEOs) would generally place more value on conservation while RFMOs need to reflect the economic needs of their parties. Chapter VI suggested the swift reaction to adopt the new type of HSMPAs is influenced from international pressures on deep sea conservation to RFMOs based on the views and needs of major international actors. Such pressures can induce more concerns and reactions on the issue but cannot resolve existing legal obstacles to the high seas conservation.

Those treaties and organizations which have been reviewed in this thesis have all had common legal obstacles which have prevented them from effectively conserving the marine ecosystems beyond their national jurisdiction. The first point to be raised is that so far there has been no report of gross and imminent damage on deep-sea features by human activities. In accordance with international law, if there was gross and imminent damage or this is expected, States can protect their interest from such damage through not performing less important international obligations. If such damage is toward the international community as a whole, States which are not injured or do not have treaty obligations can claim reparation for damage or take preventive measures. However, States do not have responsibility for potential non-imminent damage unless they have treaty obligations for it. Secondly, jurisdictional

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limitations to components of marine ecosystems and to environment conservation on the high seas limit the environmental protection on the high seas in the LOSC or by other relevant international treaties through sectoral activities control. The limited practice which the sectoral control approach has produced has attempted to be solved partly by incorporating the new concept of HSMPA combined with an ecosystem approach. Although the ecosystem approach can be helpful in overcoming the sectoral management centred ocean governance, it has not been accepted broadly enough to become custom and consequently such an ecosystem based management is not binding on third States. This third States issue is the third obstacle in that without an internationally recognized legal responsibility and jurisdiction over ecosystem components it is necessary that protective measures for the high seas ecosystems should be implemented by multilateral treaties with a collective will to make ensure multiple participations. However, such treaty law cannot be binding on third parties. The new type of HSMPAs was suggested as a solution which encourages cooperation among stakeholders and transcends jurisdictional boundaries. If it can overcome the third parties issue, the new type of HSMPAs would be better able to provide protection of high seas ecosystems which is distinct from that of traditional MPAs. Chapter VII examined whether the new type of HSMPAs which is justified by the obligation of high seas conservation under the LOSC and is combined with the environmental principles, is able to overcome the third parties issue. However, Chapter VII concluded that the new type of HSMPAs is not particularly innovative in a way which means that it can be held as binding on third parties.

After these results were found a primary question of this thesis could be asked, that is: has international law for high seas conservation truly been evolved through the adoption of the new type of HSMPAs? The new type of HSMPAs does not significantly overcome those existing obstacles to high seas conservation although it incorporates the ecosystem approach. However, it could have contributed to the promotion of the knowledge of deep-sea conservation among international organizations and consequently some RFMOs could have practised HSMPAs similar to the new type of HSMPAs.

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This new type of HSMPAs with the ecosystem approach can be incorporated into international law either by the establishment of a new treaty, the amendment of existing treaties, or the adoption of institutional decisions based on the will of States Parties. Incorporation of the new type of HSMPAs through a new treaty would take much longer than the other options which are available and would not necessarily result in wider participation. Amendment of existing treaties also requires some time until it actually enters into force. On the other hand, the implementation of a new type of HSMPA through institutional decisions by existing international organizations is the swiftest way to practice the new measure. The four RFMOs which have practised the new type of HSMPAs earlier than other organizations have incorporated the measure through adopting institutional decisions based on non-express institutional powers so as to reflect the changed needs or views of their parties and the international community.

Non-express institutional powers enable States Parties to challenge on extending express functions internally and to update the given functions more easily. If this is correct then dependence on those institutional powers may be indispensable for the international organizations on ocean affairs in order to reduce the transaction costs and to enforce timely measures. The requirement of updating to new development is remarkable, especially in the field of international oceans law, because of the rapid discovery of new scientific information by newly developed technology (as is the case with deep sea vents for example). The explicit purposes and aims of traditional resource use management are quite contrary to the new requirement whose purpose is more devoted to conservation. The clear difference between explicit purposes in existing international marine resource use treaties and the new requirement for deep sea features conservation indicates that there should be an assistance by the non-express institutional powers for the adoption of the new measure. Both express and non-express institutional powers should be exercised in the context of purposes and aims of treaties, and in some cases can technically be based on rules or principles of international law.

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As was found in Chapter VII, although dependence on external rules and principles does not result in the extension of institutional powers to third States beyond the allowance under the treaty law it may still have an external influence among relevant international organizations. The practices of HSMPAs were adopted either through relying on the belief that it is resorted to be right because of the other RFMOs which have already practised them, or other relevant organizations (especially the OSPAR Commission) or conferences have supported and recommended them. In particular, the bases of other RFMOs practices could be seen as a similar sequence of customary powers of international institutional law but with a broader scope. The practices of RFMOs do not form evidence of customary international law. However, this thesis has found that contemporary practices by RFMOs have appeared to give justification to the incorporation of the new development of international environmental law into RFMOs decisions. This acceptance by RFMOs through depending on other institutions' practices can be an explanation of their swifter implementation of the new type of HSMPAs than has been the case with other IEOs. As was explained in the Chapter IV, an organization can exercise its powers beyond its expressly given functions based on an existing practice within the organization. In the case of practice by the four RFMOs, since those practices were somehow influenced from each others practices it is considered to be inter-organizational customary influence rather than customary powers within an organization. The inter-organizational customary influence based on the ecosystem approach may be seen as certain evolution of the legal framework of high seas conservation, this is because it can be seen as a precursor of customary international law and as such it can be seen to lead to changes of existing international law. Other developments of international oceans law could also depend on this inter-organizational influence for swift reaction too. This may prove to be a profitable subject for future research.

APPENDIX I.
OBJECTIVES AND FUNCTIONS OF IEOS AND RFMOS

| Conventions | Objectives and Functions of the Organization |
|---------------|---|
| CBD | <p>Objectives: Article 1 – “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.”</p> <p>Function: COP/AIA – Article 23(4): “(a) Establish the form and the intervals for transmitting the information to be submitted in accordance with Article 26 and consider such information as well as reports submitted by any subsidiary body; (b) Review scientific, technical and technological advice on biological diversity provided in accordance with Article 25; (c) Consider and adopt, as required, protocols in accordance with Article 28; (d) Consider and adopt, as required, in accordance with Articles 29 and 30, amendments to this Convention and its annexes; (e) Consider amendments to any protocol, as well as to any annexes thereto, and, if so decided, recommend their adoption to the parties to the protocol concerned; (f) Consider and adopt, as required, in accordance with Article 30, additional annexes to this Convention; (g) Establish such subsidiary bodies, particularly to provide scientific and technical advice, as are deemed necessary for the implementation of this Convention; (h) Contact, through the Secretariat, the executive bodies of conventions dealing with matters covered by this Convention with a view to establishing appropriate forms of cooperation with them;”</p> <p>Implied powers- Article 23 (4)(i) – “Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention in the light of experience gained in its operation.”</p> |
| IMO MARPOL | <p>Objectives of the MARPOL 73/78: Preamble – “Complete elimination of international pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances.”</p> <p>Functions: Article 1 of the Convention on the International Maritime Organizations – “(a) To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade, and to encourage the general adoption of the highest practicable standards in matters concerning maritime safety and efficiency of navigation;</p> <p>(b) To encourage the removal of discriminatory action and unnecessary restrictions by Governments affecting shipping engaged in international trade so as to promote the availability of shipping services to the commerce of the world without discrimination; assistance and encouragement given by a Government for the development of its national shipping and for purposes of security does not in itself constitute discrimination, provided that such assistance and encouragement is not based on measures designed to restrict the freedom of shipping of all flags to take part in international trade;</p> <p>(c) To provide for the consideration by the Organization of matters concerning unfair restrictive practices by shipping concerns in accordance with Part II;</p> |

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| | <p>(d) To provide for the consideration by the Organization of any matters concerning shipping that may be referred to it by any organ or specialized agency of the United Nations;</p> <p>(e) To provide for the exchange of information among Governments on matters under consideration by the Organization.”</p> |
| <p>UNEP Barcelona Convention</p> | <p>Objectives: “to assess and control marine pollution; to ensure sustainable management of natural marine and coastal resources; to integrate the environment in social and economic development; to protect the marine environment and coastal zones through prevention and reduction of pollution, and as far as possible, elimination of pollution, whether land or sea-based; to protect the natural and cultural heritage; to strengthen solidarity among Mediterranean coastal States; to contribute to improvement of the quality of life.” (“Barcelona Convention,” UNEP, http://www.unepmap.org.)</p> <p>Functions: MOP/AIA – the UNEP functions as the secretariat. The function of the Meetings of the Contracting Parties is “to keep under review the implementation of this Convention and the protocols” ... checking pollution status report; deciding adoption of annexes and protocols and amendments of the Convention and Protocols; establishing subsidiary organs; deciding on financial issues ... “(vi) to consider and undertake any additional action that may be required for the achievement of the purposes of this Convention and the protocols.” – Implied powers(Article 18(2) of the Barcelona Convention)</p> <p>Meetings of the Parties of the SPAMI Protocol – purpose of this meeting is “(a) keeping under review the implementation of this Protocol; (b) overseeing the work of the Organization and the Centre relating to the implementation of this Protocol and providing policy guidance for their activities; (c) considering the efficacy of the measures adopted for the management and protection of areas and species, and examining the need for other measures, in particular in the form of Annexes and amendments to this Protocol or to its Annexes; ... (f) making recommendations to the Parties on the measures to be adopted for the implementation of this Protocol; (g) examining the recommendations of the meetings of the National Focal Points pursuant to Article 24 of this Protocol; (h) deciding on the inclusion of an area in the SPAMI List in conformity with Article 9, paragraph 4, of this Protocol; (i) examining any other matter relevant to this Protocol, as appropriate;” (Article 26 of the SPAMI Protocol.)</p> |
| <p>Antarctic Treaty</p> | <p>Objectives: Preamble – “it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord.”</p> <p>Functions: COP/AIA – Article IX – “for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty,(implied powers) including measures regarding: ... (f) preservation and conservation of living resources in Antarctica.”</p> |
| <p>OSPAR Convention</p> | <p>Objectives: preamble – “to prevent and eliminate marine pollution and to achieve sustainable management of the maritime area, that is, the management of human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations”</p> <p>Functions: “(a) to supervise the implementation of the Convention; (b) generally to review the condition of the maritime area, the effectiveness of the</p> |

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| | <p>measures being adopted, the priorities and the need for any additional or different measures; (c) to draw up, in accordance with the General Obligations of the Convention, programmes and measures for the prevention and elimination of pollution and for the control of activities which may, directly or indirectly, adversely affect the maritime area; such as programmes and measure may, when appropriate, include economic instruments; (d) to establish at regular intervals its programme of work; (e) to set up such subsidiary bodies as it considers necessary and to define their terms of reference; (f) to consider and, where appropriate, adopt proposals for the amendment of the Convention in accordance with Articles 15, 16, 17, 18, 19 and 27; (g) to discharge the functions conferred by Articles 21 and 23 and such other functions as may be appropriate under the terms of the Convention. (Article 10 (2))” – implied powers</p> |
| <p>IWC Convention</p> | <p>Objective of IWC/IGO: “The purpose of the Convention is to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry. The main duty of the IWC is to keep under review and revise as necessary the measures laid down in the Schedule to the Convention which governs the conduct of whaling throughout the world.” (“IWC Information- A general introduction to the IWC with links to more detailed information,” IWC, http://www.iwcoffice.org.)</p> <p>Functions: collect information and encourage study on whale species (Article IV); amending schedule and adopting new measures (Article V); making recommendation on whaling (Article VI).</p> <p>Implied powers – Article V(2) – “(a) These amendments of the Schedule (a) shall be such as are necessary to carry out the objectives and purposes of this Convention and to provide for the conservation, development, and optimum utilization of the whale resources;”</p> |
| <p>CCAMLR</p> | <p>Objectives of the Convention: Article II (1)(2) – conservation and rational use of Antarctic marine living resources.</p> <p>Functions of CCAMLR/IGO – Article IX – “1. The function of the Commission shall be to give effect to the objective and principles set out in Article II of this Convention. To this end, it shall:</p> <ul style="list-style-type: none"> (a) facilitate research into and comprehensive studies of Antarctic marine living resources and of the Antarctic marine ecosystem; (b) compile data on the status of and changes in population of Antarctic marine living resources and on factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations; (c) ensure the acquisition of catch and effort statistics on harvested populations; (d) analyse, disseminate and publish the information referred to in subparagraphs (b) and (c) above and the reports of the Scientific Committee; (e) identify conservation needs and analyse the effectiveness of conservation measures; (f) formulate, adopt and revise conservation measures on the basis of the best scientific evidence available, subject to the provisions of paragraph 5 of this Article; (g) implement the system of observation and inspection established under Article XXIV of this Convention; (h) carry out such other activities as are necessary to fulfil the objective of this Convention.” – implied powers. |

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| <p>CCAS</p> | <p>Objectives of the Convention: Preamble – protection, scientific study and rational use of Antarctic seals.</p> <p>Functions of COP/AIA – “establish ... an effective system of control, including inspection, over the implementation of the provisions of this Convention.” (Article 6(1)(a)) “establish a commission to perform such functions under this Convention as the Contracting Parties may deem necessary” (Article 6(1)(b)) “considering other proposals on... (i) the provision of independent scientific advice; (ii) the establishment of a scientific advisory committee...; (iii) the carrying out of scientific programmes with the participation of the Contracting Parties; (iv) the provision of further regulatory measures, including moratoria.” Sum – provide scientific advice; establish sub-organs; implement scientific programmes; adopt conservation measures.</p> |
| <p>NEAFC Convention</p> | <p>Objectives of the Convention: Article 2– “to ensure the long-term conservation and optimum utilization of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits.”</p> <p>Function of NEAFC/IGO: Article 4(2) – “a) ensure that such recommendations are based on the best scientific evidence available; b) apply the precautionary approach; c) take due account of the impact of fisheries on other species and marine ecosystems, and in doing so adopt, where necessary, conservation and management measures that address the need to minimise harmful impacts on living marine resources and marine ecosystems; and d) take due account of the need to conserve marine biological diversity.”</p> <p>Implied power in Article 4(1) – “The Commission shall perform its functions in order to fulfil the objective set out in Article 2.”</p> |
| <p>SEAFO Convention</p> | <p>Objectives of the Convention: “The objective of this Convention is to ensure the long-term conservation and sustainable use of the fishery resources in the Convention Area through the effective implementation of this Convention.” (Article 2 of the Convention.)</p> <p>Functions of SEAFO/IGO: Article 6 (3) of the Convention sets up the function of the Commission including the adoption of the conservation and management measures, as follows: “(3) The functions of the Commission shall be to: (a) identify conservation and management needs; (b) formulate and adopt conservation and management measures; (c) determine total allowable catches and/or levels of fishing effort, taking into account total fishing mortality, including of non-target species; (d) determine the nature and extent of participation in fishing; (e) keep under review the status of stocks and gather, analyse and disseminate relevant information on stocks; (f) encourage, promote and, where appropriate by agreement, coordinate scientific research on fishery resources within the Convention Area and in adjacent waters under national jurisdiction; (g) manage stocks on the basis of the precautionary approach to be developed in accordance with article 7; (h) establish appropriate cooperative mechanisms for effective monitoring, control, surveillance and enforcement; (i) adopt measures concerning control and enforcement within the Convention Area; (j) develop measures for the conduct of fishing for scientific research purposes; (k) develop rules for the collection, submission, verification of, access to and use of data; (l) compile and disseminate accurate and complete statistical data to ensure that the best scientific advice is available, while</p> |

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| | <p>maintaining confidentiality, where appropriate; (m) direct the Compliance and Scientific Committees, other subsidiary bodies, and the Secretariat; (n) approve the budget of the Organization; and (o) carry out such other activities as may be necessary to fulfil its functions.” – implied powers</p> |
| <p>NAFO Convention</p> | <p>Objectives of the Convention: Preamble – “to promote the conservation and optimum utilization of the fisheries resources of the high seas area in the Northwest Atlantic and to encourage international cooperation and consultation with respect to these resources.” Article II – NAFO's overall objective is to contribute through consultation and cooperation to the optimum utilization, rational management and conservation of the fishery resources of the Convention Area.</p> <p>Functions of General Council: Article III – “(a) to supervise and coordinate the organizational, administrative, financial and other internal affairs of the Organization, including the relations among its constituent bodies; (b) to coordinate the external relations of the Organization; (c) to review and determine the membership of the Fisheries Commission pursuant to Article XIII; and (d) to exercise such other authority as is conferred upon it by this Convention.”</p> <p>Scientific Council: Article VI – collect data; provide scientific advice, Fisheries Commission: Article XI – adopt proposals for joint action for optimum use of fish; adopt proposals for catch allocation; proposals for measures to control and enforces.</p> <p>Implied powers in the 2007 amendment: Article 8(a)—“In applying the principles set out in Article III, the Commission shall, in relation to the Regulatory Area adopt: (a) conservation and management measures to achieve the objective of this Convention.”</p> |
| <p>GFCM Agreement</p> | <p>Objective and functions: GFCM/IGO – Article III “(1) The purpose of the Commission shall be to promote the development, conservation, rational management and best utilization of living marine resources, as well as the sustainable development of aquaculture in the Region, and to these ends it shall have the following functions and responsibilities: (a) to keep under review the state of these resources, including their abundance and the level of their exploitation, as well as the state of the fisheries based thereon; (b) to formulate and recommend, in accordance with the provisions of Article V, appropriate measures: (i) for the conservation and rational management of living marine resources, including measures: - regulating fishing methods and fishing gear, - prescribing the minimum size for individuals of specified species, - establishing open and closed fishing seasons and areas, - regulating the amount of total catch and fishing effort and their allocation among Members, (ii) for the implementation of these recommendations; (c) to keep under review the economic and social aspects of the fishing industry and recommend any measures aimed at its development; (d) to encourage, recommend, coordinate and, as appropriate, undertake training and extension activities in all aspects of fisheries; (e) to encourage, recommend, coordinate and, as appropriate, undertake research and development activities, including cooperative projects in the areas of fisheries and the protection of living marine resources; (f) to assemble, publish or disseminate information regarding exploitable living marine resources and fisheries based on these resources; (g) to promote programmes for marine and brackish water aquaculture and coastal fisheries enhancement; (implied powers) (h) to carry out such other activities as may be necessary for the Commission to achieve its purpose as defined above. 2. In formulating and recommending measures under paragraph 1(b) above, the Commission shall apply the precautionary</p> |

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| | <p>approach to conservation and management decisions, and take into account also the best scientific evidence available and the need to promote the development and proper utilization of the marine living resources.”</p> |
| <p>ICCAT</p> | <p>Objectives of the ICCAT/IGO: Preamble – “maintaining the population of tuna species at levels which will permit the maximum sustainable catch for food and other purposes ... for the conservation of resources of tuna and tuna-like fishes of the Atlantic Ocean.”</p> <p>Functions: Article IV – conduct research on fish stock population and suitable measures for maintaining MSY level of the fish stocks. Distribution of the stocks. Article VIII: make recommendation for maintaining MSY level of tuna and tuna like species. Article X: adopt budget.</p> <p>Implied powers – Article VIII(1) “(a) The Commission may, on the basis of scientific evidence, make recommendations designed to maintain the populations of tuna and tuna-like fishes that may be taken in the Convention area at levels which will permit the maximum sustainable catch ...”</p> |
| <p>IOTC Agreement</p> | <p>Objectives of IOTC/IGO: Preamble – “the desirability of promoting the peaceful uses of the seas and oceans, and the equitable and efficient utilization and conservation of their living resources, Desiring to contribute to the realization of a just and equitable international economic order, with due regard to the special interests and needs of developing countries, Desiring to cooperate with a view to ensuring the conservation of tuna and tuna-like species in the Indian Ocean and promoting their optimum utilization, and the sustainable development of the fisheries.”</p> <p>Functions: Article V (2) – “(a) to keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and to fisheries based on the stocks covered by this Agreement; (b) to encourage, recommend, and coordinate research and development activities in respect of the stocks and fisheries covered by this Agreement, and such other activities as the Commission may decide appropriate, including activities connected with transfer of technology, training and enhancement, having due regard to the need to ensure the equitable participation of Members of the Commission in the fisheries and the special interests and needs of Members in the region that are developing countries; (c) to adopt, in accordance with Article IX and on the basis of scientific evidence, conservation and management measures, to ensure the conservation of the stocks covered by this Agreement and to promote the objective of their optimum utilization throughout the Area; (d) to keep under review the economic and social aspects of the fisheries based on the stocks covered by this Agreement bearing in mind, in particular, the interests of developing coastal states; (e) to consider and approve its programme and autonomous budget, as well as the accounts for the past budgetary period; (f) to transmit to the Director-General of FAO (hereinafter referred to as the “Director- General”) reports on its activities, programme, accounts and autonomous budget and on such other matters as may be appropriate for action by the Council or the Conference of FAO; (g) to adopt its own Rules of Procedure, Financial Regulations and other internal administrative regulations as may be necessary to carry out its</p> |

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| | <p>functions; and (h) to carry out such other activities as may be necessary to fulfil its objectives as set out above.” (implied powers).</p> |
| <p>IATTC Convention</p> | <p>Objective of IATTC/IGO: “Maintaining the populations of tuna species at a level which will permit maximum sustained catches.” (preamble of the Convention.)</p> <p>Functions: Article II – “The Commission shall perform the following functions and duties: 1. Make investigations concerning the abundance, biology, biometry, and ecology of yellowfin (<i>Neothunnus</i>) and skipjack (<i>Kaisuwonus</i>) tuna in the waters of the eastern Pacific Ocean fished by the nationals of the High Contracting Parties, and the kinds of fishes commonly used as bait in the tuna fisheries, especially the anchovetta, and of other kinds of fish taken by tuna fishing vessels; and the effects of natural factors and human activities on the abundance of the populations of fishes supporting all these fisheries. 2. Collect and analyze information relating to current and past conditions and trends of the populations of fishes covered by this Convention. 3. Study and appraise information concerning methods and procedures for maintaining and increasing the populations of fishes covered by this Convention. 4. Conduct such fishing and other activities, on the high seas and in waters which are under the jurisdiction of the High Contracting Parties, as may be necessary to attain the end referred to in sub-paragraphs 1, 2, and 3 of this Article. 5. Recommend from time to time, on the basis of scientific investigations, proposals for joint action by the High Contracting Parties designed to keep the populations of fishes covered by this Convention at those levels of abundance which will permit the maximum sustained catch. 6. Collect statistics and all kinds of reports concerning catches and the operations of fishing boats, and other information concerning the fishing for fishes covered by this Convention, from vessels or persons engaged in these fisheries. 7. Publish or otherwise disseminate reports relative to the results of its findings and such other reports as fall within the scope of this Convention, as well as scientific, statistical, and other data relating to the fisheries maintained by the nationals of the High Contracting Parties for the fishes covered by this Convention.”</p> <p>Implied powers – Article II – “(5) Recommend from time to time, on the basis of scientific investigations, proposals for joint action by the High Contracting Parties designed to keep the populations of fishes covered by this Convention at those levels of abundance which will permit the maximum sustained catch.”</p> |
| <p>WCPFC Convention</p> | <p>Objective of WCPFC/IGO: Article 2 – “to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention and the Agreement.”</p> <p>Functions: Article 10 – “1. Without prejudice to the sovereign rights of coastal States for the purpose of exploring and exploiting, conserving and managing highly migratory fish stocks within areas under national jurisdiction, the functions of the Commission shall be to: (a) determine the total allowable catch or total level of fishing effort within the Convention Area for such highly migratory fish stocks as the Commission may decide and adopt such other conservation and management measures and recommendations as may be necessary to ensure the long-term sustainability of such stocks; (b) promote cooperation and coordination between members of the Commission to ensure that conservation and management measures for highly migratory fish stocks</p> |

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in areas under national jurisdiction and measures for the same stocks on the high seas are compatible; (c) adopt, where necessary, conservation and management measures and recommendations for nontarget species and species dependent on or associated with the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened; (d) adopt standards for collection, verification and for the timely exchange and reporting of data on fisheries for highly migratory fish stocks in the Convention Area in accordance with Annex I of the Agreement, which shall form an integral part of this Convention; (e) compile and disseminate accurate and complete statistical data to ensure that the best scientific information is available, while maintaining confidentiality, where appropriate; (f) obtain and evaluate scientific advice, review the status of stocks, promote the conduct of relevant scientific research and disseminate the results thereof; (g) develop, where necessary, criteria for the allocation of the total allowable catch or the total level of fishing effort for highly migratory fish stocks in the Convention Area; (h) adopt generally recommended international minimum standards for the responsible conduct of fishing operations; (i) establish appropriate cooperative mechanisms for effective monitoring, control, surveillance and enforcement, including a vessel monitoring system; (j) obtain and evaluate economic and other fisheries-related data and information relevant to the work of the Commission; (k) agree on means by which the fishing interests of any new member of the Commission may be accommodated; (l) adopt its rules of procedure and financial regulations and such other internal administrative regulations as may be necessary to carry out its functions; (m) consider and approve the proposed budget of the Commission; (n) promote the peaceful settlement of disputes; and (o) discuss any question or matter within the competence of the Commission and adopt any measures or recommendations necessary for achieving the objective of this Convention.” **(Implied powers)**

APPENDIX II.
SUMMARY OF LEGAL SUPPORT FOR HSMPA

| Convention | MPA Provisions | Conformity to the New Type of HSMPAs |
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| CBD | Article 8, protected areas | Because of Article 4 jurisdictional limitation, only if processes and activities occur, HSMPAs can be established. Ecosystem approach was adopted by Decision II and V. No parties' intention to lead HSMPA issue. No practice yet. |
| IMO Conventions | MARPOL Annexes, special areas; Guidelines, particularly sensitive sea areas | No ecosystem approach. Lack of jurisdiction to regulate other activities than shipping. |
| UNEP (Barcelona Convention) | SPAMI Protocol | One high seas sanctuary. No ecosystem approach. |
| Antarctic Treaty | Annex V to the 1991 Protocol, Antarctic Specially Protected Areas, Antarctic Specially Managed Areas, historic monument | Article VI hinders regulation of activities on the high seas. No explicit ecosystem approach. |
| OSPAR Convention | Article 2(1) of OSPAR Convention, and Article 3(1)(a)(ii) of Annex V of the OSPAR Convention, Site protection | No HSMPA has been established yet. Annex V excludes management of fisheries. No connection between MPAs and the ecosystem approach. |
| IWC Convention | Article V, open and closed waters, sanctuary | No ecosystem approach. Two whale sanctuaries cover the high seas. |
| CCAMLR | Article IX (6)(b), closed areas, special areas | Many closed areas on the high seas. No connection between MPAs and the ecosystem approach. |
| CCAS | Article 3(d), closed areas, reserves, special areas | No ecosystem approach. Six closed areas and three reserves. |
| NEAFC Convention | Article 7, closed areas. | 5 HSMPAs to protect seamounts. Establishment of these HSMPAs was motivated by the recent calls on conservation of deep sea features based on the ecosystem approach. |
| SEAFO Convention | Comprehensive provision on conservation and management measures. | 10 HSMPAs covering 14 seamounts. These HSMPAs were adopted in consideration of the ecosystem approach. |
| NAFO | Comprehensive provision on | Explicit adoption of the ecosystem |

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| Convention | conservation and enforcement measures. | approach. 4 HSMPAs on seamounts. |
| GFCM Agreement | Article III (1)(b)(i), closed areas. | No explicit ecosystem approach. Three high seas MPAs for the conservation of deep sea features. All activities are prohibited in these MPAs. |
| ICCAT | Comprehensive provision on conservation and management measures. | A closed area to a specific fishing gear. No ecosystem approach. |
| IOCT Agreement | Comprehensive provision on conservation and management measures. | Has discussed area closures, but no practice yet. No ecosystem approach. |
| IATTC Convention | Comprehensive provision on conservation and management measures. | Closed areas to specific fishing gears. No ecosystem approach. |
| WCPFC Convention | Comprehensive provision on conservation and management measures. | Some consideration of conservation of marine ecosystem. No practice yet. |

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