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Abstract

Strong and coherent regional governance is critical for tackling the increasing number and variety of threats to fisheries and biodiversity within and beyond national jurisdiction including overfishing, destructive fishing practices, marine pollution and climate change impacts. This chapter examines the existing legal and institutional framework for fisheries and biodiversity governance at the regional level including key regional organizations such as regional fisheries management organizations, regional seas organizations and non-binding regional initiatives. As well as highlighting the fragmentary nature of regional oceans governance, this analysis discloses the wide variety of approaches to and differing rates of progress in harmonizing fisheries and biodiversity conservation objectives across major oceanic regions.

Keywords

biodiversity, fisheries, governance, regional

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Regional Governance for Fisheries and Biodiversity

Robin Warner, Kristina Gjerde and David Freestone

1. Introduction

The regional level of governance is critical to the effective implementation of international legal obligations and conservation and management measures for both fisheries and marine biodiversity: fish stocks and marine ecosystems straddle national boundaries and areas within and beyond national jurisdiction. Strong and coherent regional governance is a vital component in combating the rising catalogue of transboundary threats to fisheries and biodiversity including overfishing, destructive fishing practices, pollution and climate change impacts.

This chapter describes the legal and institutional framework for fisheries and biodiversity governance at the regional level, focusing on some key features of regional fisheries management organizations (RFMOs) and regional seas arrangements (RSAs), and looking also at other looser governance arrangements such as the Large Marine Ecosystem (LME) projects. The analysis reveals the fragmentary nature of the regional oceans governance network for fisheries and biodiversity both in terms of its geographic scope and its functional responsibilities. Examples from different regions underscore the wide diversity and varying rates of progress in aligning and harmonising fisheries and biodiversity conservation objectives. The chapter next examines the efforts of RFMOs and RSAs to collaborate between themselves and with other global and extra-regional organizations and analyses some of the catalysts for such collaboration. It discusses selected initiatives towards comprehensive strategies for alignment and harmonisation of fisheries and biodiversity conservation and management. Finally the chapter identifies gaps in regional oceans governance for fisheries and biodiversity conservation and potential pathways to improved collaboration.

2. Legal and Institutional Framework for Regional Fisheries Governance

There are 20 existing and prospective RFMOs and arrangements with mandates to establish fisheries conservation and management measures.¹ Although the tuna and tuna like species bodies do cover virtually all the relevant areas of ocean beyond national jurisdiction, there are still significant gaps in the coverage of non-tuna fisheries RFMOs even though regional collaboration is an essential component in conserving and managing the full range of highly migratory and straddling fish stocks as well as discrete high seas fish stocks. The North East Atlantic Fisheries Commission (NEAFC) and the North Atlantic Fisheries Organization (NAFO) cover the North East and North West Atlantic but

¹ Food and Agricultural Organization (FAO), *Regional Fishery Bodies – Fishery Governance Fact Sheets*, <http://www.fao.org/fishery/rfb/search/en>.

there is no multilateral body regulating fisheries in the Arctic. The Atlantic south of the NEAFC/NAFO areas of responsibility is only partially covered by the South East Atlantic Fisheries Organization and the Commission for Conservation of Antarctic Marine Living Resources area south of the Antarctic convergence. Until the end of 2009, there were no general fisheries commissions in the Pacific at all to manage non highly migratory species. The treaty establishing the South Pacific Regional Fisheries Management Organization (SPRFMO) was concluded in November 2009 and negotiations are still ongoing for a North Pacific RFMO. In the Indian Ocean the Regional Commission for Fisheries (RECOFI) covers the Gulf area and the Southern Indian Ocean Fisheries Agreement (SIOFA), concluded in July 2006, will finally enter into force in June 2012.²

Fisheries governance arrangements exhibit considerable diversity and varying rates of progress in their approaches to incorporating environmental protection principles and biodiversity conservation objectives into their management regimes. Recent reviews of RFMO practice at the global level discern several factors that have limited the effectiveness of RFMOs in implementing fisheries conservation and management measures in an ecologically sustainable manner.³ These include:

- **Absence of environmental protection principles in the RFMO Conventions.** The absence of modern environmental protection principles or guidelines such as the precautionary approach and ecosystem based management in some RFMO conventions concluded prior to the *UN Fish Stocks Agreement* means that unless the RFMO members agree, they are not obliged to consider principles of sustainability when adopting conservation and management measures.
- **Ineffective Decision-making Frameworks.** It is the established practice of RFMOs to take decisions on their conservation and management measures by consensus, even when their instruments may not require it and to allow for individual objections to conservation and management measures agreed by the majority of member States.⁴ This allows objecting RFMO members to take advantage of uncertainties in scientific advice and can lead to a dilution of conservation and management measures even where the precautionary approach

² David Freestone, "Fisheries Commissions and Organizations" in Rudiger Wolfrum (ed.), *The Max Planck Encyclopedia of Public International Law*, Oxford University Press, 2008-, on line edition.

³ High Seas Task Force, *Closing the Net: Stopping Illegal Fishing on the High Seas* (Governments of Australia, Canada, Chile, Namibia, New Zealand and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University, 2006); Michael W. Lodge, David Anderson, Terje Lobach, Gordon Munro, Keith Sainsbury and Anna Willcock, *Recommended Best Practices for Regional Fisheries Management Organization* (Chatham House, London, 2007), x.

⁴ Ted McDorman, "Implementing Existing Tools: Turning Words into Action – Decision-Making Processes of Regional Fisheries Management Organizations" (2005) 20(3-4) *International Journal of Marine and Coastal Law* 428-429.

and ecosystem based management requirements exist. Many of the RFMOs that were established prior to the conclusion of the *UN Fish Stocks Agreement* allow for States to opt out or object to implementing conservation and management measures that have been agreed within the RFMO.

- **Lack of a formal global coordination mechanism.** There is no overarching global coordination mechanism to oversee the conservation and management activities of RFMOs in marine areas beyond national jurisdiction and monitor their performance against best practice standards and ensure cross sectoral exchange of information. This makes it difficult to address global problems such as the conservation of highly migratory marine species or IUU fishing as fishing vessels may move between regions concentrating their fishing effort in areas where conservation and management measures are lax or non-existent. At the regional level there has been very little consultation and collaboration between RFMOs. The first meeting between the tuna RFMOs, the Kobe Process, occurred in 2007.⁵
- **Participation Levels.** In many regions developing States lack the resources and capacity to participate fully in RFMOs and implement their obligations effectively.
- **Failure to deal effectively with non Parties.** Few RFMOs include all the participants in a regional fishery among their members. An RFMO may have agreed on environmentally sound conservation and management measures for fisheries in high seas areas but only those States which have agreed to be bound by its agreement are obliged to apply its measures. The failure to deal effectively with non Parties or ‘free riders’ undermines the incentives for fishing vessels of RFMO members to adopt restrictive conservation and management measures.⁶

It is beyond the scope of this chapter to review all RFMOs and arrangements to determine in detail the extent to which environmental protection principles and biodiversity conservation objectives are reflected specifically in their agreements and practice. What is clear however is the importance of an explicit mandate for addressing both issues in the overarching agreement. This is revealed through

⁵ Tuna-org, *Meetings Past*, <<http://www.tuna-org.org/meetingspast.htm>>.

⁶ Ibid. To what ? Note 4 ?

the performance of two RFMOs highlighted here that are also directly charged with precaution and conservation of associated species and ecosystems: the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Western Central Pacific Fisheries Commission (WCPFC). CCAMLR was established under the 1980 *Convention on the Conservation of Antarctic Marine Living Resources* as an integral element of the Antarctic Treaty system.⁷ It has a specific mandate to conserve and manage all marine living resources, except whales and seals, in the area south of 60 degrees south latitude and in the area between 60 degrees south latitude and the Antarctic Convergence.⁸ CCAMLR's conservation and management responsibilities extend beyond fish species to molluscs, crustaceans and birds found south of the Antarctic Convergence.⁹

The Convention explicitly adopts a precautionary and ecosystem based approach to marine living resource management which recognises the complex interconnections between all parts of the Antarctic ecosystem.¹⁰ Article II(3) of the Convention sets out the various elements of CCAMLR's conservation and management approach which allows for rational use of marine living resources in accordance with strict conservation principles. The three key conservation principles which apply to harvesting of marine living resources and associated activities are:

- (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;
- (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

⁷ 1980 *Convention on the Conservation of Antarctic Marine Living Resources* 19 ILM 837 (CCAMLR Convention).

⁸ CCAMLR Convention Art. 1(1). The Antarctic Convergence is also known as the Antarctic Polar Front and is situated at about 50 degrees south latitude where the colder fresher waters flowing north from the Antarctic meet the warmer saltier waters flowing south from the Atlantic and Pacific Oceans. Whales and seals are covered by the 1946 International Convention for the Regulation of Whaling and the 1972 Convention for the Conservation of Antarctic Seals. The vast majority of this area lies beyond national jurisdiction except for offshore maritime zones adjacent to the territorial claims of some Antarctic Treaty partners on the Antarctic continent and waters within the offshore maritime zones of some sub Antarctic islands in the Southern Ocean belonging to Australia, France, South Africa and the United Kingdom. These islands include Heard and McDonald Islands belonging to Australia, Kerguelen and Crozet Islands belonging to France, Prince Edward and Marion Islands belonging to South Africa and South Sandwich Islands and Shag Rocks belonging to the United Kingdom. These islands have been exempted from the application of CCAMLR.

⁹ CCAMLR Convention, Art. I(2).

¹⁰ CCAMLR Convention, Art. II(3); Denzil G. Miller, Eugene N. Sabourenkov and David C. Ramm, "Managing Antarctic Marine Living Resources: The CCAMLR Approach" (2004) 19(3) *International Journal of Marine and Coastal Law* 319.

- (c) prevention of changes or minimisation of the risk of changes in the marine ecosystem which are not potentially reversible over three or two 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.

Since its inception in 1982, CCAMLR has adopted a variety of innovative measures to implement its ecosystem based approach to conservation. These include banning destructive fisheries practices such as bottom trawling for particular fish species in the CCAMLR Area, mandating measures to reduce incidental seabird mortality caused by baited hooks in long line fishing, monitoring the effects of fishing on non target species by collection of data on CCAMLR member state fishing vessels and prohibiting fishing for certain species by CCAMLR member State fishing vessels where the risk to by-catch species is thought to be too great.¹¹ In 2011, they also adopted a conservation measure for rolling out a comprehensive system of marine protected areas.¹²

A potential weakness in the implementation of CCAMLR conservation measures is the requirement for consensus in decisions on matters of substance such as conservation measures, and the availability of the objection procedure for members to object later to measures for which they may have voted.¹³ Despite consensus requirements and contentious meetings, CCAMLR has had some success in implementing the most advanced interpretation of an ecosystem based approach to marine living resource management in its Convention area.¹⁴

However, the effectiveness of CCAMLR's management was almost undone by its inability to regulate the activities of fishing vessels of non-member States.¹⁵ CCAMLR adopted a standard suite of fisheries management measures until the mid 1990s relying on flag State implementation of conservation and management measures supplemented by fisheries data reporting, at sea and in port inspections by member States of fishing vessels and their catch and tracking the movement of member

¹¹ Miller et al, above note 11, 323-344; *Understanding CCAMLR's Approach to Management – Application of the Ecosystem Approach*, http://www.ccamlr.org/pu/e/e_pubs/am.am-all.pdf, 24-28.

¹² CONSERVATION MEASURE 91-04 (2011) General framework for the establishment of CCAMLR Marine Protected Areas

¹³ Conservation measures are binding on all members of the Commission 180 days after their notification except that members may notify the Commission that they cannot accept a measure (for which they may have voted), within 90 days of its notification, There is provision for the Commission to review conservation measures where a member has notified its non acceptance of a measure and further opportunity for members to notify their non-acceptance of a measure within 30 days of a review meeting being held (CCAMLR Convention, Arts IX (6) (b) (c) and (d) and XII(1).

¹⁴ Miller et al, 320 above note 11; Stuart B. Kaye, *International Fisheries Management* (Kluwer Law International, The Hague, 2000) 368.

¹⁵ Rosemary Rayfuse, *Non Flag State Enforcement in High Seas Fisheries* (Martinus Nijhoff Publishers, Leiden, 2004) 267.

States' fishing vessels through vessel monitoring systems and notification of vessel movements.¹⁶ These measures proved to be insufficient to stem increases in IUU fishing in the CCAMLR Convention Area, particularly for Patagonian toothfish, from the mid 1990s.

To address the problem of non-members and IUU fishing, CCAMLR had to resort to trade related sanctions on a global basis.¹⁷ In 2000, CCAMLR introduced a Catch Documentation Scheme (CDS) which prohibited entry into world markets of Patagonian toothfish without verified catch documents.¹⁸ The scheme has attracted the participation of non member States and applies to toothfish fishing by member States' vessels and non member States' vessels.¹⁹ In a relatively short period, the CDS has extended its coverage to more than 90% of the world's toothfish trade and reduced the profitability of this type of IUU fishing.²⁰ It requires flag State authorisation for toothfish fishing both within and outside the CCAMLR Convention area. The scheme has had the side benefit of refining global estimates of toothfish catch to enable better management.²¹

The importance of a strong mandate for biodiversity conservation and precaution is also underscored in the track record of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention). It was the first comprehensive conservation and management regime for highly migratory fish stocks to reflect the provisions of the 1995 UN Fish Stocks Agreement.²² The WCPFC entered into force on 19 June 2004.²³

The objective of the Convention is 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 *United Nations Convention on the Law of the Sea* (LOSC)²⁴ and the *UN Fish Stocks Agreement*.²⁵ The area of competence of the WCPFC includes a large area of high seas lying outside and between the 200 nautical mile exclusive economic zones of its Parties and its

¹⁶ Miller et al, above note 11, 336.

¹⁷ Kaye, above note 16, 439; Miller et al, above note 11, 336-337.

¹⁸ Miller et al, above note 11, 337.

¹⁹ *Ibid.*, 338.

²⁰ *Ibid.*, 337-338.

²¹ *Ibid.*

²² *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* 2167 UNTS 3 (UN Fish Stocks Agreement).

²³ *2000 Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean* 40(2) ILM 277 (WCPFC Convention)

²⁴ *1982 United Nations Convention on the Law of the Sea* 1833 UNTS 3 (LOSC).

²⁵ WCPFC Convention, Art. 2.²⁶ *Ibid.*, Art. 3.

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regulatory competence extends to all fish stocks of the species listed in Annex I of the *LOSC*.²⁶ The region covered by the WCPFC Convention is estimated to have 60% of the world's tuna stocks.²⁷

The WCPFC is empowered to adopt principles and measures for conservation and management of the highly migratory fish stocks in its area of competence which reflect the key environmental protection principles in the *UN Fish Stocks Agreement*. These include measures based on the best scientific evidence available to ensure the long term sustainability of the highly migratory fish stocks in the Convention Area and the promotion of their optimum utilisation.²⁸ The Commission must apply the precautionary principle in accordance with the methodology set out in Annex II of the *UN Fish Stocks Agreement*, determine the impact of fishing activities on non target and associated or dependent species and their environment and to adopt plans, where necessary, to ensure the conservation of species and protect habitats of special concern.²⁹ The conservation measures to be taken by the Commission also include those which protect biodiversity in the marine environment and those which assess the impact of fishing activities on other species belonging to the same ecosystem.³⁰ Since its inception the WCPFC has introduced over thirty conservation and management measures ranging from those addressing the level of fishing effort for highly migratory species such as big eye, albacore and yellow fin tuna, sharks, marlin and sword fish and the impacts of fishing for highly migratory species on seabirds, turtles and cetaceans to the prohibition of drift net fishing and reciprocal boarding and inspection procedures.³¹ Through an innovative measure to surmount the weaknesses of consensus-driven decision-making, when consensus fails, decisions on matters of substance are to be taken by a three quarters majority of the members present.³² Decisions become binding on parties 60 days after their notification but members voting against the decision or absent may, within 30 days of their adoption, seek a review of the decision.³³ The review process is another innovative element, as noted by Aqorau, for it can overcome the “opt out” clauses common in many RFMO conventions and which have the potential to sabotage their conservation and management efforts.³⁴ The extensive list of conservation and management measures of the WCPFC designed to mitigate the impact of fishing for highly migratory species on associated and dependent species in the Convention Area have the indicia of a precautionary approach and ecosystem based considerations being applied in the decision making process within the WCPFC. Although somewhat slow and uneven, there has been some progress in implementing these measures for promoting the conservation of vulnerable tuna

²⁷ Transform Aqorau, “Tuna Fisheries Management in the Western and Central Pacific Ocean: A Critical Analysis of the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean and its Implications for the Pacific Island States” (2001) 16(3) *The International Journal of Marine and Coastal Law* 382.

²⁸ *Ibid*, Art. 5(a) and (b).

²⁹ *Ibid*, Arts. 5(c) and 6.

³⁰ *Ibid*, Art. 5(f) and (d).

³¹ WCPFC, *Conservation and Management Measures*, <http://wcpfc.int/conservation-and-management-measures>.

³² *Ibid*, Art. 10(4).

³³ *Ibid*.

³⁴ Aqorau, above note 30, 391.

stocks and managing fishing capacity to mitigate its impacts on associated and dependent ecosystems.³⁵

To address the problem of non-members and IUU fishing, under Article 24 of the *WCPFC Convention*, flag States must ensure that their fishing vessels do not engage in unauthorised fishing for highly migratory fish stocks beyond national jurisdiction and that as flag States they are able to effectively exercise their responsibilities for fishing vessels operating under their flag.³⁶ Flag States must maintain a record of fishing vessels authorised to fish beyond national jurisdiction and require such flag vessels to use real time satellite position fixing transmitters so that they can participate in the vessel monitoring system established by the Commission.³⁷ The Commission has established measures for Contracting Parties to board and inspect each other's fishing vessels on the high seas in accordance with the UN Fish Stocks Agreement model.³⁸ There is also provision for Contracting Parties to exchange information on non contracting parties' activities in the Convention Area and for taking action to deter non contracting parties from fishing in the Convention Area.³⁹

In contrast, many of the other tuna RFMOs are still operating under pre-UN FSA agreements, Attempts to update their charters are not progressing rapidly, although such changes have been called for by performance reviews undertaken by the majority of these bodies and the consultation process that they have commenced between themselves, called the "Kobe Process" after the first meeting in Japan in 2007.⁴⁰ The 2009 performance review of the Indian Ocean Tuna Commission Agreement for example, recommended that the IOTC Agreement be either amended or replaced by a new instrument: "the absence of concepts such as the precautionary approach and an ecosystem based approach to fisheries management are considered to be major weaknesses."⁴¹ Similarly, in the review of the Commission on the Conservation of Southern Bluefin Tuna, where the global population of bluefin tuna is ranked on the IUCN Red List of threatened species as "critically endangered" - estimated to be 5% of the population size before fishing began - the reviewers also noted the absence of agreed management principles (e.g. the precautionary and ecosystems approaches, efficient use, best scientific information, maintaining biodiversity and minimizing effects on the marine environment) guiding management decisions.⁴² Similarly, an independent review of the Commission for the

³⁵ Hannah Parris, "Is the Western and Central Pacific Fisheries Commission meeting its conservation and management objectives? (2010) 53(1) *Ocean and Coastal Management* 26.

³⁶ WCPFC Convention, Art. 24(1) and (2).

³⁷ *Ibid.*, Art. 24(4) and (8).

³⁸ *Ibid.*, Art. 26.

³⁹ *Ibid.*, Art 4(10) and (11).

⁴⁰ See above note 5.

⁴¹ W.R. Edeson, "Overview of Institutional Arrangements for Fisheries and Marine Biodiversity in the Indian Ocean" in Dennis Rumley, Sanjay Chaturvedi and Vijay Sakhuja, *Fisheries Exploitation in the Indian Ocean: Threats and Opportunities* (Institute of Southeast Asian Studies, Singapore, 2009) 44.

⁴² Commission for the Conservation of Southern Bluefin Tuna, Report of the Performance Review Workshop, 3-4 July, 2008
http://www.ccsbt.org/userfiles/file/docs_english/meetings/meeting_reports/ccsbt_15/report_of_PRWG.pdf,

Conservation of Atlantic Tunas observed that its management of bluefin tuna is “widely regarded as an international disgrace.”⁴³

3. Legal and Institutional Framework for Regional Marine Environmental Governance

Since the early 1970s, a diverse array of binding and non binding regional arrangements has been negotiated around the globe to engage States in the collaborative protection of their offshore marine environments. Many of the binding regional seas arrangements were initiated through the United Nations Environment Programme (UNEP) Regional Seas Programme while others are the result of independent agreements between regional partners.⁴⁴ They now cover 18 maritime regions which differ markedly in their character and extent.⁴⁵ The UNEP regional seas arrangements, together with the non UNEP regional marine environmental protection arrangements, involve 149 States, approximately 95.5% of the world’s States.⁴⁶ While the areas of responsibility of many of these arrangements are limited to waters within national jurisdiction, some of them make provision for consensual environmental protection measures in high seas enclaves and high seas areas adjacent to waters within national jurisdiction.⁴⁷

And further underscored by the Report of the Independent Expert September 2008, the Commission has adopted few measures to inter alia, require vessels fishing for SBT to minimize the impacts of their operations on ecologically related species (e.g. sharks, sea turtles, sea birds, billfishes, etc.)

“At its core, the Convention is an agreement for the management of a single fish stock.

The Convention lacks many elements that are found in such instruments as the UNFSA, the Convention for the Conservation of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, and the Antigua Convention, to name just a few. The CCSBT Convention does not reflect concepts such as the precautionary approach, the ecosystem approach and other norms that guide fisheries management today.” The reviewer similarly recommended that it was time to seriously consider the need to amend or renegotiate the treaty.

http://www.ccsbt.org/userfiles/file/docs_english/meetings/meeting_reports/ccsbt_15/PerformanceReview_IndependentExpertsReport.pdf

http://www.ccsbt.org/userfiles/file/docs_english/meetings/meeting_reports/ccsbt_15/report_of_PRWG.pdf

⁴³ G.D. Hurry, M. Hayashi and J. J. Maguire, 2008. REPORT OF THE INDEPENDENT REVIEW, **PLE-106/2008, International Convention on the Conservation of Atlantic Tunas, p.2**

⁴⁴ Adalberto Vallega, “The Regional Seas in the 21st Century: An Overview” (2002) 45(11) *Ocean and Coastal Management* 926.

⁴⁵ UNEP, About Regional Seas, http://www.unep.org/regional_seas/About/default.asp at 24 May 2012: “Today more than 143 countries participate in 13 Regional Seas programmes established under the auspices of UNEP: the Black Sea, Wider Caribbean, East Africa, South East Asia, ROPME Sea Area, Mediterranean, North-East Pacific, North-West Pacific, Red Sea and Gulf of Aden, South Asia, South-East Pacific, Pacific and West and Central Africa. Six of these programmes are directly administered by UNEP. The Regional Seas Programmes function through an Action Plan. In most cases the Action Plan is underpinned with a strong legal framework in the form of a Regional Convention and associated Protocols on specific problems. Furthermore, five partner programmes for the Antarctic, Arctic, Baltic Sea, Caspian Sea and North-East Atlantic Regions are members of the regional seas family”; David Freestone, “International Governance, Responsibility and Management of Areas beyond National Jurisdiction” (2012) 27(2) *International Journal of Marine and Coastal Law* 196.

⁴⁶ Vallega, above note 44, 926.

⁴⁷ Freestone, above note 45, 196-197.

The geographic scope of these arrangements has been determined by political opportunity rather than any systematic scheme to encompass all the oceanic regions of the world.⁴⁸ No legally binding conventions have yet been developed for the regional arrangements in the East Asian Seas, South Asian Seas, North-West Pacific, North-East Pacific, or for the Arctic. Moreover, these conventions are primarily groupings of coastal states, and their jurisdiction is generally restricted to their coastal zones or out to 200 nautical miles. The exceptions are the following: the OSPAR Convention area, which has high-seas areas within its remit; the Mediterranean, where most coastal states have for various reasons not yet claimed EEZs; the South Pacific, which includes within its mandate the “donut” holes between the EEZs of its members; and the Antarctic Treaty System, consisting of both the Antarctic Treaty and its Protocol on Environmental Protection as well as the CCAMLR Convention,

The spread of regional arrangements for marine environmental protection has paralleled the negotiation and entry into force of the LOSC and has both reflected and advanced the development of modern environmental protection principles.⁴⁹ The early focus of most regional arrangements such as the OSPAR Convention and the Barcelona Convention in the Mediterranean was the control of marine pollution but many have since adopted a more integrated approach to the protection of the marine environment including conservation of its biodiversity and the development of systems of marine protected areas.⁵⁰

Their flexible structure has enabled them to assimilate new developments in international environmental law and policy through mechanisms such as protocols and non binding documents such as programmes for action and strategic plans.⁵¹ The majority of regional agreements are based on framework conventions which depend on implementation by States Parties in waters within national jurisdiction. These conventions have been supplemented by Protocols, ministerial level agreements and strategy documents which regulate different sources of marine pollution, provide for the protection of threatened and endangered species and the establishment of marine protected areas to preserve rare or fragile ecosystems.⁵² In most regions these binding legal instruments and soft law

⁴⁸ FAO, “The Rise of Regional Agreements for Marine Environment Protection” in Peter H. Sand (ed.), *Transnational Environmental Law: Lessons in Global Change* (Kluwer Law International, The Hague, 1999), 178 and 183; Alan Boyle, “Globalism and Regionalism” in Davor Vidas (ed.), *Protecting the Polar Marine Environment*, (Cambridge University Press, Cambridge, 2000) 27.

⁴⁹ Tullio Treves, “Regional Approaches to the Protection of the Marine Environment” in Myron H. Nordquist, John N. Moore and Said Mahmoudi (eds.), *The Stockholm Declaration and the Law of the Marine Environment* (Kluwer Law International, The Hague, 2003), 137-138; FAO, above note 48, 184.

⁵⁰ FAO, above note 48, 181.

⁵¹ *Ibid.*, 181-182.

⁵² *Ibid.*, 178-182.

accords are accompanied by planning documents which define regional priorities for marine environmental protection.⁵³

Among the non-UNEP regional seas arrangements, the North East Atlantic has arguably demonstrated the capacity to work with one of the relevant RFMOs to harmonize fisheries and biodiversity conservation objectives.

The Convention for the Protection of the Marine Environment of the Northeast Atlantic (OSPAR Convention) seeks to regulate a wide spectrum of human activities which might have an adverse effect on the protection and preservation of ecosystems and the biodiversity of the North East Atlantic, while recognizing the competence of other organizations for regulating fishing, shipping and seabed mining.⁵⁴ There is an explicit provision Annex V, Article 4(1) of the Convention requiring consultation with the responsible fisheries management organization where fisheries issues arise. The OSPAR Convention applies in a maritime area of the North East Atlantic defined in Article 1(a) of the Convention to include all the maritime zones within the jurisdiction of the Contracting Parties and maritime areas beyond national jurisdiction.⁵⁵ The Convention has 16 Contracting Parties including the European Community.⁵⁶ Most of its Parties are developed State members of the European Union and its decisions are heavily influenced by European Union legislation and policy directives on the environment.⁵⁷

The preamble of the OSPAR Convention reflects the common objective of the Contracting Parties to provide coordinated protection and sustainable management for the whole maritime environment of the North East Atlantic so that the marine ecosystems will continue to sustain the legitimate uses of the sea and meet the needs of present and future generations. To achieve this objective the Contracting Parties must, under the two limbs of Article 2(1)(a) of the Convention, take all possible steps to prevent and eliminate pollution from the maritime area and to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine

⁵³ Ibid, 181.

⁵⁴ , 1992 *Convention for the Protection of the Marine Environment of the Northeast Atlantic* (1993) 32 ILM 1069 (OSPAR Convention), Art. 2(1)(a).

⁵⁵ The OSPAR Maritime area extends from the latitude of the Strait of Gibraltar (36 degrees north) northward to the North Pole, then east west from 51 degrees east longitude and the coastline of the European Continent towards 42 degrees west longitude and the coast of Greenland including the Atlantic Ocean north of 59 degrees north latitude between 44 degrees and 42 degrees west longitude. Ibid, Art. 1(a)(i-ii). The Baltic Sea and the Mediterranean Sea are specifically excluded from the geographic scope. Ibid, Art. 1(a)(i)(1-2).

⁵⁶ OSPAR Commission, *OSPAR Commission – Contracting Parties*, http://www.ospar.org/content/content.asp?menu=00310108000026_000000_000000, the OSPAR Convention Contracting Parties are Belgium, Denmark, the Commission of the European Communities, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom, Luxembourg and Switzerland.

⁵⁷ Rainer Lagoni, “Regional Protection of the Marine Environment of the Northeast Atlantic under the OSPAR Convention of 1992” in Nordquist et al, above note 49, 185.

ecosystems. In implementing programmes and measures under the Convention, the Contracting Parties must apply the precautionary principle, the polluter pays principle and ensure the application of best available techniques and best environmental practice.⁵⁸] As a demonstration of its evolutionary character, in 1998, OSPAR adopted Annex V on the Protection and Conservation of the Ecosystem and Biological Diversity of the Maritime Area, extending the cooperation of the parties to cover "all human activities that might adversely affect the marine environment of the North East Atlantic" other than fishing and shipping. In 2003 it adopted its Biological Diversity and Ecosystems Strategy setting forth its commitment, inter alia, to designate a representative network of MPAs by 2010,

OSPAR's cooperation with the RFMO responsible for managing fisheries in the region (other than tuna or tuna like species regulated by the International Convention on the Conservation of Atlantic Tunas (ICCAT)), –NEAFC⁵⁹, [footnote 59 here ?] was enabled in many ways by its parallel evolution, as described in the next section.

The boundaries of the other regional seas program in the Atlantic Ocean do not extend to areas beyond national jurisdiction and hence there has to date been little interaction with the RFMOs. But the CBD-driven process to describe Ecologically or Biologically Significant Areas (EBSAs) both within and beyond national jurisdiction is likely to create a new need. The limitations of the current geographical ambits of both the regional environmental and fisheries treaties is highlighted by the initiative, led by the Government of Bermuda, to introduce conservation and management measures for the Sargasso Sea. The Sargasso Sea, named for the accumulations of holopelagic algae contained within the North Atlantic Subtropical Gyre, is a 2 million square nautical mile ecosystem that is primarily high seas. The OSPAR Secretariat and the Sargasso Sea Alliance have established informal research and information exchange systems and are negotiating a Collaboration Arrangement. The Alliance is seeking to use existing sectoral organizations – such as ICCAT, IMO and ISA - to put protection measures in place and to convene an inter-governmental meeting to establish a collaborative but non-legally binding protection regime for the Sargasso Sea.⁶⁰

Non-binding regional initiatives for marine environmental protection are also emerging in other regions such as South East Asia and the Pacific. These include the Partnerships in Environmental Management in East Asian Seas (PEMSEA) and the Coral Triangle Initiative (CTI) which reflect a common concern among East Asian States and some adjacent Pacific States for their shared marine environment in both the semi-enclosed seas of East Asia and the Pacific Ocean areas to the east of Japan and the Philippines.

⁵⁸ OSPAR Convention, Art. 2(2)(a) and (b) and 2(3)(b).

⁵⁹ Ibid, Annex V, Art 4(1).

⁶⁰ See further David Freestone and Kate Killerlain Morrison, "The Sargasso Sea Alliance" (2012) 27 *International Journal of Marine and Coastal Law* pp. 000-000. And www.sargassoalliance.org

A group of 12 States and 15 non-State entities are partners in PEMSEA, which was established as a regional project of the Global Environment Facility (GEF) in 1994 with the initial aim of preventing and managing marine pollution in the East Asian seas.⁶¹ PEMSEA's principal objective has developed into building interagency, inter-sectoral and intergovernmental partnerships for achieving the sustainable development of East Asian seas. In November 2009, PEMSEA signed an agreement with the World Bank to address challenges posed by growing populations and continued rural migration to coastal cities in East Asia, that are threatening the quality and sustainability of coastal life.⁶² The partnership complements the efforts of 11 East Asian States, the United Nations, the GEF and 19 regional partners in protecting mangroves and coral reefs, preventing overfishing, improving water quality and creating greater preparedness for natural disasters and the effects of climate change.⁶³ Some project based activities such as the GEF funded project on reversing environmental degradation trends in the South China Sea and the Gulf of Thailand and the PEMSEA Sustainable Development Strategy for the Seas of East Asia include fisheries in their mandate but they are not long term regional management bodies for fisheries.⁶⁴

The CTI is another example of non treaty based maritime cooperation in the Asia Pacific region. The Coral Triangle is a region located along the equator at the confluence of the Western Pacific and Indian Oceans which covers all or part of the exclusive economic zones (EEZs) of six countries, Indonesia, Malaysia, the Philippines, Papua New Guinea, the Solomon Islands and Timor L'Este. It is regarded by scientists as one of the richest repositories of marine biodiversity on earth containing 76% of all known coral species, 37% of coral reef fish, 33% of the world's coral reefs and the most prolific location for mangrove forests and spawning and juvenile growth areas for the world's largest tuna fishery.⁶⁵ Threats to the Coral Triangle region include overfishing, destructive fisheries practices, land based sources of marine pollution and the ravages of climate change.⁶⁶ The CTI was proposed by Indonesia in 2007 as a multilateral partnership to protect the region's coastal and marine resources. The member States, Indonesia, the Philippines, Malaysia, Timor L'Este, Papua New Guinea and the Solomon Islands have committed to five overall goals over ten years:

- The designation of priority seascapes
- Implementing an ecosystem approach to managing fisheries and other marine resources

⁶¹ PEMSEA, "About PEMSEA", <http://www.pemsea.org/about-pemsea>

⁶² PEMSEA, "EAS Congress 2009", <http://www.pemsea.org/eascongress>.

⁶³ Ibid.

⁶⁴ UNEP, "Reversing Environmental Degradation Trends in the South China Sea and the Gulf of Thailand," <http://www.unepscs.org/>; PEMSEA, "Sustainable Development Strategies for the Seas of East Asia," <http://www.pemsea.org> .

⁶⁵ ARC Centre of Excellence, Coral Reef Studies, "What is the Coral Triangle Initiative?" <http://www.coralcoe.org.au/events/ctiworkshop/ctiinfo.html> .

⁶⁶ ARC Centre of Excellence, Coral Reef Studies, "CTI Regional Plan of Action," http://www.coralcoe.org.au/events/CTI%20Regional%20of%20Action_June%202009.pdf .

- The establishment of marine protected areas
- Developing strategies to adapt to climate change
- The protection of threatened species.⁶⁷

The member States have also committed to guiding principles including the recognition of the transboundary nature of important marine resources and the need to align their activities with existing international law instruments such as the LOSC, the Convention on Biological Diversity (CBD), regional fisheries management agreements and the UN Framework Convention on Climate Change (UNFCCC).⁶⁸

4. Catalysts for Collaboration on Fisheries and Biodiversity Conservation Objectives

Though much of the implementation of fisheries conservation and management and biodiversity conservation measures in RFMOs and RSAs has occurred independently there are some examples where better alignment or even harmonisation of fisheries and biodiversity conservation objectives has been triggered by a variety of catalysts. These include: 1) recognition by groups of regional organizations of the need to address transboundary threats to marine living resources and marine biodiversity cooperatively; 2) resolutions and decisions of global bodies on conservation of biodiversity in marine areas beyond national jurisdiction; and 3) the incorporation of modern conservation principles, reflecting those in the UNFSA, into the mandates of RFMOs. This section examines some of those examples and the catalysts which have led to varied degrees of alignment and harmonisation between fisheries and biodiversity conservation objectives in different regional settings.

Regional responses to transboundary threats

The need to address the transboundary nature of threats facing marine living resources and biodiversity in particular regions both within and beyond national jurisdiction has been a central catalyst for alignment or harmonisation of fisheries and biodiversity conservation objectives and collaboration between regional governance organisations and alliances. The GEF has funded a number of fisheries and biodiversity conservation projects conducted on the scale of large marine ecosystem (LME). LMEs are defined by Sherman and Alexander as “regions of ocean space encompassing coastal areas from river basins and estuaries on out to the seaward boundary of continental shelves and the seaward boundary of coastal current systems.”⁶⁹ Around the globe, 64

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Kenneth Sherman, “Sustainability, Biomass Yields and Health of Coastal Ecosystems: An Ecological Perspective” (1994) 112 *Marine Ecology Progress Series* 277-301 and Lewis M. Alexander, “Large Marine Ecosystems: A New Focus for Marine Resources Management” (1993) 17 *Marine Policy* 186-198. They are

LMEs, including many of the world's enclosed and semi-enclosed seas have been defined as areas of ocean space in which ecosystem based management can be applied to maintain and restore ecosystem function while allowing sustainable use⁷⁰. In his research, Sherman identified five modules to determine LME sustainability: productivity of the ecosystem, fish and fisheries, pollution and ecosystem health, socioeconomic conditions and governance.⁷¹ The LME approach has formed the basis for an array of Global Environment Facility (GEF) funded projects to promote integrated marine ecosystem governance of LMEs.⁷²

One such GEF-initiated LME project is known as the Agulhas and Somali Current Large Marine Ecosystem (ASCLME). The ASCLME combines the Agulhas Current Large Marine Ecosystem (ACLME) which stretches from the northern end of the Mozambique Channel to Cape Agulhas, and the Somali Current Large Marine Ecosystem (SCLME) which extends from the Comoros Islands and the northern tip of Madagascar to the Horn of Africa.⁷³ The project covers the countries of Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa and Tanzania.⁷⁴ The GEF Project Document on the ASCLME describes the rationale for this regional mechanism as follows:

“[A] number of regional initiatives are in place, nested in a regional policy framework and growing consensus on the need to work collaboratively to address the suite of threats facing marine ecosystems and their constituent resources. However, these focus heavily on the coastal zones of the participating countries. Accordingly, current and planned initiatives will not by themselves be sufficient to institute an ecosystem approach to LME management. Given the transboundary nature of many threats, their root causes and effects, the threats to the environment cannot effectively be contained through national and sectoral initiatives alone, and a holistic multi-sectoral regional ecosystem management approach is needed” (paragraph 35).

The Project Document further observes that:

relatively large regions characterized by distinct bathymetry, hydrography, productivity and trophically dependent populations.”

⁷⁰ Lucia Fanning, Robin Mahon, Patrick McConney, Jorge Angulo, Felicity Burrows, Bisessar Chakalall, Diego Gil, Milton Haughton, Sherry Heileman, Sergio Martinez, L'ouverture Ostine, Adrian Oviedo, Scott Parsons, Terrence Phillips, Claudia Santizo Arroya, Bertha Simmons and Cesar Toro, “A large marine ecosystem governance framework” (2007) 31 *Marine Policy* 434.

⁷¹ *Ibid.*, 435.

⁷² Fanning et al, above note 79, 435; Kenneth Sherman, “The Large Marine Ecosystem Network Approach to WSSD Targets” (2006) 49 *Ocean and Coastal Management* 640-641; Alfred Duda and Kenneth Sherman, “A new imperative for improving management of large marine ecosystems” (2002) 45 *Ocean and Coastal Management* 797-798. See also David Freestone, “The Role of the World Bank and the Global Environment Facility in the Implementation of the Regime of the Law of the Sea Convention” in *The Law of the Sea: Progress and Prospects* (David Freestone, Richard Barnes and David Ong, Eds.) Oxford, June 2006, pp. 308-326.

⁷³ ASCLME, *The ASCLME Project*, <http://www.ascmle.org/ascmle-project.html>.

⁷⁴ ASCLME, *Home*, <http://www.ascmle.org>.

“[No] organization is currently responsible for regional-level capacity-building on behalf of the participating countries, as the current array of regional organizations either lack full regional membership or have an insufficient mandate to address regional issues in an ecosystem context” (paragraph 42).⁷⁵

The objectives of the ASCLME include:

- Gathering new and important information about ocean currents and how they interact with and influence climate, biodiversity and the economies of the western Indian Ocean region;
- Documenting the environmental threats that are faced by the countries of the region in a Transboundary diagnostic analysis;
- Developing a Strategic Action Plan which sets out a strategy for the countries to collectively deal with transboundary threats;
- Strengthening scientific and management expertise, with a view to introducing an ecosystem approach to managing the living marine resources of the western Indian Ocean region.⁷⁶

One of the key achievements of the ASCMLE project has been to initiate the establishment of a regional coordinating mechanism, the Western Indian Ocean Sustainable Ecosystem Alliance (WIOSEA) to implement the SAP for the region using the existing mandated regional bodies which already have official responsibility for implementing an ecosystem approach to the management of marine living resources such as the Nairobi Convention and the South West Indian Ocean Fisheries Commission.⁷⁷ In September 2011 the ASCLME signed an Aide Memoire for Cooperation and Collaboration with the South West Indian Ocean Fisheries Project (SWIOFP) which is a GEF supported project implemented by the World Bank also focused on the western Indian Ocean region and covering the same countries as the ASCMLE.⁷⁸ Its main objectives are to:

- generate baseline information on fishery resources in the region;
- investigate the relationship between fisheries and the environment;
- develop common regional resource management strategies through the ecosystem approach for sustainable use of the region’s marine living resources;

⁷⁵ ASCMLE, *Documents*, <http://www.ascmle.org/docman.html>.

⁷⁶ ASCLME, *Home*, <http://www.ascmle.org>

⁷⁷ ASCMLE Mid Term Evaluation, <iwlearn.net/iw-projects/1462/evaluations/ascmle-midterm-evaluation>, 87.

⁷⁸ SWIOFP, *Aide Memoire for Cooperation and Collaboration Between the UNDP GEF Agulhas and Somali Current Large Marine Ecosystems Project (ASCMLE) and the World Bank GEF South West Indian Ocean Fisheries Project (SWIOFP)*, <<http://www.swiofp.net/documents/SWIOFP4/ASCMLE%20SWIOFP%20Aide%20Memoire%20Final%20draft.pdf>>

- ensure the adoption of harmonised legislation for regional management and undertake capacity building to underpin and sustain these efforts.⁷⁹

Through their Aide Memoire the ASCLME and SWIOF projects have agreed to share data and information and undertake joint research cruises which enhance understanding of the region's ecosystems and help to set a baseline from which long term ecosystem monitoring programmes can be derived. They will also cooperate in a policy and governance assessment designed to produce agreed recommendations for implementing an ecosystem approach to management of marine and coastal resources in the region.⁸⁰

The ASCLME Project has also signed similar Aides-Memoire and Memoranda of Understanding with a number of entities (national, regional and international) in the western Indian Ocean LME region. All of these agreements recognise and endorse the WIOSEA (Alliance) and, through the vehicle of these agreements, the Alliance has been growing significantly over the two year period since its first proposal and endorsement by the countries (March 2010). In the context of the management and governance of fisheries and biodiversity conservation, partners supporting the Alliance include a number of UN agencies within the UN Oceans group (particularly UNDP, IMO, FAO and the UNESCO-IOC), International NGOs and parastatals (the World Ocean Council, IUCN), IGOs (Indian Ocean Commission), as well as several national ocean research and academic institutions from around the world (NOAA, NIOZ and various universities scattered around the world).

The Primary Objectives of the Alliance can be summarised as:

1. Coordination of a Long-Term Ecosystem Monitoring programme within the WIO LMEs that will identify changes in the environment, including at the socioeconomic level, and predict the expected impacts of these changes on ecosystem sustainability and community well-being.
2. A Science-Based Governance process, based on both national and regional mechanisms, for delivering the conclusions of scientific studies and long-term monitoring activities to managers and policy-makers as options for taking adaptive management actions.
3. A Capacity Building and Training component that focuses on strengthening regional skills and experience at both the individual and at the institutional level to ensure a more sustainable level of scientific monitoring and research as well as developing a stronger skill-set for the translation of science into governance.⁸¹

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Personal comments from Dr. David Vousden, Regional Director of ASCMLE Project (15 June 2012).

Resolutions and Decisions of Global Bodies

Another driver for regional harmonization and integration has been resolutions and decisions of global bodies such as the United Nations General Assembly (UNGA), the Convention on Biological Diversity (CBD) and the Food and Agricultural Organization (FAO). On the basis of growing concern about the adverse impacts of high seas bottom fishing on vulnerable marine ecosystems, the UNGA in its 2006 Resolution 61/105 called upon States “to take action immediately, individually and through regional fisheries organizations and arrangements, and consistent with the precautionary approach and ecosystem approaches, to sustainably manage fish stocks and protect vulnerable marine ecosystems (VMEs), 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.”⁸² Under the resolution, Member States and RFMOs were required to manage fisheries to prevent significant adverse impacts to areas identified as VMEs. To assist States in implementing the resolution, the FAO produced a set of International Guidelines for the Management of Deep Sea Fisheries in the High Seas (The Deep Sea Fisheries Guidelines).⁸³ The principal objective of the Guidelines is to ensure the long term conservation and sustainable use of deep sea resources and to prevent significant adverse impacts to VMEs from activities related to such exploitation.⁸⁴ This is achieved through identifying VMEs in the RFMOs areas of responsibility⁸⁵ and implementing measures such as fisheries closures in areas around VMEs and encounter protocols requiring fishing vessels to move a minimum distance from a location where species indicating the presence of a VME are captured by their gear.⁸⁶ There is also a requirement to conduct assessments to establish if deep sea fishing activities are likely to produce significant adverse impacts in a given area.⁸⁷ Although there are still significant problems with implementing the Deep Sea Fisheries Guidelines in a sufficiently precautionary manner, the fact that progress in implementation of the UNGA Resolutions and the Guidelines has been reviewed twice by the UNGA may be a significant factor in prompting many RFMOs to close areas to fishing based on the known presence of vulnerable species.⁸⁸

⁸² UNGA, UN Doc A/RES/61/105, 6 March 2007, <daccess-dds-ny.un.org/doc/UNDOC/GEN/N06/500/73/PDF/NO650073.pdf?OpenElement>.

⁸³ FAO, *International Guidelines for the Management of Deep Sea Fisheries in the High Seas*, <http://www.fao.org/docrep/011/i0816t/i0816t00.htm>.

⁸⁴ *Ibid*, paragraph 11.

⁸⁵ *Ibid*, paragraphs 42-46.

⁸⁶ *Ibid*, paragraphs 63 and 67-68.

⁸⁷ *Ibid*, paragraphs 47-53.

⁸⁸ Gianni, M., Currie, D.E.J., Fuller, S., Speer, L., Ardron, J., Weeber, B., Gibson, M., Roberts, G., Sack, K., Owen, S., Kavanagh, A... “Unfinished business: a review of the implementation of the provisions of UNGA resolutions 61/105 and 64/72 related to the management of bottom fisheries in areas beyond national jurisdiction, Deep Sea Conservation Coalition, September 2011; . Peter J. Auster, Kristina Gjerde, Eric Heupel, Les Watling, Anthony Grehan and Alex David Rogers, “Definition and detection of vulnerable marine

The CBD has also been active in aligning and harmonising fisheries and biodiversity conservation objectives at the regional level through the provision of expert advice on describing marine areas of ecological or biological significance (EBSAs) and in addressing biodiversity concerns in sustainable fisheries. In 2008, the Ninth Meeting of the Conference of Parties (COP9) of the CBD adopted the following scientific criteria for identifying “ecologically or biological significant areas in need of protection in open ocean waters and deep sea habitats” :

- Uniqueness/rarity;
- Special importance for life history stages of species;
- Importance for threatened, endangered or declining species and/or habitats;
- Vulnerability, fragility, sensitivity or slow recovery;
- Biological productivity;
- Biological diversity; and
- Naturalness⁸⁹

This decision also provided scientific guidance for selecting areas to establish a representative network of marine protected areas including in open ocean waters and deep sea habitats.⁹⁰ The 10th COP in 2010 agreed on a process of regional workshops for the description of EBSAs.⁹¹ The workshop outcomes are meant to inform relevant regional and global organizations. The work is premised on recognition that the application of the EBSA criteria is a scientific and technical exercise, that areas found to meet the criteria may require enhanced conservation and management measures, and that this can be achieved through a variety of means, including marine protected areas and impact assessments, and that the identification of EBSAs and the selection of conservation and management measures is a matter for States and competent intergovernmental organizations, in accordance with international law, including the LOSC.⁹² Regional workshops on describing EBSAs have been organized covering the North-East Atlantic, the Western South Pacific and the Wider Caribbean and Western Mid-Atlantic. In addition, areas meeting EBSA compatible criteria have been described in the Mediterranean. Preparations are underway for workshops for the Indian Ocean region and the Eastern Tropical and Temperate Pacific Region and planned for the North Pacific Region and the

ecosystems on the high seas: problems with the ‘move-on’ rule”, (2011) 68(2) *ICES Journal of Marine Science*, 255.

⁸⁹ CBD, COP Decision IX/20, UNEP/CBD/COP/DEC/IX/20, 9 October 2008, Annex I, <http://www.cbd.int/doc/decisions/cop-09/cop-09-dec-20-en.pdf>.

⁹⁰ Ibid, Annex II.

⁹¹ CBD, COP Decision X/29, UNEP/CBD/COP/DEC/X/29, 29 October 2010, para 36, 2010, <http://www.cbd.int/doc/decisions/cop-10/cop-10-dec-29-en.pdf>

⁹² Ibid, para 26.

South-East Atlantic region, among others.⁹³ The results of these CBD EBSA workshops can provide valuable information to RFMOs and their scientific commissions in the setting of priorities for conservation and management measures for biodiversity conservation purposes. Participation by scientists from the relevant fisheries commissions or national agencies involved in fishing in the region is important to enhance access to fisheries data and the confidence of fisheries managers in the outcomes of the workshops.

Another contribution by the CBD has been its efforts to convene experts in biodiversity and fisheries to discuss topics of common concern. In December 2011, for example, the CBD Secretariat convened a joint expert meeting to review the extent to which biodiversity concerns, including the impacts on marine and coastal biodiversity of pelagic fisheries of lower trophic levels, are addressed in existing assessments of fisheries stocks and to propose options to address biodiversity concerns.⁹⁴ This meeting brought together representatives of RFMOs, the Fisheries Expert Group of the International Union for the Conservation of Nature's Commission on Ecosystem Management and other relevant organizations, processes and scientific groups. The meeting report noted that successive ICES expert reviews have found that there is fairly full attention to the major biodiversity considerations in the RFMO conventions and overarching high level policies but implementation is often highly variable and inadequate.⁹⁵ In some cases, the priority that fisheries management agencies could give to the biodiversity commitments in RFMO conventions and policies was constrained by these documents giving explicit primacy to single species Maximum Sustainable Yield (MSY) goals or other harvest goals for the single species.⁹⁶ The reviews also found that limits on knowledge of ecosystems and the fisheries and on capacities for assessments and management can impede the achievement of high level biodiversity goals.⁹⁷ The expert meeting recommended a number of options for enhancing the treatment of biodiversity considerations in fisheries policy, assessment and management which are considered in the next section. It also identified particular roles for the CBD in promoting and encouraging an improved environment of good collaboration among biodiversity conservation experts and fishery experts. These included:

- Making CBD expertise on biodiversity assessment and selection of practical indicators for status and trends in biodiversity available to fisheries assessment and management agencies;
- Contributing CBD expertise to modelling work and other studies of longer term ecosystem scale changes due to climate change, aggregate impacts of multiple uses and other scenarios

⁹³ CBD Secretariat "Briefing on organizing a series of regional workshops on describing ecologically or biologically significant marine areas (EBSAs)" 29 April 2012,

⁹⁴ CBD, *Report of Joint Expert Meeting on Addressing Biodiversity Concerns in Sustainable Fishery*, UNEP/CBD/SBSTTA/16/INF/13, 5 March 2012, paragraph 4.

⁹⁵ Ibid, Annex III, paragraphs 8-9.

⁹⁶ Ibid, Annex III, paragraph 8.

⁹⁷ Ibid, Annex III, paragraph 9.

and making the results of such studies available to sectoral regulatory agencies, including fisheries agencies when they are dealing with factors such as the robustness of harvesting strategies;

- CBD initiating or supporting pilot projects for fisheries and biodiversity conservation communities to work together and illustrate the concrete benefits of collaboration;
- CBD being a major contributor to capacity building initiatives for fisheries management agencies dealing with biodiversity considerations.⁹⁸

Updating mandates to Include Modern Conservation Principles

A further catalyst for alignment and harmonisation of fisheries and biodiversity conservation objectives is the inclusion of modern conservation principles such as the precautionary and ecosystem based approaches in the mandate of RFMOs established before the UNFSA was adopted.

The North East Atlantic Fisheries Commission (NEAFC) was originally formed to recommend measures to maintain the rational exploitation of fish stocks in the Atlantic and Arctic Oceans.⁹⁹ Its constitutive instrument is the *Convention on Future Multilateral Cooperation in North East Atlantic Fisheries (NEAFC Convention)*.¹⁰⁰ It has regulatory competence over three large maritime areas beyond national jurisdiction in the North East Atlantic Ocean and may recommend conservation and management measures for all fisheries resources within its Convention Area with the exception of sea mammals and sedentary species.¹⁰¹ These measures include regulation of fishing gear and size limits for fish, the establishment of closed seasons and closed areas, the establishment of total allowable catches and their allocation to Contracting Parties and the regulation of the amount of fishing effort and its allocation to Contracting Parties.¹⁰² At the 24th Meeting of the Parties in 2004 NEAFC approved a London Declaration agreeing to incorporate the post UNCED global agreements and instruments into their own regime. In 2006 the NEAFC Convention was amended to include a principal objective of ensuring the long term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable, environmental and social benefits. Under Article 4 of the amended Convention, NEAFC, consistent with this objective, must conserve marine biological diversity and control the impact of fisheries on other species and marine ecosystems. The impact of the change in mandate has been demonstrated through agreed conservation and management measures for fisheries with up to 50% of the fishable area closed to fisheries and strict regulations of bottom fishery in the rest of the area.

⁹⁸ Ibid, Annex III, paragraphs 39-43.

⁹⁹ NEAFC, *FAQs About the Organization - What is the Purpose of NEAFC*, <http://www.neafc.org/neafcguide>.

¹⁰⁰ 1980 *Convention on Future Multilateral Cooperation in North East Atlantic Fisheries* 1285 UNTS 129 (NEAFC Convention).

¹⁰¹ Ibid, Arts. 1(1) and 1(2).

¹⁰² Ibid, Art. 7(a-c) (e-f).

Evolution of practice can also occur prior to the official updating of an RFMO's mandate. At its 2004 annual meeting, NEAFC recognised the vulnerability of some of the deep water habitats within its Regulatory Area by closing 5 seamount areas and a section of the Reykjanes Ridge on the high seas for 3 years to bottom trawling and static fishing gear from 2005 to 2007.¹⁰³ It also agreed to reduce fishing pressures on a large range of vulnerable species in deep water habitats within the Regulatory Area by 30% for 2005 onwards following ICES advice.¹⁰⁴ The initial ban on fishing on the Reykjanes Ridge was extended beyond the three year period until new closure measures were adopted based on scientific advice from ICES taking in to account FAO's VME criteria and consideration by NEAFC's Permanent Committee on Management and Science.

NEAFC's incorporation of biodiversity considerations into its fisheries conservation and management measures has also been facilitated by its close working relationship with OSPAR. OSPAR and NEAFC signed a memorandum of understanding in 2008 and both organisations use ICES as their scientific advisory body.¹⁰⁵ ICES has recommended that a coordinated approach be taken between the two organisations to the protection of vulnerable marine ecosystems and there has been considerable overlap between areas proposed for protection by OSPAR and those considered for closure to bottom fishing by NEAFC.¹⁰⁶

5. Pathways to Improved Collaboration on Regional Fisheries and Biodiversity Conservation Governance

Recognizing that there is considerable diversity among regions in progress towards alignment and harmonisation of fisheries and biodiversity conservation goals, this section explores potential pathways to improve regional governance for fisheries and biodiversity conservation. The complex challenges involved in implementing an ecosystem based approach to fisheries management and the variable capacities of particular regions to meet that objective demands that a broad suite of options be examined. These include 1) expanding the inter-regional capacities of fisheries and biodiversity governance bodies to align their objectives; and 2) strengthening their collaboration with relevant global, intra-regional and national level organizations.. Different models for cooperation and collaboration on fisheries and biodiversity objectives will also be discussed.

Intra-regional Options

¹⁰³ NEAFC, Media Release on 2004 NEAFC Annual Meeting, www.neafc.org/news/docs/2004press_release_final.pdf.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

Many RFMOs have recognized the need for greater coherence in the roles and policies of fisheries management and biodiversity conservation agencies at the regional and national level.¹⁰⁷ As a first step, this can be supported by the recognition and incorporation of modern conservation principles such as the precautionary and ecosystem based approaches and agreed global, regional and national biodiversity conservation targets into the mandates and policies of RFMOs and RSOs as well as LME projects.¹⁰⁸ In practice, greater levels of coherence can be achieved through the exchange of information on the status of the marine environment, its resources and biodiversity between governance bodies. For example, biodiversity data can feed into the work of RFMOs, and if ecologically or biologically significant areas (EBSAs) have been identified, then RFMOs can act upon the information in developing their conservation and management measures. Information exchange can then be followed up with consultation and cooperation in implementing conservation and management measures. Explicit agreements to cooperate such as those between OSPAR and NEAFC and ASCMLE and SWIOFP are good examples of possible approaches to improving coherence among regional bodies in monitoring, assessment and application of regulatory and management measures.¹⁰⁹

Instituting collaborative processes such as strategic environmental assessment and marine spatial planning across regions that involve RFMOs and RSOs as well as other sectoral players in the marine environment will also assist in aligning and harmonising fisheries and biodiversity conservation considerations.¹¹⁰ Developing a common scientific baseline for fisheries and biodiversity conservation measures and recourse to a common scientific advisory body such as ICES in a particular region heightens the potential for greater coherence in fisheries and biodiversity conservation objectives. A commitment to cooperate on specific pilot projects between RFMOs and RSOs can also help to build commitment for resolving broader challenges facing both fisheries and biodiversity conservation agencies as well as cementing and fostering working relationships between both sectors. As well as direct collaboration between fisheries and biodiversity conservation bodies at the regional level, promoting openness to receiving input from non-governmental organizations and intergovernmental organizations can be valuable as such sources can stimulate and support cross-sectoral cooperation by providing ideas, documents and knowledge to relevant stakeholders. At the same time there is a need to strengthen collaboration at the national level amongst the responsible ministries for fisheries and biodiversity conservation, local communities and industry players so that a harmonized position is

¹⁰⁷ CBD, above note 94, Annex III, paragraphs 13-14. See also Exploring the Role of MPAs in Reconciling Fisheries Management with Conservation http://www.imr.no/om_havforskningsinstituttet/arrangementer/konferanser/mpafish2011/en

¹⁰⁸ CBD, above note 94, Annex III, paragraph 14.

¹⁰⁹ Ibid, Annex III, paragraph 16.

¹¹⁰ Ibid, Annex III, paragraphs 18 and 29.

taken by the same government in the various regional and international organizations and different stakeholder interests are represented.¹¹¹

New protocols or agreements to pursue processes such as environmental impact assessment, strategic environmental assessment and marine spatial planning at a regional scale could provide a more legally-binding science-based framework for cross-sectoral cooperation and management in fisheries and biodiversity conservation objectives. Eventually States may wish to consider moving towards a more fully fledged cross-sectoral coordinating mechanism or organization with representatives from the adjacent coastal states as well as relevant sectoral organizations, both global and regional. Such an organization could reflect more comprehensive objectives and may be able to implement a genuine marine spatial planning process for marine areas within and beyond national jurisdiction which could better align and harmonise fisheries and biodiversity conservation objectives.

Inter-regional Options

The exchange of scientific information on fisheries and biodiversity between regional governance bodies in adjacent or proximate regions can provide a starting point for enhanced cooperation and collaboration in achieving alignment and harmonisation of fisheries and biodiversity conservation goals. At the intra-regional level partnerships can be formed between regions that are more advanced in aligning and harmonizing fisheries and biodiversity conservation objectives and those at an early stage of developing cooperation between the sectors. Adjacent or proximate regions can also collaborate in developing complementary fisheries and biodiversity conservation objectives and action plans particularly where fish stocks and vulnerable marine ecosystems straddle both regions. At a more advanced stage, adjacent regions could also collaborate in developing strategic action plans to conserve and manage fisheries and biodiversity in the transboundary context and in proximate areas beyond national jurisdiction.

There is an increasing willingness to cooperate across sectors, through memoranda of understanding and other agreements, as evidenced in the North East Atlantic and ASCMLE case studies considered above.¹¹² This has led to joint work programs, joint meetings and participation on each other's meetings and scientific committees. But underpinning such agreements must be an understanding of

¹¹¹ Gjerde, K.M, Ardron, J., Gotheil, S., Hanich, Q., Simard, F., Warner, R., Bernal, P., Garcia, S., Lee, J. Lodge, M., Meliane, M. Rice, J., Sanders, J., and Vestergaard, O. (2010). Modalities for advancing cross-sectoral cooperation in managing marine areas beyond national jurisdiction, Report for UNEP's 12th Global Meeting of the Regional Seas Conventions and Action Plans.

¹¹² As an example of a general agreement to work cooperatively, see the Memorandum of Understanding between the North East Atlantic Fisheries Commission (NEAFC) and the OSPAR Commission (Agreement 2008-4) www.ospar.org/v.../get_page.asp?v0=08...NEAFC%20OSPAR%20MoU. The OSPAR Commission also took the initiative to invite other competent agencies and bodies, including the relevant RFMOs, IMO and ISA to consider the scientific case for protection of the Charlie Gibbs Fracture Zone.

the benefits such as certainty, prevention of duplication and increase in efficiency in achieving agreed goals and targets, the process for cooperation, and the human and financial resources committed.

Global Connections

Developing stronger links between fisheries and biodiversity conservation bodies at the regional level and relevant global organizations has clear and ongoing benefits. The best practice standards developed by global organizations such as the FAO and CBD have already contributed to the alignment and harmonization of fisheries and biodiversity conservation objectives at the regional level and have the potential to contribute further. The CBD Guidelines on EBSAs and Biodiversity Inclusive EIAs can assist in establishing a common approach to identification of areas and management of risks to marine biodiversity while respecting the varying competences of the regional and sectoral bodies. At the same time, the wealth of new scientific and technical data and information from RFMO efforts to identify VMEs, from the ISA scientific and planning initiatives, as well as from the Census of Marine Life and other scientific initiatives, can inform the conduct of EIAs and SEAs and help to identify EBSAs at the regional level.¹¹³ The development of a CBD-based global inventory of EBSAs in marine areas beyond national jurisdiction is providing a process for stimulating and coordinating cross-sectoral cooperation at the regional level and a globally accessible list of recognized EBSAs for conservation and management purposes.

At the regional level, RFMOs and States could be requested to cooperate in the protection of EBSAs vulnerable to deep sea or pelagic fishing impacts in the high seas, particularly pursuant to the provisions of the UN Fish Stocks Agreement for highly migratory and straddling fish stocks.¹¹⁴ This could be achieved through the adoption of binding management measures including spatial or temporal closures (year round, dynamic or seasonal), effort or gear restrictions, catch or bycatch quotas to reduce impacts on EBSAs or VMEs or other areas, and requiring full reporting of catches validated by some level of independent observer coverage.¹¹⁵ The FAO has also published many guidelines and international plans of action for the conservation and management of species, such as sharks, sea turtles and sea birds, the prevention of illegal, unregulated and unreported fisheries and the

¹¹³ For example, the website for the Global Ocean Biodiversity Initiative, (GOBI) offers a portal into data bases, maps, modelling tools, and scientific analysis relevant to EBSAs. GOBI was founded by the German government during its CBD presidency (2008-2010), in cooperation with the CBD Secretariat, the Census of Marine Life and other scientific partners (www.GOBI.org).

¹¹⁴ Under article 5 of the *United Nations Fish Stocks Agreement* on highly migratory fish stocks and straddling fish stocks, States are to “protect biodiversity in the marine environment”, “assess the impacts of fishing...” and “minimise ... impacts on associated and dependant species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost effective fishing gear and techniques.” And under Article 6 States are to “apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment.”

¹¹⁵ For information on RFMO activities by region see: <http://www.fao.org/fishery/rfb/search/en>

management of bycatch and reduction of discards. These guidelines could also include measures to reduce the catch of vulnerable species in areas where they are most at risk, using the EBSA criteria for endangered and threatened species or special importance for the life history of species.

The potential importance of global level stimulus through eg UNGA resolutions or a possible new multilateral agreement under LOSC should also be highlighted. Many States are already calling for a new implementing agreement to LOSC to address the conservation and sustainable use of marine biodiversity beyond national jurisdiction. By providing an explicit global level mandate for States and competent organizations to cooperate to conserve biodiversity, including through MPA networks and other area-based management tools, and environmental impact assessments, a new global agreement could enhance efforts towards regional cooperation based on common goals and objectives. It could also seek to fill the gaps where no regional seas organizations exist, stimulate capacity building and technology transfer and enhance scientific cooperation and coordination.¹¹⁶

For the future—Kobe Process—issues related to movements of HMS species and their implications for management (oceanic MPAs, interactions between fisheries) and the impact of FADs on oceanic ecosystems may eventually get on agenda as part of the first set of priorities. Currently listed as second set priorities, Kobe 3 report mentioned the possibility of workshops.

Also the GEF funded ABNJ project will be important. The program goal is: To promote efficient and sustainable management of fisheries resources and biodiversity conservation in the ABNJ, in accordance with the global targets agreed in international forums. The ABNJ Program, led by the Food and Agriculture Organization of the United Nations (FAO) in close collaboration with partners, comprises four projects: Project 1: Sustainable management of tuna fisheries and biodiversity conservation in the ABNJ; Project 2: Sustainable fisheries management and biodiversity conservation of deep sea living resources and ecosystems in the ABNJ. Project 3: Oceans partnership fund; and Project 4: Strengthening Global Capacity to Effectively Manage ABNJ. The GEF total of \$43,547,119 in indicative funding is expected to catalyze \$222,741,000 in co-financing.¹¹⁷ If spent wisely, fairly and transparently, this project could go a long way towards stimulating collaboration for sustainable fisheries management and biodiversity conservation in ABNJ.

6. Conclusions

¹¹⁶ Gjerde K. M., Rulska-Domino A., “Marine Protected Areas Beyond National Jurisdiction: Some Practical Perspectives for Moving Ahead”, (2012) 27 International Journal of Marine and Coastal Law , 351-273

¹¹⁷ Jeremy Turner The GEF/FAO ABNJ Program on Global Sustainable Fisheries Management and Biodiversity Conservation in Areas Beyond National Jurisdiction (ABNJ), Global Ocean Forum Newsletter, Special Issue on Marine Areas Beyond National Jurisdiction (ABNJ) May 4, 2012.

<http://www.globaloceans.org/sites/udel.edu.globaloceans/files/GEF-FAO-ABNJProgram-FAO.pdf>

Alignment of fisheries and biodiversity conservation objectives varies considerably across regions with relatively high levels of integration occurring in some regions such as the Antarctic and the North East Atlantic and embryonic levels of coherence in the Western Indian Ocean and South East Asia. There are many reasons for this diversity including the lack of primacy given to modern conservation principles in some RFMO agreements and policies, the lack of technical expertise and resources to implement ecosystem based conservation and management measures for fisheries and biodiversity at the regional level, the absence of cross institutional connections and collaboration between fisheries and biodiversity conservation organizations and slow uptake by regional bodies of global best practice standards for fisheries and biodiversity conservation. The lack of a global level mandate for cooperation and regular mechanisms for performance review are also important.

Analysis of state practice across a number of regions reveals some of the key ingredients for progressing enhanced alignment of fisheries and biodiversity conservation objectives at the regional level. These include:

- a. A focus on creating partnerships or platforms for cross-sectoral discussions and collaboration between fisheries and biodiversity conservation organizations within and across regions;
- b. The incorporation of modern conservation principles into RFMO Conventions and a commitment to implement them in fisheries conservation and management;
- c. The incorporation of global best practice standards for fisheries and biodiversity conservation management in the policies and practices of RFMOs and RSAs and a commitment to implement them;
- d. The development of a common science advisory foundation for fisheries and environmental bodies to use as a starting point for their policies and management measures;
- e. A commitment to share data across fisheries and biodiversity conservation sectors. For example, biodiversity data can feed into the RFMO consideration of conservation and management measures, and if EBSAs are identified, then RFMOs can take into account that information in adopting particular measures;
- f. A clear understanding from all sides of the benefits of cooperation, the processes that will be used, and the resources that each side is committing.
- e. The eventual development of a coordinating mechanism and strategic action plan for fisheries and biodiversity conservation in particular regions.

The model for enhanced alignment and harmonisation of fisheries and biodiversity conservation will be different for each region but is likely to contain most of the elements listed above in a form tailored to the political and governance characteristics of the particular region. Multiple benefits will flow from the convergence of fisheries and biodiversity conservation objectives at the regional level. Some of these benefits have been highlighted by the CBD in their new ten year Strategic Plan for Biodiversity 2011-2020 and include “the sustainable management and harvest of all fish and invertebrate stocks and aquatic plants applying ecosystem based approaches so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.”¹¹⁸ The achievement of the CBD’s target will be dependent to a large extent on continuing efforts to align and harmonize fisheries and biodiversity conservation objectives at the regional level.

¹¹⁸ CBD, above note 94, paragraph 1.