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ARTICLE

THE LAW ON HIGHLY MIGRATORY FISH STOCKS: ITLOS JURISPRUDENCE IN CONTEXT

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INTRODUCTION

The challenges posed upon international law on highly migratory species are formidable and exemplify the difficulties involved in governing common-pool resources. In spite of obstacles, the international community has successfully introduced legal standards to discipline the otherwise unregulated taking of species. Important qualifications to State sovereignty derive from the recognition that conservation of migratory species is a common concern of humankind and that States are under the duty to channel co-operation for conservation. As the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals elaborates, Contracting Parties,

Recognize[e] that wild animals in their innumerable forms are an irreplaceable part of the earth's natural system which must be conserved for the good of mankind, [and are] con-

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cerned particularly with those species of wild animals that migrate across or outside national jurisdictional boundaries.¹

In the context of marine biodiversity and fisheries in particular, the development of international law faces the additional legal obstacle that highly migratory fish stocks, characterizing single biological units, are subject to the different governance regimes of the high seas and the exclusive economic zone (hereinafter "EEZ"). This feature of the law, coupled with deliberately ambiguous provisions in pertinent international treaties, amplifies the potential for conflict between coastal States and distant fishing States over allocation, conservation, and management of highly migratory species. Two such conflicts have recently come before the International Tribunal for the Law of the Sea (hereinafter "ITLOS"), namely the dispute on swordfish (*Xiphias gladius*) between the European Union (hereinafter "EU") and Chile, and the controversy over southern blue-fin tuna (*Thunnus maccoyii*) between Japan and Australia and New Zealand.

This paper discusses some of the relevant principles and substantive obligations that require elucidation in controversies over highly migratory fisheries, with a particular focus on some of the legal issues relevant in the Swordfish case before the ITLOS.² The discussion first focuses on the law on high seas fisheries and particularly on the obligations to enact and enforce conservation measures, to produce and share information, and to co-operate in conservation. Subsequently, a focus on international environmental law allows further clarification on the relevance of the principle of common but differentiated responsibilities, the ecosystem approach to the conservation of marine biodiversity, and the precautionary principle. The analysis of relevant principles and obligations in these two areas of international law, i.e., high seas fisheries and interna-

¹ Preamble, Convention on the Conservation of Migratory Species of Wild Animals, reprinted in S.Lyster, *International Wildlife Law*, (Cambridge Univ. Press), pg. 411.

² For a broader report on that case, See M. Orellana, "The Swordfish Dispute between the EU and Chile at the ITLOS and the WTO", *Nordic Journal of international Law*, 71:55-81, 2002; J. Shamsey, "ITLOS vs. Goliath: The International Tribunal for the Law of the Sea Stands Tall with the Appellate Body in the Chilean-EU Swordfish Dispute", *Transnational Law and Contemporary Problems*, 12: 513-540, 2002.

tional environmental law, including their interpretation and application in relevant ITLOS jurisprudence, may avail in illuminating some of the deliberately ambiguous elements in the law on highly migratory fisheries.

A. HIGH SEAS FISHERIES

The progressive development of the law for the seas and of international environmental law, coupled with the need to provide effective protection to the global commons, has strongly qualified the traditional freedom of fishing in the high seas. The Seventeenth Century *Mare Liberum* world-view of Grotius, where nature does not give a right to anybody to appropriate such things as may inoffensively be used by everybody and are inexhaustible, and therefore sufficient for all,³ plainly does not exist anymore. Quite the opposite indeed: with the coming of age of new technologies and highly subsidized fleets, the global fisheries hit crisis, to the point that ‘there are too many boats after too few fish’.⁴

To prevent the collapse of valuable commercial fish stocks and to preserve the marine ecosystem, the law of high seas fisheries has taken important steps away from the absolute open-access regime premised on the inexhaustible nature of marine resources in place during the last centuries. Back in 1974, the International Court of Justice (hereinafter “ICJ”) already highlighted that,

It is one of the advances of maritime international law, resulting from the intensification of fishing, that the former *laissez-faire* treatment of the living resources of the sea in the high seas has been replaced by a recognition of a duty to have due regard to the rights of other States and the needs of conservation for the benefit of all.⁵

Although the international community is aware of the risks involved in unregulated fisheries, as the evidence of collapsing stocks is overwhelming, the conflicting and often irre-

³ H. Grotius, *On the Freedom of the Seas*, R. Van Deman, Trans., (Oxford), 1916, Chapter V.

⁴ See C. Stone, *Too many fishing boats, too few fish: can trade laws trim subsidies and restore the balance in global fisheries?*, 24 *Ecology L.Q.* 505 (1997).

⁵ *Fisheries Jurisdiction Cases* (U.K. v. Iceland; Germany v. Iceland), at 72.

ducible interests of coastal States vis-à-vis distant water fishing nations has obscured the prospects of an adequate international legal framework. After centuries of debate, the United Nations Convention on the Law of the Sea (hereinafter “UNCLOS”)⁶ represents a major accomplishment in providing a ‘constitution for the oceans’. However, the legal framework established by UNCLOS is built upon the compromise and accommodation of the different interests at stake, and is therefore deliberately ambiguous in many respects. The obscure content of the law has become the breeding ground for tensions in international relations,⁷ where the ‘wars’ over Cod, Turbot, Tuna, and more recently over Patagonian Toothfish, Southern Bluefin Tuna, and Swordfish have received the greatest attention.

To address mounting tensions and legal disputes, the 1992 United Nations Conference on Environment and Development expressed the need to effectively implement UNCLOS’ provisions on straddling and highly migratory fish stocks.⁸ In subsequent years, the United Nations hosted negotiations on the subject, which concluded in the United Nations Convention of the Law of the Sea of December 10, 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995 FSA).⁹ Although some questions remain outstanding and the interpretation of some provisions remains contested,¹⁰ the 1995 FSA has significantly contributed to clarifying Part VII of UNCLOS dealing with high seas fisheries.

⁶ U.N. Doc. A/CONF.62/122; signed on 10 December 1982; entered into force on 16 November 1994.

⁷ See Miles and Burke, *Pressures on the United Nations Convention on the Law of the Sea of 1982 Arising from New Fisheries Conflicts: The problem of Straddling Stocks*, 20 *Ocean Dev. and Int’l Law*, 352 (1989).

⁸ United Nations Conference on Environment and Development, Agenda 21, Chapter 17, para. 17.50, Doc. A/CONF. 151/26 (Part II). See also, N. Robinson, *Agenda 21 and the UNCED Proceedings: Collected Documents*, 1992.

⁹ UNDOC A/Conf. 164/38, Signed on 04 August 1995; Entered into force on 11 December 2001. [hereinafter 1995 FSA]. See also, J. van Dyke, “Modifying the 1982 Law of the Sea Convention: new initiatives on governance of high seas fisheries resources: the straddling fish stocks negotiations”, *International Journal of Marine and Coastal Law*, Vol. 10, 1995, 219-227.

¹⁰ T. Scovazzi, “The Evolution of International Law of the Sea”, *Recueil des Cours*, Tome 286, 2000; F. Orrego Vicuña, *The Changing International Law of High Seas Fisheries*, 1999; D. Anderson, “The Straddling Stocks Agreement of 1995: an Initial Assessment”, 45 *Int’l & Comp. L.Q.* 5, 463, 463-475 (1996).

Central to governing high seas fisheries, as set out in UNCLOS and the 1995 FSA, are the justiciable obligations regarding inter alia, conservation, exchange of information, and co-operation. In fact, several disputes regarding performance with these duties have come before the ITLOS, which may have jurisdiction to hear such disputes, subject to the choice of forum provided for in Part XV of UNCLOS.¹¹ Further, ITLOS may exercise jurisdiction to order provisional measures to preserve the rights of the parties or to prevent serious harm to the marine environment, pending the constitution of an arbitral tribunal, if such tribunal would prima facie have jurisdiction and if the urgency of the situation so requires.¹²

Compulsory dispute settlement in UNCLOS may avail to reduce tensions by peacefully resolving disputes on the basis of law. Yet, the relation between UNCLOS and other agreements addressing highly migratory species remains the object of much controversy, particularly in regards to jurisdiction. The first Annex VII Tribunal constituted under UNCLOS to hear the Southern Bluefin Tuna (SBT) controversy between Australia, New Zealand, and Japan was confronted with this problem, which ultimately turned on the interpretation of Part XV and specifically UNCLOS articles 281 and 282. In a highly controversial decision,¹³ the SBT Tribunal, after examining the exceptions to compulsory jurisdiction in UNCLOS Part XV, noted that, "UNCLOS falls significantly short of establishing a truly comprehensive regime of compulsory jurisdiction entailing binding decisions".¹⁴ The SBT Tribunal ultimately declined jurisdiction after finding that a regional fisheries convention in force between the Parties implicitly excluded any further procedure within the contemplation of UNCLOS Article 281; (thus

¹¹ UNCLOS, Part XV, Articles 287 & 288.

¹² UNCLOS, Part XV, Article 290.

¹³ See J. Peel, "A paper umbrella which dissolves in the rain? : the future for resolving fisheries disputes under UNCLOS in the aftermath of the Southern Bluefin Tuna arbitration" (2002) 3(1) *Melbourne Journal of International Law* 53; B. Oxman, 'Complementary Agreements and Compulsory Jurisdiction' (2001) 95 *American Journal of International Law* 277 ; L. Sturtz, *Southern Bluefin Tuna Case: Australia and New Zealand V. Japan*, 28 *Ecology L. Q.* 455 (2001) ; D. Morgan, *Implications of the Proliferation of International Legal Fora: The Example of the Southern Bluefin Tuna Cases*, 43 *Harv. Int'l L. J.* 541 (2002).

¹⁴ See, Southern Bluefin Tuna case, Arbitral Tribunal, Award on Jurisdiction and Admissibility of 4 August 2000, available at <http://www.worldbank.org/icsid/bluefintuna/main.htm>, at para. 62.

excluding Part XV compulsory procedures entailing binding decisions).¹⁵

Central to the Annex VII SBT Tribunal's reasoning was the question of whether a dispute involving a *lex specialis*, for example by virtue of an agreement which does not involve compulsory dispute settlement provisions such as the Whaling Convention, could be brought under UNCLOS compulsory jurisdiction. After noting the body of treaties with maritime elements that prescribe dispute resolution by means of the parties' choice,¹⁶ the SBT Tribunal intended to give effect to such dispute settlement provisions.¹⁷ In so doing, however, the SBT Tribunal may have eroded the pivotal role of compulsory dispute settlement in developing the global public order of the high seas established by the UNCLOS constitutional regime, particularly in regards to the integrity of common resources such as highly migratory species.

The relation between UNCLOS and other agreements extends well beyond the law of the sea into the law of treaties, and was argued as such before the SBT Tribunal.¹⁸ This problem is certainly compounded by the process of fragmentation that international law has followed in the latter XXth Century.¹⁹ On this point, the SBT Tribunal noted that, "the current range of legal obligations benefits from a process of accretion and cumulation; in the practice of States, the conclusion of an implementing convention does not necessarily vacate the obligations imposed by the framework convention[...]."²⁰ Although an exhaustive analysis of this question is beyond the scope of this piece, it appears that in regards to jurisdiction, as observed by the SBT Tribunal,²¹ the 1995 FSA specifies that UNCLOS dispute settlement provisions apply *mutatis mutan-*

¹⁵ *Id.* at para. 59.

¹⁶ Japan presented 107 examples of such bilateral and multilateral treaties in Annex 47 of its submission.

¹⁷ *Supra* note 14, at para. 63.

¹⁸ See Transcripts of the daily sessions of the hearing on jurisdiction, held in Washington, D.C. May 7-11, 2000; available at <http://www.worldbank.org/icsid/bluefintuna/main.htm>,

¹⁹ International Law Commission, Study Group on Fragmentation, M. Koskeniemi, *The function and scope of the lex specialis rule and the question of 'self-contained regimes': an outline*, 2003.

²⁰ *Supra* note 14, at para. 52.

²¹ *Supra* note 14, at para. 71; See 1995 FSA, Article 30.

dis to disputes concerning the interpretation or application of a regional highly migratory fisheries arrangement.²²

The application of international law in the field of highly migratory species is compounded by at least two other factors: first, the boundaries between what is a scientific and a legal dispute proper is not always easily ascertained;²³ and second, the content of the law remains in some areas subject to diverging interpretations. The next sections intend to illustrate the terms of the debate on the central obligations in the law on highly migratory fish stocks.

1. *Duty to Enact and Enforce Conservation Measures*

The high seas are global commons, where the community of nations has an interest and concern in its rational and peaceful use. UNCLOS sets out to reconcile the different uses and users of the high seas, by qualifying their rights with corresponding obligations. In regard to high seas fisheries, UNCLOS provides that,

All States have the duty to take, or to co-operate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.²⁴

This broad provision calls for some comments on the definition and content of conservation and management measures. The ICJ took the opportunity to clarify these points in its Judgment on the 1998 Fisheries Jurisdiction Case involving Canada and Spain, where it noted that for a measure to be characterized as a conservation and management measure according to international law, it is sufficient that its purpose is to conserve and manage living resources and that, to this end,

²² *Mutatis mutandis* refers to the changes necessary to adapt the UNCLOS dispute settlement procedures to the 1995 FSA. Further, the *MOX* Annex VII Tribunal's focus on whether the character of the dispute essentially involves the interpretation and application of UNCLOS avails to some extent. Permanent Court of Arbitration, the *Mox Plant* Case (Ireland v. United Kingdom), Order No. 3, June 24, 2003, 42 ILM 1187 (2003), para. 18.

²³ C. Foster, "The 'Real Dispute' in the Southern Bluefin Tuna Case: a Scientific Dispute?", *The International Journal of Marine and Coastal Law*, 2001, 16:4, pgs. 571-601.

²⁴ UNCLOS, Article 117.

it satisfies various technical requirements.²⁵ In examining State practice, the Court noted that conservation and management measures as described by reference to such criteria as, *inter alia*: the limitation of catches through quotas, the regulation of catches by prescribing periods and zones in which fishing is permitted, and the setting of limits on the size of fish which may be caught or the types of fishing gear which may be used.²⁶

This UNCLOS provision offers States wide discretion in determining which specific measures will be adopted and enforced. This discretion is matched by an equally wide responsibility: to ensure that those measures achieve the purpose of conserving living resources. In exercising this wide discretion, given that highly migratory stocks constitute single biological units, the determination of conservation measures for the high seas must necessarily consider those measures enacted by the coastal State within the EEZ, and vice versa. The 1995 FSA clarifies this point by requiring that measures in the high seas and within the EEZ shall be compatible to ensure the conservation of the highly migratory stock in its entirety.²⁷

The problems associated with this provision do not derive from the obligation to adopt conservation measures *per se*, but from the consequences engaged by non-compliance. As highly migratory species constitute biological stocks that cross and blur maritime delimitation boundaries, over-fishing in the high seas will undermine the coastal State's sovereign rights within the EEZ and vice versa. In the context of sovereign rights and special interests, the ICJ in the 1997 *Gabcikovo/Nagymaros* Case had no difficulty in acknowledging that the concerns expressed for the natural environment related to an 'essential interest' of the State.²⁸ In the face of unregulated and unreported fishing by vessels from States that systematically refuse to co-operate with the coastal State or to enact and enforce compatible conservation measures, thereby breaching their UNCLOS obligations, will international law impede the coastal

²⁵ *Fisheries Jurisdiction Case*, (Spain v. Can.) 1998 I.C.J. 432, at para. 70.

²⁶ *Id.*

²⁷ 1995 FSA, Article 7.

²⁸ *Gabcikovo/Nagymaros Case*, (Hung. v. Slov.), 1997 I.C.J. 7, at para. 53.

State from taking appropriate measures to safeguard its essential interests?²⁹ As a well-known writer explains,

We are aware of no reason why a State injured by the breach of a treaty by another party should not take non-forcible reprisals against it, that is, non-forcible measures, economically financial or other, which would but for the fact that they are reprisals, be illegal; for instance,... a refusal to permit the otherwise lawful landing of fish caught by the wrong doing State's nationals in a manner, or in a place, made illegal by a fisheries convention.³⁰

The debate on countermeasures has received renewed attention after the ICJ's decision in the *Gabcikovo/Nagymaros Case*,³¹ and the International Law Commission has extended the debate to encompass the breach of obligations owed to the community of nations.³² As the high seas are global commons, the failure to enact and enforce effective conservation measures affects the rights and interests of the international community as a whole, including future generations. In the context of highly migratory species traversing the high seas and maritime areas under national jurisdiction, the coastal State would be specially affected by the breach of such *erga omnes* obligations.³³ Thus, in the face of a breach of the duty to take conservation measures in the high seas, individual and/or collective non-forcible and proportionate countermeasures applied to induce the wrong doing State to comply with its international obligations should pass the legitimacy test under the law of State responsibility.³⁴ UNCLOS provisions on compulsory set-

²⁹ See W. Burke, *The New International Law of Fisheries*, (Oxford), 1994, pgs. 219-224.

³⁰ A. McNair, *Law of Treaties*, 2d. ed., pg. 578; See also, A. Aust, *Modern Treaty Law and Practice*, (Cambridge Univ. Press), 2000, pgs. 300-4.

³¹ *Supra* note 28, at paras. 82-87.

³² See United Nations International Law Commission (ILC), *Third Report on State Responsibility* by Prof. James Crawford, Special Rapporteur, Addendum 4, July 2000, A/CN.4/507/Add.4.; See also, ILC, *State Responsibility Titles and texts of the draft articles on Responsibility of States for internationally wrongful acts adopted by the Drafting Committee on second reading*, A/CN.4/L.602/Rev.1, 26 July 2001.

³³ See UN ILC *Commentaries to the Draft Articles on the Responsibility of States for Internationally Wrongful Acts*, Articles 42 & 48.

³⁴ See UN ILC *Commentaries to the Draft Articles on the Responsibility of States for Internationally Wrongful Acts*, article 54. Collective countermeasures would give rise to additional legal issues, beyond the scope of this paper.

tlement of disputes would be triggered in such a scenario, preventing the escalation of the dispute and offering binding decisions.

The duty to enact and enforce conservation measures also has clear implications for the more general obligation to prevent environmental harm. Following the reasoning of the ITLOS in the Southern Bluefin Tuna Cases, "the conservation of marine living resources is an element in the protection and preservation of the marine environment."³⁵ This proposition is closely connected to the principle *sic utere tuo ut alienum non laedas*,³⁶ which was clarified by the ICJ in its 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons,

The 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.³⁷

Under contemporary international law, it is thus clear that conservation is a duty to be complied with in good faith by States. The problem remains, however, as to how to equitably distribute the resources among interested parties; this is, how to share a limited supply of resources among States which naturally want to maximize their own portion.³⁸ The schemes in place until now have been based on the co-operation of interested States through international fisheries organizations. However, the effectiveness of these arrangements has been far from optimal, as these institutions face serious structural problems in relation to their mandates, decision-making processes, and financial arrangements. Perhaps the future development of the law on highly migratory species will recognize that high

³⁵ ITLOS, *Southern Bluefin Tuna Cases*, Order for Provisional Measures, available at <http://www.itlos.org>, at para. 70. (last visited April 6, 2004).

³⁶ See G. Palmer, *New Ways to Make International Environmental Law*, 86 *Am. J. of Int'l L.* 259, 264 (1992).

³⁷ ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, pp. 241-242, para. 29.

³⁸ S. Oda, *International Control of Sea Resources*, 64 (Martinus Nijhoff Pub.)(1989).

seas fisheries belong to the province of humankind, and that its fruits should be shared by all peoples.

2. *Duty to Produce and Share Information*

There is wide consensus on the importance of timely and accessible information for sound environmental management.³⁹ Further, the procedural approach to the human rights and environment debate recognizes that access to information is the key to enabling public participation and strengthening civil society.⁴⁰ International human rights law has incorporated the right to receive and disseminate information to its sphere of protected rights, identifying the links between the flow of ideas and the foundations of democracy. Against this background, it should come as no surprise that the law of the sea, cognizant of the importance of information for the conservation of marine living resources, imposes upon fishing, port, and coastal States the duty to produce and share information.

This international obligation is multifaceted, and relates to activities undertaken by State officials, scientists, port authorities, marine vessels, and non-parties. The starting point is again UNCLOS, which emphasizes the importance of scientific exchange and provides as follows,

Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether sub-regional, regional or global, where appropriate and with participation by all States concerned.⁴¹

This dimension of the information obligation derives from the need to establish and design conservation measures on the basis of best scientific evidence available.⁴² This obligation thus

³⁹ See Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters, 38 I.L.M. 517 (1999); See also, M. Gavouneli, *Access to Environmental Information: Delimitation of a Right*, 13 *Tul. Envt'l L. J.* 303, 303-327 (2000).

⁴⁰ See generally, A. Boyle & M. Anderson, *Human Rights Approaches to Environmental Protection*, (Oxford Univ. Press) (1996).

⁴¹ *Supra* note 11, at art. 119(2).

⁴² *Id.* at 119 (1).

requires States to monitor captures, position, and fishing efforts of vessels flying its flag,⁴³ and, according to their relative capacities, to implement scientific research programs.⁴⁴ The obligation to co-operate in scientific research was perfected by the 1995 FSA, which requires Parties to collect and exchange scientific, technical, and statistical data, and to ensure that the data is detailed, timely, and accurate.⁴⁵ The resulting information shall be made available to the competent international organization, and in the absence of regional arrangements to the FAO. A breach of this duty will seriously undermine efforts to achieve the sustainable exploitation of highly migratory fish stocks, affecting the rights and interests of both coastal States and the international community.

Next to the role of science, the duty to produce and disseminate information also involves other activities of States. The 1995 FSA elaborates on the obligation of States to regularly exchange information regarding conservation measures adopted for straddling and highly migratory stocks.⁴⁶ Further, a State may conduct inspection of catch, gear, and documents of vessels voluntarily in its ports, and in case of a violation, it shall communicate relevant information to the flag-State.⁴⁷ States are also required to maintain a registry of marine vessels authorized to fly its flag, and these records shall be accessible upon request by interested States.⁴⁸ Furthermore, flag-States undertaking an investigation for alleged violations of conservation measures shall promptly report on the progress and outcome of such investigation.⁴⁹ Likewise, boarding and inspection procedures conducted by any Party shall be promptly communicated, as well as results of investigations in case of a violation of conservation measures.⁵⁰

The problem of illegal, unregulated and unreported (hereinafter "IUU") fishing and non-parties deserves separate men-

⁴³ See 1995 FSA, Article 18.

⁴⁴ See, 1995 FSA, Articles 5, 6, 10.

⁴⁵ *Id.* at art. 14; See also FAO Code of Conduct, Articles 6.4 and 7.4.

⁴⁶ 1995 FSA, Articles 7(7) and 7(8).

⁴⁷ *Id.* at Article 23 (2); See also FAO Compliance Agreement, Article V.

⁴⁸ *Id.* at Article 18 (3)(c); See also FAO Compliance Agreement, Articles IV and VI.

⁴⁹ *Id.* at Article 19 (1)(b) and 20 (3).

⁵⁰ *Id.* at Article 21; See also FAO Compliance Agreement, Article V.

tion, as the exchange of information is also playing an important role in the efforts of the international community in eliminating IUU fishing.⁵¹ Initiatives in this ambit include the elaboration of rosters (black lists) of vessels engaged in IUU fishing, the denial of fishing permits to vessels that have been involved in IUU fishing, and the practice of reporting sightings of IUU vessels to international fisheries organizations and other States.

The ITLOS has dealt with exchange-of-information issues in two cases: the MOX Plant case and the Straits of Johor case. These two cases do not concern highly migratory species, but rather the protection of the marine environment and navigational rights; thus the ITLOS analysis is only pertinent by analogy.

The MOX Plant case essentially concerns discharges into the Irish Sea of certain radioactive wastes as a result of the operation of the MOX Plant, which is a new plant in the United Kingdom designed to reprocess spent nuclear fuel into new mixed oxide fuel⁵² (hereinafter "MOX"), with a view to its transport by sea to Japan. Ireland argued that the UK had withheld information concerning the economic justification of the MOX Plant, in breach of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention).⁵³ Ireland further argued that the UK had breached its UNCLOS obligations on the protection of the marine environment.⁵⁴ The UK in turn argued that the operation of the MOX Plant will lead to only infinitesimally small and negligible discharges, and thus a breach of the obligations con-

⁵¹ FAO, IUU Plan of Action, para. 80.

⁵² MOX or mixed oxide fuel is made from a mixture of plutonium dioxide and uranium dioxide.

⁵³ This dispute over the information concerning the economic justification of the MOX Plant was submitted to an arbitral tribunal under the OSPAR Convention, which ultimately ruled that the information requested was beyond the scope of the OSPAR Convention, dismissing Ireland's claims. See Permanent Court of Arbitration, Dispute Concerning Access to Information Under Article 9 of the OSPAR Convention, (Ireland v. United Kingdom), Final Award, 02 July 2003, 42 ILM 1118 (2003).

⁵⁴ Ireland further argued that the UK had failed to assess the impacts of the MOX Plant, to cooperate with Ireland, and to take all measures necessary to prevent pollution of the Irish Sea. See *MOX Plant Case*, ITLOS, Request for Provisional Measures and Statement of Case of Ireland, 09 November 2001; available at www.itlos.org. See also, *MOX Plant Case*, Annex VII Arbitral Tribunal, Memorial of Ireland, 26 July 2002; available at <http://www.pca-cpa.org>.

cerning the protection and preservation of the marine and environment was not established.⁵⁵

Ireland submitted the dispute concerning UNCLOS to an Annex VII Arbitral Tribunal, and requested the ITLOS to order provisional measures pending its constitution. The ITLOS noted that "prudence and caution require that Ireland and the United Kingdom cooperate in exchanging information concerning risks or effects of the operation of the MOX Plant and in devising ways to deal with them, as appropriate."⁵⁶ Upon this reasoning, the ITLOS prescribed a provisional measure, ordering the Parties to

- (a) exchange information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant; (b) monitor risks or the effects of the operation of the MOX plant for the Irish Sea; and (c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant.⁵⁷

The approach adopted by the ITLOS in the MOX Plant case follows the articles on prevention of transboundary harm from hazardous activities adopted by the UN International Law Commission ("ILC"), which requires States concerned to exchange in a timely manner all available information relevant to preventing significant transboundary harm.⁵⁸ The approach indicated by the ILC may have also influenced the MOX Annex VII Tribunal, which affirmed the provisional measure prescribed by ITLOS.⁵⁹

The Straits of Johor case raises similar issues to the MOX Plant case in regard to the duty to produce and share information. This controversy concerns the effects of land reclamation

⁵⁵ *Mox Plant Case*, ITLOS, Written Response of the United Kingdom, 15 November 2001; available at www.itlos.org. See also, *Mox Plant Case*, Annex VII Arbitral Tribunal, Counter-Memorial of the United Kingdom, 09 January 2003; available at <http://www.pca-cpa.org>.

⁵⁶ *Mox Plant Case*, ITLOS Case No. 10, Order 03, December 2001, available at <http://www.itlos.org>, at para. 84.

⁵⁷ *Id.* at para. 89.

⁵⁸ ILC, Prevention of Transboundary Harm from Hazardous Activities, adopted at its 53d Session (2001), Articles 12 & 13.

⁵⁹ *MOX Plant Case*, Permanent Court of Arbitration, Annex VII Arbitral Tribunal, Order No. 3, June 24, 2003, 42 ILM 1187 (2003).

activities by Singapore in the Straits of Johor on Malaysia's rights to the natural resources within its territorial sea and to the integrity of the marine environment in the area. On 04 July 2003 Malaysia instituted arbitral proceedings under Annex VII of UNCLOS to resolve this dispute, and on 05 September 2003, pending the constitution of the Arbitral Tribunal, Malaysia submitted to the ITLOS a request for the prescription of provisional measures.

During the proceedings for provisional measures, the ITLOS placed on the record the assurances given by Singapore to share information, to provide a full opportunity to comment, and to enter into negotiations.⁶⁰ The ITLOS further noted that there had been insufficient cooperation between the Parties,⁶¹ and that "given the possible implications of land reclamation on the marine environment, prudence and caution require that Malaysia and Singapore establish mechanisms for exchanging information and assessing the risks or effects of land reclamation works and devising ways to deal with them in the areas concerned."⁶² Upon this basis, the ITLOS ordered Malaysia and Singapore to produce and share information, and specifically to,

(a) establish promptly a group of independent experts with the mandate (i) to conduct a study, on terms of reference to be agreed by Malaysia and Singapore, to determine, within a period not exceeding one year from the date of this Order, the effects of Singapore's land reclamation and to propose, as appropriate, measures to deal with any adverse effects of such land reclamation; [... and,]

(b) exchange, on a regular basis, information on, and assess risks or effects of Singapore's land reclamation works;

3. *Duty to Co-operate in Conservation*

The duty to co-operate in the protection of the marine environment and in the conservation of highly migratory species

⁶⁰ *Straits of Johor Case*, ITLOS Case No. 12, Provisional Measures, Order 08, October 2003, available at <http://www.itlos.org>, at para. 81.

⁶¹ *Id.* at para. 97.

⁶² *Id.* at para. 99.

is well established.⁶³ This international obligation is the cornerstone of fisheries management, arising from conventional and customary sources of law. As the ICJ in the 1974 Fisheries Jurisdiction case ruled,

...both Parties have the obligation to keep under review the fishery resources in the disputed waters and to examine together, in the light of scientific and other available information the measures required for conservation and development of equitable exploitation of those resources[...].⁶⁴

The decision of the ICJ certainly influenced the negotiations under the Third United Nations Conference on the Law of the Sea. The ICJ had to face the difficult task of deciding a case where the applicable law was evidently changing, both in the context of ongoing negotiations and of emerging customary rules on the EEZ. The ICJ weighed in favor of the progressive development of the law, accounting for the changes in technological capacity that threatened to deplete commercial stocks.

UNCLOS reflected the trend towards conservation and introduced the obligation on the coastal State and other States whose nationals fish in the region for highly migratory species to co-operate directly or through appropriate international organizations.⁶⁵ Thus, in the absence of an international organization, Parties are still required to co-operate, with a view to ensuring conservation and promoting optimum utilization of highly migratory species, both within and beyond the exclusive zone. This provision stops short of outlining further detail as to which specific conservation measures shall be taken by States interested in the stocks. As a matter of interpretation, this provision must be taken to include measures that render conservation effective, in line with emerging minimum standards and with the state-of-the-art in fisheries management and conservation.

UNCLOS makes special provision for the creation of international fisheries organizations as a means of channeling co-

⁶³ See *Mox Plant Case*, ITLOS Case No. 10, Order of 3 December 2001, para 82, "the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under UNCLOS and general international law....", available at <http://www.itlos.org>

⁶⁴ Fisheries Jurisdiction Cases (U.K. v. Ice.; F.R.G. v. Ice.), 1974 I.C.J. 3, at 72.

⁶⁵ *Supra* note 11, at art. 64.

operation. It explicitly states that, “in regions where no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall co-operate to establish such an organization and participate in its work.”⁶⁶ As has been repeatedly noted, it is significant that UNCLOS introduced a distinction between the extent of co-operation for straddling stocks and for highly migratory stocks.⁶⁷ For the latter, UNCLOS imposes an obligation of result, a *pactum de contrahendo*, upon interested States to enter into negotiations and conclude an agreement.⁶⁸ This obligation to reach an agreement must be interpreted under the light of the ICJ’s decision in the North Sea Continental Shelf cases, where the Court stressed that negotiations should be conducted in a meaningful way, with a view to concluding agreements.⁶⁹

The questions that remain obscure relate to the actual content of the agreement to be concluded. In this regard, concerned States have a wide margin to discuss the scope and fine points of measures, with a view to achieving conservation. It must be emphasized that the duty to co-operate in conservation is not fully performed either with the conclusion of a bilateral agreement or with the creation of an international fisheries organization. These two modalities of co-operation are only vehicles for achieving the purpose of the duty to co-operate imposed by UNCLOS, which is the conservation of highly migratory species. Thus, the duty to co-operate, besides requiring the conclusion of bilateral or multilateral agreements, exacts from the Parties constant monitoring and enforcement efforts to ensure that fishing activities do not compromise the ecological balance of the marine ecosystem.

In the changing law of high seas fisheries, international fisheries organizations are acquiring increasing importance in the implementation of UNCLOS provisions regarding the duty

⁶⁶ *Id.*

⁶⁷ Francisco Orrego Vicuña, *The Exclusive Economic Zone*, 61-62 (Cambridge Univ. Press) (1989).

⁶⁸ A. Tahindro, *Conservation and Management of Transboundary Fish Stocks: Comments in Light of the Adoption of the 1995 Agreement for the Conservation and Management of Straddling Stocks and Highly Migratory Fish Stocks*, 28 *Ocean Dev. & Int’l L.* 1, 19 (1997). [hereinafter A. Tahindro].

⁶⁹ *North Sea Continental Shelf Cases*, 1969 I.C.J. 3, at para. 87.

to co-operate for the conservation and management of highly migratory stocks. The adequate functioning of these fisheries organizations is central for the achievement of conservation, and renewed inquiry on their structural and financial deficiencies would contribute to that purpose.⁷⁰ Of particular importance is the need to establish and implement an effective enforcement regime in the high seas,⁷¹ as the lack of such a legal framework has left the obligation to co-operate in conservation largely ignored.⁷²

To close this and other loopholes, the already important role envisaged by UNCLOS for fisheries organizations was strengthened by the 1995 FSA. Under the 1995 FSA, States find themselves under an obligation to create fisheries organizations, join existing organizations, or else face exclusion from high seas fisheries.⁷³ This new role and authority envisaged for fisheries organizations represents a fundamental change in the law of the sea, as traditional freedoms in the high seas are being replaced by the duty to channel co-operation through international organizations. And where the political process deadlocks in such regional and other arrangements, compulsory jurisdiction including provisional measures avails to ensure compliance with UNCLOS underlying high seas conservation obligations.⁷⁴

One of the difficulties involved in the operation of compulsory jurisdiction over high seas fishing is that highly migratory species also traverse the waters under national jurisdiction, which are excluded from such compulsory jurisdiction.⁷⁵ Indeed, UNCLOS exempts coastal states from submitting to compulsory proceedings in disputes relating to its sovereign rights with respect to living resources in its EEZ or their exercise, including its determination of allowable catch, its harvesting

⁷⁰ See, FAO Committee on Fisheries, *The Role of Regional Fishery Organisations and Arrangements in Fisheries Management*, FAO Doc. COFI/95/4.

⁷¹ See, M. Hayashi, *Enforcement by Non-Flag States on the High Seas Under the 1995 Agreement on Straddling and Highly Migratory Fish Stocks*, 9 *Geo. Int'l Env'tl. L.R.* 1, 1-36 (1996).

⁷² A. Tahindro, at 2.

⁷³ 1995 FSA, Article 8(4).

⁷⁴ B. Oxman, *Complementary Agreements and Compulsory Jurisdiction*, 95 *Am. J. of Int'l L.* 277, 288-9 (2001).

⁷⁵ See A. Boyle, *Dispute Settlement and the Law of the Sea Convention: Problems of Fragmentation and Jurisdiction*, 46 *Int'l & Comp. L. Q.* 37, (1997).

capacity, the allocation of surpluses to other States, and the application of its own conservation and management laws and regulations.⁷⁶ The SBT Annex VII Tribunal considered such exemption as a source of imbalance “in the rights and obligations of coastal and non-coastal states in respect of settlement of disputes arising from events occurring within their respective EEZs and on the high seas.”⁷⁷ In the SBT dispute, EEZ jurisdictional limitations precluded Japan’s potential counterclaim that it was the conduct of Australia and New Zealand in their EEZs which threatened the integrity of the stocks, rather than its experimental fishing program.⁷⁸ In the conflicts of interests between coastal states and distant water fishing nations, allegations of inadequate management practices in EEZs are not infrequent, such as in the dispute originating in the Canadian seizure of the *Estay* beyond its EEZ for repeatedly violating the regional agreement’s conservation measures.⁷⁹ Ultimately, the difficulties of this jurisdictional exclusion must be seen under the terms that were necessary to achieve a balance of interests in UNCLOS generally, beyond specific disputes.

In relation to jurisdiction and also with respect to substantive obligations, the situation of non-parties to regional agreements concluded for the conservation of highly migratory species raises another set of difficult questions. The ITLOS in the SBT case addressed the impact of unregulated fishing of non-parties to the 1993 Convention on the Conservation of Southern Bluefin Tuna, in force between Australia, Japan, and New Zealand. At the time the dispute crystallized, the 1995 FSA was not in force and the effectiveness of international cooperation among the CCSBT members was frustrated by third free-rider States and fishing entities, including Taiwan, China, Korea, and other flag-of-convenience vessels.⁸⁰ These non-parties were banking on the structural deficiencies of unregulated open-access regimes that lead to unsustainable patterns

⁷⁶ UNCLOS, Article 297(3)(a).

⁷⁷ SBT Arbitral Award, *supra* note 14, at para. 62.

⁷⁸ C. Romano, ‘The Southern Bluefin Tuna Dispute: Hints of a World to Come... Like It or Not’, *Ocean Development & International Law*, 32:313-348, 2001, pg. 332.

⁷⁹ *See supra* note 25.

⁸⁰ Southern Bluefin Tuna Cases, (N.Z. v. Japan; Austl. v. Japan) Provisional Measures Order of 27 Aug. 1999, 32 I.L.M. 1264, at paras. 76 & 78.

of production, highlighting the inadequacies of the *mare liberum* doctrine.

The ITLOS took note of this situation and ordered Australia, Japan, and New Zealand to “make further efforts to reach agreement with other States and fishing entities engaged in fishing for southern bluefin tuna, with a view to ensuring conservation and promoting the objective utilization of the stock”.⁸¹ Since this order, the Parties established an Extended Commission and an Extended Scientific Committee to the CCSBT Commission in 2001⁸², Korea became a Party to the CCSBT in October 2001,⁸³ and Taiwan was admitted as a member of the Extended Commission in August 2002.⁸⁴ Further, the Extended Commission adopted a resolution in October 2003 establishing the status of “co-operating non-member” of the Extended Commission.⁸⁵ Indonesia and The Philippines have indicated

⁸¹ *Id.* at para. 90.

⁸² Commission for the Conservation of Southern Bluefin Tuna, Resolution to Establish an Extended Commission and an Extended Scientific Committee, Attachment 1 to the Report of the Seventh Annual Meeting, 18th-21st April 2001. The Extended Commission is a body consisting of Parties to the CCSBT and any other entities or fishing entities whose flagged vessels have caught SBT at any time in the previous three years and that have been admitted to the Extended Commission in accordance with procedures outlined in the resolution. The Extended Commission provides a means by which non-Parties to the CCSBT that do not meet the requirements of Art 18 for accession to the CCSBT, or Parties that do not wish to accede to the Convention, can undertake to be bound by the same substantive obligations as CCSBT Parties. The Extended Commission and Scientific Committee are mandated to “perform the same tasks as the Commission and Scientific Committee including, ...deciding upon a total allowable catch and its allocation among the Members” and the CCSBT provisions governing the Commission and Scientific Committee apply equally to these bodies. Additionally, decisions of the Extended Commission, once reported, become decisions of the Commission and decisions of the Commission that affect “the operation of the Extended Commission or the rights, obligations, or status of individual Members” cannot be made without prior due deliberation by the Extended Commission.

⁸³ Commission for the Conservation of Southern Bluefin Tuna, Report of the Eight Annual Meeting, 15th-19th October 2001, paras 10-11.

⁸⁴ Extended Commission for the Conservation of Southern Bluefin Tuna, Report of the Extended Commission of the Ninth Annual Meeting of the Commission, 15th-18th October 2002, para 2.

⁸⁵ Extended Commission for the Conservation of Southern Bluefin Tuna, Report of Extended Commission of the Tenth Annual Meeting of the Commission, 7th -10th October 2003, para 23; Co-operating non-Members are countries or entities that agree to abide by CCSBT conservation measures, including catch limits, and any other measures imposed by the Extended Commission as part of the requirements for admission. Co-operating non-Members can participate in meeting of the Extended Commission but cannot vote. See, Resolution to Establish the Status of Co-operating Non-Member of the Extended Commission and the Extended Scientific Committee, Attach-

an interest in becoming co-operating non-Members⁸⁶ and both these countries, as well as South Africa, will be invited to become co-operating non-Members in 2004.⁸⁷ Until 2002, other countries not co-operating with CCSBT and continuing to trade in SBT included Cambodia, Honduras, the Seychelles, Belize, and Equatorial Guinea.⁸⁸

The experience of other international fisheries co-operation regimes, notably ICCAT and CCAMLR, shows that efforts to engage non-contracting Parties may be nullified by the economic benefits accruing to these States from IUU fishing. Against this background, the ICCAT has consistently asserted that its calls for voluntary co-operation by non-contracting parties have been unsuccessful.⁸⁹ Port access and trade measures to deal with IUU fishing have also been examined by the FAO, ICCAT and the CCAMLR, which opens a whole other area of inquiry as to the compatibility of such measures with the World Trade Organization.⁹⁰

Besides its focus on strengthening regional arrangements, the 1995 FSA sets out to provide further detail as to the meaning and content of the duty to co-operate in the conservation of highly migratory stocks. The agreement introduces considerations regarding inter alia, long-term sustainability, best scientific evidence, the precautionary approach, the ecosystem approach, the elimination of over-capacity, the collection and dissemination of scientific information, and the effective monitoring and surveillance to implement and enforce conservation

ment 7 to the Report of Extended Commission of the Tenth Annual Meeting of the Commission, 7th–10th October 2003.

⁸⁶ Extended Commission for the Conservation of Southern Bluefin Tuna, Report of Extended Commission of the Tenth Annual Meeting of the Commission, 7th–10th October 2003, para 18.

⁸⁷ Extended Commission for the Conservation of Southern Bluefin Tuna, Report of Extended Commission of the Tenth Annual Meeting of the Commission, 7th–10th October 2003, para 24.

⁸⁸ CCSBT 2003 Report. at para. 27, where it appears that no further action would be taken against the countries listed above due to a lack of catches in the past year

⁸⁹ Communications from the ICCAT Secretariat to the WTO's Committee on Trade and Environment, WT/CTE/W/87 (16 July 1998) and WT/CTE/W/152 (29 June 2000)

⁹⁰ See R. Tarasofsky, *Regional Fisheries Organizations And The World Trade Organization: Compatibility Or Conflict*, Traffic 2003; See generally, H. Mann & S. Porter, *The State of Trade and Environment Law*, CIEL-IISD, 2003.

measures.⁹¹ These components of the duty to co-operate in conservation offer interested States a background against which they can measure their performance of their international obligations.

As the effectiveness of co-operation and conservation depends on environmental factors that may escape the capabilities of the Parties, and as these obligations involve degrees of effort, rising difficulties appear in the determination of a potential breach of the obligation to co-operate in conservation. These problems pose the question of whether the duty to co-operate in conservation is amenable to international adjudication. This question is further compounded by the fact that management of fish stocks requires highly specialized and detailed expertise, which opens the risk of international tribunals being called to micro-manage particular fisheries under the guise of dispute settlement. The assessment of the conduct of the Parties in the determination of a breach of the duty to co-operate could involve complex issues of inconclusive science, which might escape the area of expertise of international judges.

In facing this issue, several formulas stand out as alternatives to fisheries micro-management by international tribunals. The establishment of conciliation commissions as a necessary prior step to compulsory technical arbitration could provide resort to highly technical expertise in the determination of key issues such as total allowable catch, impacts on associated species, use of selective gear, among others. Next, resort to denial of port and/or market access in case of discrepancy, following the Agreement on the European Economic Area model,⁹² would provide greater leverage to the coastal State and an incentive to distant fishing States or entities to agree on appropriate conservation measures. Along this line, another tool for avoiding micro-management is the introduction of residual provisions granting competence to the coastal State for determining relevant conservation measures in case of discrepancy, given its special interest in the preservation of its sovereign EEZ rights, following the model provided in the 2000 Galapagos

⁹¹ *Id.* at Article 5.

⁹² See R. Churchill & P. Orebech, *The European Economic Area and Fisheries*, 8 *Int'l J. Marine & Coastal L.* 4, 465.

Agreement between Chile, Ecuador, Peru and Colombia.⁹³ Finally, the introduction of certification schemes, such as eco-labeling, catch documentation schemes, and certificates of origin, could shift the focus away from dispute settlement and breach of duty, towards market access and the elaboration of sound environmental management criteria.

B. INTERNATIONAL ENVIRONMENTAL LAW

Growing awareness of the interdependency of ecosystems, the chaotic and complex nature of the links that tie life on the planet, and the fragility of life-threads has strongly qualified the concept of State sovereignty, especially regarding activities with trans-boundary effects, activities affecting the global commons, and the use of shared natural resources.⁹⁴ In this context, the emergence of new principles and norms relating to the protection of the environment is one of the most significant expressions of the progressive development of international law over the last past decades. Mindful of these developments, in its 1997 Judgment on the *Gabcikovo/Nagymaros Case*, the ICJ noted that,

[...] Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind –for present and future generations—of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the

⁹³ The *Galapagos Agreement* refers to the Framework Agreement for the Conservation of Living Marine Resources of the High Seas of the Southeast Pacific (signed on August 14, 2000 in Santiago, Chile). The *Galapagos Agreement* was adopted in the context of the Permanent Commission for the South Pacific (CPPS), which was created pursuant to the Arrangement on the Organization of the Permanent Commission for the Conference on Exploitation and Conservation of Marine Resources in the South Pacific (signed on August 18, 1952 in Santiago, Chile). See also M. Orellana, *supra* note 2, at 63.

⁹⁴ See P. Birnie & A. Boyle, *International Law and the Environment*, 112-127(Oxford Univ. Press) (1992).

past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development. [...] ⁹⁵

The following sections address three issues of particular importance for the environmental dimensions of the law on highly migratory fish stocks, namely the ecosystem approach, the precautionary principle, and the principle of common but differentiated responsibilities.

1. *The Ecosystem Approach to the Conservation of Marine Biodiversity*

It is a truism that species do not exist in a vacuum, but form part of an intricate web of life where energy flows along composite food chains. The concept of 'ecosystem' has become central to understanding the intricacies involved in the protection and management of wildlands, wildlife, and renewable natural resources. The ecosystem has been defined as "a complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit". ⁹⁶ The 1982 United Nations World Charter for Nature describes the point with accuracy,

[...] life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients. ⁹⁷

While earlier international agreements on migratory species focused on managing individual species so that they would produce the greatest harvest year after year, the ecosystem approach is receiving increasing application, even by those treaties limited to regulating the killing of wildlife. ⁹⁸ Essentially, the ecosystem approach requires that measures designed for the conservation of particular species take into account the impacts on dependent and associated species. A visible expression of the ecosystem approach is the focus on habitat protec-

⁹⁵ See supra note 28, at para. 140.

⁹⁶ Convention on Biological Diversity, Article 2.

⁹⁷ World Charter for Nature, 37 UN GAOR (Supp. No. 51) 17, reprinted in Sands et. al., eds., *Documents in International Environmental Law*, 31-36 (Manchester Univ. Press) (1994).

⁹⁸ S. Lyster, *International Wildlife Law*, 300 (Cambridge Univ. Press) (1993).

tion in instruments such as the Convention on the Conservation of Nature Protection and Wildlife Preservation in the Western Hemisphere,⁹⁹ the African Convention on the Conservation of Nature and Natural Resources,¹⁰⁰ the Convention on the Conservation of European Wildlife and Natural Habitats,¹⁰¹ and the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat.¹⁰²

The ecosystem approach has encountered several obstacles in its application to the marine environment, not least due to the fact that the marine environment has remained relatively unexplored, in comparison with its terrestrial counterpart.¹⁰³ There is however, mounting evidence of the serious impacts on the marine ecosystem by industrial and selective fisheries, which can reduce biological diversity at the genetic, species, and ecosystem levels, affecting age distribution, stock structure, and reproduction of exploited fish stocks.¹⁰⁴ Moreover, incidental by-catch of species not directly targeted generates huge amounts of waste that is discarded back into the seas, increasing the environmental impact of fishing operations.

International law has confronted this sobering evidence, with UNCLOS, the Convention on Biological Diversity (hereinafter "CBD"), the 1995 FSA, and the FAO taking important steps in developing the legal contours of the ecosystem approach to the conservation of marine biodiversity. UNCLOS

⁹⁹ *Convention on the Conservation of Nature Protection and Wildlife Preservation in the Western Hemisphere* Oct. 12, 1940.

¹⁰⁰ *African Convention on the Conservation of Nature and Natural Resources* Sept. 15, 1968.

¹⁰¹ *Convention on the Conservation of European Wildlife and Natural Habitats*, Sept. 19, 1979.

¹⁰² *Convention on Wetlands of International Importance, Especially as Waterfowl Habitat*, Feb. 2, 1971, 996

¹⁰³ C. de Klemm, "Fisheries Conservation and Management and the Conservation of Marine Biological Diversity", in E. Hey, ed., *Developments in International Fisheries Law*, (Kluwer Law Int'l), pg. 424-6. (Recent scientific developments reveal, however, that certain tropical marine ecosystems, in particular coral reefs, may house diversity equivalent to the richest tropical rain forests. Oceans comprehend the most extensive ecosystems, covering 71% of the surface of the earth, including large numbers of unicellular organisms, algae, invertebrates, marine mammals, sea birds, snakes and vertebrate fish. At the phylum level, of the 33 recognised phyla, 32 exist in the sea and 15 are exclusively marine. Recent studies reveal the existence of hydrothermal vents on the deep ocean floor, where species are supported by chemosynthetic rather than photosynthetic sources of organic carbon).

¹⁰⁴ See, A. Rieser, *International Fisheries Law, Overfishing and Marine Biodiversity*, 9 *Geo. Int'l Envtl. L. R.* 251, 253-254 (1997).

unequivocally requires States, when determining total allowable catch and other conservation measures, to take into consideration the effects on species associated with or dependent upon harvested species.¹⁰⁵ This obligation is consistent with the more general duty imposed by UNCLOS upon States to protect and preserve the marine environment.¹⁰⁶

The ecosystem approach lies at the heart of the CBD and can be considered as a framework for analysis and implementation of the objectives of the CBD.¹⁰⁷ The CBD is a framework agreement, opened for signature at the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil, that seeks to ensure the conservation of biological diversity, the sustainable use of its components, and the equitable sharing of genetic resource benefits. The CBD also provides hard law support for the obligation of States to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.¹⁰⁸ The CBD defines 'biological diversity' to include the variability among living organisms from all sources including... marine and other aquatic ecosystems and the ecological complexes of which they are a part.¹⁰⁹

The applicability of the CBD to the marine ecosystem is important in tackling five major sources of human activity that threaten the variability of marine life: pollution, alteration of habitats, introduction of alien species, climatic and atmospheric changes, and over-exploitation.¹¹⁰ In facing the challenge posed by these threats, in 1995 the Second Conference of the Parties to the CBD adopted the Jakarta Mandate, which set out to implement the CBD to the marine environment.¹¹¹ The program has not had a strong impact on areas beyond national jurisdiction, however, perhaps because the CBD does not intro-

¹⁰⁵ Supra note 11, at art. 119 (1)(b).

¹⁰⁶ *Id.* at art. 192.

¹⁰⁷ See Report of the Workshop on the Ecosystem Approach, UNEP/CBD/COP/4/Inf.9, 20 March 1998.

¹⁰⁸ CBD, Article 10(3).

¹⁰⁹ CBD, Article 2.

¹¹⁰ S. Iudicello, Protecting Global Marine Biodiversity 121 (in W. Snape III, ed., *Biodiversity and the Law*, Island Press) (1996)

¹¹¹ See C. de Fontaubert, D. Downes, & T. Agardy, *Biodiversity in the Seas: Implementing the Convention on Biological Diversity in Marine and coastal Habitats*, 10 Geo. Int'l Envtl. L. R. 753, 753-854 (1998).

duce clear guidelines for the implementation of the obligation to co-operate in these areas.¹¹² It has been suggested that a Protocol to the CBD addressing the specific challenges involved in the conservation of marine biodiversity would avoid duplication, provide a unified approach to biological diversity, and encompass the benefit-sharing provisions of the CBD.¹¹³

In turn, the 1995 FSA places particular emphasis on introducing ecosystem considerations in the development of fishing activities. The treaty explicitly contains reference to the need to assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks, and to adopt conservation measures for such associated species.¹¹⁴ The ecosystem approach adopted by the 1995 FSA also inspires the obligation to introduce selective gear and to minimize catch of non-target species. Finally, the obligation to take into account the biological unity of the stocks in the determination of compatible conservation measures provides evidence of the priority accorded to the coastal State interest and of the application of the ecosystem approach.¹¹⁵

The work of the UN Food and Agriculture Organization (hereinafter "FAO") in this regard also deserves special mention, as this international organization has been at the forefront of discussions over the ecosystem approach to marine biodiversity. For example, the 1995 Code of Conduct for Responsible Fisheries specifically mandates States and other users of living aquatic resources to conserve aquatic ecosystems.¹¹⁶ The FAO Code of Conduct also provides that all critical fisheries habitats in marine and fresh water ecosystems, such as wetlands, mangroves, reefs, lagoons, nursery and spawning areas, should be protected and rehabilitated.¹¹⁷ Finally, the FAO Code of Conduct qualifies the right to fish with the obligation to do

¹¹² *Supra* note 96, at art. 5.

¹¹³ D. Alton, *Law for the Sea's Biological Diversity*, 36 *Colum. J. Transnat'l L.* 341, 370 (1997).

¹¹⁴ *Supra* note 9, at art. 5(d) & (e).

¹¹⁵ P. Davies and C. Redgwell, "The International Regulation of Straddling Stocks", *The British Yearbook of International Law* (Oxford Univ. Press) (1996), pg. 263.

¹¹⁶ FAO, Code of Conduct for Responsible Fisheries, Article 6.1.

¹¹⁷ *Id.* at Article 6.8.

so in a responsible manner, ensuring the effective conservation and management of living aquatic resources.

The case of the Southern Ocean illustrates the application of the ecosystem approach to marine conservation by an international fisheries organization, although the effectiveness of such legal developments remains questioned.¹¹⁸ The fragile Antarctic marine environment is overwhelmingly dependent on krill, a keystone species crucial in the food chain and directly consumed by most other larger species. The critical role of krill in the overall Antarctic ecosystem dynamics imposed a particular challenge to the conservation regime, as the determination of catch quotas for krill without regard to the impact on predator species could seriously impair the viability of the overall ecosystem.¹¹⁹

International law responded to this challenge by introducing far-reaching provisions on the ecosystem approach to the CCAMLR. The geographical scope of application of CCAMLR follows the Antarctic Convergence, a biological boundary that defines the limits of the Antarctic marine ecosystem. The purpose of the Convention is the conservation of Antarctic marine living resources, and the Antarctic marine ecosystem is defined as "the complex of relationships of Antarctic marine living resources with each other and with their physical environment."¹²⁰ The criteria that defines conservation is rational use, which includes the "maintenance of ecological relationships between harvested, dependent, and related populations of Antarctic marine living resources."¹²¹

Although this development in the law responds to the irreducible complexities of the natural world, the operationalization of such provisions poses huge difficulties for scientists and for institutional arrangements. Let alone the costs of gathering

¹¹⁸ The term "Southern Ocean" refers to the body of water between 60 degrees South latitude and Antarctica, and encompasses 360 degrees of longitude (according to *The World Factbook*, at <http://www.odci.gov/cia/publications/factbook/geos/oo/html>). See also O. Stokke, "The effectiveness of CCAMLR", in Stokke & Vidas, eds., *Governing the Antarctic, The effectiveness and legitimacy of the Antarctic Treaty System*, (Cambridge University Press), 1996, pg. 136; K. Kock, *Antarctic Fish and Fisheries*, (Cambridge University Press), 1992, p. 255.

¹¹⁹ C. Redgwell, "The Protection of the Antarctic Environment and the Ecosystem Approach", in *International Law and the Convention on Biological Diversity*, C. Redgwell & M. Bowman eds., (Kluwer Law Int'l), 1996, pg. 118.

¹²⁰ CCAMLR, Article I(3).

¹²¹ CCAMLR, Article II(3)(b).

relevant data on factors influencing the marine environment, the degree of uncertainty involved in statistical models hardly provides sufficient basis for policy decisions. These difficulties have led the Commission in charge of governing CCAMLR to focus on specific species, rather than on the whole ecosystem management.¹²²

The need for further precision regarding the role of the ecosystem approach on the conservation and management of marine biodiversity is amplified by the facts that ecosystem interrelations are highly complex and that science only reduces the degrees of uncertainty. The ecosystem approach does not exact that all natural processes be conclusively assessed, an unlikely and unfeasible event, especially as regards large marine ecosystems.¹²³ Rather, this approach requires an expanded focus of research that will not only concentrate on individual species but also encompass ecosystem dynamics, including notably the predator-prey relationships. The resulting evidence will necessarily be incomplete, given the limits of scientific knowledge and resources. International law, however, has not remained indifferent to these difficulties, as the emergence of the precautionary principle provides a tool for approaching uncertainty. The specifics follow.

2. *The Precautionary Principle*

The emergence of the precautionary principle has become one of the clearest signs of the progressive development of international environmental law. Although its exact status as a general principle of international law, as a primary customary obligation, or as an approach to environmental policy remain contested, the precautionary principle has been introduced in virtually every recent treaty and document related to the protection and preservation of the environment.¹²⁴ While formulations vary, the core of the principle requires that measures

¹²² *Supra* note 119, at 121.

¹²³ See L. Juda, "Considerations in Developing a Functional Approach to the Governance of Large Marine Ecosystems", *Ocean Development and International Law*, 30:89-125, 1999; See also, A. Lewis, "Large Marine Ecosystems," 17 *Marine Policy*, 186-198, 1993.

¹²⁴ See D. Freestone & E. Hey, *The Precautionary Principle and International Law* (Kluwer Law) (1996).

should not be postponed in the face of scientific uncertainty when there is threat of serious environmental harm.

The precautionary principle has both procedural and substantive implications. From a procedural angle, the law cannot function in protection of the environment unless a legal principle is evolved to meet the evidentiary difficulty presented by the lack of conclusive information over environmental damage.¹²⁵ From a substantive angle, where there is sufficient evidence on the serious threat of damage on the marine environment posed by unregulated fishing practices, States involved are under an obligation to take effective protective measures.¹²⁶

Does this obligation imply a moratorium on fishing activities where stocks are threatened? The 1995 FSA does not go so far as to introduce a 'red light' to prevent fishing even where stocks are threatened,¹²⁷ which does not mean, however, that the adoption of a moratorium is a priori excluded as a conservation measure. Rather, the suspension of commercial activities should be assessed in the light of the specific circumstances of the case. An important precedent in this regard is the General Assembly's global moratorium on all large-scale drift-net fishing on the high seas imposed in 1989.¹²⁸

In the context of marine mammals, the International Whaling Commission also discussed and adopted this line of action in its 34th Meeting in 1982, setting zero quotas for commercial whaling by reforming Section 10(e) of the Schedule to the 1946 International Convention for the Regulation of Whaling.¹²⁹ This important precedent illustrates available policy options in the light of inconclusive science. Still and all, the analysis by analogy is limited by the obvious differences between whales and fish¹³⁰ and by the particular situation of

¹²⁵ C. Weeramantry, *Nuclear Tests Cases*, New Zealand v. France, 1995, Dissenting Opinion. *Nuclear Tests (N.Z. v. France)* 1974 I.C.J. 457

¹²⁶ H. Hohmann, *Precautionary Legal Duties and Principles of Modern International Environmental Law*, (Graham & Trotman/ Martinus Nijhoff) 1994, pg. 206.

¹²⁷ *Supra* note 115, at 261.

¹²⁸ General Assembly, A/44/225 and A/46/215. See W. Burke, *The New International Law of Fisheries*, 1994, pgs. 102-9. See also, D. Nelson, "The Development of the Legal Regime of High Seas Fisheries", pg. 128-9 in A. Boyle and D. Freestone, eds., *International Law and Sustainable Development*, (Oxford), 1999.

¹²⁹ See P. Birnie, *International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching*, (Oceana), 1985, Vol. II, pgs. 614-619 and 653-656.

¹³⁰ *Id.* at Vol. I, pg. 25.

whales, which account for species in danger of biological extinction after decades of unregulated commercial exploitation.¹³¹

Under the 1995 FSA, the precautionary principle's role as the guiding criteria for the establishment of reference points in the management of sustainable fisheries¹³² establishes a significant precedent¹³³ that should extend to other fields of environmental law. The 1995 FSA introduces a comprehensive scheme for reducing uncertainty, which largely reflects best practices in fisheries management.¹³⁴ Further, the 1995 FSA Annex II contains guidelines for the determination of stock-specific reference points. Annex II requires that if the stocks status approaches or exceeds the precautionary reference points, management and conservation measures shall be applied without delay to maintain or restore the stocks.¹³⁵

The ITLOS took the opportunity to elaborate further on the precautionary principle in the 1999 Southern Bluefin Tuna Cases.¹³⁶ These cases dealt with a controversy between Australia and New Zealand v. Japan over measures necessary to ensure the conservation of highly migratory stocks and the Japanese unilateral decision to conduct a scientific exploratory program.¹³⁷ In proceedings over provisional measures, pending the constitution of an Annex VII arbitral tribunal, the ITLOS noted that, "given scientific uncertainty regarding measures to be taken to conserve the stock", "the parties should under the cir-

¹³¹ See generally, G. Rose and S. Crane, "The Evolution of International Whaling", in P. Sands, ed., *Greening International Law*, (Earthscan), 1993, pgs.159-181.

¹³² See D. Freestone, "International Fisheries Law since Rio: the Continued Rise of the Precautionary Principle", in A. Boyle and D. Freestone, *International Law and Sustainable Development* 160-1, 164 (eds. Oxford Univ. Press)(1999)

¹³³ F. Orrego Vicuña, *The Changing International Law of High Seas Fisheries*, pg. 162.

¹³⁴ Supra note 9, at art. 6.

¹³⁵ Id. at Annex II, "Guidelines for the application of precautionary reference points in conservation and management of straddling fish stocks and highly migratory fish stocks"; See also, FAO Code of Conduct, Article 6.5.

¹³⁶ See 1999 *International Environmental Law Yearbook*, Symposium on the Southern Bluefin Tuna Cases and the Precautionary Principle.

¹³⁷ See B. Kwiatkowska, "The Southern Bluefin Tuna Cases", *The International Journal of Marine and Coastal Law*, Vol. 15, No. 1, 2000; See also M. Hayashi, *The Southern Bluefin Tuna Cases: Prescription of Provisional Measures by the International Tribunal for the Law of the Sea*, 13 Tul. Envtl. L.J. 361 (2000); D. Horowitz, *Southern Bluefin Tuna Case (Australia and New Zealand v Japan) (Jurisdiction and Admissibility) The Catch of Poseidon's Trident: The Fate of High Seas Fisheries in the Southern Bluefin Tuna Case*, 25 *Melb. U. L. R.* 810 (2001).

cumstances act with prudence and caution to prevent serious harm to the stock".¹³⁸ The ITLOS concluded that,

[...] although the Tribunal cannot conclusively assess the scientific evidence presented by the parties, it finds that measures should be taken as a matter of urgency to preserve the rights of the parties and to avert further deterioration of the southern bluefin tuna stock.¹³⁹

The ITLOS decision confirms that in situations where fishing activities constitute a serious threat to marine ecosystems, a precautionary approach shifts the traditional burden of proof onto the fishing State to show that serious harm will not be caused.¹⁴⁰ On this basis, the ITLOS granted provisional measures, ordering the Parties to refrain from conducting an experimental fishing program involving the taking of SBT above national allocation levels last agreed.¹⁴¹ The decision of the ITLOS stops short of addressing the intricate legal issues involved in the exploitation of highly migratory fish stocks, perhaps given the abbreviated nature of proceedings on provisional measures.

This section has elaborated on the increasing relevance of the precautionary principle in the management of highly migratory fish stocks. International environmental law provides yet another element that illuminates the contours of international obligations concerning highly migratory species: the principle of common but differentiated responsibilities.

3. *The Principle of Common but Differentiated Responsibilities*

The international political scenario underlying the evolution of international environmental law is the widening South-North gap, which separates the industrialized first-world from the poor developing third-world. The real differences that distance the North from the South were raised to the fore in the

¹³⁸ Supra note 80, at paras. 77 and 79.

¹³⁹ *Id.* at para. 80.

¹⁴⁰ D. Freestone, "The Conservation of Marine Ecosystems under International Law", *International Law and the Conservation of Biological Diversity*, Bowman & Redgwell Eds., (Kluwer Law) 1996, pg. 106.

¹⁴¹ Supra note 80, at para. 90.

1972 United Nations Conference on the Human Environment, held in Stockholm, Sweden, but it was during the negotiations leading to the London Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer that the North-South divide took an explicit character, forcing innovations in the directions of international environmental law.¹⁴²

The challenge then was to find mechanisms that would encourage developing countries, with limited financial and technological resources, to co-operate in solving a global problem that had been caused mainly by industrialized countries through their production and consumption of ozone depleting substances. The legal innovations that bridged the divide included capacity building technology and financial transfers to meet the incremental costs of compliance, delayed timelines for binding phase-out, and dispute settlement mechanisms oriented more on the need to enable compliance rather than to declare State responsibility. These innovations have not remained isolated to the ozone regime, as other agreements have also adapted the principle's legal implications,¹⁴³ including the recent Stockholm Convention on Persistent Organic Pollutants and notably the United Nations Framework Convention on Climate Change and its Kyoto Protocol.¹⁴⁴

The basic proposition of the principle of common but differentiated responsibilities is that in facing global environmental threats, developing countries lack the human, financial, and technological capacity to meet the costs involved in implementing international environmental agreements designed to solve or mitigate the pollution created by the North.¹⁴⁵ Thus, put bluntly, if developing countries are to co-operate and participate in the deal, the North has to provide the enabling fi-

¹⁴² Montreal Protocol on Substances That Deplete the Ozone Layer, Concluded at Montreal, 16 September 1987, Entered into force, 1 January 1989, 26 I.L.M. 1550 (1987); London Amendments to the Montreal Protocol on Substances That Deplete the Ozone Layer (1990), Adopted at London by Decisions II/2 at the Second Meetings of Parties to the Montreal Protocol, 29 June 1990, available at www.unep.org/ozone/mop/02mop/2mop-inf.e.doc.

¹⁴³ See P. Sands, *Principles of International Environmental Law* 217-220 (Manchester Univ. Press)(1995).

¹⁴⁴ United Nations Framework Convention on Climate Change, Articles 3 & 4; Kyoto Protocol, Articles 10 & 11, available at www.unfccc.org/resource/convkp.html

¹⁴⁵ See D. French, Developing States and International Environmental Law: the Importance of Differentiated Responsibilities, 49 *International and Comparative Law Quarterly* 35, 35-60 (2000).

nancial and technological resources. Or in its maximum terms, if the necessary assistance is not forthcoming from the North, there are no legal obligations on the South. The Rio Conference on Environment and Development marked the summit of this North-South bargain, which formulated the principle as follows,

States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.¹⁴⁶

What implications are to be derived from this principle in the context of high seas fisheries? This question was the object of discussion during the 1995 FSA negotiations, with positions again dividing between broad and more restricted forms of cooperation. Canada and the EU submitted statements recognizing that the ability of developing countries to fulfill their obligations is dependent upon their capabilities. The CPPS Member States understood co-operation in broader terms, to enable participation in high seas fisheries. Japan narrowed its understanding to transfer of technology. A group of countries from the South Pacific introduced the most influential proposal, covering issues of management as well as participation in the fisheries.¹⁴⁷ The final text succeeded in introducing norms providing for assistance to developing States in the implementation of the agreement.

Do these norms constitute a source of obligation, whose breach may give grounds judicial claims?¹⁴⁸ Or in other words, does the principle of common but differentiated responsibilities involve a judiciable obligation to provide environmental assistance to developing countries? These issues parallel the debate

¹⁴⁶ Rio Declaration on Environment and Development, Principle 7, A/Conf. 151/26 (Vol. I), 12 August 1992, pg. 9.

¹⁴⁷ *Supra* note 133, at 224.

¹⁴⁸ D. Hunter, et.al., *International Environmental Law and Policy*, (Foundation Press), 1998, pg. 359.

of the new international economic order in the 1970's and of the right to development in the 1980's. In this respect, the international political economy is not structured upon equity and fairness, or upon a brother/sister hood of humankind; quite the contrary in fact and history. In this context, the need for cooperation in the protection of the global environment clashes with existing world-order structures based on competition and compartmentalization, where each sovereign rules over its feud, seeking to maximize its power and wealth.

The obligations under UNCLOS to co-operate in the conservation of the stocks should also be read in the light of the principle of common but differentiated responsibilities, and due regard given to enabling the capacity of States to perform their international obligations. As perhaps no consensus would be found to regard the principle in question as a formal source of international law, and given that the considerations of equity implicated by this principle are by essence relative and subjective,¹⁴⁹ the principle of common but differentiated responsibilities may however provide valuable aid in the 'judicial reasoning' of tribunals examining connected issues. A similar approach has been proposed for the principle of sustainable development, whose margins, contents, and judiciability remain contested.¹⁵⁰

In concrete terms, industrialized countries whose distant water fishing fleets engage in the exploitation of stocks shared with coastal developing States should explore ways to provide assistance for capacity-building to enable management of sustainable fisheries. The 1995 FSA follows these ideas to require that States extend financial and technical assistance to developing States so that they may participate in the conservation, exploitation, and management of the fisheries concerned.¹⁵¹ Furthermore, the 1995 FSA requires States to assist developing States to implement the agreement, especially in the context of the creation or the strengthening of international fisheries organizations or arrangements. Finally, the 1995 FSA re-

¹⁴⁹ See, R. Higgins, *Problems and Process, International Law and How We Use It* 219 (Oxford Univ. Press)(1994).

¹⁵⁰ See V. Lowe, "Sustainable Development and Unsustainable Arguments," in A. Boyle and D. Freestone eds., *International Law and Sustainable Development*, (Oxford) 1999, pgs 31-37.

¹⁵¹ *Supra* note 9, at art. 25; See also FAO Code of Conduct, Article V.

quires States to establish a fund that may cover the expenses of dispute settlement proceedings to which developing States may be parties.¹⁵²

CONCLUSION

During the last decades of the XXth Century, the law on highly migratory species has experienced profound changes. The emergence of international norms and principles for the protection of the global environment is one of the prominent features in the progressive development of international law during this period. Likewise, the fundamental limitations established by treaty on the *mare liberum* doctrines highlight the interest of the international community as a whole in the conservation of highly migratory fish stocks. These normative developments have established important restrictions to the otherwise unregulated taking of migratory species.

This piece intended to elucidate the meaning and content of relevant principles and substantive obligations relating to highly migratory fish stocks, and particularly those relevant to the Swordfish and SBT disputes, by examining normative sources in the maritime and environmental legal regimes, including decisions of international tribunals. Inescapably, due to the fact that highly migratory species roam the waters within and beyond national jurisdiction, i.e. the EEZ and the high seas, and to the fact that UNCLOS serves as a constitutional umbrella that mandates the conclusion of regional and other specialized arrangements, this piece dealt with some of the jurisdictional issues that arise in that regard.

The examination of the obligations established in the law of the sea and in international environmental law pertinent to highly migratory fish stocks presents the following observations. UNCLOS and the 1995 FSA have radically altered the structural principles and objectives of the law, qualifying the right to fish in the high seas to responsible fishing conduct expressed in *bona fide* participation in international arrangements and effective discharge of international obligations for conservation. Additionally, certain international environmental principles, such as the ecosystem approach and the

¹⁵² *Id.* at art. 26.

principle of common but differentiated responsibilities, are relevant in applying and interpreting the duties established in the law of the sea. Further, the jurisprudence of the ITLOS has illuminated the importance of the precautionary principle as applied to high seas fisheries, as well as the obligation to produce and share information.

Given the focus of this piece on the substantive angles of the environmental and maritime regimes, several questions have not been addressed. Indeed, the full extent to which the implementation of the precautionary principle and the ecosystem approach, as well as compliance with the duties to cooperate in conservation and to produce and share information could close remaining loopholes in the international regulation of highly migratory fish stocks would further require a detailed analysis of general international law questions including inter alia, the *pacta tertiis* principle,¹⁵³ objective regimes,¹⁵⁴ third-State remedies,¹⁵⁵ *erga omnes* obligations,¹⁵⁶ among others. This task is reserved for the next symposium.

¹⁵³ According to Article 34 et seq of the Vienna Convention on the Law of Treaties, the *Pacta Tertiis Nec Nocent Nec Prosunt* principle reflects the general rule regarding third States to a treaty, whereby "A treaty does not create either obligations or rights for a third State without its consent." See E. Franckx, "*Pacta Tertiis* and 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 & Management of Straddling Fish Stocks & Highly Migratory Fish Stocks", FAO Legal Papers Online #8, June 2000.

¹⁵⁴ See supra note 133, at 209, citing A. McNair and the I.L.C.

¹⁵⁵ See J. Charney, "Third State Remedies for Environmental Damage to the World's Common Spaces", in F. Francioni & T. Scovazzi eds., *International Responsibility for Environmental Harm*, (Graham & Trotman/Martinus Nijhoff), 1991.

¹⁵⁶ *Erga Omnes* obligations refers to the obligations of a State towards the international community as whole for matters where all States have an interest. See ILC Yearbook, 1976, Vol. II, part 2, p. 99; See also M. Ragazzi, *The Concept Of International Obligations Erga Omnes* (Clarendon Press Oxford)(1997).