

Protection of the Marine Environment: The International Legal Context

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A Symposium on
Environment in the Courtroom:
Protection of the Marine Environment

October 13, & 14, 2016
Dalhousie University



Canadian Institute of Resources Law
Institut canadien du droit des ressources



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This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :



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“The protection of the marine environment is an area where the jurisdictional rules of the law of the sea and the objectives, principles and approaches of international environmental law meet and influence each other to form the ‘international environmental law of the sea’.”¹

Schiffman characterizes the increasing concern for the status of the marine environment² in the latter half of the 20th century as one of “the most remarkable developments in the field of international law”.³ This new consciousness has led to a proliferation of legal rules and arrangements to address key threats to ocean health: overfishing, vessel and land-based pollution, the introduction of invasive species, the destruction of habitats and the loss of biodiversity among other significant challenges. However, the legal regime for the protection of the marine environment, as Frank explains, has its own distinct character compared to the one governing the protection of the terrestrial environment. At sea, States are not as free to impose protective measures as they are on land; they must respect the jurisdictional rules of the law of the sea.⁴ “These rules place certain constraints on the capacity of coastal States to unilaterally control the environmental impact of sea-based activities.”⁵

This chapter begins by identifying some of the most important soft law and conventional law instruments aimed at the protection and preservation of the marine environment. The chapter then considers the prescriptive and enforcement powers that exist to ensure compliance with those rules.

PART I – THE ENVIRONMENTAL LAW OF THE SEA

The international regime for the protection of the marine environment is based on two separate but interdependent bodies of law that interact and complement each other to create a dynamic and effective system⁶: (A) an umbrella framework which sets out general principles and rules of global application; and (B) a regulatory regime composed of tailored instruments with technical standards to implement the general principles or rules.

(A) An umbrella framework

The output of some highly influential international conferences and organizations together with the 1982 *Convention on the Law of the Sea* [LOSC], form the foundation upon which rests the environmental law of the sea.

i) *The 1972 United Nations Conference on the Human Environment [UNCHE] (Stockholm, Sweden)*

¹ V. Frank, *The European Community and Marine Environmental Protection in the International Law of the Sea* (Leiden: Martinus Nijhoff Publishers, 2007) at 11.

² According to Frank, “it is commonly agreed that the term ‘marine environment’ refers to the ocean space taken as a whole (i.e., the surface of the sea; the water column; the subsoil; the seabed and the atmosphere above them) and everything comprised in that space, both physical and chemical components, including marine life”. *Ibid.*, at 13.

³ H.S. Schiffman, “International Law and the Protection of the Marine Environment” in A. Schwabach and A.J. Cockfield (Oxford: EOLSS Publishers Co. Ltd., 2009) at 213.

⁴ Franck, *supra* note 1, at 11.

⁵ *Ibid.*

⁶ *Ibid.*

Described as the “conceptual cornerstone of modern international environmental law”⁷, the UNCHE and one of its key outcomes, the Stockholm Declaration⁸, enunciated principles and recommendations of direct relevance for the marine environment. Principle 7 of the Declaration provided that:

“States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.”

Of perhaps even greater significance, Principle 21 recognised “the sovereign right of States to exploit their own resources pursuant to their own environmental policies”, while imposing upon them the correlative responsibility “to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States, or of areas beyond the limits of national jurisdiction”.⁹

Though not legally binding, the Stockholm Declaration nevertheless exerted considerable influence on the subsequent development of new global and regional instruments addressing specific sources of marine pollution.¹⁰ The UNCHE and its Declaration of principles also provided a decisive impulse to the Third United Nations Conference on the Law of the Sea launched in 1973.

ii) *The 1982 Law of the Sea Convention [LOSC]*

In 1982, after nearly ten years of negotiations, the Law of the Sea Convention was adopted with the goal of establishing, “a legal order for the seas and oceans” which would promote “the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment”.¹¹ Birnie and Boyle write that at the time of its adoption, the LOSC was considered the “strongest comprehensive environmental treaty in existence or likely to emerge for quite some time”.¹² Most legal authors and governments, including non-parties such as the United States, recognize that since their entry into force on 16 November 1994, the environmental provisions established by the Convention have gained nearly universal acceptance and thus reflect customary law.¹³

⁷ J. Roberts, *Marine Environment Protection and Biodiversity Conservation – The Application and Future Development of the IMO’s Particularly Sensitive Sea Area Concept* (Berlin: Springer, 2007) at 17.

⁸ *Declaration of the United Nations Conference on the Human Environment* [Stockholm Declaration], 16 June 1972, 11 *I.L.M.* 1416. For a comprehensive overview of the outcomes of the Conference and a detailed analysis of the Declaration, see L.B. Sohn, “The Stockholm Declaration”, 14 *Harvard International Law Journal* (1973) 423.

⁹ Roberts, *supra* note 7, at 19.

¹⁰ According to Roberts, it was in response to the recommendations of the Stockholm Conference that an Intergovernmental Conference was convened in London which adopted the *Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter*, 29 December 1972, in force 30 August 1975, 11 *I.L.M.* (1972) 1294. *Ibid.*, at 20, footnote 37.

¹¹ Preamble, *United Nations Convention on the Law of the Sea*, adopted 10 December 1982, in force 16 November 1994, 1833 *U.N.T.S.* 3.

¹² P.W. Birnie and A. Boyle, *International Law and the Environment*, 2nd ed. (Oxford: University Press, 2002) at 348.

¹³ See footnote 33 in Frank, *supra* note 1, at 16.

Due to the intersectoral nature of marine issues, the LOSC addresses the environment in several different sections (e.g. Parts V and VII on the conservation and management of living resources in the EEZ and high seas or Part XIII on marine scientific research).¹⁴ However, Part XII of the Convention is specifically dedicated to the protection and preservation of the marine environment and establishes an overall framework of governing principles and general obligations.¹⁵

Article 192 illustrates the comprehensive nature of this regime by placing a general and unqualified obligation on States “to protect and preserve the marine environment”. Franckx emphasizes that Article 192 represents the first time such a strong and broad obligation has been included in a general international treaty.¹⁶ Echoing Principle 21 of the Stockholm Declaration, Article 193 of the LOSC confirms that States “have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment”. However, Roberts argues that by giving priority to the preservation of the environment over the sovereign right of States to exploit their natural resources, Article 192 is more strongly expressed than Principle 21.¹⁷

The content of this general duty is clarified in Article 194. States are required to take all necessary measures to prevent, reduce and control marine pollution¹⁸ using the best practical means at their disposal and according to their capabilities.¹⁹ They must also take all necessary measures to protect and preserve “rare and fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life” (Article 194, para. 5). Six main sources of pollution are identified and addressed in further detail in subsequent articles: pollution from land-based and coastal activities (Article 207); from seabed activities within national jurisdiction (Article 208); from activities in the Area (Article 209); from ocean dumping (Article 210); from vessels (Article 211); and from or through the atmosphere (Article 212).

Finally, States are subject to a series of procedural obligations: the notification of imminent or actual damage (Article 198); the development of pollution contingency plans (Article 199); cooperation through scientific research (Articles 200-201) and technical assistance (Article 202); the monitoring of the risks or effects of pollution (Article 204) and the publication of the results of those monitoring activities (Article 205). In addition, Article 206 requires States “as far as practicable”, to conduct environmental impact assessments [EIAs] of activities under their jurisdiction or control with the potential to cause substantial pollution or significant harm to the marine environment. Finally, Article 235 imposes a general duty to compensate pollution

¹⁴ *Ibid.*, at 17.

¹⁵ Roberts, *supra* note 7, at 21-22.

¹⁶ E. Franckx, “Regional marine environmental protection regimes in the context of UNCLOS” 13 *International Journal of Marine and Coastal Law [IJMCL]*(1998) 307, at 310-311.

¹⁷ Roberts, *supra* note 7, at 23. See also P.W. Birnie and A. Boyle, *International Law and the Environment* (Oxford: Clarendon Press, 1992) at 350.

¹⁸ This positive duty involves protecting the marine environment from harm in areas under coastal States’ jurisdiction (Article 194 paragraph 1) but also in areas beyond their jurisdiction or control (paragraph 2) as well as in regards to other States and their environment (paragraph 2).

¹⁹ However, Article 194(1) of the LOSC encourages States to harmonize their national policies.

damage and to cooperate in the development of international law relating to responsibility and liability.²⁰

iii) *The 1992 United Nations Conference on Environment and Development [UNCED] also known as the Earth Summit (Rio de Janeiro, Brazil)*

Sands has suggested that, in its significance, the Rio meeting is comparable to major multilateral peace conferences such as the 1919 Versailles Conference, given the significance placed on the “security of the planet” and the “risk to humans and other species”.²¹ One of the key objectives of UNCED was a comprehensive programme to guide States in pursuing sustainable development. The major agreements reached at the Earth Summit include two binding instruments, the *Convention on Biological Diversity*²² [CBD] and the *United Nations Framework Convention on Climate Change*²³ [UNFCCC], as well as three non-binding instruments including the Rio Declaration on Environment and Development²⁴ [Rio Declaration] and Agenda 21²⁵.

The general principles embodied in the Rio Declaration are operationalized through detailed provisions, specific recommendations and guidelines in the 40 chapters of Agenda 21, UNCED’s Plan of Action. Chapter 17 on “Protection of the Ocean and all kinds of seas, including enclosed or semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources” serves as a blueprint for the future development of the international environmental law of the sea. While the LOSC is referenced as providing the “international basis” for the protection and sustainable use of the marine environment, Agenda 21 calls for a new approach to marine issues. The introduction to Chapter 17 asserts that this approach must be “integrated in content” and “precautionary and anticipatory in ambit”.²⁶ In addition to promoting a precautionary approach to ocean preservation (17.22, para. a), Chapter 17 urges States to conduct environmental assessments of all potentially hazardous activities (17.22, para. b), to apply clean technologies and to commit to the polluter pays principle (17.22, para. d).

States are also recommended to take measures to address marine degradation (not only pollution) from land-based activities (17.24-29) and to assess the need for additional measures to control sea-based activities such as shipping, dumping, offshore oil and gas platforms and ports (17.30-35). Furthermore, Chapter 17 places a strong emphasis on monitoring, reporting as well as financial and technical assistance (17.35-37, 17.41-42).

As Frank emphasizes, “[d]espite its legally non-binding nature, Chapter 17 had a decisive influence on the further development of the marine environment regime and its principles and

²⁰ Frank, *supra* note 1, at 20.

²¹ P.H. Sands, “UNCED and the Development of International Environmental Law” 3 *Yearbook of International Environmental Law* (1992) 3.

²² Adopted 22 May 1992, in force 29 December 1993, 1760 *U.N.T.S.* 143.

²³ Adopted 9 May 1992, in force 21 March 1994, 1771 *U.N.T.S.* 107.

²⁴ Adopted 14 June 1992, UN Doc. A/Conf.151/5/REV.1, 31 *I.L.M.* (1992) 874.

²⁵ Adopted 14 June 1992, UN Doc. A/Conf.151/26 (1992). The other non-binding instrument was the Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests.

²⁶ See paragraph 17.1, Chapter 17, Agenda 21, available at <http://www.un.org/depts/los/consultative_process/documents/A21-Ch17.htm>.

recommendations have worked as guidelines for States and international organizations in the implementation of their commitments under the LOSC”.²⁷ Birnie and Boyle stress that the “focus is no longer principally on the control of sources of marine pollution, but more broadly on the prevention of environmental ‘degradation’ and the protection of ecosystems”²⁸. According to the authors, the interplay between Agenda 21 and the LOSC has effected substantive changes to the law of the sea and has led, for instance, to “the rewriting of regional seas-agreements on the Mediterranean, the Baltic and the Northeast Atlantic, revision of the London Dumping Convention, extension of treaty schemes on liability for pollution damage, and the adoption at Washington in 1995 of a Declaration and Global Programme of Action on Protection of the Marine Environment from Land-based Activities.”²⁹ In addition,

“[a] precautionary approach to the protection of marine ecosystems and biological diversity is now addressed in many of these treaties and in various other ways, in particular through the Conventions on Biological Diversity and Climate Change, the 1995 Agreement on Straddling and Highly Migratory Fish Stocks (UN Fish Stocks Agreement), the 2004 Ballast Water Convention, and the creation of specially protected areas by IMO and under regional seas agreements.”³⁰

iv) The 2002 World Summit on Sustainable Development [WSSD] (Johannesburg, South Africa)

The World Summit, held to review the progress made in the implementation of Agenda 21 in the intervening 10-year period, dedicated only marginal attention to the world’s oceans and seas. Indeed, the Plan of Implementation [WSSD Plan] only deals with the marine environment in paragraphs 29-34 of Section IV on “Protecting and managing the natural resource base of economic and social development” and most of the relevant provisions relate to fisheries.³¹ Nevertheless, Frank insists that the contribution of the WSSD Plan to the preservation of the marine environment should not be underestimated.³² The Plan reaffirms the commitments made under Chapter 17 (e.g. an integrated approach to ocean management) and in regards to certain key obligations, it attaches clear targets and timetables (e.g. the application of an ecosystem approach by 2010, the establishment of a network of representative marine protected areas by 2012).³³ The Plan reaffirms in five separate paragraphs the need to conduct EIA to achieve the goal of sustainable development³⁴ and attaches great importance to the transfer of marine science and technology³⁵. In addition, the Plan urges the wide ratification and effective implementation of existing legal agreements and programmes of action for the effective conservation and management of the oceans.

²⁷ Frank, *supra* note 1, at 22-23. Footnote omitted.

²⁸ Birnie and Boyle, *supra* note 12, at 384.

²⁹ *Ibid.*

³⁰ *Ibid.*, at 384-85.

³¹ The Plan of Implementation is available at

<http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf>.

³² Frank, *supra* note 1, at 23.

³³ See paragraph 30(b) and (d) and 32(c) of the WSSD Plan, *supra* note 31.

³⁴ Paragraphs 19(e), 36(c), 62(h), 97(d) and 135 of the WSSD Plan.

³⁵ Paragraph 36(a) of the WSSD Plan.

(B) A regulatory regime

The Third Law of the Sea Conference (1973-1982) was not considered the appropriate forum to devise operational provisions which, by their very nature, are normally highly technical and require significant expertise. In addition, a number of international regulatory instruments with specialised standards were already in place. In light of these considerations, the participating delegations agreed to establish a broad jurisdictional framework and to rely, by means of rules of reference, on the various operational standards adopted by relevant organizations. As a result, various articles of the LOSC require that contracting Parties give effect to the generally “accepted” or generally “applicable” international rules and standards defined by the “competent international organizations”.³⁶

These “competent international organizations” are not specifically identified in the LOSC. However, Article 2(2) of Annex VIII of the Convention, which provides that the lists of experts composing the Special Arbitral Tribunal must be established by the “competent organization” in specified fields, provides some guidance: in the field of fisheries, by the Food and Agriculture Organization [FAO] of the United Nations; in the field of protection and preservation of the marine environment, by the United Nations Environment Programme [UNEP]; in the field of marine scientific research, by the Inter-Governmental Oceanographic Commission; and in the field of navigation, including pollution from vessels and by dumping, by the International Maritime Organization [IMO]. Generally accepted international rules and standards, however, can also be adopted by organizations other than those referred to in Article 2(2) of Annex VIII. Frank refers to the International Atomic Energy Agency (IAEA), for instance, as the competent international organization for the adoption of global standards for the safe transport of nuclear materials.³⁷ These and other international organizations and agencies have developed technical guidelines and legal measures to give effect to general conservation commitments. The following list is not exhaustive but is merely indicative of the varied sources that operationalize the ‘international environmental law of the sea’.

- *International Convention for the Regulation of Whaling*, 1946 (IWC)
- *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties*, 1969 (IMO)
- *Convention on the International Regulations for Preventing Collisions at Sea [COLREG]*, 1972 (IMO)
- *Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter*, 1972 (and the 1996 London Protocol) (IMO)
- *International Convention for the Prevention of Pollution from Ships [MARPOL]*, 1973 (as modified by the Protocol of 1978 and by the Protocol of 1997) with its six technical annexes (I-Regulations for the Prevention of Pollution by Oil; II-Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk; III-Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form; IV-Prevention of Pollution by Sewage from Ships, V-Prevention of Pollution by Garbage from Ships; and VI-Prevention of Air Pollution from Ships) (IMO)

³⁶ See for example Article 210(4) “Pollution by dumping” and Article 210(1) “Pollution from vessels” of the LOSC.

³⁷ Frank, *supra* note 1, at 25.

- *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers [STCW]*, 1978 (IMO)
- *International Convention on Oil Pollution Preparedness, Response and Cooperation*, 1990 (IMO)
- *Code of Conduct for Responsible Fisheries*, 1995 (FAO)
- *Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas*, 1995 (FAO)
- *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*, 1997 (IAEA)
- *Strategy of Implementation of the Code of Conduct for Responsible Fisheries*, 1999 (FAO)
- *Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous or Noxious Substances*, 2000 (IMO)
- *International Convention on the Control of Harmful Anti-fouling Systems on Ships*, 2001 (IMO)
- *International Convention for the Control and Management of Ships' Ballast Water and Sediments*, 2004 (IMO)
- *The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships*, 2009 (IMO)
- *Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*, 2010 (FAO)
- *Regulations for the Safe Transport of Radioactive Material*, 2012 (IAEA)

In the field of the protection and preservation of the marine environment, UNEP's Regional Seas Programme, launched in the wake of the 1972 Stockholm Conference, has been one of its most significant achievements. Both the LOSC and Chapter 17 of Agenda 21 place strong emphasis on regional cooperation³⁸, considered in many cases, to be a more efficient response to specific geographic, oceanographic and ecological challenges. Frank also points out that regional agreements between states sharing similar interests “result in a lower level of compromise, stronger commitments and higher environmental standards compared to global instruments”.³⁹ As a result, in nearly all major regional seas, from the Caribbean to the South Pacific Ocean, the ocean framework regime has been implemented by means of regional conventions adopted under the auspices of UNEP.⁴⁰

The development of marine environmental rules and technical standards has also taken place within the framework of a number of multilateral environmental agreements [MEAs] which extend their scope to oceans and seas: for example, the *Convention on Wetlands of International Importance [Ramsar Convention]*, 1971; the *Convention for the Protection of the World Cultural and Natural Heritage [World Heritage Convention]*, 1972; the *Convention on the Conservation of Migratory Species of Wild Animals [Bonn Convention]*, 1979; the *Convention on Biological*

³⁸ The LOSC calls for regional harmonization, for example, with regard to land-based pollution in Article 207(3) and marine pollution from seabed activities within national jurisdiction under Article 208(4).

³⁹ Frank, *supra* note 1, at 29.

⁴⁰ See for example, among others, the *Barcelona Convention for the Protection of the Mediterranean against Pollution*, 1976 (and related Protocols as amended), the *Convention for the Protection of the Marine Environment of the North-East Atlantic [OSPAR]*, 1992 and the *Convention on the Protection of the Marine Environment of the Baltic Sea Area [Helsinki Convention]*, 1992.

Diversity [CBD], 1992; and the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, 1997. Finally, the fundamental principle established in the LOSC that States should cooperate to ensure the conservation and optimal utilization of fisheries both within and beyond the exclusive economic zone has been implemented through the adoption of the 1995 Fish Stocks Agreement.⁴¹

PART II – THE JURISDICTIONAL REGIME

In customary international law of the sea, the flag State alone was responsible for ensuring that ships complied with internationally accepted standards in respect of safety at sea and the protection of the marine environment. Article 91 of the LOSC recognizes the sovereignty a State exercises over its own vessels and Article 94 identifies a number of obligations that flow from this attribution of nationality. Every flag State must effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag. In particular, the flag State has to take all necessary measures to ensure that all of its ships are seaworthy (Article 94, para. 3a), are regularly inspected by a qualified surveyor (Article 94, para. 4a) and are manned by a qualified crew fully conversant with the applicable international regulations concerning the safety of life at sea, the prevention of collisions and the prevention, reduction and control of marine pollution (Article 94, para. 4c). In taking the measures called for in paragraphs 3 and 4, the flag State is required to “conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance” (Article 94, para. 5 and Article 217).

Unfortunately, as König reports, several flag States do not fulfil their obligations under the LOSC, a problem “aggravated by – but by no means confined to – so-called ‘flags of convenience’ where less scrupulous operators register their ships under the flags of States which they know will not require full compliance with international standards”⁴². To fill the gap, port States and coastal States have been entrusted by the Convention with additional prescriptive authority (the capacity of States to adopt legislation, including environmental rules) and enforcement powers (the capacity of States to bring about compliance with those rules and to punish violations).

Port States have the right to impose national standards as a condition of entry of foreign vessels into their ports, internal waters and offshore terminals (Article 211(3) of the LOSC). Since these areas are part of the port State’s sovereign territory, where the right of innocent passage does not exist, its prescriptive jurisdiction is not restricted. As a result, the coastal State can even impose construction, design, equipment and manning standards [CDEM standards] that are stricter and more costly for ship-owners than the recognized international standards.⁴³ As for their enforcement powers, Article 220(1) provides that port States have the right to enforce their national rules and standards against foreign vessels which are voluntarily within their ports or

⁴¹ *The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, 1995.

⁴² D. König, “The Enforcement of the International of the Sea by Coastal and Port States” 62 *ZaöRV* (2002) 1, at 4.

⁴³ *Ibid.*, at 5.

offshore terminals, when an illegal discharge has occurred in their own internal waters, territorial sea or EEZ.⁴⁴

To strengthen the protection of the marine environment in other States' maritime zones and on the high seas, König explains that port States have been entrusted by Article 218(1) with the additional right to enforce "applicable international rules and standards", i.e. MARPOL standards, against a foreign vessel in case of any illegal operational. "If the discharge violation occurs in a third State's maritime zones, the port State may not institute proceedings unless requested by that State (Article 218, para. 2, LOSC). That coastal State may step in and take over the investigation and proceedings at any time (Article 218, para. 4, LOSC)."⁴⁵ When instituting proceedings against a foreign vessel and its crew for a discharge violation that occurred on the high seas, the port State must have due regard to procedural safeguards such as the right of the flag State to take over the proceedings at any time and the obligation to release the vessel and crew upon the posting of a reasonable bond.

In addition, port States can enforce "applicable international rules and standards relating to the seaworthiness of vessels" (CDEM standards) to prevent severe damage to the marine environment by substandard ships. To this end, Article 219 allows the port State to take administrative measures to prevent such a vessel from sailing or order it to proceed to the nearest repair yard.⁴⁶ Thus, as König emphasizes⁴⁷, the LOSC empowers port States to utilise their enforcement powers not only in their own interest but also in the international community's interest, a development Wolfrum described as a "profound modification of international law"⁴⁸. However, a number of important reasons have hampered the effective exercise of port States' jurisdictional authority. States are not always willing to act and invest precious financial and personnel resources when their own interests are not directly affected. In addition, port States that undertake strict controls are afraid of putting themselves at a competitive disadvantage vis-à-vis neighbouring countries. In order to address these and other challenges and wield their enforcement powers more efficiently, port States in various parts of the world have established regional port State control (PSC) regimes.⁴⁹

For their part, coastal States must respect the limits imposed by the LOSC on their capacity to control the activities of foreign vessels in waters under their sovereignty and jurisdiction. The level of control exercised by a coastal State varies according to the kind of activity involved and the maritime zone concerned⁵⁰ and generally decreases as the distance from the shoreline increases.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*, at 6.

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

⁴⁸ R. Wolfrum, "Means of Ensuring Compliance with and Enforcement of International Law" 272 *Recueil des Cours* (1988) 1, at 154.

⁴⁹ Since 1994, Canada is a member of the Paris PSC regime created in 1982 by the *Paris Memorandum of Understanding* which has now been accepted by 19 States.

⁵⁰ Frank, *supra* note 1, at 17.

Internal waters (i.e. all waters on the landward side of the baselines⁵¹ including ports) are treated just like land territory and are under the full sovereignty of the coastal State.⁵² Recognized as an integral part of a State's national territory, international law thus provides that internal waters are subjected to the full force of the coastal State's legislative, administrative, judicial and enforcement powers. As such, the coastal State is free to apply national laws and determine conditions of entry for foreign vessels. It is in the exercise of this sovereign authority that the United States, following the *Exxon Valdez* tragedy, banned all single-hull oil tankers from entering its ports (1990) without seeking prior approval from the IMO and that the EU introduced a similar ban following the sinking of the *Prestige* (2002). However, Birnie et al. note that in the interests of comity and freedom of navigation, most States have shown restraint in the unilateral regulation of foreign ships within their internal waters.⁵³

As Article 2 of the LOSC declares, the sovereignty of a coastal State extends to its territorial sea up to 12 nautical miles from its baselines. The LOSC and other international treaties recognize the coastal State's right to ensure the environmental protection of its territorial waters and, according to Birnie et al., this right includes three important powers:

“the designation of environmentally protected or particularly sensitive sea areas, the designation and control of navigation routes for safety and environmental purposes, and the prohibition of pollution discharges.”⁵⁴

In the exercise of each of these powers, the coastal State enjoys a substantial measure of freedom; it can, for example, impose stricter pollution discharge standards than the international standards defined by the MARPOL Convention. However, Article 21(2) excludes from the coastal State's jurisdiction the right to adopt laws or regulations in regards to the design, construction, manning or equipment of foreign vessels unless such rules give effect to international standards (essentially the standards set by the MARPOL and SOLAS Conventions). Article 21(4) also refers to “generally accepted international regulations” in regards to national legislation for the prevention of collisions at sea. Paragraphs 2 and 4 reflect the important limitation that is placed upon the control exerted by a coastal State in its territorial sea: the right of innocent passage which by virtue of Article 17, is conferred upon the ships of all nations, both civilian and military. To protect freedom of navigation, Article 24 of the LOSC, together with other provisions, commands that “[t]he coastal State shall not hamper the innocent passage of ships through the territorial sea except in accordance with this Convention.”

⁵¹ Article 8(1) of the LOSC.

⁵² Article 2 of the LOSC. See also *Military and Paramilitary Activities in and against Nicaragua (Nicaragua vs. United States of America)*, Merits, Judgment, *I.C.J. Reports 1986*, 14 at 111, para. 212: “The basic legal concept of State sovereignty in customary international law, expressed in, *inter alia*, Article 2, paragraph 1 of the United Nations Charter, extends to the internal waters ... of every State and to the air space above its territory.”

⁵³ P. Birnie, A. Boyle and C. Redgwell, *International Law & the Environment*, 3rd ed. (Oxford: University Press, 2009) at 414. See also R.R. Churchill and A.V. Lowe, *The Law of the Sea*, 3rd ed. (Manchester: University Press, 1999), chapter 3.

⁵⁴ P. Birnie et al., *supra* note 53, at 414. Footnotes omitted. The authors refer to, for example, chapter V of the SOLAS Convention in terms of the right to devise “mandatory vessel traffic management” schemes in the territorial sea and Article 21(1)(f) of the LOSC, Article 4(3) of the 1972 London Dumping Convention and Article 4(2) of the 1973 MARPOL Convention as sources of the coastal State's authority to prohibit pollution discharges in its territorial sea.

What then, ask Birnie et al., can a coastal state “legitimately do when a foreign vessel is found violating international pollution regulations in the territorial sea, or when it poses a risk of accidental pollution or environmental harm”?⁵⁵ What enforcement powers does a coastal State wield in its territorial waters? Without doubt, a coastal State is not authorized to deny or suspend the right of innocent passage of a ship merely because it is carrying dangerous or environmentally risky cargo. In such circumstances, the international legal regime merely confers upon the coastal State the right to take certain precautionary measures to minimize the environmental threat. It may, for example, require ships carrying nuclear or other inherently dangerous or noxious substances to carry specific documents and observe special precautionary measures approved by the IMO or established by international agreements such as MARPOL.⁵⁶ Article 22(2) also allows coastal States to confine the passage of “tankers, nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances” to specific sea lanes in the interests of “safety, the efficiency of traffic and the protection of the environment”.⁵⁷

State practice, together with special areas protocols⁵⁸ and the designation of Particularly Sensitive Sea Areas [PSSAs] by the IMO, also recognize the right of coastal States to regulate the passage of ships through designated environmentally sensitive areas so as to minimize the risk of adverse impacts or serious pollution. Mandatory ship reporting is a common element of such schemes but additional measures may also be imposed with IMO approval. For example, under the 1972 Marine Protection, Research and Sanctuaries Act and as approved by the IMO, the United States designated the Florida Keys as an “area to be avoided” and prohibited the operation of tankers in those waters. However, as Birnie et al. emphasize, though ships may be required to avoid certain areas, “the right of innocent passage is not lost”⁵⁹.

The mere violation of a coastal State’s laws and regulations will not necessarily deprive a foreign vessel of its right of innocent passage. As Article 19(2) specifies, passage of a foreign ship is only considered to be prejudicial to the peace, good order or security of the coastal State (and therefore not innocent) if it engages in “(h) any act of wilful and serious pollution contrary to this Convention”. This provision therefore necessarily excludes any right of intervention in cases of accidental pollution and even if operational pollution is often deliberate, it is seldom “serious” and may be justified by weather or distress. Thus, the strong wording of Article 19(2)(h) ensures that ships causing operational pollution will rarely cease to be exercising innocent passage. Nor will a violation of construction standards be considered, in of itself, a threat to the peace, good order or security of the coastal State, depriving a ship of its right of innocent passage. And yet, as Birnie et al. confirm, “[o]nly when they lose this right can their entry into territorial waters be denied, or their right of passage terminated by eviction or arrest”.⁶⁰ In most cases, enforcement by port States will be the preferable and more efficient solution.⁶¹

⁵⁵ Birnie et al., *supra* note 53, at 415.

⁵⁶ Article 23 of the LOSC.

⁵⁷ Birnie et al., *supra* note 53 at 415.

⁵⁸ See, among several other Protocols, the 1990 Kingston Protocol for Specially Protected Areas and Wildlife [SPAW] in the Wider Caribbean Region.

⁵⁹ Birnie et al., *supra* note 53, at 416.

⁶⁰ *Ibid.*, at 417.

⁶¹ *Ibid.*

In the exclusive economic zone [EEZ], which extends up to 200 nautical miles from the baselines, coastal States have sovereign rights over living and mineral resources and jurisdiction with regard to the protection and preservation of the marine environment.⁶² This zone does not exist automatically but must be claimed and in the case of pollution jurisdiction, Birnie et al. state that legislation will usually be necessary for the coastal State to acquire the necessary competence.⁶³

With regard to the conservation of living resources, coastal States are required under Article 61 to determine the allowable catch of the living resources in their EEZs and through “proper conservation and management measures” ensure their maintenance and avoid their over-exploitation. Paragraph 3 of Article 61 further provides that conservation measures “shall also be designated to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield”. Article 73(1) provides for the enforcement of such laws and measures: “The coastal State may ... take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary, to ensure compliance”. Procedural safeguards are however provided in the other paragraphs of Article 73: arrested vessels and their crews must be promptly released upon the posting of a reasonable bond or other security (para. 2); coastal State penalties for violations of fisheries laws and regulations may not include imprisonment, in the absence of specific agreements, nor any other form of corporal punishment (para. 3); and in cases of arrest or detention of foreign vessels, the coastal State must promptly notify the flag State (para. 4).

Within the EEZ, coastal States are granted the power to regulate pollution from seabed activities under their jurisdiction (Article 208), dumping (Article 210) and vessel source pollution (Article 211, para. 5). In regards to seabed activities and dumping, the LOSC provides that coastal State laws and regulations “should be no less effective than international rules, standards and recommended practices or procedures”⁶⁴. However, both Articles 208 and 210 encourage States, acting through competent international organizations or diplomatic conferences, to harmonize their policies and devise “global and regional rules, standards and recommended practices and procedures”. As for the prevention, reduction and control of pollution from vessels, a coastal State’s regulatory jurisdiction is limited to the application of “generally accepted international rules and standards” established by the competent international organization (Article 211, para. 5).

“In this context MARPOL regulations and other international standards adopted by IMO thus represent the normal limit of coastal state competence and act as a necessary restraint where there is evident potential for excessive interference with shipping.”⁶⁵

Mandatory reporting or routeing schemes require IMO approval if they extend to the EEZ and must be supported by scientific and technical evidence.⁶⁶ The designation of special areas or PSSAs by the IMO under Article 211(6) does not confer any power on coastal States to set

⁶² Articles 56 and 57 of the LOSC.

⁶³ Birnie et al., *supra* note 53, at 418.

⁶⁴ Article 208(3) and 210(6).

⁶⁵ Birnie et al., *supra* note 53, at 419. See also König, *supra* note 42, at 4.

⁶⁶ SOLAS Convention, Regulation V/8 and V/8-1. See J. Roberts, “Protecting Sensitive Marine Environments: The Role and Application of Ships’ Routeing Measures” 20 *IJMCL* (2005) 135.

national construction or equipment standards for ships entering their EEZs, but it does allow them to apply national standards relating to pollution discharges or navigational practices. The only other exception to the LOSC's marked preference for international standards and regulations within the EEZ is found in Article 234. This Article, the outcome of strong diplomatic pressure from Canada and Russia, applies to ice-covered waters within the limits of the EEZ and allows coastal States a broad discretion to adopt national standards for pollution control, provided that such measures have "due regard to navigation" and are non-discriminatory.

Coastal States are not given full jurisdiction to enforce international pollution regulations against ships passing through their EEZ. As we have seen, they can do so if the vessel voluntarily enters into their ports or off-shore terminals, but as Birnie et al. explain, in other cases their powers are graduated according to the likely harm.⁶⁷ The constraints placed on the coastal State's enforcement powers are summarised by König:

"They range from asking a vessel to disclose information on its identity, itinerary and other relevant information in order to establish whether a violation has occurred (article 220, para. 3, LOSC), to undertaking physical inspection in the case of a substantial discharge causing significant pollution if the vessel has refused to give information at all, or if this information is manifestly wrong (article 220, para. 5, LOSC). Only if the illegal discharge is causing or threatening to cause major damage to the coastline or to any resources of the coastal State's territorial sea or EEZ, may that State institute proceedings, including the detention of the vessel."⁶⁸

In situations where a foreign vessel has been detained, Articles 223 to 233 of the LOSC impose certain procedural safeguards, including the obligation to release the ship and its crew as soon as a reasonable bond has been posted (Article 226, para. 1(b)). König also highlights the power conferred upon coastal States by Article 221 of the LOSC to take and enforce measures to prevent actual or threatened damage to their coastline "or related interests, including fishing", as a result of a maritime casualty.⁶⁹

On the continental shelf, which extends up to 200 nautical miles from the baselines and in certain cases, even beyond that limit⁷⁰, coastal States have sovereign rights for the purpose of exploring and exploiting its natural resources. According to Molenaar, these sovereign rights seem to include prescriptive and enforcement powers to manage and conserve the living resources on the continental shelf (sedentary species).⁷¹ Coastal States can also take "reasonable measures" for the prevention, reduction and control of pollution from pipelines but cannot impede the laying or maintenance of cables or pipelines by other States.⁷² As noted above, Article 208 and 210 grant

⁶⁷ Birnie et al., *supra* note 53, at 420.

⁶⁸ König, *supra* note 42, at 5.

⁶⁹ *Ibid.* Paragraph 2 of Article 221 defines "maritime casualty" as a "collision of vessels, stranding or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo". The exercise of these powers are however regulated by the 1969 *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties*.

⁷⁰ Articles 76(1) of the LOSC.

⁷¹ E.J. Molenaar, "Addressing Regulatory Gaps in High Seas Fisheries" 20 *IJMCL* (2005) 533 at 558.

⁷² Article 79(2) of the LOSC.

coastal States pollution jurisdiction as far as sea-bed activities and dumping are concerned but encourage the development of “global and regional rules” through competent international organizations and conferences. As for the enforcement of such rules, the location of the offending ship, within the EEZ (as described above) or on the high seas (port State and flag State enforcement), will dictate the extent of the coastal State’s powers.

As Frank emphasizes, the LOSC’s jurisdictional provisions were drafted with the intention of achieving a balance between coastal States’ extended environmental interests and the rights of others States to exercise their traditional freedoms⁷³, especially the freedom of navigation. As a matter of compromise, the LOSC gives precedence to multilateral cooperation either among States directly, through the adoption of tailored legal instruments and arrangements or within competent international organizations or general diplomatic conferences.

⁷³ Frank, *supra* note 1, at 19.