Chapter 1
The Protection of the Marine Environment under International Law

1.1 Introduction

The legal regime for the protection of the marine environment has its own peculiarities compared to the one governing the protection of the terrestrial environment. At sea states are not as free to take protective measures as they are on land; they have to act according to the jurisdictional rules of the law of the sea. These rules place some constraints on the capacity of coastal States to unilaterally control the environmental impact of sea-based activities and call for multilateral and uniform solutions. The largest part of the ocean space lies outside national jurisdictions and is open for use to all nations and most of the marine living resources move between different maritime areas. Due to the physical characteristics of the marine environment, the effects of human activities (e.g., shipping) and extractive uses (e.g., fisheries) may spread far beyond national jurisdictions and affect the interests of other states. Marine environmental protection, therefore, requires a high degree of cooperation compared to environmental issues on land.

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] Part XII of the 1982 United Nations Convention on the Law of the Sea (LOSC) is the result of this combination.

The international regime for the protection of the marine environment[2] is based on two interdependent frameworks: (a) an umbrella framework (i.e., principles of customary international law; the LOSC, and Chapter 17 of Agenda 21, the plan of action adopted at the 1992 UN Conference on Environment and Development (UNCED) along with the Plan of Implementation adopted at the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002) which sets out general principles and rules of global application, and (b) a regulatory regime composed of a variety of instruments implementing the general rules at the global (e.g., global regulatory instruments addressing specific sources of pollution; multilateral environmental agreements (MEAs)) and regional levels (e.g, regional seas conventions). These two separate bodies interact and complement each other creating a dynamic, coherent and uniform system. The LOSC constitutes the link between these two bodies. It does not contain detailed technical standards, but provides the legal basis for the multilateral development of rules within the "competent international organizations" and for the uniform implementation and enforcement of "generally accepted international rules and standards." Chapter 17 of Agenda 21 has introduced the new objectives, principles and concepts of international environmental law into the law of the sea and has worked as a catalyst for the implementation and further development of the environmental regime set out by the LOSC.

This Chapter provides a general overview of the international regime for the protection of the marine environment, without pretending to be exhaustive. The focus is placed on the necessary elements to carry out the analysis in the following chapters and to better understand the manner in which the European Community implements its international obligations in the field of ocean preservation. Particular attention is given to the institutional frameworks created by the global and regional instruments to

[1] E. L. Miles (1997), p. 24; W. L. Schachte, Jr (1992), p. 59. See also L. de la Fayette (2001), p. 158.
[2] This Study uses the terms "international regime for the protection of the marine environment", "marine environmental regime", "ocean preservation regime" and "international ocean regime" as synonymous.

coordinate and supervise implementation. The chapter concludes by pointing out the main shortcomings and future challenges of the international ocean regime.

1.1.1 Degradation of the Marine Environment

Life on earth strongly depends on the integrity and health of the oceans and seas, which cover over 70% of the planet's surface.[3] They provide fundamental ecological services and sustain economic development in many countries all around the world. During the past three decades, the protection and preservation of the marine environment has become a primary goal for the international community and important results have been achieved in controlling the traditional sources of marine pollution (e.g., shipping and dumping) and in the reduction of the most hazardous contaminants (e.g., lead, mercury and oil). Nevertheless, most of the problems identified in the past are still unsolved and new threats are placing oceans under increasing pressure (e.g., overexploitation of renewable resources; global warming; alteration of habitats and the loss of biodiversity; introduction of alien species transported in ballast waters; uncontrolled development of coastal areas; fish farming and aquaculture; hydrological changes and tourism).[4] Technological development, moreover, has shown new ways to use the sea and to exploit its resources and has progressively extended human activities further offshore and deeper into its waters.[5] The major threats to the marine environment, however, still come from activities on land (e.g., agricultural practices and industrial discharges).[6] As a result, the state of the marine environment and its resources are deteriorating worldwide.[7]

The impact of human activities on the marine environment varies depending on a multiplicity of ecological and geographical factors. Pressure is normally higher in coastal waters compared to offshore waters and is particularly severe in enclosed and semi-enclosed seas, which, due to their shallow waters and limited circulation, renovate themselves much more slowly compared to open seas. Socio-economic factors, such as population density, the concentration of industrial activities along the coastlines as well as the presence of major navigational routes and ports used for international trade, increase the exposure of the marine environment to anthropogenic pressures and show the existence of a direct link between ocean degradation and socio-economic development.

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[3] For the latest information on the state of the oceans, see: Joint Group of Experts on Scientific Aspects of Marine Environmental Protection (GESAMP), Report No. 70, "A Sea of Troubles" (15.01.2001), at: http://gesamp.imo.org/publicat.htm; UNEP Annual Report 2004, at: www.unep.org/AnnualReport/2004/Protecting_seas_oceans_p56-59.pdf; UNEP Millennium Ecosystem Assessment (2005), at: www.millenniumassessment.org/en/index.aspx and the UN Atlas on the oceans, at: www.oceansatlas.org. Relevant information can also be found in the Report of the UN Secretary-General (UNSG Report) to the 60th session of the UN General Assembly (UNGA), (UN doc. A/60/63; 4.03.2005), pp. 30-47, and its addendum 2 (A/60/63/Add.2; 15.08.2005), pp. 19-25, both available at: www.un.org/Depts/los/general_assembly/general_assembly_reports.htm.

[4] GESAMP (2001), supra n. 3, p. 3 and GESAMP Reports and Studies No.66 (1999), p. 1.

[5] New technologies, for instance, led to the discovery of the rich marine biodiversity of the seabed in areas beyond national jurisdiction and have shown the possibility to exploit them. Also the exploration and exploitation of oil and gas, which has traditionally been carried out in coastal waters and continental shelves, has progressively extended to deep waters up to 2000 meters. Similarly, fishing fleets are venturing into deep waters in search of new stocks. GESAMP (2001), p. 20.

[6] According to the 1990 official data, 12% of marine pollution comes from shipping; 10% from ocean dumping; only 1% emanates from seabed activities; 44% from land-based activities and 33% through the atmosphere (except air traffic). See: GESAMP, "The State of the Marine Environment", Report No. 115, 1990.

[7] Inter alia, GESAMP (2001), p. 3.

1.1.2 The Law of the Sea and the Protection and Preservation of the Marine Environment

The protection and preservation of the marine environment is a relatively new issue compared to the protection of nature on land.[8] Knowledge and understanding of oceans and seas, their processes and components are not as well developed as those on the terrestrial environment. For a long time, oceans and seas have been considered as inexhaustible reservoirs of resources, including fish and minerals, and capable of absorbing any kind of substances and materials discharged into their waters. Prior to the 1970s, the traditional law of the sea paid little or no attention to the protection of the marine environment.[9] The traditional regime was based on two fundamental components: (a) the almost absolute right of coastal States to exploit marine resources and to conduct human activities within waters under national jurisdiction and (b) the freedom of all states to use the high seas for various purposes (e.g., navigation, fishing, military activities and marine scientific research) with the only duty being to have "due regard" to the interests of other states. There was no legal obligation to protect the marine environment.[10]

The growing environmental awareness and a series of oil tanker disasters in the 1960s and 1970s focused the attention of the international community on the impact of human activities on the marine environment. The first UN global conference on the human environment, held in Stockholm in 1972, revealed a general dissatisfaction with the existing regime and recommended immediate action to protect oceans and seas.[11] The Stockholm recommendations led to the adoption of new global and regional instruments addressing specific sources of marine pollution.[12] At the same time, the Stockholm Conference provided a decisive impulse to the Third United Nations Conference on the Law of the Sea (UNCLOS III) launched in 1973 with the ambitious mandate to adopt a convention "dealing with all matters relating to the law of the sea".[13] In 1982, after almost ten years of negotiations, the LOSC was adopted establishing a comprehensive regime for the world's oceans in which the protection and preservation of the marine environment played a central role.[14]

There is no definition of "marine environment" under the LOSC or other international instruments. 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

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[8] See, in general, P.W. Birnie and A. Boyle (2002), pp. 347-56; L.A. Kimball (2001), pp. 1-4; and R.R. Churchill and A.V. Lowe (1999), pp. 332-353.

[9] There were a few conventions addressing oil pollution (e.g., the 1954 International Convention for the Prevention of Pollution of the Sea by Oil) and some early fisheries agreements (e.g., the 1882 North Sea Fisheries Agreement and the 1931 Convention on the regulation of whaling) contained some conservation measures.

[10] On the pre-UNCLOS III regime, see: R.R. Churchill and A.V. Lowe (1999), p. 333; P.W. Birnie and A. Boyle (2002), p. 351.

[11] The Stockholm Declaration (Principle 7) and the Stockholm Action Plan (Recommendations 86-94) address marine pollution. See: Stockholm Conference Report, Annex III, p. 73 (in: UN doc. A/Conf.48/14/Rev.1 (1972).

[12] See, e.g., 1972 London Dumping Convention; 1973 International Convention for the Prevention of Pollution from Ships (1973/78 MARPOL); 1974 Safety of Life at Sea Convention (SOLAS); 1974 Helsinki Convention for the Protection of the Marine Environment of the Baltic; 1974 Paris Convention for the Prevention of Marine Pollution from Land-Based Sources; and 1976 Barcelona Convention for the Protection of the Mediterranean.

[13] UNGA Resolution 3067 (XXVIII)), in UN Doc. A/9030(1973).

[14] Montego Bay, 10.December 1982, 1833 UNTS 396.

life.[15] As will be discussed in more detail in chapter 8, the term "marine life" seems to be broad enough to include marine biodiversity and all living components of marine ecosystems,[16] but excluding fish stocks and other commercial species.[17] The latter, indeed, enter into the different regime on the conservation of marine living resources, which is regulated in other parts of the LOSC. This regime is closely related to the management and utilization of fisheries and will be marginally covered in Chapter 8 of this study. However, the fact that there is a special regime for fisheries does not mean that the gerenal rules and principles of marine environmental protection do not apply in this field.

Before the 1990s, the marine protection regime focused almost exclusively on the "prevention, reduction and control" of marine pollution, which was defined in quite narrow terms. The generally accepted definition, as adopted in Article 1(4) of the LOSC, refers to "the *introduction by man*, directly or indirectly, of *substances* or *energy* into the marine environment, including estuaries, which results *or is likely to result* in such *deleterious effects* as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of the sea water and reduction of amenities" (emphasis added).[18] According to this definition, there must be, first of all, an introduction, whether deliberate or accidental, "by man", with the exclusion of all natural phenomena, even if they result in deleterious effects. Secondly, only "substances and energy" may cause pollution. However, both terms have been interpreted extensively to include alien organisms carried in the ballast waters of ships (substances); electricity, sound, vibration, heat and radiations (energy); as well as other forms of physical disturbance, such as anchoring and grounding. Thirdly, not all pollution is prohibited, but only pollution that "may" have "deleterious" effects.[19] Some substances and energies are indeed harmless or can be rapidly rendered inoffensive upon contact with the sea. Although the list of the deleterious effects is rather extensive (e.g., any "impairment of the quality of sea water"), some minor consequences for the marine environment are still tolerated.[20]

Following the new developments of international environmental law, as endorsed at UNCED, the legal regime for the preservation of oceans has progressively extended its scope to types of anthropogenic pressures other than pollution. Most post-UNCED agreements have replaced the term "pollution" with "degradation" so as to formally cover erosion and sedimentation, habitat destruction and the use of harmful

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[15] The LOSC expressly extends the duty to protect and preserve the marine environment to "rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species or *other forms of marine life*" (Article 194(5)). In its Report to the Plenary regarding the Proposal on Article 1 (1)(4), the Chairman of the Third Committee noted that consensus had been reached on the inclusion of marine life within the term marine environment (A/CONF.62/RCNG/1 (1978)).

[16] See: H.M. Dotinga and A.G. Oude Elferink (2000), p. 159.

[17] LOSC (Article 1(1)(4)); 1995 BARCON (Article 2.a); 1992 Helsinki Convention (Article 4.1) and 1992 OSPAR Convention (Article 2.2.a) make a distinction between "living resources" and "marine life". See, in general, Chapter 8.2.1 of this study; D. Owen (2001), p. 51 and R. Platzöder (2001), p. 137.

[18] For a critical analisis of this definition see, *inter alia,* H.M. Dotinga and A.G. Oude Elferink (2000), pp. 158-9; E.J. Molenaar (1998), pp. 16-18; R.R. Churchill and A.V. Lowe (1999), p. 329 and A.C.H. Kiss and D. Shelton (1991), p. 117.

[19] Conversely, previous agreements (e.g., the 1976 Mediterranean Convention; 1974 Baltic Convention, 1972 Oslo Dumping Convention and the MARPOL 73/78) only refer to the introduction of substances "resulting" in deleterious effects. In this way, the LOSC anticipates a preventive, even though not yet precautionary, approach to marine protection.

[20] *Inter alia,* R.R. Churchill and A.V. Lowe (1999), p. 329 and A.C.H. Kiss and D. Shelton (1991), p. 117.

technology and fishing practices.[21] These agreements, moreover, not only aim to "prevent, reduce and control", but also to "eliminate" or "abate" pollution and "restore" adversely affected marine areas.[22] Some of them, moreover, include the impact of human activities "on marine ecosystems" or "marine life" in the definition of pollution.[23]

1.2 The Framework Regime

1.2.1 (Pre-UNCED) Customary Principles

The umbrella regime for the protection and preservation of the marine environment is composed, first of all, of principles of customary international law. These principles are legally binding and universally applicable regardless of their codification within a treaty. However, only a few of them apply to the marine environment and their contribution to ocean preservation is quite limited.[24]

Customary law places States under a general duty to "prevent" damage to the marine environment (the *preventive principle*) and to use "due diligence" in conducting harmful activities under their national jurisdiction or control.[25] In both cases, however, States are required to take appropriate measures for which they are capable, financially and technologically.[26] In many cases (e.g., eutrophication from agricultural practices) the costs of prevention may be too high to require preventive action. A high degree of scientific certainty and predictability of the harmful effects of human activities, moreover, are essential conditions for the adoption of preventive measures.[27]

Moreover, States are under a general duty not to cause "serious or significant" damage to the environment of other states or areas beyond national jurisdiction, such as the high seas (*sic utere tuo ut alienum non laedas)* and not to "unreasonably" interfere with the traditional freedoms of other states in this area (the *reasonable use principle*).[28] Presumably, on the basis of these principles, States may not allow their nationals to conduct activities (e.g., to discharge hazardous substances or destructive fishing practices) in a manner that could cause harm or be prejudicial to the interests of other States. Both principles, however, only apply to transboundary situations. They do not establish a positive legal duty to protect the marine environment within waters under national sovereignty or jurisdiction, but only a responsibility to compensate environmental damage.

Furthermore, States are under a general duty of cooperation by means of information exchange, consultation and notification. This duty, however, only emerges

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[21] 1994 UNSG Report (A/49/631), paras 74-76.

[22] E.g., OSPAR Convention (Article 2(1)(a)); 1992 Helsinki Convention (Article 3(1)) and 1995 BARCON Article 4(1).

[23] E.g., OSPAR Convention, Article 1(d) and BARCON, Article 2(a).

[24] On the customary principles of international environmental law see, in general: P. Sands (2003), pp. 231-252; P.W. Birnie and A. Boyle (2002), pp. 144 and 351; R. Churchill and A. Lowe (1999), p. 332. See also: B. Kwiatkowska (2001), pp. 18-22 and A. Nollkaemper (1993).

[25] E.g., *Trail Smelter Arbitration* (III RIAA 1905, at 1965) and Principle 21 of the Stockolm Declaration, supra n. 11 .

[26] A. Nollkaemper (1993), p. 41.

[27] Full scientific certainty does not exist. As will be disussed in section 1.2.3, these elements differentiate the preventive principle from the precautioraty prinicple.

[28] E.g., Article 2(2) of the 1985 High Seas Convention. See also: International Court of Justice (ICJ), *Icelandic Fisheries Case* (25.02.1974) and 1974 *Nuclear Test Case* (20.12.1974).

in the case of transboundary pollution and/or in emergency situations (the *principle of good neighbourliness and international cooperation*).[29]

Generally speaking, under customary principles not all interferences, harm or damage must be avoided or prevented, but only those which are "unreasonable", "serious", "appreciable" or "significant" and States have a great deal of discretion in determining these thresholds.[30] These principles, therefore, are too general and too broadly formulated to require States to take concrete action to protect the marine environment.

All the principles discussed so far have been established when international environmental law was still at its very early stage. In the course of the 1980s, in the run-up to UNCED, new principles and concepts, such as sustainable development or the precautionary principle, have emerged. These principles have been endorsed in Agenda 21 and will be briefly discussed in section 1.2.3. However, apart from sustainable development, which is now generally considered as reflecting customary law, the legal status of other principles is still unclear.[31] Nevertheless, as will be discussed in Chapter 2.4.3, most of these emerging principles (e.g., the precautionary principle) have been codified in the EC Treaty and, therefore, have legally binding nature within the EC legal system.

1.2.2 The 1982 UN Law of the Sea Convention (LOSC) and the Protection and Preservation of the Marine Environment

The LOSC recognizes that uses and problems of marine space are closely interrelated and must be considered as a whole (the Preamble). The protection and preservation of the marine environment therefore constitutes an essential component and an integral part of the legal regime of the sea. The Convention, moreover, represents the first attempt to regulate all sources of marine pollution and different aspects of marine degradation within a single instrument. At the time of its adoption, the LOSC was considered as the "strongest comprehensive environmental treaty in existence or likely to emerge for quite some time".[32] Since its entry into force on 16 November 1994, the regime established by the Convention has gained nearly universal acceptance and its environmental provisions are widely considered to reflect customary law.[33]

The environmental regime established by the Convention is based on the combination of the jurisdictional rules of the law of the sea with objectives, principles and approaches of international environmental law. The protection and preservation of the marine environment is specifically regulated in Part XII which is the result of this combination. However, due to the comprehensive character of the LOSC and the inter-

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[29] The International Tribunal on the Law of the Sea (ITLOS) confirmed the customary nature of the duty to cooperate in the 2001 MOX Plant Order, (Ireland v. United Kingdom), Provisional Measures, Case n. 10, Para. 82, available online at: www.itlos.org/start2_en.html.

[30] See, for instance, A. Nollkaemper, (1993), p. 30.

[31] See: P. Sands (2003), pp. 231-32 and 252-290, P. Birnie and A. Boyle (2002), pp. 79-152 and section 1.2.3 of this Chapter.

[32] See, e.g., P.W. Birnie and A. Boyle (2002), p. 348.

[33] By 30 April 2006, the LOSC has 149 parties (www.un.org/Depts/los/reference_files/status2005.pdf). The customary nature of Part XII has been recognized in the preamble of the OSPAR Convention, and in Chapter 17(1) and 17 (22) of Agenda 21, by most legal authors and governments, including non-parties, such as the US (see, e.g., Statement by the US Delegation at the 11th Session of UNCLOS III (Official Records, Vol. 17, p.116; 1983 Statement of President Regan on United States Ocean Policy (19 Weekly Comp. Pres. Doc. 383,1983). More recently see: Statement of Mr. J. F. Turner before the US Senate Environmental Committee, 23.03.2004, at: www.eezinternational.com/news/2004/25.03.04-feature3.html) and remarks by Dr. C. Rice during her senate confirmation hearing as a Secretary of State available at: <http://www.agiweb.org/gap/legis109/lawofthesea.html>.

sectoral nature of marine issues, relevant provisions can be found in different parts of the Convention (e.g., Parts V and VII on conservation and management of living resources in the EEZ and high seas or Part XIII on marine scientific research). The LOSC has codified the customary principles discussed in the previous section and, in some cases, has further clarified their content. The jurisdictional rules and Part XII are discussed separately in the next paragraphs.

1.2.2.1 Jurisdictional Regime

The LOSC sets out the basic jurisdictional framework for conducting human activities at sea and the rights and duties of States in different maritime zones. In each zone, the Convention specifies the extent of the prescriptive jurisdiction, which is the capacity of States to adopt legislation, including environmental rules; and enforcement jurisdiction, which is the capacity of States to bring about compliance with these rules and to punish violations. Most of the jurisdictional provisions of the LOSC are declaratory of existing international law, while others (e.g., Exclusive Economic Zone (EEZ)) codify the latest developments in the law of the sea.[34] This paragraph outlines the environmental powers of States in the different maritime zones, while specific rights and duties of flag States (i.e., "the State whose nationality a particular vessel has"), coastal States (i.e., "the State in one of whose maritime zones a particular vessel lies" or a particular activity is conducted) and port States (i.e., "the State in one of whose ports a particular vessel lies") in each zone will be covered in more detail in the case-study chapters.[35] Also the regime on international navigation (e.g., the right of innocent passage; transit passage and the freedom of navigation, *inter alia*) is discussed in detail in Chapter 6.

The LOSC places some limits on the capacity of coastal States to control the activities of foreign States in waters under their sovereignty and jurisdiction. The level of control varies according to the kind of activities and to the maritime zone concerned and generally decreases when proceeding towards the high seas. As one legal author pointed out, coastal (and port) State jurisdiction "always implies jurisdiction over foreign vessels. Jurisdiction over a State's own vessel implies acting in the capacity as flag State".[36] Flag States have sovereignty over their own vessels wherever they are and may impose on them any kind of standard or practice they deem necessary to protect the marine environment.

Generally speaking, internal waters (i.e., all waters within the baselines including ports), just like land territory, are under the full sovereignty of coastal (or port) States that have exclusive and unlimited control over the protection of their marine environment.[37]

Sovereignty extends to the territorial sea up to 12 nautical miles (n.m) from the baselines. In this zone, however, the level of coastal State control is limited by the

[34] E.g., P.W. Birnie and A. Boyle (2002), p. 348 and B. Kwiatkowska (1989), Ch.5. The ICJ in *Tunisia Libya Continental Shelf* Case (24.02.1982) considered the concept of EEZ as part of the modern international law and again in *Libya Malta Continental Shelf* Case (3.06.1985) it stated that it had become a part of customary law through state practice.

[35] Quotes are from R.R. Churchill and A.V. Lowe (1999), p. 344. For a detailed analysis on the LOSC jurisdictional framework see, *ibid*., pp. 60-176 and 203-52.

[36] See: E.J. Molenaar (1998), p. 92.

[37] LOSC, Article 2(1). In internal waters foreign vessels have no right of innocent passage (ibid., Article 8). See, in general, R.R. Churchill and A.V. Lowe (1999), pp. 60-65.

right of innocent passage which pertains to all foreign vessels and this will be covered in detail in Chapter 6.[38]

The LOSC has extended the powers of coastal States up to 200 n.m within the exclusive economic zone (EEZ).[39] This zone does not exist automatically, but must be claimed. Within this new maritime zone, which was formerly subjected to the high seas regime, coastal States have, *inter alia*, sovereignty over the conservation and management of natural resources and jurisdiction for the protection and preservation of the marine environment.[40] As will be discussed in further detail in the case-study chapters, in this area coastal States may take environmentally protective measures as long as they do not interfere with the traditional freedoms of other States, first and foremost the freedom of navigation.[41] Flag states, however, must comply with coastal State environmental laws and regulations adopted in accordance with the LOSC.[42]

In the continental shelf, which extends up to 200 n.m. from the baselines (in certain cases beyond that limit), coastal States have sovereign rights for the purpose of exploring and exploiting natural resources.[43] As will be discussed in more detail in Chapter 8.2.2, the sovereign rights of exploitation seem to embrace the right to manage and conserve the natural resources of the continental shelf.[44] In addition, the coastal States can take measures for the reduction and control of pollution from pipelines, but cannot impede the laying or maintenance of cables and pipelines by other States.[45] Part XII, moreover, grants coastal States jurisdiction as far as dumping in the continental shelf and pollution from seabed activities are concerned.[46]

The LOSC reconfirms that areas beyond national jurisdiction are subject to the traditional freedoms of the high seas (i.e., fishing, navigation, overflight, laying submarine cables and pipelines, building artificial islands and other facilities and conducting scientific research). In the high seas, the primary responsibility to protect and preserve the marine environment lies on flag States, which must ensure that vessels flying their flag comply with existing international rules and standards.[47] Coastal States cannot take unilateral action in this area, but they have to cooperate in the multilateral development of protective measures within the competent international organizations.

Finally, the Area includes the seabed, the ocean floor and the subsoil thereof, beyond the limits of national jurisdiction and represents a common heritage of mankind.[48] The regime governing the Area and the exploration and exploitation of its mineral resources is regulated in Part XI of the Convention. In respect of activities in the Area, as defined in Article 1.1(3) of the LOSC, it is for the International Sea Bed

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[38] See: ibid, pp. 71-102 and Chapter 6 of this study. In the "contiguous zone", adjacent to the territorial sea up to 24 n.m., coastal States do not have environmental rights.
[39] See, in general, B. Kwiatkowska (1989), pp. 171-9; E. Franckx (2003), pp. 11-30.
[40] LOSC, Article 56(1)(a) and Article 5(6)(1)(b)(iii). Coastal States have sovereign rights with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from water, currents and winds, and jurisdiction with regard to the establishment and use of artificial islands, installations and structures, and marine scientific research.
[41] LOSC, Article 56(2). See also Chapter 6.2 and Chapter 8.2.2 and 8.6.1 of this Study.
[42] LOSC, Article 58(3). As will be discussed in Chapter 6, the LOSC introduced a similar regime in straits used for international navigation (Articles 42.1 (b) and 233) and grants some environmental powers to archipelagic states with regard to the regulation of archipelagic sea-lane passage (Article 53).
[43] LOSC, Articles 76 and 77.
[44] See, E.J. Molenaar (2005), p. 558 and Chapter 8.2.2, n. 1576.
[45] *Ibid*,, Article 79.
[46] *Ibid*, Articles 210(5) and 208 (1).
[47] *Ibid*, Articles 92 and 94.
[48] *Ibid*, Articles 1.1(1) and 136.

Authority (ISBA) to take all appropriate measures for the prevention, reduction and control of pollution, other hazards to the marine environment and interference with its ecological balance (Article 145 (a)) as well as the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna (b).[49]

The LOSC jurisdictional provisions intended to attain a balance between the coastal State's extended environmental rights and the interests of other States to use the oceans and exercise their traditional freedoms.[50] As a matter of compromise, the LOSC gives preference to multilateral cooperation either among states directly or within the competent international organizations or general diplomatic conferences.[51]

1.2.2.2 Part XII

The jurisdictional rules for the "protection and preservation" of the marine environment are further specified in Part XII of the LOSC. The LOSC does not clarify the difference between these two terms.[52] It is largely accepted that "protection" refers to an existing or imminent danger, while "preservation" maintains the elements of sustainability and relates to the maintenance of the quality of the marine environment and the long-term policies to tackle marine environmental problems.[53]

Part XII of the LOSC does not contain technical standards, but clarifies the extent of the rights and duties of States with regard to different sources of pollution and sets out the main principles that States have to follow in carrying out their duties. Generally speaking, the Convention places States under four main sets of obligations.

Firstly, all States are under an unconditional duty to take measures to protect and preserve the marine environment (Article 192) and to exploit their marine resources in accordance with this duty (Article 193). These provisions, which are considered as "the capstone of the international environmental law of the sea"[54] transform the protection of the marine environment from a mere right into a positive legal duty, not confined to transboundry situations.[55] The content of this general duty is specified further in Article 194. States are required to take all necessary measures to prevent, reduce and control marine pollution using the best practical means at their disposal and according to their capabilities.[56] Six main sources of pollution are identified and addressed in further detail in several articles of the Convention, namely: pollution from land-based and coastal activities (Article 207); from seabed mining within national jurisdiction (Article 208); from activities in the Area (Article 209); from ocean dumping (Article 210); from ships (Article 211) and from or through the atmosphere (Article 212). In addition, States have to 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(5)).

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[49] *Ibid*, Article 145(a) pays particular attention to protection from the harmful effects of such activities as drilling, dredging, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities.

[50] See B. Kwiatkowska (1995), p. 14.

[51] To be qualified as "general", a diplomatic conference (GDC) must be open to universal or nearly universal participation. See: S. Rosenne and A.Yankov (eds.), (1990), p. 209.

[52] See on this point: S. Rosenne and A.Yankov (eds.), (1990), p. 40.

[53] *Ibid,* pp. 11-2.

[54] See 1989 UNSG Report (A/44/461, Para. 5). See also E.L. Miles (1997), p. 24.

[55] Article 194 indeed makes a clear distinction between the duty to protect the marine environment (Para. 1) and the responsibility not to cause damage by pollution to other states (Para. 2). See, e.g., A. Boyle (1985), p. 370.

[56] States, however, are encouraged to harmonize their national policies (LOSC, Article 194(1)).

Secondly, States have to cooperate on a global or regional basis, directly or through competent international organizations, in the multilateral development of international rules and standards, practices and procedures for the protection and preservation of the marine environment (e.g., Article 197). The Convention places strong emphasis on regional cooperation especially between States bordering enclosed or semi-enclosed seas (Article 123).[57]

Thirdly, in order to guarantee the maximum level of coherence and uniformity, the LOSC requires States to give effect to "generally accepted" and to enforce "generally applicable" international rules and standards established by the competent international organizations. The required level of compliance with the generally "accepted" or "applicable" rules and standards varies according to the types of activities and the maritime zone where they take place. States have to "take into account", "conform to", "give effect to" or "implement" international rules, which, depending on the circumstances, may represent minimum or maximum standards.

Generally, the LOSC provisions are particularly articulate with regard to activities taking place at sea, especially shipping, where there is a higher interference with the interests of other States. Conversely, the provisions are quite rudimentary with regard to land-based activities, where there is a stronger impact on national sovereignty and the primary responsibility is left to coastal (and land-locked) States.[58] For the same reasons, the provisions on enforcement are also very weak, except for vessel-source pollution.

Fourthly, States are subject to a series of procedural obligations concerning notification and information exchange (Article 198); the development of pollution contingency plans (Article 199); cooperation through scientific research (Articles 200-201) and technological assistance (Articles 202); monitoring (Article 204) and reporting (Article 205). In addition, Article 206 requires States, "as far as practicable", to conduct environmental impact assessments (EIAs) of projects and activities which are potentially dangerous for the marine environment, while Article 235 sets out a general duty to compensate pollution damage and to cooperate in the development of international rules on responsibiltiy and liability.

Even though Part XII is based on the 1972 Stockholm Declaration, it seems to formulate, at least at an embryonic stage and in very general terms, some of the emerging objectives, principles and approaches of ocean governance endorsed at UNCED (e.g., sustainable development;[59] the need to take an integrated[60] and precautionary[61] approach and the polluter pays principle[62]).

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[57] LOSC, Article 122 defines enclosed and semi-enclosed seas as "a gulf, basin or sea surrounded by two or more states and connected to another sea or the ocean by a narrow inlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal states".

[58] States are simply required to "take into account" international land-based pollution and atmospheric pollution standards (LOSC, Article 212(1)). See, in general, P.W. Birnie and A. Boyle (2002), p. 308; A. Yankov, (1999), p. 281; R. Wolfrum (1995), p. 1014.

[59] E.g., LOSC, Article 193 and Article 62(1) on optimum sustainable yield. See, in general, A. Yankov (1999), p. 275 and L. Miles (1997), pp. 16-42. In addition, the LOSC anticipates the idea of common, but differentiated responsibilities (e.g., Articles 194(1); 207(4); 202 and 203). See: K.R. Simmonds (1989), p. 94.

[60] E.g., Preamble to the LOSC; Article 195; Article 196 and several provisions on conservation and management of marine living resources.

[61] See, e.g., the definition of pollution in Article 1(4). See also: Judge Laing, Separate Opinion on the 1999 *Southern Bluefin Tuna Case (*Para. 17). For a detailed discussion see: A. Trouwborst (2006, pp. 219 and 233 and A. Trouwborst (2002), p. 65.

[62] E.g., LOSC, Article 235. The polluter-pays principle was formulated for the first time in the 1970s within the framework of the OECD.

As will be discussed in Chapter 6, the environmental regime established by the LOSC has recently been the object of some criticism. The "package deal" nature of the Convention, which was meant to be acceptable without reservations by the international community as a whole, has resulted in a high level of compromise between the coastal State's environmental interests and the flag State's traditional freedoms to use the sea and its resources.[63] This compromise has often resulted in the lowest common denominator with a clear preference for utilization rather than preservation.[64] In addition, the LOSC is based on a balance of interests as they stood three decades ago and does not reflect the modern requirements of environmental protection.[65] In spite of this criticism, the idea of formally amending the Convention has never been supported.[66]

1.2.3 Chapter 17 of Agenda 21

Since 1982, when the LOSC was adopted, international environmental law has developed considerably.[67] The increasing degradation of the environment, including the oceans and seas, revealed the limits of the traditional approach to environmental protection.[68] It soon became clear that there is a direct link between (marine) environmental degradation and socio-economic development and these factors can no longer be tackled in isolation.[69] To fill these gaps the UNCED endorsed the new goal of sustainable development, as a form of development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs, together with new principles and approaches to achieve this goal.[70] In the marine environmental context sustainable development acquires a special importance since millions of people all around the world depend on the sea and its resources. Agenda 21, the UNCED's Plan of Action, dedicates particular attention to oceans and seas and emphasizes the need to protect and preserve the marine environment in harmony with the rational use and development of its resources.[71]

Chapter 17 on "Protection of the Ocean and all kinds of seas" sets out the blueprint for the sustainable development of oceans and introduces new objectives, principles, and concepts of ocean governance into the existing regime.[72] The protection of the marine environment is one of the seven areas of action identified in the

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[63] See A. Yankov (1999), p. 276.
[64] R. Platzöder (2001), p. 138; D.R. Rothwell in A.G. Oude Elferink (ed.) (2005), p 148.
[65] E.g., UNSG Report A/58/50 (paras 37 and 58).
[66] For a general discussion see: D. Freestone and A.G. Oude Elferink in A.G. Oude Elferink (Ed.) (2005), pp. 169-221.
[67] On UNCED and ocean law and policies, see, in general, P. Sands (2003), pp. 455-57; A. Yankov (1999), p. 271; P.W. Birnie (1999), pp. 387-415; B. Cicin-Sain and R.W. Knecht (1993), p. 323; A. Nollkaemper (1993), p. 537.
[68] The GESAMP Report on the state of the oceans No. 39 (1990), published on the eve of the UNCED, revealed a substantial increase in marine pollution compared to 1980s levels.
[69] G. Bruntland (ed.), World Commission on Environment and Development, *Our Common Future* (1987), 1987, p. 28.
[70] See UN Doc. A/CONF.151/26/Rev.1, Vol.I (1992). Sustainable development is defined in the 1987 Bruntland Report (supra n. 69). For an overview of sustainable development and other UNCED principles see: P. Sands (2003), pp. 252-266 and G. Handl (1995), pp. 35-43. For more on the role of sustainable development in ocean preservation see: M. Kusuma-Atmadja, T. A. Mensah and B. Oxman (eds) (1997),
[71] Agenda 21, Chapter 17.1, infra n. 71. Chapter 17 is the most articulated chapter of Agenda 21.
[72] Chapter 17 on "Protection of the Oceans, All Kind of Seas including Enclosed and Semi-enclosed Seas, and Coastal Areas, and the Protection, Rational Use and Development of their Living Resources", adopted in Rio de Janeiro, 3-14 June 1992 (A/CONF.151/26, Vol. II, (1992)), available at: www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm

Chapter.[73] The LOSC is considered as the proper legal framework for the protection and sustainable use of the marine environment, but Agenda 21 calls for a new approach to marine issues.[74] This approach has to be "integrated in content" and "precautionary and anticipatory in ambit".[75] Considering the limited knowledge and understanding over the marine environment and the difficulty in predicting the impact of human activities on marine ecosystems, the adoption of a precautionary approach to ocean preservation appears particularly important since it justifies the adoption of preventive measures even in the absence of "clear scientific evidence".[76] In addition, Chapter 17 urges States to conduct a prior environmental assessment of all potentially hazardous activities, to apply clean technologies (e.g., best available technology (BAT) and best environmental practice (BET)) and the polluter pays principle.[77] Furthermore, Chapter 17 urges States to preserve rare or fragile "ecosystems", as well as habitats and other ecologically sensitive areas and it implicitly endorses the ecosystem-based approach.[78]

States are recommended to take measures to address marine degradation (not only pollution) from land-based activities acting primarily at the national, regional or sub-regional level.[79] In addition, they are required to assess the need for additional measures to control sea-based activities (i.e., shipping, dumping, offshore oil and gas platforms and ports) acting primarily within the framework of international organizations, whether they be sub-regional, regional or global.[80] As will be discussed in more detail in Chapter 6, Chapter 17 devotes particular attention to shipping and urges the wide ratification and proper implementation of existing international instruments. Furthermore, there is a strong emphasis on monitoring, reporting, and financial and technological assistance.[81] Finally, Chapter 17 stresses the need to improve cooperation and coordination among national, regional and global institutions with competence concerning marine environmental issues, within and outside the UN system.[82]

Despite its legally non-binding nature, Chapter 17 had a decisive influence on the further development of the marine environmental regime and its principles and recommendations have worked as guidelines for States and international organizations

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[73] Programme (b), paras 17.18-43.

[74] Agenda 21 contains many references to the LOSC (e.g., paras 17.22, 17.49, 17.69, 17.77-8, and 17.99).

[75] E.g., Agenda 21, paras 17.1, 17.5, 17.6, 17.21 and 17.22.

[76] Not surprisingly, the principle had its first international formulation in the Declaration adopted at the 1984 North Sea Ministerial Conference (1984 NSMC Declaration, Para. A.7) and has received particular attention in subsequent NSMCs (e.g., London, 1987; The Hague, 1990; and Esbjerg, 1995). For a full discussion on the legal status and content of the precautionary principle see: A. Trouwborst (2006); P. Sands (2003), pp. 266-79; S. Marr (2003) and A. Trouwborst (2002). On the application of the precautionary principle to marine issues see also: D. Freestone and E. Hey in D. Freestone and E. Hey (1999), pp. 3-15; A. Nollkaemper (1995), p. 71; E. Hey (1992), pp. 303-18 and A. Nollkaemper (1991), pp. 107-110.

[77] Agenda 21, Para. 17.22 (a) (b) and (d). In addition, it endorses the principle of common, but differentiated responsibilities (Para. 17.23) and access to information and public participation in planning and decision-making (Para. 17.5(f)).

[78] E.g., Agenda 21, paras. 17.85, 17.74 (f), 17.71, 17.30 (a)(v). However, there is no explicit reference to the "ecosystem approach".

[79] Agenda 21, paras. 17.24 –29.

[80] Agenda 21, paras. 17.30 –35.

[81] E.g., Agenda 21, paras. 17.35; 17.36; 17.37; 17.41 and 17. 42.

[82] Agenda 21, programme F on "Strengthening international, including regional, cooperation and coordination", paras. 17.115-122.

in the implementation of their commitments under the LOSC.[83] As some legal writers have pointed out, there is a close interaction between Chapter 17 and the Convention.[84] The LOSC establishes the legal framework for the programme of action on oceans laid down in Chapter 17, which, in turn, spells out the methods for implementing the LOSC. In 1997, at its 19th Special Session, the UN General Assembly formalized this interaction and required the UN Commission on Sustainable Development (CSD) to review periodically the progress in the implementation of Chapter 17 on the basis of the framework established by the LOSC.[85]

1.2.4 World Summit on Sustainable Development (WSSD)

The WSSD, held in Johannesburg in 2002 to review the progress in the implementation of Agenda 21, dedicated marginal attention to oceans and seas compared to other issues. Originally, oceans were not even listed on the agenda for the WSSD.[86] The Plan of Implementation adopted at the Summit 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.[87] Nevertheless, the contribution of the WSSD Plan to the preservation of the marine environment and marine life cannot be underestimated. In order to achieve the sustainable development of the oceans the Plan urges States to ratify and implement the LOSC and to promote the implementation of Chapter 17 of Agenda 21.[88] The Plan reaffirms the commitments under Chapter 17 (e.g., an integrated approach to ocean management) but in some cases it attaches clear targets and timetables (e.g., the application of an ecosystem approach by 2010).[89] In addition, as will be discussed in Chapter 8.3.2, the WSSD Plan introduces new clear-cut targets (e.g., the establishment of a network of representative marine protected areas by 2012 and the elimination of destructive fishing practice by 2010) urging the international community to increase efforts to preserve marine life. Unlike Chapter 17, the WSSD Plan contains only a soft commitment to the precautionary approach, which in the past few years has lost much of its popularity.[90] On the other hand, the Plan reaffirms the need to conduct an EIA of all potentially harmful activities as a major

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[83] See, for instance, S.M. Schwebel (1999), pp. 413-15.

[84] E.g., A. Yankov (1999), pp. 271-295.

[85] See UN Programme for Further Implementation of the UNCED Agenda 21 in the Years 1997-2002 (UNGA Official Records, 19th Special Session, UN Doc. A/RES/S-19/2, Para. 36). The CSD was established by the UNGA in 1992 to review periodically the follow-up to Agenda 21. The CSD reported to the UNGA on the follow-up to Chapter 17 in April 1999 and in May 2001 (e.g., UNGA Res. 54/31 and 54/33, 24.11.1999; UNGA Res. 55/7, 30.10.2000 and UNGA Res. 56/12, 28.11.2001).

[86] This was in part because ocean issues were considered as having been completely settled with the entry into force of the LOSC. See 2003 UNSG Report (A/58/50). The strong pressure exercised by governments, international organization and NGOs during the preparatory process brought oceans, coasts and small island developing states (SIDS) back on to the Summit's agenda.

[87] The Plan of Implementation (hereinafter WSSD Plan) and all documents adopted at the Summit are available at: http://www.johannesburgsummit.org/html/documents/documents.html

[88] WSSD Plan, Para. 29(a) and (b).

[89] See, e.g., WSSD Plan, paras 29(d) (e) and 31 (c).

[90] This is mainly due to the many uncertainties surrounding the content and legal status of this approach, see supra n. 76. The WSSD Plan recommends taking the precautionary approach "into account" only twice and not in relation to ocean matters (i.e., Para. 22 and 103(f)). Also the NSM Declaration, made in Bergen in 2002, refers to the precautionary "principle" only once in relation to sustainable fisheries (para.15). The recent proposal for a EC Marine Strategy Directive does not contain any reference to the precautionary principle.

tool to achieve sustainable development.[91] In addition, the Plan urges the wide ratification and effective implementation of existing marine conventions and attaches great importance to the transfer of marine science and technology as well as to the establishment of a regular reporting and assessment process by 2004 as a means of promoting compliance.[92] Like Chapter 17, the WSSD Plan calls for the strengthening of international cooperation and coordination both at the global and regional levels.[93]

In 2003, in the WSSD follow-up, the CSD established a multi-year programme of work for advancing the implementation of Agenda 21 and the WSSD Plan. Oceans and seas, marine resources and SIDS are not scheduled for review until 2014-2015.[94] Apparently, the sustainable development of oceans and its resources is not a top priority on the global agenda.

1.3 The Global Implementation Regime

1.3.1 "Generally Accepted" and "Applicable" International Rules and Standards adopted by the "Competent International Organizations"

UNCLOS III was not considered as the most appropriate forum to adopt operational provisions, which are usually highly technical and require great expertise. In addition, there were already a number of international regulatory instruments in place which set out technical standards (e.g., MARPOL 73/78; SOLAS 74 or the 1972 London Dumping Convention). Therefore, it appeared more convenient to establish the jurisdictional framework and to rely, by means of rules of reference, on the technical standards adopted by the competent organizations. More precisely, the LOSC requires contracting Parties to give effect to the generally "accepted" or generally "applicable" international rules and standards adopted by "the competent international organizations", but does not define either of these terms and does not identify the competent organizations.[95]

The LOSC normally refers to generally "accepted" international rules and standards (GAIRAS) with regard to the exercise of prescriptive jurisdiction. It is largely agreed that standards are generally "accepted" when they meet the criteria of "widespread and representative participation".[96] These standards do not necessarily refer to customary rules or binding rules, but they might also include recommendatory instruments.[97] What is still controversial is whether GAIRAS apply to all contracting Parties to the LOSC regardless of their individual participation in the instrument containing the standards. The main argument against an extended application of GAIRAS relates to the highly technical nature of these standards which should only bind states which have expressly approved them. Such an extended application, moreover, would discourage and make it irrelevant for States to become parties to the

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[91] The WSSD Plan refers five times to the need to conduct an EIA (e.g., paras 18(e), 34(c), 56 (h), 91(d) and 119.diciens). Also the 2002 NSMC Declaration contains a strong commitment to EIA (Para. 11(i) and Para. 32).

[92] WSSD Plan, paras 34 (a) and 36(b). The latter paragraph has been endorsed in UNGA in resolution 57/141 (Para. 45) and resolution 58/240 (Para. 64(a)).

[93] WSSD Plan, Para. 29 (c) and (f).

[94] The programme is available at: www.un.org/esa/sustdev/csd/csd11/CSD_mulityear_prog_work.htm.

[95] As A. Blanco-Bazán (in M.H. Nordquist and J. Moore (eds) (1999)) points out, this vague and ambiguous terminology is not to be attributed to poor draftsmanship, but is the result of a compromise.

[96] E.g., E.J. Molenaar (1998), p. 156; B. Oxman, (1991), p. 157 and A. Yankov in A.H.A. Soons (1990), p. 467. For a recent general discussion on GAIRAS see: E. Franckx (2003), pp. 20-3 and International Law Association (ILA), Final Report of the Sixty-Ninth Conference (hereinafter ILA 69), held in London in July 2000, pp. 34-6.

[97] E.g., E. Franckx in H. Ringbom (ed.) (1997), p. 70; P.W. Birnie in H. Ringbom (ed.) (1997), p. 46 and E.J. Molenaar (1998), p. 152. See also ILA 69, supra n. 96, Conclusion 2.

regulatory instruments containing the standards, given that they would anyway be bound through their participation in the LOSC.[98] Conversely, according to most legal authors the extended application of GAIRAS is consistent with the need for uniformity and coherence pursued by the LOSC.[99] In their view States that voluntarily adhere to the LOSC have indirectly consented to be bound by GAIRAS. In addition, the duty under the LOSC to apply GAIRAS would work as an incentive for States to accede to the instruments containing these standards in order to enjoy the rights, not only the duties, contained in these conventions.[100] This view has far-reaching implications for the European Community, which is a party to the LOSC, but is not a member of some international organizations (e.g., IMO and ILO) and cannot be a party to their regulatory instruments. Given that for the purpose of this study most GAIRAS relate to vessel-source pollution and maritime safety the issue will be discussed in further detail in Chapter 6.10.

On the other hand, the LOSC normally refers to generally "applicable" international rules and standards with regard to enforcement jurisdiction. These standards, therefore, require a higher level of acceptance and exclusively refer to regulatory conventions to which the States concerned are parties.[101]

As far as the "competent international organizations" are concerned, the only indirect reference is contained in Article 2(2) of Annex VIII of the LOSC, which lays down the list of experts composing the Special Arbitral Tribunal. Such a list has to be established and maintained by the competent organization, namely: the Food and Agriculture Organization (FAO) in the field of fisheries; the Intergovernmental Oceanographic Commission (IOC) in the field of marine scientific research; the United Nations Environment Programme (UNEP) in the field of the protection and preservation of the marine environment in general; and the International Maritime Organization (IMO) in the field of navigation, including pollution from vessels and by dumping.[102] GAIRAS, however, may also be adopted by organizations other than those referred to in Article 2(2) of Annex VIII. The International Atomic Energy Agency (IAEA), for instance, is considered to be the competent organization for the adoption of the global standards for the safe transport of nuclear materials, while the International Labour Organization (ILO) is responsible for the regulation of working standards. Given the complexity and the cross-sectoral nature of marine environmental

[98] E.g., A. Blanco-Bazán in M.H. Nordquist and J. Moore (eds) (1999), pp. 269-87 and Report of Workshop IV on "Protection of the Marine Environment" Proceedings of the 23rd Annual Conference of the Law of the Sea Institute in: A.H.A. Soons (ed.) (1990), pp. 690-2.

[99] See, *inter alia*, E. Franckx (2003), p. 22. See also ILA 69, supra n. 96, conclusions 5 and 6; R.R. Churchill and A.V. Lowe (1999), p. 347; R. Wolfrum (1999), p. 233; H. Ringbom (1999), p. 22; E.J. Molenaar (1998), pp. 157; E. Franckx, in H. Ringbom (ed.) (1997), p. 70; D. Bodansky (1991), pp. 742-3; B.H. Oxman (1991), p. 109; W. Van Reenen (1981), pp. 3-44;

[100] See IMO Study, Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization (IMO doc. LEG/MISC/3, 6.01.2003).

[101] E.g., E. Franckx (2003), p. 22; ILA 69, supra n. 96, p. 40; E.J. Molenaar (1998), p. 169; S. Rosenne and A. Yankov (eds.) (1991), p. 271; A. Yankov in A.H.A. Soons (ed.) (1990), p. 467.

[102] Most of the shipping provisions of the LOSC (i.e., Articles 22(3); 41(4) (5); 53(9), 60(3), (5); 208(5), 211(2) (3), 217(1) (4), 218(1), and 220(2)) implicitly refer to the IMO as "the" competent international organization. Conversely, the LOSC provisions on dumping refer to the "competent international organizations" suggesting that the IMO is not exclusively competent concerning dumping as this lies within the field of shipping.

issues, the mandate of these organizations sometimes overlaps[103] and might result in duplications and inconsistencies.[104]

1.3.2 Multilateral Environmental Agreements (MEAs)

As discussed in 1.2.2.2, the LOSC (and Chapter 17 of Agenda 21) sets out the framework for the multilateral development of marine environmental rules and standards acting primarily within the competent international organizations. Most of this cooperation takes place within the framework of a number of MEAs, which extend their scope to oceans and seas, such as, inter alia, the 1992 UN Convention on Biological Diversity (CBD) or the 1972 UN Convention on the protection of international wetlands (Ramsar Convention). The relevant MEAs will be discussed in detail in the case-study chapters.

Generally speaking, all MEAs have a similar "three-pillar" structure based on a framework agreement, which lays down the objective, general principles and obligations and institutional arrangements; separate Protocol(s), which further specify the general obligations; and different Annexes (or Appendixes), which contain detailed standards or list the species or substances controlled under the agreement. The Conference of the Parties (COP), which is composed of all contracting parties, reviews the implementation of the framework agreement and keeps it constantly up to date. Amendments or adjustments to the Protocol(s) and the Annex(es) are adopted by the Meeting of the Parties (MOP), which is formed only by those contracting parties which have ratified the Protocol.[105] By participating in the work of these bodies, therefore, contracting parties implement their obligations under the MEAs and, indirectly, under the LOSC. MEAs, therefore, play a central role in the implementation of the LOSC.

Article 237 of the LOSC reinforces the link between the Convention and MEAs making it clear that the provisions of Part XII are without prejudice to specific obligations assumed by states parties under other environmental agreements compatible with the Convention. These obligations, however, must be preformed in accordance with the general principles and objectives of the LOSC.[106] In order to avoid inconsistencies, most of the relevant MEAs (e.g., CBD) expressly refer to the law of the sea as codified in the LOSC.

1.3.3 UN Agenda Item on Oceans and the Law of the Sea

The LOSC, unlike MEAs and other international conventions, does not establish an institutional mechanism to keep its implementation under review.[107] The annual Meetings of the States Parties of the Law of the Sea Convention (SPLOS), unlike COPs/MOPs, only deal with budgetary and administrative matters and with the functioning of the institutions established under the Convention.[108] This choice has

[103] This is the case, for instance, concerning the IMO's and UNEP's competences in dumping matters; the IMO's and IAEA's competences in safety issues; and the IMO's, UNEP's and UNESCO's competences in issues related to marine protected areas.

[104] For instance, there seem to be some inconsistencies between the notification requirements for ships carrying hazardous wastes under the UNEP's 1989 Basel Convention for the Control of Transboudary Movement of Hazardous Wastes and their Disposal (28 ILM (1989), p. 657) and some IMO requirements under SOLAS.

[105] For a detailed analysis of the structure of MEAs see: R. Churchill and G. Ulfstein (2000), pp. 623-659.

[106] See also, LOSC, Article 311(2) which regulates the relation between the LOSC and other compatible international agreements.

[107] The LOSC establishes two complex amendment procedures, which are examined in Chapter 6.

[108] LOSC, Article 319(2)(e); Annex II, Article 2(3) and Annex VI, Articles 4(4), 18, and 19.

been influenced in part by the fact that most issues covered by the LOSC were already regulated under other institutional arrangements (e.g., within IMO or FAO).[109] Creating a specific institutional framework for the revision of substantive issues of the LOSC, therefore, would have been inefficient and redundant. Since 1983, the function of supervising the implementation of the LOSC has been taken over the UN General Assembly (UNGA) under the agenda item "ocean and law of the sea", but without an explicit mandate in the LOSC.[110] The reasons for this choice, which are mainly of a political nature, have been exhaustively discussed elsewhere and will not be covered here.[111]

Ocean issues and the law of the sea are the object of a comprehensive annual review carried out by the UNGA on the basis of a Report prepared by the Secretary-General (i.e., the Secretariat's Division of Ocean Affairs and the Law of the Sea (DOALOS)) and the final recommendations of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP). On the basis of Article 319(2)(a) of the LOSC,[112] the UN Secretary-General has received a general mandate to prepare a comprehensive annual report on the implementation of the Convention focusing on the main developments and issues relating to oceans and the law of the sea (UNSG Report).[113] Occasionally, the UNSG Report also takes note, in rather general terms, of the compliance and conformity of state practice with the LOSC.[114] The report is submitted to the UNGA for its annual review and provides the basis for the discussion within the ICP. Established in 1999 to prepare and facilitate the UNGA debate, the ICP meets annually to discuss a number of topics related to the implementation of the LOSC and the latest developments in the law of the sea, which have been identified by the UNGA in its previous annual resolution.[115] The ICP meetings are open to the participation of all subjects involved in ocean affairs, including all UN members regardless of their membership in LOSC (e.g., the US); UN specialized Agencies (e.g., IMO, FAO, ILO); international organizations and regional economic integration organizations (EC) as well as NGOs. This process, therefore, permits one to address all relevant legal, political, economic, social and environmental aspects of ocean affairs in an integrated manner. The ICP highlights the priorities of future common action, identifies additional issues that might require future attention and concludes with the adoption of final recommendations (so-called "agreed elements") to the UNGA. In several aspects, therefore, the ICP is *de facto* playing the role of a conference for the

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[109] For a detailed discussion on this topic, see A.G. Oude Elferink in A.G. Oude Elferink and D.R. Rothwell (eds) (2004), pp. 295-312.

[110] UNGA Resolution 37/66 (18.02.1983) and UNGA Resolution 49/28 (19.12.1994).

[111] See: T. Treves in A. Oude Elferink (ed.) (2005), pp. 55-74; E. Hey in *ibid,* pp. 75-88; and A.G. Oude Elferink in A.G. Oude Elferink and D.R. Rothwell (eds) (2004).

[112] LOSC, Article 319(2)(a) requires the UNSG to report on "issues of a general nature that have arisen with respect to this Convention".

[113] UNGA Resolution 38/59 B, 14.12.1983 (Para. 8). The UNSG Report is normally published around March and may be integrated with further addition(s). UNSG Reports are available at: www.un.org/Depts/los/general_assembly/general_assembly_reports.htm.

[114] The UNSG 2003 Report (A/58/65, Para. 57), for instance, noted that unilateral measures taken by some EC member states (e.g., France, Spain and Portugal) to ban ships from their EEZ are not in conformity with LOSC, Article 58. This exercise has been contested by many, including the EC and its member states, as going beyond the UNSG's role.

[115] The ICP (or UNICPOLOS) has been established by UNGA Resolution 54/33, 24.11.1999, and its mandate has been renewed for another three years by UNGA Resolution 57/141, 21.02.2003. The ICP's Reports and recommendations are available at: www.un.org/Depts/los/consultative_process/consultative_process.htm.

parties of the LOSC and represents the main forum for assessing the implementation of the Convention.

The UNGA normally endorses the ICP recommendations in its annual resolution on "*oceans and law of the sea*".[116] These resolutions mostly relate to substantive matters, while jurisdictional issues and the conformity of state practice with the LOSC are covered in rather general terms. Despite their soft-law nature, UNGA resolutions have strong political force. They set out the global political Agenda on "oceans and the law of the sea" for the coming year and identify the action to be taken by UN members, organs, and specialized agencies to achieve the LOSC's objectives. In this way they play a central role in the implementation of the LOSC and influence to a great extent the further developments of ocean policies and the law of the sea. Governments, including non-LOSC parties, attach great importance to full and effective participation in the UN ocean debate, which represents an important platform to promote their targets and defend their national interests at the international level.

Since 1997, the scope of the SPLOS's mandate has been the object of further discussions. LOSC parties are divided into those which support extending this mandate to the LOSC supervision process (e.g., most of the EC member states) and those which consider such an involvement to be an unnecessary duplication of the UNGA and ICP work (e.g., the US, Japan, Norway, the UK).[117] Since the 10th session in June 2000, the issue has become a regular item on the SPLOS's agenda. The role of the SPLOS in reviewing the implementation of the Convention, therefore, might be subject to further evolution. For the time being, however, this does not seem to be very likely.

Finally, it is worth noting that global conferences (e.g., the Millennium+5 Summit, held in September 2005)[118] and global ministerial meetings (e.g., the annual ministerial environmental forum/UNEP Governing Council)[119] also play an important role in assessing major progress and obstacles encountered in the implementation of the international ocean regime and in identifying future challenges and items where further cooperation is needed. These political forums facilitate the better understanding of ocean issues in the light of the LOSC and Chapter 17 and give a fundamental impulse to their proper implementation.

1.4 The Regional Implementation Regime

1.4.1 Focus on Regional Cooperation

Both the LOSC and Chapter 17 of Agenda 21 place strong emphasis on regional cooperation, which is considered as the most efficient way to proceed when the nature of the problem or the geographical characteristics of the seas so request.120 Regional rules consistent with the LOSC may well contribute to the effective implementation of the global regime, especially in relation to enclosed and semi-enclosed seas, which due

[116] The UNGA may also adopt other resolutions on ocean-related matters (e.g., sustainable fisheries). UNGA resolutions are available at: www.un.org/Depts/los/general_assembly/general_assembly_resolutions.htm.

[117] For a general discussion, see T. Treves in: A.G. Oude Elferink (ed.) (2005), pp. 62-5 and A.G. Oude Elferink (2004), pp. 306-19.

[118] www.globalpolicy.org/msummit/millenni/. So far, UNESCO has organized three global conferences (the latest in January 2006) on "oceans, coasts and islands" to review the progress and obstacles in the implementation of the WSSD Plan at: www.globaloceans.org/paris3/.

[119] E.g., UNEP Governing Council/Global Ministerial Environmental Forum, 23rd Session, 21-5 February 2005, available at: www.iisd.ca/unepgc/23gc/.

[120] The LOSC calls for regional harmonization especially with regard to land-based pollution (Article 207 (3)) and marine pollution from seabed activities within national jurisdiction (Article 208(4)).

to their oceanographic and ecological characteristics require special protection.121 (Marine) environmental problems, moreover, may be tackled and monitored more effectively at the regional, rather than global level. In addition, regional agreements between states sharing similar interests normally result in a lower level of compromise, stronger commitments and higher environmental standards compared to global instruments.

As a result, in all major regional seas, from the Caribbean to the South Pacific Ocean, the ocean framework regime has been implemented by means of regional conventions.[122] In the European seas, which, with the exeption of the North East Atlantic, are all semi-enclosed seas within the terms of Article 122 of the LOSC, the umbrella regime has been implemented within the framework of three main regional agreements, i.e.: the UNEP-sponsored 1976 Barcelona Convention for the protection of the Mediterranean and related Protocols, as amended;[123] the 1992 OSPAR Convention for the protection of the North-East Atlantic and North Sea;[124] and the 1992 Helsinki Convention for the protection of the Baltic Sea.[125] These agreements, which in this study are referred to as "regional seas conventions,"[126] set out the framework for closer regional cooperation between the neighbouring coastal States in the protection and preservation of the marine environment from all sources of marine degradation. This cooperation takes place primarily within the decision-making bodies established by the conventions, which, therefore, represent the main forums for the implementation of the global regime at the regional level. The regional seas conventions have many elements in common. First of all, they have a similar structure, which closely mirror the MEAs (i.e., a framework convention supplemented by additional Protocol(s) and Annexes). Secondly, they do not contain jurisdictional rules, but normally refer to the regime set out in the LOSC.[127] Thirdly, in the follow-up to UNCED, the three conventions have undergone a similar revision process which brought them into line with the main goals, principles and approaches of Chapter 17 of Agenda 21. Finally, the regime established by the regional seas conventions is generally stricter than the international one. The main elements of these conventions are discussed in further detail in the following paragraphs.

In addition to the regional seas conventions, a number of "sectoral" agreements play an important role in the implementation of the global regime in the European Seas. These agreements vary in nature ranging from regulatory instruments addressing specific sources of pollution (e.g., the Paris Memorandum of Understanding on Port State Control) to regional environmental agreements covering specific components of the marine environment (e.g., the Bern Convention for the protection of European habitats) or particular species in a specific geographical area (e.g., the 1991 Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)). The relevant "sectoral" agreements will be covered in detail within the case-study chapters.

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[121] E.g, S. Rosenne and A. Yankov (eds.) (1990), p. 201.

[122] Most of these agreements have been adopted under the auspices of the UNEP Regional Seas Programmes, consultable at: www.unep.org/water/regseas/regseas.htm.

[123] Infra, n. 158.

[124] Infra, n. 132.

[125] Infra, n.146 147.

[126] This terminology is used bearing in mind that the term "Regional Seas Conventions" normally refers to the conventions adopted under the UNEP Regional Seas Programme, supra n. 122.

[127] See: OSPAR Convention, Preamble; 1992 Helsinki Convention, Articles 10(2) and 11(3) and 1995 BARCON, Article 3.

Finally, regional political forums, such as the North Sea Ministerial Conferences (NSMCs), the meetings of the environmental ministers of the Baltic Sea States and the Council of the Baltic Sea States (CBSS), as well as the Euro-Mediterranean Process (Euro-Med) play an important role in the implementation of the global ocean regime at the regional level and strongly influence its further development.[128] Their role is to identify the specific problems of the region and possible solutions in order to speed up the decision-making process in the competent regional institutions (e.g., the EC, OSPAR, HELCOM, and BARCON). Despite their legally non-binding nature, the declarations adopted by these ministerial meetings provide the political impetus for the further work of the competent regional organizations and have a profound impact on their policies and legislation. Moreover, by endorsing most of the commitments of Agenda 21, regional ministerial declarations have encouraged the application of new objectives, principles and approaches in the European legal frameworks.[129]

1.4.2 The 1992 OSPAR Convention

As most semi-enclosed seas, the North Sea and other parts of the North East Atlantic (e.g., the Irish Sea) require special protection. In addition, a number of geographical and socio-economic factors increase the environmental pressure in this region.[130] Some of the most polluted European rivers (e.g., the Elbe and the Rhine) flow into its shallow waters and shipping traffic in the area is particularly intense, connecting some of the major European ports (e.g., Antwerp, Rotterdam and Hamburg) to the Baltic Sea. The North Sea and the Irish Sea are among the world's largest oil and gas reservoirs and there is currently production from the continental shelves of the Netherlands, Germany, Denmark, the United Kingdom, Ireland and Norway. The 1990 Hague NSMC devoted attention to the alarming level of marine pollution affecting the North-East Atlantic and the failure of the existing regime to ensure effective protection and called for a new approach.[131] As a response, in 1992, in the follow-up to Agenda 21, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) was signed, replacing the 1972 Oslo Dumping Convention and the 1974 Paris Convention on land-based pollution.[132]

The OSPAR Convention establishes a comprehensive legal framework for the protection of the marine environment of the North-East Atlantic Area from all sources of marine degradation (not only pollution), except fishing, atmospheric and vessel-

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[128] NSMC are attended by the environmental ministers of Belgium, Denmark, France, Germany, the Netherlands, Norway, Sweden, the UK and the representatives of the EC. See, in general, P. Ehlers in D. Freestone and T. IJlstra (eds.) (1990), pp 3-14 and Y. van der Mensbrugghe in *ibid*, pp. 15-21. On the Baltic ministerial meeting see: <www.helcom.fi/ministerial_declarations/en_GB/declarations/>; on the CBSS see: www.cbss.st/; on the Euro-Med see: http://europa.eu.int/comm/external_relations/med_mideast/intro/. See, in furtehr detail: Chapter 3.4.2.

[129] See, for instance, supra n. 76.

[130] On the state of the marine environment in the region see, e.g., OSPAR, Quality Status Report 2000 for the North-East Atlantic, available at: <http://www.ospar.org/eng/html/>.

[131] On the impact of the NSMC on the work of OSPAR see: J.B. Skjaerseth (2003); E. Hey, T.IJlstra, A. Nollkaemper (1993), p. 2.

[132] Convention for the Protection of the Marine Environment of the North-East Atlantic, adopted in Paris on 22.09.1992 and into force on 25.03.1998. OSPAR currently has 15 contracting parties: i.e., Belgium, Denmark, the EC, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Switzerland and the UK. The Convention is open to participation by the Russian Federation, (as a Barents Sea coastal State) and the Czech Republic (as a riparian State of the river Elbe) (OSPAR, Article 25). For a detailed analysis of the OSPAR Convention see: E. Hey (2002), pp. 325-350; L. de la Fayette (1999), pp. 247-297; and E. Hey, T. IJlstra and A. Nollkaemper (1993).

source pollution, which are considered to be appropriately regulated within other frameworks.[133] The regime set out by the Convention is particularly stringent and innovatory. Parties are required to take all necessary measures not only to prevent, but also to "eliminate" marine pollution and "any other adverse effects of human activities" on the marine environment, including ecosystems, and to "restore", when practicable, marine areas which have been adversely affected.[134] The Convention, moreover, applies to all maritime zones within and beyond national sovereignty and jurisdiction, including internal waters and the high seas (in accordance with international law).[135] The body of the Convention sets out in legally binding terms the principles and approaches of Agenda 21 (e.g., sustainable development, precautionary principle, polluter pays principle, BAT and BET),[136] broad obligations for contracting parties and more detailed powers and duties of the OSPAR Commission (OSPARCOM).[137] These are further specified in a number of Annexes and Appendixes, which form an integral part of the Convention and have the same legal status.[138] Additional Annexes may be adopted in the future to address new issues as long as they are not "already the subject of effective measures agreed by other international organizations or prescribed by other international conventions" (Article7). This allows the OSPAR regime to extend its scope to new marine threats avoiding duplication of work undertaken by other bodies.

The OSPARCOM plays a central role in the implementation and enforcement of the Convention. It may adopt legally binding decisions and non-binding recommendations, which have a political weight similar to the NSMC declarations (Articles 10-13). Decisions and recommendations are taken by unanimity or, when this is not possible, by a three-quarters majority (i.e., 11 votes out of the 14 parties plus the EC). In addition, OSPARCOM may avail itself of a newly established non-compliance mechanism to ensure or facilitate the proper implementation of OSPAR provisions/decisions/recommendations. This mechanism is much more stringent compared to that under MEAs, but its effectiveness largely depends on the initiative of the OSPARCOM (Articles 22 and 23). Parties are under a duty to periodically report on measures taken to implement OSPAR provisions, decisions and recommendations, as well as on the effectiveness of these measures and the obstacles encountered. On the basis of these reports the OSPARCOM decides, "when appropriate", on the necessary steps to bring about full compliance with OSPAR provisions and decisions or to promote the implementation of its recommendations. The Commission, however, has a high level of discretion in deciding "when it is appropriate" to act and what steps should be taken.[139]

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[133] OSPAR, Preamble.

[134] OSPAR, Articles 1(a),(d) and 2(1).

[135] Earlier regional seas conventions did not apply to internal waters.

[136] OSPAR, Article 2(2). Conversely, most MEAs enunciate the general principles in the preamble, not in their operative part.

[137] The Commission is made up of representatives of each of the contracting Parties and it is not a separate international body. However, it has its own duties, which are generally described in Article 10 of the OSPAR Convention and further specified in the Annexes to the Convention.

[138] I.e., Annex I (land-based pollution); Annex II (dumping and incineration); Annex III (offshore sources); Annex IV (assessment of the quality of the marine environment) and Annex V (protection and conservation of ecosystems and biodiversity); as well as Appendix 1 (guidelines for the definition of BAT and BET); Appendix 2 (criteria for the adoption of programs to combat land-based pollution and offshore sources pollution) and Appendix 3 (criteria for the identification of human activities that may have an adverse effect on the marine environment).

[139] As will be discussed in further detail in Chapters 6.5.4 and 8.5.1, the OSPARCOM has no competence in fisheries and shipping matters.

Cooperation among OSPAR contracting parties at the decision-making level takes place within the annual meetings of the OSPARCOM, and at the working level within three management and advice bodies; six main committees and eight working groups dealing with sectoral issues and preparing the work of the OSPARCOM.[140] All these meetings are normally attended by officials from the ministry of the environment of the contracting parties and representatives from the European Commission (Directorate General Environment (DG ENV)).[141] In addition, OSPARCOM ministerial meetings may be held to determine the guidelines for future work under the Convention.[142] The OSPAR's Agenda, therefore, appears to be rather full and it is rather demanding for contracting parties to attend all the meetings.

At the first ministerial meeting of the OSPARCOM, held in Sintra in 1998, the regime established by the OSPAR Convention was reinforced with ambitious targets and deadlines. So far, this regime and the cooperation between OSPAR contracting parties have produced important results in terms of a reduction in the traditional sources of pressure in the area.[143] However, there are still problems in implementation and monitoring, mainly because of resource constraints.

1.4.3 The 1992 Helsinki Convention

Compared to other European seas, the Baltic Sea is particularly vulnerable to pollution and requires a higher level of protection.[144] Its waters are very shallow with a maximum depth of 210 meters and its rather restricted circulation makes it particularly difficult to clean up any pollution. After two decades of operation, the 1974 Helsinki Convention did not succeed in arresting marine degradation in the Baltic Sea Area.[145] In the follow-up to Agenda 21, under the political impetus of the Baltic Ministerial Declarations, the Baltic coastal states decided to adopt new approaches and to strengthen the existing legal regime.[146] The political changes which occurred in the region at the beginning of the 1990s, moreover, created the political momentum for the adoption of a new Convention. The new 1992 Helsinki Convention, which entered into force on 17 January 2000, is particularly advanced and presents many similarities with the 1992 OSPAR regime.[147]

The 1992 Helsinki Convention sets out a comprehensive legal framework for promoting the "ecological restoration" of the Baltic Sea, "eliminating" pollution from all sources and reducing "adverse impacts of human activities" on "marine

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[140] On the OSPARCOM's Rules of Procedure: Organization, Committees and Working Groups see: www.ospar.org/eng/html/welcome.html.

[141] Only in France is the competent ministry the Ministry of Foreign Affairs.

[142] So far, two main OSPARCOM ministerial meetings have been held, in June 2003 in Bremen and in 1998 in Sintra.

[143] See OSPAR, Quality Status Report 2000, at www.ospar.org/eng/html/welcome.html.

[144] On the state of the Baltic Sea, see: GIWA Regional Assessment at: www.giwa.net/publications/r17.phtml.

[145] Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 22.03.1974. For a detailed analysis of the Helsinki Convention see: M. Fitzmaurice (1998), pp. 379-93; P. Ehlers (1993), pp. 191-15, and U. Jenisch, (1996), pp. 47-67.

[146] See, e.g., 1988 Ministerial Declaration of the Baltic environmental ministers calling for a 50% reduction of heavy metal, nutrients and other toxic and persistent pollutants by 1995. Baltic ministerial declarations (available at: www.helcom.fi/ministerial_declarations/en_GB/declarations/) have driven the work of HELCOM.

[147] Helsinki, 9.04.1992, into force on 17.01.2000 replacing the 1974 Convention. The 1992 Helsinki Convention has 10 contracting parties, i.e., Denmark, Germany, Sweden, Estonia, Finland, Latvia, Lithuania, Poland, Russia and the EC.

ecosystems".[148] Unlike the OSPAR, the Helsinki Convention contains some general provisions on shipping and does not expressly exclude fishing. Its regime, like OSPAR, applies to waters under the sovereignty and jurisdiction of the contracting parties, including internal waters. There are no high seas in the Baltic.

The body of the Convention lays down in binding terms the general environmental principles and approaches of Agenda 21 (i.e., precautionary principle; the polluter pays principle; the integrated approach; BAT and BET, and EIA);[149] broad obligations for contracting parties with a strong emphasis on co-operation, notification, consultation and reporting;[150] and more detailed provisions for the Baltic Marine Environment Protection Commission (HELCOM). These general provisions are further specified in a number of Annexes that have the same legal status as the Convention.

The main task of HELCOM is to monitor and keep under review the implementation of the Convention. Unlike OSPARCOM, however, HELCOM cannot adopt binding decisions, but only recommendations on measures related to the purposes of the Convention.[151] These recommendations, however, are adopted by unanimity and have great political weight. HELCOM meetings take place annually and are attended by senior officials from the environment ministries of the contracting parties accompanied by national experts and from the representatives of the European Commission (DG ENV). This state of affairs has been the object of some criticism. [152] First of all, the fact that officials, and not ministers, participate in the work of HELCOM seems to weaken the political weight of the HELCOM recommendations. In addition, officials, unlike ministers, have to follow political instructions from their governments and are not in a position to take immediate decisions. This situation, together with the unanimity rule, may lead to considerable delays in HELCOM decision-making and postpone important issues to the next annual meeting.

Cooperation between contracting parties at the working level takes place within five main groups which prepare the work for HELCOM and, at a higher level, within the meetings of the Heads of delegations (HOD) and HELCOM, where decisions are taken.[153] Considering that each group meets at least once a year, it is rather demanding on the contracting parties to attend all the meetings on the Helsinki's Agenda.

So far, cooperation between the Baltic coastal states has been rather successful, but there are still serious implementation gaps.[154]

1.4.4 The 1976 Barcelona Convention (BARCON) and its Protocols, as Amended

The Mediterranean Sea is Europe's largest and deepest sea.[155] It is connected to the Atlantic Ocean through the narrow Straits of Gibraltar (i.e., 14 kilometers wide) and its water exchange is very slow. Like other semi-enclosed seas, therefore, the

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[148] 1992 Helsinki Convention, Articles 1 and 5. The definition of marine pollution explicitly includes any adverse impact on marine ecosystems (ibid. Article 3(1)).
[149] Ibid, Article 3(2),(3),(4) and (5) and Article 7.
[150] Ibid, Articles 13, 14 and 16.
[151] Ibid , Articles 19, 20 and 21.
[152] See P. Ehlers, "HELCOM Ministerial Declarations - Milestones and Driving Forces", paper presented at the international conference held in 2004 on the 30th anniversary of the Helsinki Convention, "International Co-operation for the Baltic Sea Environment: Past, Present and Future", available at: www.lva.gov.lv/eng/helcom/conf/VidAgentura-Brosura-Papildus.pdf.
[153] See: www.helcom.fi/groups/en_GB/groups/.
[154] See: 2004 international conference for the 30th anniversary of the Helsinki Convention, supra n. 152.
[155] E.g., European Environmental Agency (EEA), State and pressures of the marine and coastal Mediterranean environment, (2000), at: http://reports.eea.eu.int/medsea/en/medsea_en.pdf.

Mediterranean Sea is particularly vulnerable to pollution and other sources of marine pressure. Compared to other European seas, the situation in this region is rendered particularly difficult by socio-economic factors, including the presence of many developing countries and countries with economies in transition; political problems, including maritime delimitations and sovereignty issues; and the particular juridical state of the Mediterranean Sea. So far, for geopolitical and economic reasons the Mediterranean coastal States have been reluctant to establish an EEZ in their Mediterranean waters.[156] As a consequence, the capacity of coastal States to adopt unilateral protective and conservation measures is restricted to the 12 n.m limit. Beyond that limit, coastal States may only control activities under national jurisdiction. The effective protection of the Mediterranean Sea therefore requires a particularly high level of cooperation compared to other regional seas not only between coastal States, but also with all states operating in the area.[157]

The 1976 Barcelona Convention for the Protection of the Mediterranean Sea against Pollution (BARCON) is the oldest of the UNEP's Regional Seas Agreements and sets out the general framework for cooperation in the protection of the Mediterranean Sea from several sources of pollution (e.g., dumping; accidental and operational discharges from ships; exploration and exploitation of the continental shelf;and land-based activities).[158] In 1995, in the UNCED follow-up, the Barcelona system went through a revision process, which extended its objective[159] and brought the Convention into line with the main principles and goals of Chapter 17.[160] The structure of the Convention is very similar to that of the OSPAR and Helsinki Conventions. Its body contains general principles (i.e., sustainable development; the precautionary principle; the duty to carry out an EIA; the polluter pays principle; integrated management; the use of BAT and BET);[161] general obligations for contracting parties to control several sources of pollution and to protect and preserve biodiversity;[162] monitoring, reporting and technical cooperation;[163] and procedural and

[156] Given that in the Mediterranean no point is more distant than 200 n.m. from the opposite land, if coastal States established an EEZ, there would be no high seas left in the Mediterranean. Egypt (1981), Morocco (1983), and Cyprus (2004) have proclaimed an EEZ in the Mediterranean, but have not yet adopted any implementing legislation. Other Mediterranean coastal States (Algeria, Malta, Spain and Tunisia) have established "fishing zones" or "zones of ecological protection" (France and Croatia) extending beyond their territorial sea. See, in general, C. Chevalier (2005) and T. Scovazzi, (1999).

[157] The 1995 BARCON, Article 4 (6) indeed calls on contracting parties to promote the adoption by competent international organizations of environmental measures for the Mediterranean.

[158] The Barcelona Convention for the Protection of the Mediterranean Sea against Pollution, 16.02.1976 (15 ILM (1976) 290), entered into force on 12.02.1978, as amended. Currently, the BARCON has 22 parties: i.e., Albania; Algeria; Bosnia and Herzegovina; Croatia; Cyprus; Egypt; France; Greece; Israel; Italy; Lebanon; Lybia; Malta; Monaco; Morocco; Serbia and Montenegro; Slovenia; Spain; Syria; Tunisia; Turkey and the EC. See in detail T. Scovazzi (1999), pp. 82-99.

[159] The main objective is to "prevent, abate, combat and to the fullest possible extent eliminate pollution […] and to protect and enhance the marine environment in that area so as to contribute towards sustainable development" (1995 BARCON, Article 4(1)).

[160] The amended Convention (renamed: "Convention for the protection of the marine environment and the coastal region of the Mediterranean") (UNEP (OCA) MED IG.6/7, 9-10.06.1995) entered into force on 9.07.2004 for all contracting parties except for Bosnia and Herzegovina; Israel; Lebanon; Libya; Morocco; and Serbia and Montenegro, see: www.unepmap.org/Archivio/All_Languages/WebDocs/WordDocs/StatusOfSignaturesAndRatifications.doc.

[161] 1995 BARCON, Article 4.

[162] Ibid, Articles 5-11. Article 14, moreover, requires the adoption of environmental legislation to implement the Convention and its protocols.

[163] 1995 BARCON, Articles 12, 13 and 26.

institutional rules.[164] All the general provisions are further specified in eight Protocols which form an integral part of the Convention.[165] The Barcelona regime, like OSPAR, applies to internal waters and the high seas in accordance with the LOSC and international law (Articles 1 and 3). The revised BARCON, moreover, introduced a non-compliance procedure which mirrors the OSPAR Convention (Article 27).

The BARCON is administered by UNEP, which carries out secretariat functions (Article 17), while five "regional activities centers"(RACs) assist the contracting parties in the implementation of their obligations under the different Protocols.[166] Meetings of the Contracting Parties (MOPs) are convened every two years on a ministerial level to review the implementation of the Convention and its Protocols, acting by qualified majority.[167] The MOPs normally conclude with the adoption of a ministerial declaration, which despite its legally non-binding nature has great political weight and sets out the guidelines for future work under the Convention. The work of the MOP is prepared by the National Focal Points, who are senior officials from the environmental ministries of the states parties plus the representative from the European Commission (DG ENV), and within a number of working groups attended by officials and/or national experts discussing key issues related to the scope of the BARCON.[168] The BARCON's Agenda is not as full as those of OSPARCOM and HELCOM, but is also quite challenging.

The strong political, economic and social diversity among Mediterranean coastal States and the numerous problems affecting the area have made cooperation in the region quite difficult. The Barcelona regime, moreover, suffers from strong implementation gaps, while lack of monitoring and reliable data represent additional problems.[169]

1.5 The Present Limits of and Future Challenges for the International Regime

In December 2002, on the 20th anniversary of the adoption of the LOSC, it was apparent that the regime established by the Convention has achieved important results in tackling traditional sources of marine pollution, but has generally failed to arrest marine degradation and the depletion of its resources.[170] The main cause of this failure is the general lack of implementation and enforcement of existing rules. For many governments, especially maritime states and developing countries, short-term economic benefits often prevail over long-term environmental policies. So far, therefore, they have been unwilling to comply fully with their international obligations or simply have been unable to do so, due to the lack of adequate legal and institutional

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[164] In addition, there are provisions on liability and compensation (ibid, Article 16), dispute settlement (Article 28) and arbitration (Annex A).

[165] Existing protocols (available at: www.unepmap.org/home.asp) cover dumping; prevention and emergencies; land-based sources; specially protected areas; offshore activities; and transboundary movement of hazardous waste. A new protocol on integrated coastal zone management is in the course of completion.

[166] Details on the Mediterranean Action Plan (MAP) and the BARCON institutional structure are available at: www.unepmap.org/home.asp.

[167] 1995 BARCON, Article 18. MOPs also decide on budgetary issues and fix the working programme for the following biennium.

[168] All Reports are available at: http://195.97.36.231/dbtw-wpd/sample/Final/MAPPredefined.htm.

[169] See, e.g., European Environmental Agency (EEA), Third Environmental Assessment of the European Environment (2003).

[170] E.g., UNGA 57, commemorative meeting for the 20th Anniversary of the LOSC, 9-10 December 2002, at: www.un.org/Depts/los/convention_agreements/convention_20years/oceanssourceoflife.pdf. See also May 2001 Report of the CSD, supra n. 85, on the major achievements and challenges related to the implementation of Chapter 17, available at: http://earthwatch.unep.net/oceans/index.php

frameworks and financial constraints. The proliferation of global, regional, and sub-regional instruments; the resulting patchwork of rules; and the inadequacy of existing financing and monitoring mechanisms make implementation increasingly complex.[171] In addition, traditional enforcement mechanisms may be difficult and economically too costly for some States. The increasing resort to voluntary instruments, such as guidelines, codes and recommendations, moreover, make enforcement particularly complicated. As a response, in the past two decades, most MEAs and regional seas conventions established non-compliance procedures, which intend to assist States to meet their international duties by providing administrative, technical and economic support. In addition, increasing attention has been placed on assessing, monitoring and reporting.[172] Nevertheless, progress has so far been slow and existing procedures still appear to be inadequate to bring about full compliance, which ultimately depends on the States parties.

Regional seas conventions have the potential to fill most gaps in the global regime. However, the use of soft law and policy instruments together with financial, institutional and political constraints have, so far, prevented regional conventions from being fully effective.

There are currently many international organizations and bodies involved in the implementation of the LOSC. In the UNCED follow-up, new steps have been taken towards enhancing coordination and cooperation. Since January 2005, a new mechanism has been established (i.e., the Oceans and Coastal Areas Network (UN-Oceans), to review joint and overlapping activities. Despite the progress that has been made, the level of coordination does not yet seem to be completely satisfactory.

The main challenges for the future, therefore, are the full implementation of existing rules, a comprehensive and integrated approach to ocean management as well as an effective level of coordination among all bodies and processes involved in ocean affairs.[173]

1.6 Conclusions

The LOSC places states under a positive legal duty to protect and preserve the marine environment and sets out the framework for future action. Chapter 17 of Agenda 21, moreover, establishes the objectives, principles and approaches, which have to guide states in implementing their obligations under the LOSC. The LOSC and Agenda 21 recognize that marine environmental problems are closely interrelated and cannot be tackled in isolation, but require an integrated and comprehensive approach and environmentally sound economic development. In addition, they both place strong emphasis on international and regional cooperation and the multilateral development of international rules and standards.

The implementation of the global regime on ocean preservation therefore takes place at three different levels: (a) at the global level, within the competent international organizations and the main political forums; (b) at the regional level, within the regional seas conventions and the main regional political forums and (c) at the national level. Implementing measures need to be consistent with the jurisdictional framework set by the LOSC, which places some limits on the capacity of coastal States to take action.

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[171] The CSD report, supra n.170, Para.26.

[172] E.g., UNSG Report on "Regular process for a global reporting and assessment of the state of the marine environment, including socio economic aspects", UN doc. A/60/91, 24.06.2005.

[173] Eg., UNSG 2005 Report (A/60/63. Add 2), Para. 113. See also: 2005 World Summit Outcome, in UNGA 60/L.1, Para. 56(l).

In the past three decades the LOSC has provided the legal basis for the adoption of an extensive corpus of international instruments of a different legal nature, at the global, regional, subregional levels, covering a variety of sources of pressure on the marine environment and its components. Ensuring the full implementation of and consistency among all these instruments represents the main challenge for the future. As will be observed in the course of this study, the European Community framework offers important tools to meet such a challenge in the European seas. On the other hand, the implementation of the LOSC in Europe encounters additional difficulties due to the particular status of the EC and the special relationship with its member states. The following chapters will identify the main problems and benefits of the participation of the European Community next to its member states in each of the three levels of implementation mentioned above.