2 Coastal States' jurisdiction under the United Nations Convention on the Law of the Sea

The law of the sea rests on the fundamental principle that ships registered in a State are under the sole jurisdiction of that State. This principle is commonly referred to as flag State jurisdiction,[1] which means that coastal States only exercise residual competences towards such ships registered with flag States. Developments in the law of the sea in the second half of the twentieth century have seen an exponential increase in these coastal States' claimed competences, more particularly in the areas of marine environmental protection and fishing, as laid down in UNCLOS,[2] but also with regard to the continental shelf, subsoil and seabed, and rights of exploration and exploitation therein.[3] The Convention marked a stepping stone in this evolution of the law of the sea, by laying down in detail the extent of coastal States' jurisdiction, with an underpinning reference to the principle of flag State jurisdiction throughout its text. It is noticeable in the very structure of the Convention that its objective is to ascertain and clearly establish in law, in other words to codify, the claims of coastal and port States. While reference to flag States is made in numerous provisions with regard to their relationship with coastal States, article 94 (inserted in Part VII) deal exclusively with the powers and duties of flag States. Indeed, Parts II to VII deal with the different maritime zones and the extent to which coastal States may exercise their jurisdiction with reference to the jurisdiction of flag States (territorial sea and contiguous zone, Part II; straits used for international navigation, Part III; archipelagic states, Part IV; the EEZ, Part V; the continental shelf, Part VI; and the high seas, Part VII). This arrangement of provisions clearly shows that while acknowledging the legal force of the underlying principle of flag State jurisdiction,

1 'Enforcement of IMO regulations concerning construction, equipment, seaworthiness and manning of ships relies primarily on the exercise of flag State jurisdiction', Secretariat of the International Maritime Organization (IMO), 'Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization', LEG/MISC.7, 19 January 2012, p. 15.

2 The present chapter discusses these claims with regard to marine environmental protection, and section 1.2 below in Chapter 4 discusses jurisdictional issues relating to fishing.

3 See for example Long, R., *Marine Resource Law* (Thomson Roundhall, Dublin, 2007).

the purpose of the Convention was to establish a new framework of rights and duties of both coastal and flag States, which would allow better regulation and enforcement. The preamble to the Convention clearly states this objective:

> recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilisation of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.[4]

In this context, it is therefore clear that the principle of flag State jurisdiction remains the fundamental basis upon which the law of the sea is organised. It is also clear that the substance of this principle has been significantly eroded by coastal States' jurisdictional claims.[5] The relationship between flag and coastal States' jurisdiction is essential to the concept of High Risk Vessels. Indeed, the extent to which coastal States will be able to monitor identified HRV in their coastal waters is clearly dependent on their actual jurisdiction. HRV are indeed under the full jurisdiction of their flag of registry, and the action of coastal States will be inscribed in the context of their legal relationship with flag States, within the 'legal order of the seas and oceans'[6] established by UNCLOS. The present chapter[7] aims to explain the extent to which coastal States have extended their jurisdiction with regard to marine environmental protection in their territorial sea and Exclusive Economic Zone (EEZ).

2.1 Coastal States' jurisdiction in the territorial sea

2.1.1 Regulation of innocent passage

Coastal States' sovereignty in their territorial sea is not absolute and is subject to the guarantee of the right of all ships to innocent passage. 'In jurisdictional considerations the territorial sea falls under full coastal authority limited only

4 United Nations Convention on the Law of the Sea (Montego Bay), 21 *ILM* (1982), 1261, Preamble. See also Allott, P., 'Power Sharing in the Law of the Sea' (1983) 77 *American Journal of International Law* 1.

5 On this point see further, Djalal, H., 'Remarks on the Concept of "Freedom of Navigation"', in Nordquist, M. H., Koh, T. and Moore, J. N., *Freedom of Seas, Passage Rights and the 1982 Law of the Sea Convention* (Martinus Nijhoff Publishers, Leiden/Boston, 2009), p. 65, at 74, where the author goes as far as stating that 'the old concept of freedom of navigation has now become obsolete'. Freedom of navigation is the principal attribute of flag State jurisdiction, and Djalal argues that the seas are now so regulated and subjected to other types of jurisdiction that, in effect, flag States are no longer free to exercise their jurisdiction, and they must take into account all other types of jurisdiction.

6 UNCLOS, above, note 4, Preamble.

7 This chapter was published in parts in Sage, B., 'Precautionary Coastal States' Jurisdiction' (2006) 37 *Ocean Development and International Law* 359.

by the rules of innocent passage.'[8] The right of innocent passage of ships of all States determines the extent of coastal States' jurisdiction in the territorial sea. Therefore, coastal States may take two courses of action in relation to innocent passage: regulate it in accordance with accepted rules of international law of the sea, or prevent it if it is considered to be non-innocent.

Innocent passage can be defined as:

> navigation through the territorial sea for the purpose of traversing that sea without entering internal waters, including calling at a roadstead or port facility outside internal waters; or of proceeding to or from internal waters or a call at such roadstead facility. Passage, though it must be 'continuous and expeditious', includes stopping and anchoring so far as they are incidental to ordinary navigation or are rendered necessary by *force majeure* or by distress, or for the purpose of rendering assistance to persons, ships or aircraft in danger or distress.[9]

The right of all ships to sail through territorial seas in innocent passage was confirmed by UNCLOS: 'Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.'[10] If the coastal State has restricted possibilities to declare a passage non-innocent,[11] and therefore prevent it, it has other powers to regulate passage that is considered perfectly innocent, under article 21 of UNCLOS. In particular, article 21(a) stipulates that 'the safety of navigation and the regulation of maritime traffic', and article 21(f) states that 'the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof' may be regulated by coastal States. This is a broad wording, but articles 21(2) and 211(4) impose a limitation, relating to construction, design, equipment and manning (CDEM) standards. Indeed, coastal States may only require foreign ships to conform to CDEM standards that are 'giving effect to generally accepted international rules or standards'. In other words, coastal States must adopt internationally set CDEM standards in their territorial sea, and cannot impose their own. Articles 22 and 23, Part II of UNCLOS[12] further provide for specific rights

8 Hakapää, K., *Marine Pollution in International Law* (Suomalainen Tiedeakatemia, Helsinki, 1981), p. 183.

9 Jennings, R. and Watts, J. (eds) *Oppenheim's International Law* (9th edn, Longmans, London, 1992), p. 615. See also articles 18 and 19 of UNCLOS, above, note 4, on the meaning of passage and of innocent passage.

10 Article 17, UNCLOS, above, note 4. This right had already been codified in the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone (Entered into force 10 September 1964), 516 *UNTS*, article 14.

11 Article 24 of UNCLOS. See below, section 1.2 of this chapter.

12 Above, note 4.

of coastal States to establish sea lanes and traffic separation schemes and to require foreign ships to use them, without prejudicing their right of innocent passage. Foreign ships, including 'tankers, nuclear powered ships and ships carrying nuclear or other inherently dangerous or noxious substances or materials',[13] are expected to comply with the regulations of coastal States and with international standards on collision regulations. Finally, with regard to nuclear-powered ships and ships carrying nuclear cargo, coastal States are entitled to require them to carry documents and to observe special precautionary measures as laid down in the relevant international instruments.[14]

2.1.2 Enforcement measures in the territorial sea

In this section, the powers of enforcement by coastal States towards foreign ships will be outlined in the context of pollution, and outside the scenario of a ship not in innocent passage. This particular issue was addressed by some authors,[15] and merits treatment, even if in practice it is generally understood that the enforcement powers of a coastal State mostly exist in relation to ships not in innocent passage.[16]

Three provisions in UNCLOS must be considered: article 27 deals with the general rules on coastal States' criminal enforcement in the territorial sea; article 28 is concerned with civil jurisdiction; and article 220 deals with the specific rules on protection of the marine environment from vessel-source pollution in the territorial sea and in the EEZ. In the face of three such provisions enshrined in an international convention, the rule of *lex specialis* applies, whereby the more specialised rule takes precedence over the more general rule. However, article 220 explicitly subjects the powers of enforcement of coastal States to the right of innocent passage of foreign ships.[17] This would imply that enforcement measures may be taken against ships but coastal States may not totally hamper innocent passage.[18] In other words, article 220(2) deals with situations involving ships in innocent passage, less serious than 'serious and wilful pollution', which would make a passage non-innocent,[19] but serious enough to require enforcement measures by coastal States.

13 Article 22(2) of UNCLOS.

14 Article 23 of UNCLOS. See also discussion below about the denial of innocent passage to nuclear-powered ships and ships carrying nuclear cargo.

15 Hakapää, K., above, note 8, pp. 196–7.

16 See below, section 1.3, 'Non-innocent passage in the territorial sea'.

17 Article 220(2) of UNCLOS: ' . . . without prejudice to the application of the relevant provisions of Part II, section 3 . . .', which lays down rules relating to innocent passage.

18 Article 24 of UNCLOS.

19 Hakapää notes that there is a contradiction in this situation. Indeed, this interpretation of article 220 means that when a ship is in non-innocent passage, a coastal State may expel it from territorial waters. On the other hand a ship in innocent passage may be subject to

To facilitate analysis of the enforcement powers of coastal States in the circumstances of ships in innocent passage, the relevant sections of articles 220(2), 27 and 28 are reproduced below:

> Article 220(2): Enforcement by Coastal States:[20]
>
> 2. Where there are clear grounds for believing that a vessel navigating in the territorial sea of a State has, during its passage therein, violated laws or regulations of that State adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels, that State, without prejudice to the application of the relevant provisions of Part II, section 3, may undertake physical inspection of the vessel relating to the violation and may, where the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its law, subject to the provisions of section 7.[21]

> Article 27:
>
> 1. The criminal jurisdiction of the coastal State should not be exercised on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed on board the ship during its passage, save only in the following cases:
>   (a) if the consequences of the crime extend to the coastal State;
>   (b) if the crime is of a kind to disturb the peace of the country or the good order of the territorial sea;
>   (c) if the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State;
>   (d) if such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.
> 2. The above provisions do not affect the right of the coastal State to take any step authorized by its laws for the purpose of an arrest or investigation on board a foreign ship passing through the territorial sea after leaving internal waters . . .[22]

other types of measures that may be more impairing than simply being denied access to territorial waters.

20 Article 220(1) lays down the powers of coastal States towards ships in internal waters. It reads as follows: 'When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State may, subject to section 7, institute proceedings in respect of any violations of its law and regulations adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels when the violation has occurred within the territorial sea or the exclusive economic zone of that State.'

21 Sections 3 to 8 of UNCLOS lay down the powers of coastal States towards ships in the EEZ.

22 Article 27(3) reads: 'In the cases provided for in paragraphs 1 and 2, the coastal State shall, if the master so requests, notify a diplomatic agent or consular officer of the flag

4. In considering whether or in what manner an arrest should be made, the local authorities shall have due regard to the interests of navigation.
5. Except as provided in Part XII or with respect to violations of laws and regulations adopted in accordance with Part V, the coastal State may not take any steps on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed before the ship entered the territorial sea, if the ship, proceeding from a foreign port, is only passing through the territorial sea without entering internal waters.

Article 28: Civil jurisdiction in relation to foreign ships:

1. The coastal State should not stop or divert a foreign ship passing through the territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board the ship.
2. The coastal State may not levy execution against or arrest the ship for the purpose of any civil proceedings, save only in respect of obligations or liabilities assumed or incurred by the ship itself in the course or for the purpose of its voyage through the waters of the coastal State.
3. Paragraph 2 is without prejudice to the right of the coastal State, in accordance with its laws, to levy execution against or to arrest, for the purpose of any civil proceedings, a foreign ship lying in the territorial sea, or passing through the territorial sea after leaving internal waters.

Article 220(2) deals with situations where a ship is navigating through the territorial sea of a coastal State and is suspected to have committed a violation of navigation or pollution control rules of that State while going through the territorial sea. Article 220(3), (5) and (6) are also relevant, as they concern a violation that has occurred in the EEZ and the ship is either in the territorial sea or in the EEZ. In such circumstances, the coastal State may ask for information, inspect the vessel, detain it and institute proceedings.

There is no real difficulty in relation to the coastal State's civil jurisdiction under articles 28 and 220. Article 28 distinguishes between civil proceedings against a person on a ship and civil proceedings against a ship. Civil proceedings against a person on a ship traversing the territorial sea are not permitted. Coastal States may not levy execution against a ship, or arrest a ship in its territorial waters except where obligations or liabilities were incurred by the ship in the course of its voyage through the waters of the coastal State (article 28(2)), or if the ship is in the territorial sea after leaving internal waters (article 28(3)). It is noted that this could be interpreted as meaning that a coastal state may institute civil proceedings against a ship in its territorial waters if

State before taking any steps, and shall facilitate contact between such agent or officer and the ship's crew. In cases of emergency this notification may be communicated while the measures are being taken.'

the ship has caused damage to its marine or coastal environment while in internal waters or in the territorial sea.[23]

The issue concerns the interplay between article 27 and article 220. Indeed, articles 27(5) and 220(2) cross-reference each other, and it is difficult to reconcile their regimes. Under article 27, two situations are clearly defined. If the ship has committed a violation of navigation or pollution standards in the coastal State's internal waters, it can be subject to the coastal State's criminal jurisdiction while it is in its territorial sea, by virtue of article 27(2). If the ship has committed a violation outside the coastal State's territorial sea and internal waters (for example, in its EEZ), and is only traversing the territorial sea without entering internal waters, the coastal State does not have criminal jurisdiction towards it, by virtue of article 27(5). There is therefore an apparent conflict between this regime and that of article 220, which gives certain powers to coastal States in relation to violations committed not just in internal waters, but also in the territorial sea and the EEZ. One author[24] argues that article 27 could not restrict the regime of article 220(2) on violation of pollution standards. Indeed, article 27 is concerned with crimes committed on board a ship, which may not concern acts of pollution such as discharges. Also, it is arguable that pollution could be seen as a crime of which 'consequences . . . extend to the coastal State' (article 27(1)(a)), or which 'disturbs the peace of the country or the good order of the territorial sea' (article 27(1)(b)), and therefore gives criminal jurisdiction to the coastal State.

To resolve this issue, it is necessary to consider the conditions laid down in article 220(2), under which coastal States may take certain measures towards foreign ships. The ship must be 'presumed innocent' until there is clear evidence that an offence has taken place. The plain wording of article 220(2) requires cumulatively that:

1) the coastal State has 'clear grounds for believing' that a violation was committed;
2) the rules in question are either 'adopted in accordance with' UNCLOS, or 'applicable international rules and standards for the prevention, reduction and control of pollution from vessels';
3) for any measure towards a foreign ship, the coastal State must act without prejudice to section 3 of Part II of UNCLOS;
4) in addition, for the institution of proceedings, including the detention of the ship, the coastal State must respect the safeguards of section 7 of Part XII of UNCLOS.

23 Hakapää, K., above, note 8, p. 199. See also Tanaka, Y., *The International Law of the Sea* (Cambridge University Press, Cambridge, 2012), p. 95.

24 Hakapää, K., above, note 8, p. 199.

Therefore, under article 220(2), a coastal State may legally interfere with the innocent passage of a ship in the territorial sea if it is suspected that applicable international rules and standards (AIRS) on navigation, pollution control or CDEM rules were violated in the territorial sea, or in the EEZ, but subject to a test of reasonableness. Innocent passage is a well-recognised right enjoyed by all ships in the territorial sea, and restrictions to it must be justified. The coastal State must have sufficient evidence that a violation occurred, the violation must be serious enough, and a number of procedural safeguards must be respected. These four cumulative conditions constitute the four elements of the test of reasonableness that will determine the legality of action by coastal States in their territorial sea.

2.1.2.1 Evidence of the violation of rules in the territorial sea

Article 220(2) requires that there are 'clear grounds for believing' that a violation has occurred. This condition is met when suspicion is supported by notification from other vessels, or by reports from aerial surveillance.[25] The implementation of this provision by coastal State is not uniform. The threshold of evidence required depends on the domestic law of the coastal States.

New technologies for the surveillance of spills and slicks have increased the knowledge that coastal States have about marine pollution from ships. Instruments such as Geographical Information Systems (GIS), oil spills models that can predict the movement of spills, satellite remote sensing and chemical fingerprinting of oil spills have been developed primarily to improve response times of search and rescue teams. Such efficient tools already have an effect on the evidential processes of national legal systems. Evidence provided by these technologies is increasingly accepted in courts as part of an array of evidence. They allow fast and systematic detection of spills, and the identification of the authors of spills (by comparing samples of oil). For example, in 2000 the Helsinki Commission (HELCOM) adopted *Guidelines on Ensuring Successful Convictions of Offenders of Anti-Pollution Regulations at Sea*.[26] In these guidelines, there is a list of items to be collected towards establishing proof of a suspected violation of certain MARPOL standards. HELCOM accepts that there are no uniform rules on the collection of evidence in cases of anti-pollution regulation violations, and therefore that 'all evidence possible to collect to document a suspected violation can and should be used as evidence.'[27] Conventional photographs, remote sensing,

25 Molenaar, E. J., *Coastal State Jurisdiction over Vessel-Source Pollution* (Kluwer Law International, The Hague, 1998), p. 246.

26 Helsinki Commission, Baltic Sea Environment Proceedings, No. 78, 2000, available at: http://www.helcom.fi/stc/files/shipping/BSEP-78.pdf

27 Ibid., p. 27.

samples taken from slicks and any other form of observation are part of the long list of items that can be collected as evidence. In 2010, HELCOM also indicated that aerial surveillance constituted a large part of detecting oil slicks, and was carried out individually by Baltic States and together, through Coordinated Extended Pollution Control Operation (CEPCO).[28] In addition, HELCOM is using the Seatrack Web Oil drift forecasting system, in combination with AIS, to identify ships responsible for pollution by matching them with an oil spill backtracking trajectory. Seatrack Web Oil has also been integrated with satellite information.[29] New technologies are now expanding the scope of the jurisdiction of coastal States by providing highly efficient methods and tools of analysis of environmental damage prediction, detection of pollution and identification of polluters. The days of eyewitness identification of polluters have been superseded by the age of satellite surveillance of oil spills from space. Logically this refinement in environmental assessment has influenced the law in certain countries in order to provide for better control by coastal States over pollution in their waters.[30]

2.1.2.2 Nature of the applicable rules

Coastal States are entitled, under UNCLOS, to regulate the navigation of ships in innocent passage in their territorial sea. They may enact rules concerning navigation and environmental protection regarding discharges in particular. However, there are limits set out by the Convention to the prescriptive powers of coastal States. CDEM standards can be enforced by coastal States if they are internationally set (article 21 of UNCLOS). Article 220(2) refers to rules adopted in conformity with UNCLOS, or Applicable International Rules and Standards (AIRS).

Coastal States are not entitled to require foreign ships navigating in their territorial sea to observe CDEM standards more stringent than those set internationally.[31]

The power of coastal States to regulate innocent passage can be seen as a way of controlling the condition of ships navigating lawfully in territorial seas. Indeed, coastal States may enforce rules and standards relating to the seaworthiness of ships, and therefore monitor ships that may be causing

28 Helsinki Commission, Baltic Sea Environmental Proceedings, No. 123, 2010, available at: http://www.helcom.fi/stc/files/Publications/Proceedings/bsep123.pdf, p. 35.

29 Ibid., page 35.

30 For instance, the Australian Maritime Safety Agency (AMSA) is at the leading edge of such technologies, see 'Review of recent innovations and current research in oil and chemical spill technology', available at: http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/Contingency_Plans_and_Management/Research_Development_and_Technology/

31 Articles 21(2) and 211(4) of UNCLOS.

a threat of pollution to the marine environment.[32] For this reason most of the rules that coastal States may enforce must be set internationally in order to avoid too many discrepancies between the regimes in coastal States' territorial seas, which would in effect hamper innocent passage. These internationally set rules and standards can be seen as strict sources of international law; that is to say, set in international conventions, or rules of international customary law. This view is quite strict, and as it was argued in Chapter 1, there can be more flexibility in the system of rules of reference.[33]

Applicable International Rules and Standards (AIRS) are used as rules of reference throughout Part XII of UNCLOS.[34] Publicists generally agree that AIRS are created according to a flexible mechanism, which avoids the stringent conditions of law-making in international law. They are nonetheless binding. They are believed to be very important to the natural evolution of UNCLOS, in that they allow the adjustment of the balance of powers between coastal States and flag States, particularly in light of the evolution of international environmental law.[35] The issue of the meaning of Applicable International Rules and Standards (AIRS) and of Generally Accepted International Rules and Standards (GAIRS) was the object of a comprehensive study by the Committee on Coastal State Jurisdiction of the International Law Association. The most important conclusion of the committee is that the mechanism of rules of reference in Part XII of UNCLOS (references to AIRS and GAIRS) observes the rule of consent in making new norms of international law.[36] States that have signed and ratified UNCLOS have hereby accepted the principle of rules of reference. Therefore the GAIRS and AIRS do not need to meet the strict conditions of custom or treaty norms, and are still binding norms of

32 Hakapää, K., 'Jurisdictional Developments and the Law of the Sea Convention: Some Observations on Vessel-Source Pollution', in Nordquist, M. H., Moore, J. N. and Mahmoudi, S. (eds) *The Stockholm Declaration and Law of the Marine Environment* (Brill Academic Publishing, Leiden, 2003), pp. 277–85, at 280. According to Hakapää, the third UN Convention on the Law of the Sea explicitly excluded 'mere threats' from the wording of article 19 on non-innocent passage. The author therefore concludes that when ships are in bad condition, but not bad enough to pose an imminent threat of pollution, their passage cannot be denied, but it can be regulated by a coastal State.

33 See above discussion relating to GAIRS and AIRS, section 2.2 in Chapter 1.

34 Applicable International Rules and Standards (AIRS) and Generally Accepted International Rules and Standards (GAIRS) are rules of reference in Part XII of UNCLOS and refer to technical standards and rules applicable to ships. AIRS and GAIRS are subject to spontaneous and flexible amendment. They permit flexibility in the equilibrium between flag States' prerogatives and coastal States' powers under UNCLOS.

35 Franckx, E., 'Marine Environment Jurisdictional Issues: Coastal States', in Nordquist, M. H., Moore, J. N. and Mahmoudi, S. (eds) *The Stockholm Declaration and Law of the Marine Environment*, above, note 32, p. 292.

36 See above in Chapter 1.

international law enforceable by flag, coastal and port States.[37] A consequence of this interpretation of GAIRS and AIRS is that technical rules concerning the seaworthiness of ships, pollution control, manning, equipment and ships' routeing, identified in Chapter 1 as being Port State Control standards, can be incorporated in the concept, and enforced by coastal States.[38] These conclusions are valid for enforcement by coastal States in the territorial sea, but more importantly in the EEZ. [39]

2.1.2.3 Measures taken without prejudice to Section 3, Part II of UNCLOS

The enforcement of rules in respect of foreign vessels in territorial waters is dealt with by article 27 of Section 3 of Part II of UNCLOS.[40] This provision distinguishes between three types of circumstances:

- If the violation is committed in the territorial sea, and the ship is navigating in the territorial sea, the coastal State has jurisdiction in four situations (article 27(1)): if the consequences of the crime extend to the coastal State, if the crime can disturb the peace of the country or the good order of the territorial sea, on request of the ship's master or of the flag State, or for matters of trafficking of illicit drug substances.
- If the violation was committed in the coastal State's internal waters, and the ship is navigating in the territorial sea, the coastal State has unrestricted jurisdiction (article 27(2)).
- Finally, if the crime was committed seaward and outside of the territorial sea, the coastal State does not have any general jurisdiction except under Part XII of the Convention, if the crime was committed in the coastal State's EEZ (article 27(5)).

In addition, article 27(4) requires that regard must be had to the interest of navigation when enforcement measures are taken by a coastal State.

37 Franckx, E., *Vessel-source Pollution and Coastal State Jurisdiction: The Work of the ILA Committee on Coastal State Jurisdiction Relating to Marine Pollution (1991–2000)* (Kluwer Law International, The Hague, 2001), Conclusion 6, pp. 119–20.

38 Franckx, E., above, note 35, p. 40; Sage, B, 'Identification of High Risk Vessels in Coastal Waters' (2005) 29/4 *Marine Policy* 349.

39 It is noted by Franckx, E. that the mechanism of rules of reference in UNCLOS is reinforced by the compulsory dispute settlement procedures of Part XV of UNCLOS. The procedure of Part XV guarantees a third-party settlement if no agreement emerges between two States party to the Convention on a matter relating to AIRS and GAIRS. Franckx, E., 'Exclusive Economic Zone, State Practice and the Protection of the Marine Environment', in Franckx, E. and Gautier, P. (eds) *The Exclusive Economic Zone and the United Nations Convention on the Law of the Sea, 1982–2000: A Preliminary Assessment of State Practice* (Bruylant, Brussels, 2003), pp. 11–30, at 21.

40 See above, section 1.2, this chapter.

Coastal States can regulate innocent passage, but they must apply reasonable measures, so as not to interfere unduly with the right of innocent passage. As regards State practice, the European Parliament and the Council have adopted Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements.[41] The directive aims at introducing harmonised penalties throughout European waters for the violation of international vessel-source pollution standards, and in particular criminalises discharges of polluting substances if 'committed with intent, recklessly or with serious negligence'.[42]

It is important to note that this directive does not attempt to introduce standards that would depart from internationally agreed standards, and that in this respect it is in conformity with the requirements of UNCLOS discussed above. The text of the directive expressly relies on the standards set down in MARPOL 73/78.[43] The second point to note is the definition of an infringement: it encompasses 'discharges of polluting substances . . . if committed with intent, recklessly or by serious negligence',[44] and into certain designated areas, i.e. internal waters, territorial sea, straits used for international navigation, EEZ and high seas.[45] Interestingly, it excludes minor cases of discharges if they do not cause deterioration in the quality of the water. Also, repeated minor discharges may be considered as offences if they cause such deterioration and if they are committed with intent, recklessly or with serious negligence.[46]

If the discharges are committed outside the internal waters of a Member State, the Directive distinguishes between three scenarios. First, if the ship is bound for a port in another Member State, there must be cooperation between the two Member States concerned to take appropriate measures and carry out an inspection in the port of call.[47] Second, if the ship is bound for a port outside the European Union, information must be given to the port State in question.[48] Third, if there is clear and objective evidence that a ship navigating in the territorial sea or EEZ of a coastal State of the EU has committed a discharge in the EEZ, resulting in major damage or threat

41 Directive 2005/35/EC of the European Parliament and of the Council of 7 September 2005 on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences, OJ L255/11, 30.9.2005, as amended by Directive 2009/123/EC, OJ L280/52, 27.10.2009.

42 Ibid., article 4 of the 2009 amendment.

43 Ibid., paragraph 2 of the preamble, article 2 on definitions of polluting substances and of discharges, and article 5 on exceptions to infringements.

44 Ibid., articles 4 and 5a.

45 Ibid., article 3(1).

46 Ibid., article 5a.

47 Ibid., articles 7(1)(a) and 6(1).

48 Ibid., article 7(1)(b).

of major damage to the coastline, related interests or any resources of the territorial sea or EEZ of the Member State concerned, that State is entitled to initiate proceedings against that ship, subject to the conditions of Section 7 of Part XII of UNCLOS.[49] This wording seems to fall squarely within the conditions of articles 21, 27 and 220 of UNCLOS whereby coastal States may adopt laws and regulations, and enforce their criminal jurisdiction in the territorial sea or EEZ for violations of AIRS that took place in the EEZ. It also shows that the EU has chosen to follow the regime of article 220, without undue restrictions imposed by article 27.

2.1.2.4 Safeguards of Section 7 of Part XII

It is required by article 220(2) that when a coastal State decides to intervene towards a ship suspected of having violated legal national rules on navigation, pollution prevention or CDEM standards, or to detain the ship in a port, it must observe the procedural safeguards of section 7, Part XII.

Section 7 is composed of ten provisions, laying down the following procedural obligations for coastal States:

- Coastal States must facilitate the representation of other States in the proceedings, and the production of evidence by them (article 223).
- The actual enforcement powers against foreign ships can only be exercised by clearly identified State vehicles (article 224).
- Coastal States have a duty, when exercising their enforcement jurisdiction, not to endanger the safety of navigation, create any hazard to a vessel, bring it to an unsafe port or anchorage, or expose the marine environment to an unreasonable risk (article 225).
- Inspections may not delay ships further than is essential for the purposes of the enforcement powers of Part XII (article 226).
- Foreign vessels must not be discriminated against, and the coastal State must observe a number of procedural rights towards them (articles 227–230).
- The flag State must be notified (article 231).
- The coastal State incurs liability if the measures taken were unlawful or exceed those reasonably required in the light of the information available (article 232).

Coastal States may take measures applicable to all ships in their territorial sea for the protection of the marine environment or the safety of navigation. The rule underlying any decision that they may take is the guarantee of the freedom of innocent passage. Only reasonable interference with innocent passage is permitted by UNCLOS. The discussion as to whether the measures described above interfere with innocent passage to such a point that they do not merely

49 Ibid., article 7(2).

hamper it, but also impair or deny it is significant for coastal States, which at all times are subject to article 24 of UNCLOS, and accordingly:

> shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this Convention. In particular . . . the coastal State shall not . . . impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage.

There is support for the view that the violation of a coastal State's regulations does not by itself render the passage of a ship non-innocent, as long as it is not prejudicial to the coastal State's interest, or more generally within the scope of article 19.[50] The following section discusses the issue of non-innocent passage, and is therefore complementary to this analysis.

2.1.3 Non-innocent passage in the territorial sea

A coastal State is entitled to 'take the necessary measures to prevent a passage that is not innocent', according to article 25(1). It is noted that by 'necessary measures', it is meant asking for information, inspecting, detaining or expelling.

The difficulty for coastal States lies not in taking appropriate measures, but in establishing unambiguously that a ship is not in innocent passage. Failure to produce convincing evidence of the non-innocence of a passage could result in liability against the coastal State, in reparation for damage caused by measures taken towards the ship. It is therefore critical that a coastal State acts within the limits of the law when deciding to take measures against a ship that it deems in non-innocent passage.

An innocent passage must first of all be qualified as a 'passage'. The ship navigating in territorial waters must also refrain from activities that would disqualify the innocence of its passage. Passing in a territorial sea means navigating in territorial waters without entering the internal waters of the coastal State, or traversing the territorial waters while en route for a port, or leaving the internal waters (article 18).

A passage that is innocent is a passage that is 'not prejudicial to the peace, good order or security of the coastal State', and that complies with the rules of UNCLOS and with other rules of international law (article 19(1)). Article 19(2) provides a list of 11 activities that render a passage 'non-innocent'. The activities listed are acts against the territorial integrity of the coastal State, military and intelligence activities, acts interfering with the communication system of the coastal State, acts contrary to the customs, fiscal, immigration and sanitation regulations of the coastal State, research,

50 Tanaka Y., above, note 23, p. 88, referring to P. Birnie, A. Boyle and C. Redgwell, *International Law and the Environment*, 3rd edn (Oxford University Press, Oxford, 2008), p. 417.

fishing and acts of pollution. They include 'any act of wilful and serious pollution contrary to this Convention' (19(2h)) and 'any other activity not having a direct bearing on passage' (19(2l)). It is noted that this comprehensive definition of innocent passage can be problematic from the point of view of coastal States in two respects.[51] First, only activities seem to make the passage of a ship non-innocent. This would tend to exclude other elements such as the unseaworthiness of a ship, or the poor level of competence of its crew. Second, a mere threat of pollution that a ship may pose to a coastal State cannot be considered as an element making the passage of a ship non-innocent. Actual environmental damage has to have occurred for a coastal State to be entitled to declare a passage non-innocent, and to prevent it. Therefore it would appear that there is a grey area in article 19, for ships not in immediate difficulty but not in good technical condition and that may be vulnerable to rough sea conditions, and that are seen by coastal States for this reason as posing a threat of pollution.

A strict interpretation of 'activities' that may render the passage of a ship prejudicial to the peace, good order and security of a coastal State would exclude the possibility of denying the so-called 'leper ships' a right of innocent passage on ground of their poor condition, if they were not engaged in a non-innocent 'activity' listed in article 19. Opinions are divided on the matter. The International Law Association Committee on Coastal State Jurisdiction could be referred to, which has adopted a broad interpretation that allows coastal States to consider ships whose condition is 'so deplorable that it is extremely likely to cause a serious incident with major harmful consequences, including to the marine environment'[52] as not entitled to claim the right of innocent passage. It can be added that outside the cases explicitly mentioned in article 19(2), a judicious interpretation of this provision could provide coastal States with more flexible possibilities to take measures to protect their marine environment against threats posed by international shipping. For instance, the facts of particular situations may not fit within the activities carefully listed in article 19(2), but still be qualified as 'prejudicial to the peace, good order or security' of a coastal State as per article 19(1). One author argues that article 19(1) and (2) could be interpreted separately, and that at least there is nothing compelling to consider that the list of article 19(2) should be an illustration of article 19(1).[53] He notes for example that Japan, while recognising the right of innocent passage of foreign warships, considers that the passage of foreign warships carrying nuclear cargo through

51 Hakapää K., above, note 8, pp. 184–5.

52 'Final Report of the Committee on Coastal State Jurisdiction Relating to Marine Pollution', (Franckx, E., rapporteur, Molenaar, E. J., assistant rapporteur) in International Law Association, 'Report of the 69th Conference', London Conference (2000), pp. 443–500, at 493.

53 Y. Tanaka, above, note 23, p. 87.

its territorial sea is not innocent.[54] Further, it is noted that the condition of an act of 'serious and wilful pollution' is relative and the interpretation of 'serious' will depend on what coastal States seek to achieve. In this respect, those States with sensitive marine environments are likely to be concerned with striking a balance between the need to allow innocent passage and their need to protect their marine environment.[55] It is noted for example that Poland and Croatia have altogether eliminated the requirement of serious pollution and legislated to the effect that any act of wilful or deliberate pollution renders a passage non-innocent. Further, the Bahamas and Belize consider that the likelihood of damage renders a passage non-innocent.[56]

The case of ships carrying nuclear cargo can be seen as a striking example of a broad interpretation of the concept of non-innocent passage, to the advantage of coastal States. Djibouti, Pakistan, Malta, the United Arab Emirates and South Korea have all enacted legislation requiring prior notification by ships carrying nuclear cargo before entering their territorial waters. Egypt, Oman, Iran, Yemen, Saudi Arabia, Malaysia, the Maldives and Seychelles not only require prior notification but also prior permission for ships carrying nuclear cargoes and wishing to navigate in their territorial seas. Romania and Lithuania have taken this approach one step further and prohibit the passage of ships carrying nuclear cargo in their territorial seas.[57] While UNCLOS does not explicitly authorise coastal States to take such steps to restrict innocent passage, it is arguable that elements of the precautionary principle can provide such legal justification, if used to interpret article 19 of UNCLOS, and the international customary right of innocent passage. The argument was made by one author in relation to ships carrying nuclear cargo.[58] In the 1990s, shipments of radioactive materials were commissioned between France and Japan, and the UK and Japan, as part of recycling contracts of Japanese spent nuclear fuel in the special facilities of La Hague (France) and Sellafield (UK). These involved journeys via the Atlantic and Pacific oceans, in waters under the jurisdiction of third States not party to the agreements involving France, the UK and Japan. These shipments are ultra-hazardous by nature. Dangers could arise from incidents such as cargo sinking in the deep sea, or collisions between ships causing fires involving radioactive materials. Coastal populations and the marine environment are at risk of such

54 Ibid.

55 Agyebeng. W. K., 'The Right of Innocent Passage in the Territorial Sea' (2006) 39 *Cornell International Law Journal* 371, p. 388.

56 Ibid., p. 394.

57 Ibid., pp. 394–5.

58 Van Dyke, J. M., 'The Legal Regime Governing Sea Transport of Ultrahazardous Radioactive Materials', (2002) 33 *Ocean Development and International Law* 77, pp. 78–80; Van Dyke, J. M., 'Applying the Precautionary Principle to Ocean Shipments of Radioactive Materials', (1996) 27 *Ocean Development and International Law* 379.

dangers, particularly since the quantities of nuclear cargo being transported are large. In addition such cargoes could be the targets of terrorist attacks. The scale of the risks posed by these shipments led a number of coastal States to deny them the right of innocent passage in their territorial sea, with some States denying the ships carrying radioactive cargo the right to navigate in their EEZ. Indeed, South Africa, Chile, Argentina, the Caribbean States of Antigua, Barbuda, Colombia, the Dominican Republic, the Bahamas and Puerto Rico, New Zealand, Mauritius and Korea vigorously protested against these shipments and forbade the ships carrying nuclear cargo to enter their territorial sea on the basis of the precautionary principle.

Taking the counter example of the European Directive referred to above, on ship-source pollution and the introduction of criminal penalties for pollution offences,[59] however, it is clear that the practice is not widespread. The Directive does not introduce a pre-emptive element and requires an actual discharge to have taken place, even if it takes into account 'minor discharges'. Further, it is not clear whether this means that an infringement within the scope of the Directive constitutes serious and wilful pollution under article 19(2)(h) of UNCLOS, which could deprive a passage of its innocence. The distinction is important for enforcement purposes. If discharges have taken place, coastal States members of the EU will have jurisdiction to impose criminal penalties and powers of detention towards foreign ships traversing their territorial sea if 'there is clear, objective evidence' of a discharge 'causing major damage' or 'threatening to cause major damage to the coastline, or to any related interests of the Member State concerned'.[60] In such cases, if the discharges constituting a violation of the coastal State's regulations are not considered as sufficient to make her passage non-innocent, the coastal State will not have the power to expel her from its territorial sea under article 25. If, on the other hand, it can be argued under UNCLOS that even outside the evidence of a discharge, the ship is a High Risk Vessel and as such is prejudicial to the peace, good order or security of the coastal State under article 19(1), the coastal State has the power to expel the ship under article 25 as her passage will be considered as non-innocent.

High Risk Vessels, if identified on the basis of AIRS, do pose an unacceptably high risk or threat to the environment of a coastal State or to its interests. The question is whether the coastal State may deny them their right of innocent passage. The argument made in this book is that on the basis of AIRS, that is to say the most common standards enshrined in Port State Control conventions,[61] and in the light of the precautionary principle, the law of the sea can be seen to have evolved to allow this right of intervention to be exercised by coastal States in their territorial sea.

59 Above, note 41.

60 Ibid., article 7(2).

61 See Chapter 1.

2.2 Coastal States' jurisdiction in the Exclusive Economic Zone

2.2.1 Regulatory jurisdiction of coastal States

The general provision in UNCLOS laying down the jurisdictional rights of coastal States in their EEZ is article 56. With respect to vessel-source pollution, article 56 states that coastal States have 'jurisdiction as provided for in the relevant provisions of this convention with regard to . . . (iii) the protection and preservation of the marine environment' (article 56(1)). It is very clear from the second section of article 56 that coastal States' jurisdiction is limited by 'the rights and duties of other States' and that coastal authorities 'must act in a manner compatible with the provisions of this convention' (article 56(2)).

Article 211 of UNCLOS provides some details about the mechanisms by which coastal States' legislative activities may be exercised in relation to the EEZ. According to article 211(1) they must cooperate with other States and the competent international organisation (the International Maritime Organization) to adopt rules to prevent, reduce and control pollution of the marine environment from vessels, including routeing systems. Article 211(5) further entitles coastal States to enact laws and regulations 'giving effect to generally accepted international rules and standards and applicable international rules and standards' established through the relevant competent organisations.

In other words coastal States are not at liberty to enact national rules applicable in their EEZ. They must give effect to rules and standards set at the appropriate international forum (the IMO or international forum). It is these rules that coastal States may then enforce.

2.2.2 Enforcement jurisdiction of coastal States

The powers of enforcement of coastal States towards foreign vessels navigating in their EEZ can be the request of information, physical inspection or the institution of proceedings, including detaining the vessel. However, the legality of such measures depends on the seriousness of the violation committed by ships in the EEZ or territorial sea, and their consequences for the coastal State and the marine environment.

The sections of article 220 that are relevant to the regime of the coastal State in the EEZ are reproduced below:

> Article 220:
> 3. Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation of applicable international rules and standards for the prevention, reduction and control of pollution from vessels or laws and regulations of that State conforming and giving effect to such rules and standards, that State

may require the vessel to give information regarding its identity and port of registry, its last and its next port of call and other relevant information required to establish whether a violation has occurred.

4. States shall adopt laws and regulations and take other measures so that vessels flying their flag comply with requests for information pursuant to paragraph 3.
5. Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation referred to in paragraph 3 resulting in a substantial discharge causing or threatening significant pollution of the marine environment, that State may undertake physical inspection of the vessel for matters relating to the violation if the vessel has refused to give information or if the information supplied by the vessel is manifestly at variance with the evident factual situation and if the circumstances of the case justify such inspection.
6. Where there is clear objective evidence that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation referred to in paragraph 3 resulting in a discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone, that State may, subject to section 7, provided that evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws.
7. Notwithstanding the provisions of paragraph 6, whenever appropriate procedures have been established, either through the competent international organisation or as otherwise agreed, whereby compliance with requirements for bonding or other appropriate financial security has been assured, the coastal State if bound by such procedures shall allow the vessel to proceed.
8. The provisions of paragraphs 3, 4,5, 6 and 7 also apply in respect of national laws and regulations adopted pursuant to article 211, paragraph 6.

According to article 220(3), if a coastal State has 'clear grounds for believing' that a vessel has violated Applicable International Rules and Standards (AIRS), or national rules giving effect to AIRS, it may request information from the vessel in question, with a view to establishing whether a violation has occurred.

A physical inspection of a vessel may take place in the EEZ, in circumstances where the coastal State has 'clear grounds believing' that a ship has committed a violation of AIRS 'resulting or threatening to result in substantial pollution of the marine environment' (article 220(5)). The purpose of the inspection must be related to the suspected violation. In any case, such inspection can only occur if the vessel has refused to give the information

requested, or if the information provided does not match the evidence collected by the authorities of the coastal State. The 'circumstances of the case' must justify such inspection.

If the violation of AIRS is accompanied by discharges, and if such discharges are causing or threatening to cause damage to the coastline or interests of the coastal State, or to the resources of its territorial sea or EEZ, the coastal State may institute proceedings against the ship, including its detention (article 220(6)). The institution of such proceedings must be warranted by 'clear objective evidence' of the violation and of the discharges.

The issue of evidence of discharges of pollutants is likely to be affected by initiatives taken by coastal States to carry out environmental assessments and take environmental protection action in certain regional seas. These initiatives are generally part of regional agreements for the protection of the marine environment of regional seas, often under the umbrella of the United Nations Environment Programme (UNEP), or other regional organisations such as HELCOM and the Oslo and Paris Commission (OSPAR).[62] For example, Colombia, Chile, Ecuador and Peru are members of the Permanent South Pacific Commission (PSPC), which has been part of UNEP since 1981, and the Regional Action Plan for the South-East Pacific. The Regional Action Plan has for its principal objective the protection of the marine environment of the South-East Pacific under the jurisdiction of the States members of the PSPC. Environmental assessment and environmental protection action are therefore operationalised through the PSPC, for all kinds of pollution of the marine environment of the South-East Pacific (land-based, vessel-source, atmospheric). The environmental assessment aspect of the Plan includes programmes of surveillance and research on sources of pollution, effects of pollution on different areas of the South-East Pacific, and contingency planning for oil spillage.[63] In other words, the States members of the Regional Action Plan for the South-East Pacific are engaged in activities of surveillance and acquisition of data about their marine environment, and are therefore in a better position to detect discharges of pollutants, and to produce evidence. Regional action for the protection of the marine environment is widespread and has led to the adoption of many regional conventions and programmes.[64]

2.2.3 Intervention beyond the territorial sea

Upon the occurrence of a maritime casualty, or acts related to it, which can be reasonably expected to result in major harmful consequences, coastal States are entitled to take measures proportionate to the actual or threatened

62 See below, Chapter 4.

63 Llanos, H. A., 'Marine Pollution in Latin American Jurisdictional Waters', (1995) 26 *Ocean Development and International Law* 151.

64 See below, Chapter 4.

damage, in order to protect their coastline or related interests from pollution, including harm to natural resources (article 221(1)). Such measures can be taken outside their territorial sea.

A 'maritime casualty' is defined as 'a collision of vessels, stranding or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo' (article 221(2)).

The 1969 Intervention Convention[65] had already established this right of intervention by coastal States. The terms of article 221 are broader than those of the 1969 Intervention Convention. This requires a point of clarification for States that are party to both conventions, to determine under which exact conditions they may intervene to protect their interest against pollution.

By way of example, France adopted a long time ago a system of intervention based on early warning, and the adoption of preventative measures once it appears that a potentially dangerous situation is developing. A single authority, the Préfet Maritime, has powers by law to communicate with the ship's masters, with the shipowners and with the flag States concerned. The preventative measures that he may take include sending teams of evaluators and of intervention on board ships, and ordering ships to be towed. Early warnings are possible thanks to the reporting systems that are in place in various locations along the French coast, and by radar surveillance.[66] The French example shows that early warnings have always been considered important in the exercise of the right of intervention by coastal States beyond territorial seas. In this respect, recent technological innovations such as Automatic Identification Systems (AIS) and Long-Range Identification and Tracking (LRIT)[67] are likely to play an increasingly important role for coastal States. Indeed, thanks to AIS and LRIT, coastal States should be able to know exactly and in near real time the number of ships sailing in their waters, their identity, their route, the nature of their cargo, and other such information as is required by international regulation on these technologies. The potential use of this technology by coastal States could dramatically expand their knowledge of the movements of ships along their coasts and therefore assist them in the identification of High Risk Vessels.[68]

65 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage (Brussels) (1970) 9 *International Legal Materials* 25, in force 6 May 1975, and relating 1973 Protocol (1974) 68 *American Journal of International Law* 577, in force 30 March 1983.

66 Levy, J. F., 'France and the Right of Intervention on the High Seas', in Proceedings of the Fourteenth Bien, API *et al*. Oil Spill (Achieving and Maintaining Preparedness) International Conference, Long Beach, California, 7 February–2 March 1995, University of Tulsa, Petroleum Abstracts, pp. 719–20.

67 See below, Section 2.5 in Chapter 5.

68 See below, Chapter 5.

2.3 Precautionary coastal States' jurisdiction

Article 220 shows that there is a gradation in the types of measures that may be taken by coastal States, according to the level of risk that is posed to the environment by ships. Stricter rules of evidence of a risk to the environment are required for physical inspection than for the mere request of information.

Coastal States are entitled to take measures towards foreign ships when voluntary or involuntary discharges occur in the EEZ. The risk of environmental damage due to voluntary discharges by ships may justify the request for information, a physical inspection of, and the institution of proceedings against, including the detention of, foreign ships by coastal authorities. The risk of damage due to maritime casualties justifies proactive measures taken by coastal States (intervention).

A physical inspection may be carried out on a ship navigating in the EEZ if a violation of applicable rules and standards is resulting 'in a substantial discharge causing or threatening significant pollution of the marine environment' (article 220(5)).

Proceedings may be instituted against a ship navigating in the EEZ if a violation of applicable rules and standards is resulting 'in a discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone' (article 220(6)).

Intervention by coastal States may occur if a casualty 'can be reasonably expected to result in major harmful consequences' (article 221(1)).

It must first be noted that the wording used in UNCLOS relating to the type of evidence that coastal States must have before deciding to take measures towards foreign ships is a little ambiguous. Words such as 'substantial discharge', 'significant pollution', 'major damage', 'pollution of the marine environment' and 'damage to the coastline or related interests of the coastal State' are not defined in the Convention, and accordingly can be interpreted differently by coastal States. However, these expressions, and the system of intervention outlined under article 220, have in common the application of a risk management method, which requires a risk assessment, a prediction of the extent of the damage if it occurs, and the management of the risk so identified. The precautionary principle applies to situations of risk assessment and risk management. It could therefore be used reasonably for the interpretation of these expressions in UNCLOS, particularly in the assessment of the risk posed by High Risk Vessels and by voluntary or accidental discharges into the marine environment under the jurisdiction of coastal States. The ecosystem approach that is being adopted by regional marine environment protection regimes[69] is also likely to have an impact on the assessment of

69 See below, Sections 3.3 and 3.4 in Chapter 4.

damage caused by illegal discharges. Indeed coastal States party to such regional conventions could argue that vessel-based discharges of pollutants must be considered in the context of the general state of the marine environment. This might allow, for example, assessing the environmental impact of ship-based discharges while also taking into account land-based source pollution and other sources of pollution on a given ecosystem. In summary, where the impact of a discharge assessed in isolation would be minimal, it may be greater if the area in question is already affected by adverse land-based source pollution. This approach may allow the establishment of a lower threshold for the institution of proceedings under article 220(6).

In this respect, formal safety assessments of the risks posed by international shipping to coastal areas carried out by coastal States can be seen as steps taken towards the formalisation of such an approach. Indeed, scientific methods are being developed to assess the quantitative and qualitative risks posed by shipping to coastal areas. The results of such assessments are generally well accepted by stakeholders, and permit coastal States to introduce measures for the protection of their interests.

For instance, Australia submitted the results of a risk assessment of the Torres Strait to the IMO Sub-Committee on Safety of Navigation (NAV)[70] in the context of the extension of the Great Barrier Reef Particularly Sensitive Sea Area (PSSA) to the Torres Strait, and the request to impose compulsory pilotage as an Associated Protective Measure (APM).[71] The risk assessment was described as 'a structured approach for obtaining expert judgments on the level of waterway risk. The process also addressed the effectiveness of possible intervention actions for reducing risk in the waterway.'[72] This was a significant action on the part of Australia. Indeed, the application of compulsory pilotage as an APM for the Torres Strait raised concerns in the IMO about the legality of such measure with regard to the right of transit passage in the Torres Strait. The Torres Strait is considered under UNCLOS as a strait for international navigation, where all ships enjoy the right of transit passage. A number of delegations expressed concerns to the Marine Environment Protection Committee (MEPC) and to the Sub-Committee on Safety of Navigation (NAV) of the IMO that imposing compulsory pilotage in the strait would have the effect of restricting navigation, and therefore hampering the right of transit passage.[73] Australia and Papua New Guinea, who were both requesting the application of compulsory pilotage for the strait, argued

70 'Routeing of ships, ship reporting and related matters. Results of a safety of navigation assessment conducted for the Torres Strait, Submitted by Australia', 50th session, 2 April 2004, IMO Doc. NAV 50/INF.2.

71 See below, Section 2.1 in Chapter 5.

72 NAV 50/INF.2, ibid., Annex 1.

73 'Reports of Sub-Committees, Outcome of Nav 50', 52nd session, 30 July 2004, IMO Doc. MEPC 52/10/2.

that the risks posed by international navigation are unacceptably high, and that compulsory pilotage was the appropriate risk-mitigating measure. This situation is a clear example of a conflict between the traditional freedom of navigation duly recognised by article 38 of UNCLOS with a jurisdictional claim by a coastal State to protect their marine environment from threats posed by international shipping. NAV acknowledged that adherence to the measure of recommended pilotage adopted in 1991 by the IMO General Assembly[74] had declined and 'no longer provided an acceptable level of protection for the Torres Strait'[75] and decided to refer the legal issue to the attention of the Legal Committee (LEG).[76] The sub-committee further agreed that the proposed measure of compulsory pilotage was 'operationally feasible and largely proportionate to provide protection to the marine environment'.[77] The Legal Committee did not reach a common position on the matter.[78] The final position of the MEPC was not to adopt the proposed measure of compulsory pilotage, but to recommend that flag States encourage their ships to abide by pilotage measures made available in the Torres Strait.[79]

The issue that arose between MEPC, NAV and LEG was significant from the point of view of coastal States' jurisdiction. It is argued here that Australia and Papua New Guinea were seeking to apply a precautionary framework in trying to obtain from the IMO the adoption of a compulsory pilotage scheme for the Torres Strait. Indeed, an independent risk assessment was carried out, of the threats posed by international navigation to various aspects of the Strait.[80] It indicated that risks to the marine environment of oil pollution, including a threat to the livelihood of indigenous local population who rely on the particular ecosystem of the Torres Strait, were very high. Despite IMO's refusal to adopt a measure of compulsory pilotage, which would have had the effect of restricting the freedom of passage in the Torres Strait for ships not having violated any pollution standards, but posing a high risk to the interests of Australia and Papua New Guinea, there was a clear attempt to approach the freedom of passage from a precautionary point of view.

74 'Use of Pilotage Services in the Torres Strait and the Great Barrier Reef North east Channel', IMO Assembly Resolution A.710 (17), 6 November 1991.

75 Above, note 74, p. 2.

76 'Torres Strait PSSA Associated Protective Measure – Compulsory Pilotage, Submitted by Australia and Papua New Guinea', 89th session, 24 August 2004, IMO Doc. LEG 89/15.

77 Ibid., p. 1.

78 'Report of the Legal Committee on the Work of Its Eighty-Ninth Session', Legal Committee, 89th Session, 4 November 2004, LEG 89/16.

79 Roberts J, 'Compulsory Pilotage in International Straits: The Torres Strait PSSA Proposal', (2006) 37 *Ocean Development and International Law* 93 and Beckam, R. C., 'PSSA and Transit Passage – Australia's Pilotage System in the Torres Strait Challenges the IMO and UNCLOS (2007) 38 *Ocean Development and International Law* 325.

80 The Australian Maritime Safety Agency requested the assistance of the US Coast Guard and of the Canadian Coast Guard to carry out the risk assessment of the strait.

Discussions in Chapter 5 of various types of measures adopted by IMO following a similar precautionary approach show a greater level of success.

Technological innovations in the field of maritime safety and marine environmental protection are likely to have an impact on the possibilities for assessing the probability of occurrence of incidents (risk assessment), and the prediction of the extent of the damage that is threatening to occur. Examples of such innovations include the Automatic Identification System (AIS), which consists of a transponder fitted on board ships, and automatically transmitting information to the shore, or Long Range Identification and Tracking (LRIT). These tools would allow coastal States to search for more information about ships, in databases such as Lloyd's Register or Port State Control databases. Another area of significant innovation is in advanced meteorological and sea state information, which can give information such as wave height, wind force, and can help in compiling route planners. These other tools can help coastal States assessing the level of risk on certain routes for certain types of vessels. Surveillance by satellite, radar, synthetic aperture radar and remote sensing of the environment may also provide useful information, particularly in detecting oil spills, assessing their extent and predicting their movements.

With such tools, coastal States have the technical capability to identify and detect High Risk Vessels (and obtain reliable information about them), to assess the risk of the route they are sailing according to meteorological factors and or circumstantial information, and to detect spills and anticipate their movement. Weather predictions can help in assessing the risk posed to the marine environment by pollution. On this basis, it may be possible to detect potentially dangerous situations earlier, including maritime casualties and pollution incidents.

The correlated legal issue is whether the relevant provisions in UNCLOS can adapt to such technological innovations, and allow coastal States to take measures (request of information, inspection, detention and institution of proceedings) towards foreign ships earlier than under the current state of the art of maritime technology. The current legal framework in which coastal States can exercise their jurisdiction in coastal waters is the 1982 UN Convention on the Law of the Sea, which came into force in 1994, and counts 165 States party to it.[81] The balance of powers that was achieved at the time of signature of the Convention is constantly evolving.

This issue of the evolution of UNCLOS to take account of changes in the law and practice relating to marine environmental protection can be looked at from the narrow viewpoint of formal treaty amendment, which carries long and difficult procedures. However, it can also be looked at from the point of view of the mechanism of rules of reference mentioned above (AIRS and GAIRS), which are indeed part of the UNCLOS system and refer

81 See http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm

to technological innovations in maritime navigation, safety and environmental protection. There is also the third argument that to a very large extent provisions of the Convention represent international customary law and therefore have the inherent flexibility of international custom. If this proposition is correct,[82] rules concerning the powers of coastal States in their territorial seas and EEZ are not only binding on all States as rules of international custom, but their evolution under the influence of State practice is not restricted to strict conditions of treaty amendment. These rules can then be considered in the light of State practice and *opinio juris*, and the incorporation of the precautionary principle in coastal States' jurisdiction becomes then a realistic prospect.

2.4 Conclusion

An interpretation of the relevant provisions of UNCLOS relating to the powers of coastal States upon foreign ships navigating in their territorial seas or EEZ in the light of the precautionary principle may provide coastal States with the appropriate legal authority to adopt measures designed to monitor proactively High Risk Vessels, identified on the basis of rules of reference as defined in Chapter 1, in order to prevent, reduce and control pollution of the marine environment.

Through a less formal approach than the amendment of UNCLOS, the precautionary principle may be capable of introducing flexibility in the UNCLOS system and of allowing the optimal use of new technologies by coastal States to detect HRV, monitor them and, where deemed necessary, take intervention measures towards them. However, it is critical to understand the precautionary principle correctly. Indeed, as will be demonstrated in the following two chapters, the precautionary principle, while it enjoys a specific status in international environmental law, has also taken a particular meaning in marine law applications by coastal and maritime States. In a bid to preserve their coastal and marine environment, these States have clarified its conditions for application. Accordingly, the principle must not be the justification for arbitrary decisions, particularly when they could have a profound impact on the law of the sea, the freedom of innocent passage and the freedom of the high seas. The precautionary principle is most influential when it is embedded in scientific observations of the reality of the coastal and marine environment, in the value that States attach to this environment, and when it legitimises prudential decisions of environmental protection.

82 On this point see a convincing piece by Lishexian Lee, M., 'The Interrelation Between the Law of the Sea Convention and Customary International Law', (2006) 7 *San Diego International Law Journal* 405.