



THE INTERNATIONAL REGULATION OF MARINE PLASTICS POLLUTION AND CRIMINAL LAW

ISSUE PAPER



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GLOBAL MARITIME
CRIME PROGRAMME

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FIGURE 1 – KEY TERMS

Crimes that affect the environment or environmental crime covers a broad range of illegal activities that cause harm to the natural world, as a whole or in a particular geographical area. And although there is no formally agreed definition of the term, in the International Classification of Crime for Statistical Purposes, UNODC divides “Acts against the natural environment” into five areas: (a) acts that cause environmental pollution or degradation (b) Acts involving the movement or dumping of waste (within and between countries); (c) Trade or possession of protected species of wild fauna and flora; (d) Acts that result in the depletion or degradation of natural resources (e.g. illegal logging, illegal fishing, illegal mining, trafficking of precious minerals); and other acts against the natural environment (e.g. smuggling of ozone-depleting substances, failure to protect the health and well-being of flora and fauna).

International crime is an activity that is considered as criminal by international law, including treaties and custom, and national law.

Plastics are polymeric materials – excluding natural polymers that have not been chemically modified – to which additives may have been added and which can function as a component of final products. They may be defined as ‘a solid material which contains as an essential ingredient one or more high-molecular mass polymers, and which is formed (shaped) during either manufacture of the polymer or the fabrication into a finished product by heat and/or pressure. Plastics have material properties ranging from hard and brittle to soft and elastic’ (Regulation 1(13) of Annex V to MARPOL 73/78).

Plastics pollution includes ‘the negative effects and emissions resulting from the production and consumption of plastic materials and products across their entire life cycle. This includes plastic waste that is mismanaged (e.g., open-burned and dumped in uncontrolled dumpsites) and leakage and accumulation of plastic objects and particles that can adversely affect humans and the living and non-living environment’ (working definition, UNEP, UNEP/PP/INC.1/7).

Pollution crime is ‘a wide spectrum of offences that cause or are likely to cause environmental harm, specifically in relation to the quality of air, soil or water’, which may be orchestrated by highly organized criminal groups (UNODC Legislative Guide on Pollution Crime).



I. INTRO DUC TION



This Issue Paper examines the international law concerning the deliberate disposal into the sea of plastic wastes generated on land; plastic waste generated aboard ships; lost, abandoned, or otherwise discarded fishing gear (ALDFG); and the maritime transport of plastics (e.g. pellets) and spillages. It does not consider what can and should be done vis-à-vis land-based or atmospheric sources of marine plastics pollution (e.g. leakage into the environment from predictable use, littering, tyre abrasion, waste (mis)management).¹ Neither does it discuss the overwhelming need for a system change towards sustainable production and consumption,² although it notes the relevance of this to any credible efforts by the international community to reduce plastics pollution,³ and ultimately, contribute to the UN Sustainable Development Goals.⁴

Plastics are extraordinarily useful materials that, thanks to their versatility and low cost, find application in a wide range of sectors.⁵ Global production rates were documented to reach 460 million tonnes in 2019, and are projected to triple by 2060.⁶ However, plastics and their additives may leak into the (marine) environment at various stages across their life-cycle where they cause well-documented negative consequences⁷ – broadly understood as plastics pollution.⁸ The pathways through which plastics leak into the (marine) environment are multiple.⁹ A significant proportion of marine plastic pollution comes from land, although this may vary per geographic region.¹⁰ In addition, vessel-source pollution plays a significant role, including through abandoned, lost, or otherwise discarded fishing gear (ALDFG), waste discarded from vessels, and the accidental spillage of plastics cargo (e.g. plastic pellets).¹¹ Moreover, atmospheric plastic pollution has recently been investigated as a source of marine plastic pollution.¹²

The environmental challenges posed by plastics and the absence of a comprehensive international legal framework that governs the life-cycle of plastics¹³ inter alia led to a growing interest in the topic in international fora. In 2016, UNEP reported on global lessons to guide policy change,¹⁴ and

1 See e.g. UNEP, 'Plastics Science', 13 September 2022, UNEP/PP/INC.1/7.

2 See e.g. Fernando Vidal et al., 'Designing a circular carbon and plastics economy for a sustainable future' (2024) 626 *Nature* 45.

3 See e.g. UNEP, 'Plastics Science' (n 1); UNEP, 'Mapping of global plastics value chain and plastics losses to the environment with a particular focus on marine environment', Morten W. Ryberg, Alexis Laurent, and Michael Hauschild (authors) (UNEP, 2018).

4 See Transforming Our World: The 2030 Agenda for Sustainable Development, UN Doc. A/Res/70/1, 25 September 2015, and in particular SDG 14 to 'conserve and sustainably use the oceans, seas and marine resources for sustainable development'. Note that one of the indicators for measuring Target 14.1, to 'by 2025, prevent and significantly reduce marine pollution of all kinds' is 'plastic debris density'.

5 Roland Geyer, 'A Brief History of Plastics' in Marilena Streit-Bianchi, Margarita Cimadevila and Wolfgang Trettnak (eds), *Mare Plasticum - The Plastic Sea* (Springer 2020), 32 and Figure 2.

6 See OECD 'Global Plastics Outlook: Economic Drivers, Environmental Impacts, and Policy Options' (2022) at: [Global Plastics Outlook : Economic Drivers, Environmental Impacts and Policy Options | OECD iLibrary \(oecd-ilibrary.org\)](https://www.oecd-ilibrary.org/global-plastics-outlook). Note that production data differ between sources. See also PlasticsEurope 'Plastics – the facts 2022' at: [Plastics - the Facts 2020 \(plastics-europe.org\)](https://www.plastics-europe.org) according to which 2021 global production rose 4% to more than 390 million tonnes.

7 See e.g. Melanie Bergmann, Lars Gutow and Michael Klages (eds), *Marine Anthropogenic Litter* (Springer 2015); Winnie WY Lau et al., 'Evaluating Scenarios toward Zero Plastic Pollution' (2020) 369 *Science* 1455; The Pew Charitable Trusts et al., *Breaking the Plastic Wave: A Comprehensive Assessment of Pathways towards Stopping Ocean Plastic Pollution* (2020).

8 For a working definition of plastics pollution, see Figure 1.

9 See e.g. UNEP 'Mapping the global plastics value chain' (n 3).; Lourens J. J. Meijer et al 'More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean' (2021) 7(18) *Science Advances* 13.

10 UNEP (ibid). See also GESAMP 'Sources, fate and effects of microplastics in the marine environment: a global assessment' (P. J. Kershaw, ed.) (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, 2015), Rep. Stud. GESAMP No. 90, 96 pages, referring to the international MARLISCO survey to note that '[t]he working group considered that there are no reliable estimates of the quantities of plastic entering the ocean. It is conceivable that more than half comes from land but the available evidence suggests that significant regional and local variations in the proportion of sea- and land-derived plastic occur' (p. 55).

11 From an abundance of literature, see e.g. UNEP (ibid); The Pew Charitable Trusts and Systemiq 'Breaking the Plastic Wave: a Comprehensive Assessment of Pathways towards Stopping Ocean Plastic Pollution' (2020); FAO 'Abandoned, lost or otherwise discarded fishing gear', Graeme Macfadyen, Tim Huntington, Rod Cappell (authors), FAO Fisheries and Aquaculture Technical Paper 523 (FAO 2009). On incidents of spillage, note the well-documented incidents of the X-Press Pearl (see e.g. C. Rubesinghe et al 'X-Press Pearl, a "new kind of oil spill" consisting of a toxic mix of plastics and invisible chemicals' (2021) *International Pollutants Elimination Network*) and the Trans Carrier (see e.g. Kystverket Norwegian Coastal Administration 'Experience from the plastic pellets incident Trans Carrier, focusing on shoreline clean-up methods', 21 December 2020). For regulatory activity addressing the transport of pellets as cargo see the initiatives at the IMO (discussed below). Addressing pellets throughout the supply chain more broadly, see e.g. OSPAR Recommendation 2021/06 on the reduction of plastic pellet loss into the marine environment, and the recent EU Proposal for a Regulation of the European Parliament and the Council on Preventing Plastic Pellet Losses to Reduce Microplastic Pollution (16.10.2023, COM(2023) 645 Final).

12 See Deonie Allen et al, 'Microplastics and nanoplastics in the marine-atmosphere environment' (2022) 3 *Nature Reviews Earth & Environment* 393.

13 On the fragmented manner in which international law governs the plastics life-cycle, see in particular Elizabeth Kirk and Naporn Popattanachai, 'Marine plastics: Fragmentation, effectiveness and legitimacy in international lawmaking' (2018) 27 *Review of European, Comparative & International Environmental Law* 222; Karen Raubenheimer et al., 'Towards an improved international framework to govern the life cycle of plastics' (2018) 27 *Review of European, Comparative & International Environmental Law* 210; N. Simon et al 'A binding global agreement to address the life cycle of plastics' (2021) 373 *Science* 43. For an overview of the regulation of these different sectors at the international, regional, and national levels, see Elizabeth Kirk et al. (eds) *Research Handbook on Plastics Regulation: Law Policy and the Environment* (Edward Elgar, forthcoming 2024).

14 UNEP, 'Marine Plastic Debris & Microplastics - Global Lessons and Research to Inspire Action and Guide Policy Change' (2016).



the effectiveness of existing strategies and approaches to combat marine plastic pollution. The latter report concluded on several major gaps, among others the lack of effective compliance and enforcement mechanisms and the absence of global liability and compensation mechanism for pollution by plastic.¹⁵ The lack of effective compliance and enforcement of international (environmental) law obligations is not new, nor unique to plastics pollution.¹⁶ Concerns of inadequate compliance with and enforcement of multilateral (environmental) agreements led in 2001 to the development by UNEP of voluntary guidelines on the matter, which also informed the methodology of the UNEP report on the effectiveness of existing strategies and approaches to combat marine plastics pollution.¹⁷ The UNEP guidelines highlight among other things that national implementing laws and regulations should be:

'[c]omprehensive with appropriate and proportionate penalties for environmental law violations. These would encourage compliance by raising the cost of non-compliance above that of compliance. For environmental crime, additional deterrent effect can be obtained through penalties such as imprisonment, fines, confiscation of equipment and other materials, disbarment from practice or trade and confiscation of the proceeds of environmental crime. Remedial costs should be imposed such as those for redressing environmental damage, loss of use of natural resources and harm from pollution and recovery of costs of remediation, restoration or mitigation'.¹⁸

The potential role for criminal law is returned to in the sections below.

EXAMPLE: *The Princess Cruise Lines case illustrates that the deliberate discharge of plastics into the ocean is a serious, and may be a widespread, concern. In 2017, the Princess Cruise Lines Ltd and its parent, Carnival Cruise Lines & plc, were ordered to pay a forty million dollar fine, of which thirty million dollars designated as a criminal fine, for having committed several violations of US law in relation to the deliberate dumping of oil-contaminated waste and conspiring to cover it up. Further violations occurred during its subsequent probation, including the 'deliberate discharge of plastic in Bahamian waters' and 'failing to accurately record the illegal discharges', leading to a further criminal penalty of twenty million dollars'. According to the press release ([available here](#)), '[p]rosecutors advised the Court that this particular instance was an example of a more widespread problem, identified by the external audits, in failing to segregate plastic and non-food garbage from waste thrown overboard from numerous cruise ships.'*

There is significant potential for a new international law instrument to strengthen the international regulation of plastics. In May 2022, the United Nations Environment Assembly (UNEA) therefore adopted a Resolution requesting that an international negotiating committee (INC) be convened to develop an international legally binding instrument on plastic pollution, including in the marine environment, based on a comprehensive approach that addresses the full life cycle of plastic (the plastics treaty).¹⁹ The ambition is to complete this work by the end of 2024.²⁰ These ongoing negotiations could play a role in further encouraging the use of criminal law penalties for plastics pollution incidents, both with regard to existing and new international law obligations. As has been

15 UNEP, 'Combating Marine Plastic Litter and Microplastics: An Assessment of the Effectiveness of Relevant International, Regional and Subregional Governance Strategies and Approaches' (2017).

16 Ibid, Executive Summary (p. 12).

17 UNEP, 'Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements', at: [Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements \(unep.org\)](#). The Guidelines were adopted by the Governing Council of UNEP at its 7th Special Session (Decision SS.VIII/1). See the Governing Council report of 5 March 2002, UNEP/GCSS.VII/6.

18 Ibid, para. 40(c). 'Environmental crime' for the purpose of the Guidelines is defined as 'the violations or breaches of national environmental laws and regulations that a State determines to be subject to criminal penalties under its national laws and regulations' (para. 38(c)). For a discussion of what constitutes a crime that affects the environment more broadly and a conceptualisation of 'pollution crime', see UNODC, *Guide on Legislative Responses to Pollution Crime* (on file with the author), also referring to UNODC, *International Classification of Crime for Statistical Purposes (ICCS)* (Vienna, 2015), p. 30 at: https://www.unodc.org/documents/data-and-analysis/statistics/crime/ICCS/ICCS_English_2016_web.pdf.

19 UNEA, Resolution 5/14 'End plastic pollution: towards an international legally binding instrument', 10 May 2022, UNEP/PP/OEWG/1/INF/1.

20 Ibid.



affirmed by State parties to the Organized Crime Convention, the use of national and transnational criminal law, in particular the United Nations Convention against Transnational Organized Crime, constitutes an effective tool and an essential part of the legal framework for preventing and combating transnational organized crimes that affect the environment,²¹ Similar initiatives have been taken by other UN bodies,²² and at the domestic level.²³ Criminal law developments may also be foreseen for plastics pollution, and some countries have already been identified as having put in place criminal offences or fines for a breach of national law requirements in relation to plastics bags as packaging.²⁴ Such developments should go hand in hand with better implementation of and compliance with existing international law obligations in relation to plastics. For instance, UNEP has already highlighted that the ban on the introduction of plastic waste under the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V (for an analysis of MARPOL Annex V, see [section 4.2](#)) is 'routinely ignored'.²⁵

Against this backdrop of a greater need for implementation of and compliance with existing (international) law as well as ongoing new developments in relation to plastics pollution, this Issue Paper examines the legal frameworks surrounding the discharge of plastics directly into the marine environment and which States should take into consideration when adopting or amending national legislation on marine pollution crimes, or when considering the inclusion of provisions to this effect in the new plastics treaty. It also considers the relevance and operational implementation of the UN Convention against Transnational Organized Crime ('Organized Crime Convention' or UNTOC)²⁶ provisions in this regard.

The Issue Paper is structured as follows. [Section 2](#) briefly introduces general bases for jurisdiction under international law on which States may extend their (criminal) law over (plastics pollution) offences outside of their territory, and asks what the applicability of the UNTOC is to marine plastics pollution. [Sections 3](#) and [4](#) then explain specifically how the 1982 UN Convention on the Law of the Sea (UNCLOS)²⁷ and other relevant instruments delimit the jurisdiction of States in their capacity as flag States, coastal States, and port States at sea, in so far that this relates to marine plastics pollution. This first entails an examination of the general obligations under the law of the sea to protect and preserve the marine environment, and to prevent, reduce, and control (plastics) pollution of the marine environment (hereafter also marine pollution) in [section 3](#). Building on this, [section 4](#) then examines relevant global rules and standards on marine pollution by dumping of plastics, and marine pollution from vessels (hereafter also vessel-source pollution), looking in particular at the discharge of plastics wastes and the carriage of plastics as cargo (e.g. pellets). The measures that States may take to implement their international obligations may reasonably include criminal penalties, within the limits and safeguards set out in the UNCLOS regarding the enforcement of marine pollution offences, as discussed in [section 5](#). [Section 6](#) offers brief concluding remarks, highlighting the potential of a new plastics treaty to further encourage the use of criminal law.

21 See UNTOC COP Resolution 10/6 on 'Preventing and combating crimes that affect the environment falling within the scope of the United Nations Convention against Transnational Organized Crime.'

22 Citing inter alia UNGA Resolution 75/196 of 16 December 2020 and ECOSOC Resolution 2021/24.

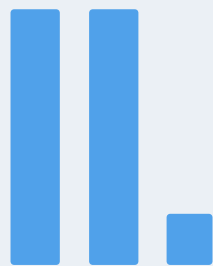
23 The Guide draws the attention to developments in the EU, namely the proposal for a new EU Directive that would improve the investigation and prosecution of environmental crime offences (Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the protection of the environment through criminal law and replacing Directive 2008/99/EC, COM/2021/851 final) replacing EU Directive 2008/99/EC (Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law (OJ L 328, 6.12.2008, p. 28), as well as the Council of Europe's recent initiative for the elaboration of a new Convention on the Protection of the Environment through Criminal Law.

24 UNEP, 'Legal Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws and Regulations' (2018), p. 45 and Figure 21, moreover identifying that Kenya and Benin foresee the possibility of imprisonment.

25 UNEP, 'Global Lessons' (n 14), p. 132.

26 United Nations Convention against Transnational Organized Crime, adopted by GA Res 55/25 of 15 November 2000 (hereinafter: 'Organized Crime Convention' or 'UNTOC').

27 UN Convention on the Law of the Sea (Montego Bay, 10 December 1982, in force 16 November 1994) 1833 UNTS 3 (UNCLOS).



A GENERAL ROLE FOR CRIMINAL LAW IN MARINE PLASTICS POLLUTION OFFENCES



Before turning to the law of the sea regime, a question to be addressed from the outset concerns the relevance and operational implementation of the UNTOC in respect of marine plastics pollution as well as the extent States may use their (criminal law) jurisdiction against plastic pollution offences under general international law. This section thereby recaps some of the more detailed content on the role of criminal law over environmental offences, including in the marine environment, as set out in the UNODC Legislative Guide on Pollution Crime (Annex on Crimes that Affect the Marine Environment),²⁸ to which we therefore refer for further detail.

2.1 APPLICABILITY OF THE UNTOC TO MARINE PLASTICS POLLUTION

Neither the UNCLOS nor the other relevant global and regional treaties governing marine pollution, discussed below, contain international criminal law provisions. The UNCLOS and the other relevant instruments were not drafted with the aim of criminalizing pollution in the marine environment, but rather of striking a delicate balance between the interests of coastal and flag States in the maritime domain and of regulating marine pollution. This raises the question of whether UNTOC,²⁹ which is the key international agreement concerning the suppression of transnational organized crime, is applicable to marine plastics pollution. The benefits of such a possibility can be summarized as follows.

The UNTOC is a treaty of universal participation, having 192 contracting parties, which applies to a very wide range of offences. Article 3 of UNTOC sets out that 'this Convention shall apply, except as otherwise stated herein, to the prevention, investigation and prosecution of: (a) *The offences established in accordance with articles 5 (participation in an organized criminal group) , 6 (laundering of proceeds of crime), 8 (corruption) and 23 (obstruction of justice) of this*

Convention; and (b) Serious crime as defined in article 2 of this Convention; where the offence is transnational in nature and involves an organized criminal group'.³⁰ UNTOC through its Article 15(1) obligates flag states to exercise their prescriptive jurisdiction to criminalize these crimes, where such competence exists. Article 15 of UNTOC stipulates that '[e]ach State Party shall adopt such measures as may be necessary to establish its jurisdiction over the offences established in accordance with articles 5, 6, 8 and 23 of this Convention when:... (b) *The offence is committed on board a vessel that is flying the flag of that State Party or an aircraft that is registered under the laws of that State Party at the time that the offence is committed*'.³¹

UNTOC is applicable for the residual category of 'serious crime',³² provided that this 'serious crime' is transnational and involves an organized criminal group.³³ UNTOC defines serious crime by reference to national legislation, namely conduct constituting an offence punishable by a maximum deprivation of liberty of at least four years or a more serious penalty.³⁴

The question is whether plastics pollution crime may fall within the scope of the Convention. This leads to the following observations:³⁵

First, regarding transnationality, under Article 3 (2) of the UNTOC, "an offence is transnational in nature if: (a) It is committed in more than one State; (b) It is committed in one State but a substantial part of its preparation, planning, direction or control takes place in another State; (c) It is committed in one State but involves an organized criminal group that engages in criminal activities in more than one State; or (d) It is committed in one State but has substantial effects in another". Plastic pollution at sea could be considered transnational in nature, primarily because it often involves multiple States either

²⁸ See n 21.

²⁹ See n 27.

³⁰ See Article 3 UNTOC.

³¹ Article 15(1)(b) UNTOC (emphasis added).

³² '.

³³ See Article 3(1) UNTOC.

³⁴ Article 2(b) UNTOC.

³⁵ On the complexity that results from there being multiple sources and the transboundary and cumulative nature of plastics pollution, in particular when seeking to establish a causal relationship between any environmental damage and wrongful conduct, see Tanaka (n 68), 260.



through the direct movement of pollutants or through the impacts on different countries, considering the plastics once introduced into the marine environment rapidly spreads across maritime zones³⁶.

Second, plastics pollution may be committed by an organized criminal group in the sense of Article 2(a) of UNTOC.³⁷ At the one end of the spectrum, cases such as 'ecomafia', namely incidents of illegal traffic and disposal of significant amount of plastics waste by criminal syndicates, would fall neatly within the ambit of 'organized criminal group' under UNTOC. In the middle of the spectrum, there may be envisaged cases of otherwise legitimate maritime enterprises which in order to avoid the costs of complying with environmental or fisheries regulations may discharge (or fail to retrieve lost) fishing gear or wastes into the marine environment. Such incidents could arguably meet the above-mentioned requirement of an 'organized criminal group'.

Third, in respect of the crimes that must be committed in order for UNTOC to apply, it must be noted that nothing precludes the possibility that offences established under Articles 5, 6, 8 and 23 UNTOC, namely the participation in an organized criminal group, the laundering of the proceedings of a crime, corruption,³⁸ as well as obstruction of justice may take place in the context of marine pollution offences, notably in cases of plastics disposal at sea, thus triggering the application of UNTOC.

Fourth, intentional or accidental marine plastics pollution may qualify as "serious crime" according to Article 2(a) of UNTOC, in circumstances where such disposal largely affects the environment or specific national interests as qualified by the State claiming jurisdiction. This qualification of

disposal as "serious crime" may be specifically occurring when such interests are protected through Area Based Management Tools, including Marine Protected Areas.

Where plastics pollution meets the requirements for application of the Convention, coastal States parties to the UNTOC, as well as flag States in relation to offences committed on board vessels flying their flag, would fall under its provisions, including in relation to prevention, investigation, prosecution, extradition and mutual legal assistance.

2.2 CRIMINALIZING PLASTICS POLLUTION ABROAD: BASES FOR JURISDICTION

As a corollary to their sovereignty, all States may regulate (prescriptive jurisdiction) and enforce these laws (enforcement jurisdiction), including criminal laws, on their territory. In addition, States may regulate conduct that occurs beyond their territory, i.e. extraterritorially, including conduct that takes place at sea, provided they do so in accordance with accepted principles concerning the assertion of jurisdiction under general international law. It is considered nowadays that States must be able to justify such jurisdictional assertions in terms of a permissive international law rule.³⁹ This means there must be a 'clear connecting factor, of a kind whose use is approved by international law, between the legislating state and the conduct it seeks to regulate'.⁴⁰ The section that follows gives an overview of how general international law may provide such a basis for asserting prescriptive jurisdiction – though keeping in mind any limitations that arise from the UNCLOS, as set out in relevant sections. It should also be recalled that whilst these are more or less accepted bases for exercising prescriptive jurisdiction beyond a State's own territory, the enforcement of such measures remains territorially bound,

36 On the complexity that results from there being multiple sources and the transboundary and cumulative nature of plastics pollution, in particular when seeking to establish a causal relationship between any environmental damage and wrongful conduct, see Tanaka (n 68), 260.

37 "Organized criminal group" shall mean a structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes or offences established in accordance with this Convention, in order to obtain, directly or indirectly, a financial or other material benefit', Article 2(a) UNTOC.

38 See UN Convention against Corruption, New York, 31 October 2003, 2349 United Nations Treaty Series, p. 41.

39 See Cedric Ryngaert *Jurisdiction in International Law* (OUP, 2015), 29.

40 See Christopher Staker 'Jurisdiction' in Malcolm D. Evans (ed) *International Law* (OUP, 2018), 295.



with only limited exceptions where mutually agreed upon (see also [section 5](#)).

First, a State may regulate the conduct of its own nationals for acts committed abroad, including aboard foreign vessels (**principle of nationality**).⁴¹ This is also recognized under the UNCLOS, e.g. under Article 97(1) of UNCLOS, which expressly grants jurisdiction to the State of nationality of the master or the crew of the ship regarding an incident of navigation on the high seas. Article 117 of UNCLOS also recognizes this jurisdictional link implicitly by providing for States' duty to cooperate in respect of nationals' fishing activities on the high seas.⁴² The UNCLOS does not include an explicit provision regarding the jurisdiction of the State of nationality of the master or the crew for marine (plastics) pollution offences. This notwithstanding, there is no reason to deny the nationality principle of jurisdiction in this regard. Thus, any State may enact criminal laws concerning plastics pollution caused by its nationals, e.g. masters or crewmembers of the vessels concerned, and enforce them when they are in its territory. This includes the assertion of jurisdiction over the 'ship agent' or 'ship owner'.

Jurisdiction may moreover be based on the **objective territoriality principle**, according to which jurisdiction is established when 'any essential constituent element of a crime is consummated on state territory'.⁴³ In the context of the present enquiry, the discharge of plastics at sea could be regarded as such a constituent element of the crime. Accordingly, States would be able to exercise their prescriptive (criminal) jurisdiction with regard to plastics pollution committed at sea, as long as the harmful effects extend within their territory. This appears to be confirmed in Article 218(2) UNCLOS, in so far that it allows a port State to institute proceedings in respect of a discharge violation in waters under

another State's jurisdiction, if that violation 'has caused or is likely to cause pollution in the internal waters, territorial sea or exclusive economic zone of the State instituting the proceedings'. Although the UNCLOS does not contain a similar confirmation of a State's prescriptive jurisdiction over pollution that occurred on the high seas and whose harmful effects extend within its territory, Article 218(1) of UNCLOS does confirm a port State's jurisdiction over high seas discharges where these are in violation of international rules and standards – even absent territorial effects.

It has furthermore been suggested that a State may assert extraterritorial prescriptive jurisdiction over crimes committed by non-nationals if the victim of the crime is one of its nationals (**passive personality principle**).⁴⁴ Accordingly, if, for example, a plastics pollution incident that took place outside a State's territory or territorial waters seriously affects the health of one of its nationals, that State could decide to criminalize such incidents and allow its nationals to initiate proceedings against the offender(s), provided that it has established such jurisdiction under the passive personality principle.

Finally, a State may criminalize the extraterritorial conduct of non-nationals in order to protect fundamental national interests, often but not necessarily related to national security.⁴⁵ This could allow a State to establish jurisdiction for the protection of their marine environment in cases where in another State there is the planning of a serious marine pollution crime, such as the dumping of plastics on the shores of the State concerned. For example, in 1994, an Italian NGO named Legambiente used for the first time the term 'ecomafia' to underline the link between mafia-type associations and violations of environmental laws. The NGO reported that 346,000 tons of waste was seized heading for 10 European, 8 African and 5 Asian countries by

41 Douglas Guilfoyle, *Shipping Interdiction and the Law of the Sea* (Cambridge University Press, 2009) 101. See further PCA, *The Muscat Dhows (France v. Great Britain)*, Award of 8 August 1905, RIAA XI, 83, 96; cf. and Article 97 (1) (flag State and State of nationality have jurisdiction in penal matters arising from a collision).

42 Article 117 UNCLOS. See also FAO, *International Plan of Action on Illegal, Unreported and Unregulated Fishing 2001*, 23 June 2001, para 18; available at: <http://www.fao.org/docrep/003/y1224e/y1224e00.htm>. See also Council Regulation (EC) Regulation 1005/2008 of 29 September 2008 ('IUU Regulation') Information Note No. 3, para. 1, p.3.

43 Ian Brownlie, *Principles of Public International Law* (OUP 2009), 301.

44 See in relation to the principle of nationality (n 152); for the passive personality principle see *Enrica Lexie case PCA, The "Enrica Lexie" Incident (Italy v Italy)*, PCA Case No. 2015-28, Award of 21 May 2020, para 345, and *Arrest Warrant of 11 April 2000 (Democratic Republic of the Congo v. Belgium)*, Judgment, Separate Opinion of President Guillaume, I.C.J. Reports 2002, p. 3 at p. 37, para. 4).

See R. O'Keefe, *International Criminal Law* (OUP 2015), 12.

45 *Ibid.*, 14.



Ndrangheta, Camorra, Mafia and Apulian clans.⁴⁶ Should one of the 'destination counties' of the waste have established jurisdiction under the **protective principle**, it could initiate criminal proceedings against the perpetrators.

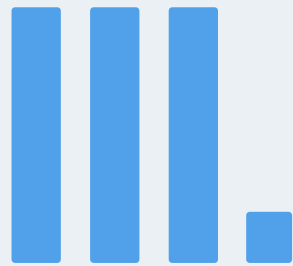
In conclusion, there is series of jurisdictional bases afforded by general international law upon which States may enact criminal legislation concerning plastics pollution and initiate criminal proceedings when the offenders are within their jurisdiction. Obviously, the parameters of each State's national criminal legislation, or the elements of such offences, including issues of mens rea, would heavily depend on the domestic legal system of each State. Indeed, mental elements (mens rea) may vary from State to State dependent on their respective legal systems and traditions, ranging from 'intention' or 'knowledge' to 'gross negligence', 'serious negligence' or even cases of strict liability. In a similar vein, the seriousness of the damage to the marine environment caused by plastics pollution should also be considered in the criminal legislation. The relevance of the gravity of environmental damage for the purpose of enforcement action is also visible from the UNCLOS. Although the UNCLOS does not use consistent terminology, several provisions suggest that the gravity of environmental damage should be a relevant factor in national (criminal) laws. For instance, Article 19 of UNCLOS stipulates that serious pollution renders the passage of a vessel through territorial sea as non-innocent, while Article 220 of UNCLOS allows coastal States to take various steps of enforcement action against foreign vessels when there are clear grounds for believing that a vessel in the EEZ has committed a substantial discharge causing or threatening significant pollution of the marine environment, or clear and objective evidence of a discharge causing major damage or threat of major damage to its coastline (see **section 5**). The UNCLOS does not elaborate further on the criteria that should be used by States in order to determine the

seriousness of the pollution. That said, under national law, States have used various criteria to determine whether a marine pollution offence would be considered as serious, as well as to determine penalties that are effective, proportionate, and dissuasive.⁴⁷

Having examined the potential relevance of UNTOC to marine plastics pollution and when States may regulate and criminalize marine plastics pollution offences under general international law, the next **section 3** turns to the extent States must adopt measures to prevent, reduce, and control marine plastics pollution (of any kind). This sets out the necessary background to examine more specifically in **section 4** the extent to which States must adopt measures to prevent, reduce, and control marine plastics pollution caused by dumping, the discharge of plastics garbage and fishing gear, and the carriage of plastic pellets aboard vessels. Although the relevant treaties examined in these sections do not contain international criminal law provisions, they oblige States in various ways to adopt laws and regulations against marine plastics pollution, and to enforce these. Taken together, these instruments carve out space for national criminal law to combat marine plastics pollution, although as seen in **section 5**, the UNCLOS contains some limitations and safeguards on the penalties that may be adopted, depending on context.

⁴⁶ Europol Threat Assessment – Italian Organised Crime (EDOC#667574 v8).

⁴⁷ See also the Annex to the UNODC Legislative Guide (n 21).



**A GENERAL OBLIGATION
TO PROTECT AND
PRESERVE THE
MARINE ENVIRONMENT,
AND TO PREVENT,
REDUCE, AND CONTROL
(PLASTICS) POLLUTION**

3.1 MARINE PLASTICS POLLUTION WITHIN THE SCOPE OF THE UN LAW OF THE SEA CONVENTION (UNCLOS)

Despite the absence of a comprehensive international regime for plastics – in particular lacking ‘upstream’ obligations on chemicals management and material design – the widely ratified⁴⁸ UNCLOS comprehensively regulates pollution of the marine environment. This marks a change from the situation prior to its adoption whereby marine pollution regulation was single-issue, responsive, and more focused on responsibility for damage.⁴⁹ Plastics pollution did not play an important role during the negotiations that led to the adoption of the UNCLOS,⁵⁰ which is unsurprising given that marine plastics pollution was only first discovered in the mid-1960s.⁵¹ Despite the lack of an explicit mention of plastics, the UNCLOS regulates marine plastics pollution in the following ways.

First, States are under a general and overarching duty to protect and preserve the marine environment (Article 192 UNCLOS), a landmark provision and the first explicit statement in a global treaty of such a general obligation.⁵² It has been explained as imposing both a *positive* obligation to take active measures to protect the marine environment from future damage and to preserve it (in the sense of maintaining or improving its present condition), as well as a *negative* obligation not to degrade it.⁵³ Whilst the term ‘marine environment’ is not defined,

it is understood broadly both in spatial and material terms,⁵⁴ and the obligation to protect and preserve it applies to all maritime zones, whether within or beyond national jurisdiction.⁵⁵

The content of the general obligation to protect and preserve the marine environment is both informed by other applicable rules of (environmental) law and further detailed by the other provisions of Part XII UNCLOS.⁵⁶ These other provisions of Part XII UNCLOS include, among other things, the equally general duty to prevent, reduce, and control pollution of the marine environment (Article 194(1)), a duty not to cause damage by pollution to other States and their environment, as well as in areas beyond their jurisdiction (Article 194(2)),⁵⁷ a duty not to transfer damage to another area, or to transform into another type of pollution (Article 195), quasi-environmental impact assessment (EIA) requirements (Article 206),⁵⁸ developing country assistance and their preferential treatment in funding, technical assistance and pertinent specialized services from international organizations (Articles 202 and 203),⁵⁹ and the source-specific pollution provisions (Article 207 on land-based pollution, Article 210 on dumping, Article 211 vessel-source pollution, etc.) discussed in [section 4](#). The observation can

⁵⁴ *Advisory Opinion on Climate Change* (ibid), paras. 166-173.

⁵⁵ *South China Sea* (n 62), para. 940, citing with approval *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC)*, Advisory Opinion of 2 April 2015, ITLOS Reports 2015, para. 120.

⁵⁶ *South China Sea Arbitration* (ibid), paras. 941-942; *Advisory Opinion on Climate Change* (n 62), para. 388, highlighting for the purpose of the questions before it the relevance of international climate change treaties (1992 UNFCCC and Paris Agreement), the 1992 Convention on Biological Diversity, and the 1995 UN Fish Stocks Agreement, in interpreting the general obligation under Article 192 UNCLOS.

⁵⁷ Article 194(2) UNCLOS obliges States to conduct or authorize activities under their jurisdiction or control in a matter not harming other States. This duty, generally known as the ‘no harm’ principle, was initially proclaimed in the Trail Smelter Arbitration (Trail Smelter Case (US v. Canada), Award of 16 April 1938 and Award of 11 March 1941, RIAA III, 1905, 53), and subsequently elaborated by the International Court of Justice in the Corfu Channel Case (United Kingdom v. Albania), Merits, Judgment of 9 April 1949, ICJ Reports (1949), 4. It is regarded as a rule of customary law and Judge de Castro cited it with clear approval in his dissent in ICJ, Nuclear Tests (Australia v. France), Merits, Judgment of 20 December 1974, ICJ Reports (1974), 253, 389.

⁵⁸ Also note that the duty to carry out an EIA is required by considered part of customary international law, however, the specific content is left to the State’s discretion and depends on the ‘nature and magnitude of the proposed development and its likely adverse impact on the environment’ ICJ, Pulp Mills on the River Uruguay (Argentina v Uruguay), Judgment, ICJ Reports 2010, p 14, para 205.

⁵⁹ On the latter, see Eva R. van der Marel and Aleke Stöfen-O’Brien, ‘Accommodating a Future Plastic Treaty: The “Plasticity” of the UN Convention on the Law of the Sea’ (2024) 39(2) International Journal of Marine and Coastal Law 322. On the indispensable need for developing country assistance and the relationship between assistance and differentiated responsibilities, see also the Advisory Opinion on Climate Change (n 59), paras. 322-339.

⁴⁸ Some key exceptions include the USA, which however recognizes (most of) the UNCLOS as a matter of customary law, see e.g. Office of the Staff Judge Advocate, ‘US Position on the UN Convention on the Law of the Sea’ (2021) 97 International Law Studies 81.

⁴⁹ See e.g. Alan E. Boyle ‘Marine Pollution under the Law of the Sea Convention’ (1985) 79(2) The American Journal of International Law 347.

⁵⁰ A search for the term ‘plastic’ in the Official Records of UNCLOS III yields no results beyond references to plastics as a substitution for copper in certain sectors of industry (see e.g. Economic implications of sea-bed mineral development in the international area: report of the Secretary-General, A/CONF.62/25) and for the prohibition in MARPOL to dispute of all plastics is prohibited, see later discussions in this paper.

⁵¹ See Susan Freinkel, *Plastic: A Toxic Love Story* (Houghton Mifflin Harcourt, 2011), at p. 6 and p. 119.

⁵² ‘Art. 192’ in Myron H. Nordquist et al. (eds.), *United Nations Convention on the Law of the Sea, 1982: A Commentary* (Martinus Nijhoff, 1985), at p. 36.

⁵³ *The South China Sea Arbitration (Republic of the Philippines v. People’s Republic of China)* (Award), 12 July 2016, PCA Award Series, paras. 941-942, cited with approval in ITLOS, *Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law* (Advisory Opinion), 21 May 2024, para. 387.



be made that even without turning to the source-specific provisions of Part XII UNCLOS and asking what they entail for plastics, the general duty to protect and preserve the marine environment should be interpreted as generally prohibiting the discharge of plastics into the marine environment, given the significant environmental consequences of so doing. As the International Tribunal for the Law of the Sea (ITLOS) recently confirmed, '[t]he open-ended nature of the obligation [under Article 192 UNCLOS] means that it can be invoked to combat any form of degradation of the marine environment'.⁶⁰

Second, the duty to protect and preserve the marine environment is further detailed by Article 194(1) UNCLOS, which sets out the equally general obligation to prevent, reduce, and control 'pollution of the marine environment' from any source. The definition of marine pollution found in Article 1(1)(4) UNCLOS is broad enough to include the discharge of plastics into the marine environment, and reads as follows:

'[T]he 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 sea water and reduction of amenities.'

This definition has three cumulative criteria (namely, that there must be a substance or energy; this substance or energy must be introduced by humans, directly or indirectly, into the marine environment; and such introduction must result or be likely to result in deleterious effects) which have been broadly interpreted.⁶¹ It has been widely argued that the introduction of plastics into the marine environment falls within this definition, given its well-documented

deleterious effects,⁶² with which we agree. Although this Issue Paper concerns the direct introduction of plastics into the marine environment, it should also be observed that much land-based plastics pollution likely still falls within the definition of marine pollution. As the ITLOS highlighted upon concluding that the definition also includes anthropogenic greenhouse gas (GHG) emissions into the atmosphere, the introduction of a pollutant into the marine environment 'may take place either immediately, through a direct mode, or in stages'.⁶³ The ITLOS considered that CO₂ is very effectively taken up by the ocean where it 'dissolves in sea water and mixes into the deep ocean', and is thereby 'directly introduced by humans into the marine environment'.⁶⁴ Furthermore, because GHGs 'trap heat within the atmosphere and the ocean then stores this heat ... [which] is a form of energy, humans indirectly introduce energy into the marine environment through anthropogenic GHG emissions'.⁶⁵ Although land-based pollution falls beyond the scope of this Issue Paper, it may be considered whether the production and consumption of plastics in general (in particular where this causes microplastics leakage) not also constitutes the introduction 'in stages' of a pollutant into the marine environment.⁶⁶ Interpreting the definition of 'pollution of the marine environment' as encompassing the negative impacts on the marine environment from the discharge of plastics (from whatever source) means that Article 194(1) UNCLOS entails a general duty to prevent, reduce, and control marine *plastics* pollution from any source.

62 See for a further discussion Aleke Stöfen-O'Brien, *The International and European Legal Regime Regulating Marine Litter in the EU* (Nomos, 2015) 94-95; Yoshifumi Tanaka, 'Shared State Responsibility for Land-Based Marine Plastic Pollution' (2023) 12(2) *Transnational Environmental Law* 244, 245; Karen Scott 'Law of the Sea in the Plasticine' in Kirk et al (eds) (n 13). On the inherently evolutionary nature of *inter alia* the term 'pollution of the marine environment' see also Alan Boyle, 'Further Development of the Law of the Sea Convention: Mechanisms for Change' (2005) 54(3) *International and Comparative Law Quarterly* (ICLQ) 563, 569.

63 *Advisory Opinion on Climate Change* (n 59), para. 172.

64 *Ibid.*

65 *Ibid.*

66 See also the wider (working) definition of 'plastics pollution' in the report on the latest available information on plastic pollution science prepared by the Secretariat ahead of INC1, although this is not specific of the marine environment: UNEP, 'Plastics Science' (n 1), noting that no definition on plastics pollution has so far been adopted or endorsed by an intergovernmental process and this is therefore for reference only. The same definition is also used in UNEP, 'Turning off the Tap How the world can end plastic pollution and create a circular economy' (2023), at: [Plastic pollution.pdf \(unep.org\)](https://www.unep.org/plasticpollution/pdf). See also [Figure 1](#).

60 *Advisory Opinion on Climate Change* (n 59), para. 338.

61 *Ibid.*, para. 179, concluding that the definition of 'pollution of the marine environment' also includes anthropogenic greenhouse gas emissions into the atmosphere.



The reference in Article 194 UNCLOS to marine pollution from 'any source' implies that marine plastics pollution should be prevented, reduced, and controlled wherever it originates from. Some of these sources of pollution (e.g. land, the atmosphere, vessels) also benefit from specific provisions under Part XII UNCLOS, and these additional specific obligations are discussed in [section 4](#) below in the context of marine plastics pollution by dumping and from vessels. Moreover, the measures that States are to adopt in accordance with Part XII UNCLOS 'include *inter alia* measures designed to minimize to the fullest possible extent the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping' (Article 194(3)(a) UNCLOS). Neither the terms toxic, harmful, or noxious substances are defined, although a definition of a 'harmful substance' can be found in Article 2 MARPOL as 'any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substances subject to control by this Convention'.⁶⁷ As also explained in the context of pollution from vessels below, plastics are regulated under MARPOL Annex V and therefore likely constitute 'harmful substances' for this purpose.⁶⁸ There should be no doubt that plastics fall within the scope of Article 194(3)(a) and that States should minimize their release 'to the fullest possible extent'. Moreover, these measures 'shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life' (Article 194(5) UNCLOS). This entails that the prohibition of plastics' discharge in the marine environment could be included in the management plan of a marine protected

area (MPA)⁶⁹ established in such rare or fragile ecosystem. The establishment and operation of MPAs in areas beyond national jurisdiction is now regulated by the recently adopted BBNJ Treaty.⁷⁰ Given that the discharge of plastics in a protected area is particularly harmful, it may be considered that this also impacts the measures to be adopted by States to prevent, reduce, and control plastics pollution in such areas. In other words, what exactly is expected of States in implementation of these obligations differs depending on context and circumstances – something to which we turn next.

3.2 THE STANDARD OF RESPONSIBILITY REQUIRED FROM STATES WITH REGARD TO MARINE PLASTICS POLLUTION UNDER THE UNCLOS

We now turn to the measures that States must take in implementation of the general obligation to protect and preserve the marine environment, and to prevent, reduce, and control marine (plastics) pollution. The absence of this (i.e. a breach of their international obligations) could lead to the State being held internationally responsible, provided the conduct (or omission to act) in question can be attributed to that State.⁷¹ It has been explained that the duty to protect and preserve the marine environment under Article 192, and to prevent, reduce, and control pollution under Article 194 UNCLOS, 'set forth obligations not only in relation to activities directly taken by States and their organs, but also in relation to ensuring activities within their

⁶⁷ See also 'Article 194' in Nordquist et al. (n 58), 67.

⁶⁸ Note however the discussion below whether plastics also constitute a 'harmful substances' for the purpose of MARPOL Annex III on pollution by harmful substances in packaged form, which defines harmful substances as those substances which are identified as 'marine pollutants' in the International Maritime Dangerous Goods (IMDG) Code, or which meet one of the criteria set out in an Appendix to Annex III.

⁶⁹ A definition of a marine protected area was provided very recently by the BBNJ Treaty as follows: 'Marine protected area' means a geographically defined marine area that is designated and managed to achieve specific long-term biological diversity conservation objectives and may allow, where appropriate, sustainable use provided it is consistent with the conservation objectives'; Article 1(9) of the Agreement under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction, signed at 19 June 2023, not yet in force (BBNJ Treaty). For text see <https://documents.un.org/doc/undoc/lt/d/n23/177/28/pdf/n2317728.pdf?token=cBJW0szAR3d0JqmEis&fe=tru>.

⁷⁰ *Ibid.*, Part II. See also A. Hammond and P. Jones, 'Protecting the 'blue heart of the planet': Strengthening the governance framework for marine protected areas beyond national jurisdiction' (2021) 127 *Marine Policy*, 104260.

⁷¹ On the rules of State responsibility, see International Law Commission, *Responsibility of States for Internationally Wrongful Acts* (2001) Vol II (Part Two) Yearbook of the International Law Commission (ARSIWA).

jurisdiction and control do not harm the marine environment'.⁷² These are considered duties of conduct rather than result and require a State to act with 'due diligence' – the absence of which may lead to its international responsibility.⁷³ This is important, as it means that e.g. the mere act of pollution by a certain vessel in breach of an international obligation, which is an act within the jurisdiction and control of that vessel's flag State, cannot necessarily be attributed to the flag State in question and lead to its international responsibility. As the Arbitral Tribunal highlighted in the *South China Sea* arbitration with regard to fishing activities, '[i]n many cases, the precise scope and application of the obligation on a flag State to exercise due diligence ... may be difficult to determine. Often, unlawful fishing will be carried out covertly, far from any official presence, and it will be far from obvious what the flag State could realistically have done to prevent it.'⁷⁴ The same is likely true for many marine plastics pollution incidents.

'Due diligence' is a difficult to define yet meaningful standard of action required of States. The need for due diligence has been explained first by the International Court of Justice (ICJ) in the context of riverine pollution as an 'obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators'.⁷⁵ This was confirmed by the ITLOS Seabed Disputes Chamber in *Advisory Opinion on Sponsoring in the Area* with regard to the responsibilities of States sponsoring deep sea-bed mining operations, and again by the ITLOS in the *Advisory Opinion to the SRFC* with regard to flag State responsibility for

fishing activities, that exercising due diligence means 'to deploy adequate means, to exercise best possible efforts, to do the utmost'.⁷⁶ What is more, due diligence has been explained as being a variable, and evolving standard. In *Advisory Opinion on Sponsoring in the Area*, the ITLOS explained this as follows:

'The standard for exercising due diligence is in any event a flexible one, and its scope and application contextual. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge. It may also change in relation to the risks involved in the activity'.⁷⁷

Evidently, the amount of diligence required depends partly on the severity of the activities that are being undertaken, whereby '[t]he standard of due diligence has to be more severe for the riskier activities'.⁷⁸ Moreover, as recently confirmed by the ITLOS, 'the precautionary approach is an integral part of the general obligation of due diligence', and 'States would not meet their obligation of due diligence under [Article 194(1) UNCLOS] if they disregarded or did not adequately account for the risks involved in the activities under their jurisdiction or control. This is so, even if scientific evidence as to the probability and severity of harm to the marine environment of such activities were insufficient'.⁷⁹

The fact that the duty to protect and preserve the marine environment and the related obligation to prevent, reduce, and control (plastics) pollution

⁷² *South China Sea* (n 62), para. 944; see also Art. 194(2) UNCLOS that 'States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention'.

⁷³ *South China Sea* (ibid).

⁷⁴ *Ibid.*, para. 754.

⁷⁵ *Pulp Mills* (n 64), at p. 79, para. 197, cited with approval in both ITLOS, *Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission*, Advisory Opinion, 2 April 2015, ITLOS Reports 2015, p. 4, para. 131 and *South China Sea Arbitration* (ibid), para. 944.

⁷⁶ ITLOS, *Responsibilities and Obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p. 10, para. 110; *Advisory Opinion to the SRFC* (ibid), para. 129. Note that the *South China Sea* test for the level of due diligence required by states differs slightly from that set by the ITLOS in *Advisory Opinion to the SRFC*. The level of vigilance of exercising best possible efforts and doing the utmost had been suggested by the Philippines as the appropriate standard of conduct, but this was not referred to by the Tribunal, which only cited the standard used in *Pulp Mills* (ibid).

⁷⁷ See *Sponsoring in the Area Advisory Opinion* (ibid), para. 117.

⁷⁸ *Ibid.*

⁷⁹ *Advisory Opinion on Climate Change* (n 59), para. 242, citing with approval the *Sponsoring in the Area Advisory Opinion* (ibid), para. 131. The precautionary principle or approach 'concerns anticipatory action in response to scientifically uncertain threats of environmental harm', Jaqueline Peel 'Chapter 18: Precaution' in Lavanya Rajamani and Jaqueline Peel (eds) *The Oxford Handbook of International Environmental Law* (OUP 2021), p. 302. See also Alan Boyle & Catherine Redgwell, *Birnie, Boyle & Redgwell's International Law and the Environment* (OUP 2021), p. 170ff.

from any source is of an inherently evolving standard lends itself well to incorporating new developments. This is particularly relevant with regard to plastics pollution. Scientific knowledge over its disastrous consequences is rapidly evolving as are new technological developments on how to prevent, reduce, and control it. Moreover, new normative developments in the form of a new plastics treaty could provide further detail as to what is required of States under their general obligations under the UNCLOS.⁸⁰ It is also argued here that in light of the growing common understanding that criminal penalties can play a positive role in deterring environmental pollution incidents, States should consider whether, and in what circumstances, the 'appropriate rules and measures' to be adopted with regard to plastics pollution incidents should today be considered as including criminal law. As previously mentioned, the new plastics treaty could bolster this argument by setting a clear threshold for national regulatory action to this effect.

An overly broad interpretation of what is required of States in their fulfilment of the general obligations under the UNCLOS should however be avoided. The rules on treaty interpretation limit the extent to which other international law is to be taken into account,⁸¹ and moreover, 'best possible efforts' and what is 'appropriate' depends on the State that is acting (its best possible efforts). There exists a degree of

differentiation in the standard of due diligence.⁸² In addition, and further supporting this view, the aforementioned obligation under Article 194 UNCLOS to take all measures to prevent, reduce and control pollution of the marine environment from any source is to be implemented by States using the 'best practicable means at their disposal and in accordance with their capabilities', thereby accounting for the needs of developing States.⁸³ A State's best possible efforts to fulfil its duty to prevent, reduce, and control marine (plastics) pollution is therefore not only contextual, but may mean something different for each State.

Finally, we recall that the general marine protection and pollution prevention obligations under Articles 192 and 194 UNCLOS complement the general obligations that the flag State is under with regard to vessels flying its flag.⁸⁴ Vessels are subject to the exclusive jurisdiction of the flag state (Article 92(1) UNCLOS). A ship derives its nationality from having been granted a flag by a State, on the conditions set by that State, at the discretion of that State (Articles 90 and 91 UNCLOS). On the high seas, no other State has prescriptive or enforcement jurisdiction over another State's

80 On a discussion about these general obligations with regard to plastics, see further Linda Finska, 'Confronting the Global Plastics Problem Threatening the Marine Environment: A Framework and Elements of an International Legal Response' (Doctoral dissertation, Faculty of Law, UiT The Arctic University of Norway, 2021), at p. 107ff, available at: <https://munin.uit.no/handle/10037/23741>; Tanaka (n 68), 250-251.

81 Article 31 of the Vienna Convention on the Law of Treaties (VCLT) is to interpret a treaty (including the general marine protection duties under the UNCLOS) in good faith, in accordance with the ordinary meaning of to the terms of that treaty, in their context, and in light of its object and purpose. It moreover allows to be taken into account together with the context 'any relevant rules of international law applicable in the relations between the parties' (Article 31(3)(c) VCLT). For any new rules under the new plastics treaty to be taken into account on this basis, these should therefore be 'applicable between the parties'. Note however the rule of reference requirements of the source-specific pollution provisions, whereby certain external rules and standards provide the regulatory benchmark (and sometimes, ceiling), and on which see [section 4](#) below.

82 See also Nele Matz-Lück and Erik van Doorn 'Due Diligence Obligations and the Protection of the Marine Environment' (2017) 42 *L'Observateur des Nations Unies* 168, 171. The question whether developing States enjoy any preferential treatment with regard to their environmental responsibilities has been discussed by the ITLOS in *Sponsoring in the Area* (n 82) in the specific context of responsibility over operators when exploiting the Area, where it was held that the general provisions concerning the responsibilities and liability of the sponsoring State apply equally to all sponsoring States, whether developing or developed (para. 158). Notwithstanding the obvious need not to use differential responsibilities as a reason to excuse non-compliance, the ITLOS' reasoning regarding the Area does *not* imply that developing country status should not be a factor whatsoever in determining whether countries have discharged their due diligence responsibilities with regard to other parts of the UNCLOS, where developing countries are not already specifically provided for.

83 Dettlef Czybulka, 'Art.194 UNCLOS', in A Proelss, United Nations Convention on the Law of the Sea – A Commentary' (Beck, Munich, 2007) 1295-1315, 1304.

84 See Efthymios Papastavridis, 'Flag State Jurisdiction and Transnational Organized Crime at Sea' UNODC Issue Paper (November 2023); available at https://www.unodc.org/documents/Maritime_crime/UNODC_GMCP_Flag_State_Jurisdiction_and_transnational_organized_crime_at_sea.pdf

vessels,⁸⁵ with limited exceptions.⁸⁶ The duties of the flag State over ships flying its flag are enshrined inter alia in Article 94 UNCLOS.⁸⁷ This provision both stipulates the general obligation on every State to effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag, and sets out a non-exhaustive list of things the flag State must do, including the obligation, in taking measures in relation to safety at sea, to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance. What exactly those procedures and practices are is unclear, however, where an infraction is reported to the flag State, the latter must investigate the issue and, if appropriate, remedy the situation by any action necessary.⁸⁸ It is generally considered that these general flag State duties are not static,⁸⁹ as may also be seen from law and policy developments since the UNCLOS on the responsibilities of the flag State.⁹⁰ This further confirms that the measures required of States (and in particular, flag States) to protect the marine environment from plastics and to prevent, reduce, and control plastics pollution may evolve over time so as to cope with new issues (here: plastics pollution).

Part XII UNCLOS moreover contains source-specific pollution provisions which give further application to the general due diligence obligations to protect and preserve the marine environment, and to prevent, reduce, and control marine (plastics) pollution. Of these provisions, of particular relevance to this Issue Paper are those on pollution by dumping and vessel-source pollution, for their reference to more specific and technical external rules and standards as the regulatory benchmark (and, sometimes, ceiling) of action required by States. These are turned to next.

85 See the view in the *M/V "Norstar"* (Panama v. Italy), 10 April 2019 [ITLOS Reports 2019] which concerned Italy issuing a Decree of Seizure and a Request to Spain for assistance in its execution which led to the arrest in the port of Palma de Mallorca of the Panamanian flagged vessel *M/V Norstar*, that had been engaged in high seas bunkering. The Decree was drawn up in exercise of Italy's criminal jurisdiction and application of its customs laws, targeting alleged crimes of tax evasion and smuggling on Italian territory, as well as the vessel's offshore bunkering activities on the high seas. In its Judgment, the ITLOS inter alia underscored that the freedom of the high seas, as enshrined in Art. 87 UNCLOS, 'prohibits not only the exercise of enforcement jurisdiction on the high seas by States other than the flag State but also the extension of their prescriptive jurisdiction to lawful activities conducted by foreign ships on the high seas' (para. 224, emphasis added). This is so, 'even if the State refrained from enforcing those laws on the high seas'; 'even when enforcement is carried out in internal waters, [Art. 87] may still be applicable and be breached if a State extends its criminal and customs laws extraterritorially to activities of foreign ships on the high seas and criminalises them' and '[t]his is precisely what Italy did in the present case' (paras. 225 and 226).

86 See the exceptions in Articles 105, 109, and 110 UNCLOS on piracy and unauthorized broadcasting, and the exercise of 'hot pursuit'.

87 See Article 94 UNCLOS and commentary by D. Guilfoyle, 'Article 94', in Proelss (n 89), 707 et seq.

88 See also *Advisory Opinion to the SRFC* (n 81).

89 See eg the Separate Opinion of Judge Paik in *Advisory Opinion to the SRFC* (ibid), para. 9, that 'flag State jurisdiction and control have evolved to cope with new issues, reflecting the changing needs of society and the new demands of the time. In interpreting Article 94, it is important to take into account this evolving, open-ended context of the duties of the flag State'.

90 E.g. see Article 18 of the UN Fish Stocks Agreement which lists the duties of the flag State with regard to vessels fishing for straddling and highly migratory stocks. See also the FAO Voluntary Guidelines for Flag State Performance concerned with flag State responsibility in relation to IUU fishing activities.



IV.

INTERNATIONAL RULES AND STANDARDS TO PREVENT, REDUCE, AND CONTROL PLASTICS POLLUTION BY DUMPING AND FROM VESSELS

The UNCLOS contains two 'source-specific' marine pollution provisions that are of particular relevance to plastics pollution, namely, those concerning pollution by dumping (Article 210) and from vessels (Article 211).⁹¹ These provisions refer to external rules and standards to set the threshold for action required by States (rule of reference),⁹² a regulatory technique that allows marine environmental obligations under the UNCLOS to evolve over time in line with more easily amended and more technical rules and standards such as those adopted by the IMO.⁹³ This process of 'normative reinforcement' is further cemented by Article 237(2) UNCLOS which stipulates that '[s]pecific obligations assumed by States under special conventions, with respect to the protection and preservation of the marine environment, should be carried out in a manner consistent with the general principles and objectives of this Convention'.⁹⁴ The next two sections examine, in turn, plastics pollution when it constitutes dumping, and plastics pollution when it constitutes vessel-source pollution, highlighting both the rights and responsibilities of the relevant States, before considering the extent of States' enforcement powers and where the use of criminal law penalties may in particular be encouraged.

91 In addition, plastics pollution may come from land or the atmosphere, bringing into play Articles 207 and 212 UNCLOS, not discussed in this Issue Paper. For an overview of how the UNCLOS regulates plastics see e.g. Scott (n 68).

92 Noting some variation across the source-specific pollution provisions of the UNCLOS, whereby some refer only to rules and standards (Arts. 210 (but using the language 'global' rather than 'generally accepted' rules and standards) and 211); and others also to practices and/or procedures (Arts. 207, 208, 209 (which does not mention standards), 212). For an analysis of the role of generally accepted international rules and standards, see e.g. Catherine Redgwell, 'Mind the gap in the GAIRS: The role of other instruments in UNCLOS regime implementation in the offshore energy sector' (2014) 29(4) *International Journal of Marine and Coastal Law* 60; Catherine Redgwell, 'From Permission to Prohibition: the UNCLOS and Protection of the Marine Environment in the 21st Century', in D. Freestone, R. Barnes, and D. Ong (eds) *The Law of the Sea: Progress and Prospects* (OUP 2006); Lan Ngoc Nguyen, 'Expanding the Environmental Regulatory Scope of UNCLOS Through the Rule of Reference: Potentials and Limits' (2020) 52 *Ocean Development and International Law* 419.

93 For an overview of the regulatory landscape on marine pollution at the time of UNCLOS III see the Appendix to the Introduction to Part XII in Nordquist et al. (n 58).

94 See in particular Catherine Redgwell, 'Mind the gap in the GAIRS: The role of other instruments in UNCLOS regime implementation in the offshore energy sector' (2014) 29(4) *International Journal of Marine and Coastal Law* 600-621, p. 603, also referring to A. Tan, *Vessel Source Marine Pollution: The Law and Politics of International Regulation* (CUP 2006), p. 229 describing the reference in the UNCLOS to generally accepted international rules and standards as one method to meet new demands 'without unravelling the . . . consensus [reflected in the UNCLOS]'.
95 For a commentary, see Wacht, 'Article 210' in Proelss (n 89), p. 1407ff.
96 Though outside the scope of this Special Issue, UNEP Regional Seas Conventions and Action Plans have played a big role in developing rules, standards, and best practices with regard to land-based marine pollution, including plastics pollution.
97 1972 London Dumping Convention (LDC) (EIF 30 August 1975).
98 1996 London Dumping Protocol (LDP) (EIF 24 March 2006).
99 Article IV(a) and Annex I LC.
100 Article IV(b) and Annex II LC.
101 Article IV(c) LC.
102 Article 4 and Annex I LP.

4.1 A DUTY TO PROHIBIT THE DUMPING OF PLASTICS

Dumping generally concerns the taking of wastes and other matter that has been generated on land and discarding it at sea, as defined below. The UNCLOS does not prohibit dumping per se but obliges States to adopt laws and regulations, and other measures as may be necessary, to prevent, reduce, and control pollution of the marine environment by dumping, including that dumping is only carried out with consent (Article 210(1)-(3) UNCLOS).⁹⁵ Moreover, Article 210(4) UNCLOS stipulates that States, 'acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.' Many such regional rules, standards, recommended practices and procedures have indeed been established, in particular in the context of the UNEP Regional Seas Programme.⁹⁶ At the global level, rules and standards on dumping are set out in the 1972 London Dumping Convention⁹⁷ and its 1996 Protocol.⁹⁸ The London Convention operates by way of a list-approach (blacklisted substances being prohibited;⁹⁹ grey listed substances requiring a special prior permit;¹⁰⁰ and all other substances requiring a general permit¹⁰¹). The London Protocol, which for parties to both instruments prevails over the London Convention, reverses this logic: all dumping is in principle prohibited, unless it is permitted.¹⁰² The London dumping 'regime' provides the threshold for action required by States to prevent, reduce, and control pollution by dumping by virtue of Article 210(6) UNCLOS, which provides that national measures must be 'no less effective in preventing, reducing and

controlling such pollution than the global rules and standards'. Unlike other references to global rules and standards found elsewhere in Part XII UNCLOS, there is no requirement that these global rules on dumping be 'generally accepted'. Some discussion therefore remains whether the reference to global rules and standards should be interpreted as only referring to the London Convention, or also its Protocol.¹⁰³ As plastics are treated similarly under both instruments, this will not be discussed in further detail here.

To examine the extent to which the UNCLOS and London dumping regime include plastic materials within their scope, we first turn to the definition of dumping. This definition is found in Article 1(1) (5) UNCLOS and Article III(1) London Convention¹⁰⁴ as 'any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea' or 'any deliberate disposal of vessels, aircraft, platforms or other man-made structures at sea', but does not include disposal of wastes or other matters 'incidental to, or derived from, the normal operations of vessels'. There is no doubt that this includes the deliberate disposal of plastics into the ocean. Annex I of the London Convention indeed explicitly prohibits the dumping of 'persistent plastics and other persistent synthetic materials, for example, netting and ropes, which may float or remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea.' The Protocol, which operates by way of reverse listing, does *not* include plastic in its list of wastes that can lawfully be dumped. As Scott points out, 'while plastic pollution is often described as a recent problem, both the Convention and the Protocol have in fact long-standing rules prohibiting the deliberate dumping of plastic from vessels'.¹⁰⁵ However, some ambiguity over the scope of the dumping regime remains which may be of relevance to plastic pollution, which is addressed in turn.

¹⁰³ See in particular Robin Churchill, Vaughn Lowe, and Amy Sander, *The Law of the Sea* (Brill 2023), 669.

¹⁰⁴ Article 1(4) LP also uses this definition but with some subtle differences, eg 'into the sea' instead of 'at sea', not of further relevance here.

¹⁰⁵ Scott (n 68).

First, the use of the term 'at sea' has led to some discussions including whether this would also cover discharges via pipelines connected to land, or whether this would fall outside the definition of dumping and instead constitute land-based pollution as regulated under Article 207 UNCLOS.¹⁰⁶ The common conclusion that such pollution is not 'at sea' and therefore not a form of dumping means that the discharge of wastewater – a known source of microplastics¹⁰⁷ – from pipes does not benefit from regulation under the stronger rules found under the London Convention and Protocol. Instead, it is only softly regulated as part of the land-based pollution provision of the UNCLOS, and which are not discussed further in this Issue Paper.

Second, some of the categories that *can* be disposed of at sea under the London Convention and Annex 1 of the London Protocol in fact risk contributing to (micro)plastics pollution, such as dredged material – though noting that dredging has also been shown to have beneficial effects on reducing microplastics pollution – and material resulting from industrial fishing operations, which are issues currently under investigation by the London Convention and Protocol's Correspondence Group on Marine Litter and Microplastics.¹⁰⁸ Sewage sludge, a known potential source of microplastics, has however now been removed from the list of permissible wastes under the London Protocol, in line with regional and national developments.¹⁰⁹

Third, a distinction must be made between the deliberate disposal of plastic wastes generated on land and disposed of at sea, on the one hand, and the (deliberate or not) discarding of plastic wastes from vessels that derive from their 'normal operations', on the other. Whilst the

¹⁰⁶ See J. Harrison, *Saving the Oceans Through Law* (OUP 2017), p. 92. See also Wacht, 'Article 210' in Proelss (n 89), para. 9, p. 1413 suggesting that 'there is a clear borderline between the scope of Art. 207 and the scope of the definition of 'dumping'. Hence, disposal via land-based pipelines is exclusively covered by Art. 207'.

¹⁰⁷ See e.g. Jingyi Li et al 'Microplastics in freshwater systems: A review on occurrence, environmental effects, and methods for microplastics detection' (2018) 137 Water Research 362.

¹⁰⁸ For the latest updates, see the Report of the Correspondence Group on Marine Litter and Microplastics, 28 July 2023, LC 45/9/2.

¹⁰⁹ Amendment adopted in 2022 at the 44th Consultative Meeting of Contracting Parties to the London Convention and the 17th Meeting of Contracting Parties to the London Protocol (LC 44/LP 17), see also LC 43/17, para. 10.24.1. Note that the dumping of sewage sludge was already prohibited in the North-East Atlantic (OSPAR) since 1998.

former is considered dumping and regulated as such under the UNCLOS and London Convention and Protocol, the latter is not. This raises the question whether discarded fishing gear does or does not constitute a form of dumping – a particularly salient issue in the context of Fish Aggregating Devices (FADs), which are left to drift out at sea and many of which cannot be retrieved.¹¹⁰ Scott notes that it is generally considered that where fishing gear is deliberately thrown overboard, this falls within the definition of dumping contrary to the London Convention and Protocol,¹¹¹ whereas the accidental loss of fishing gear can be considered ‘incidental to, or derived from the normal operations of’ a fishing vessel.¹¹² Such instances are regulated under the vessel-source pollution regime of the UNCLOS and MARPOL Annex V, discussed in [section 4.2](#).

Fourth, the geographical scope of the prohibition to dump plastics is ostensibly limited in so far that the London Convention (Article 3(3)) and Protocol (Article 1(7)) exclude internal waters from the definition of ‘sea’, and thereby, from their scope of application. Nevertheless, Article 7 of the London Protocol provides that States shall ‘at their discretion’ either apply the Protocol or other effective measures to control dumping or incineration at sea, and information on their implementation, compliance, and enforcement is to be provided to the IMO. Moreover, the general obligation to protect and preserve the marine environment under Article 192 UNCLOS, which is informed by the other provisions of Part XII including Article 210 on dumping, applies to *all* maritime zones, whether within or beyond national jurisdiction.¹¹³ This speaks in favour of a duty on States to prevent, reduce, and control marine pollution from the dumping of plastics also in internal waters (ports, fjords, etc.). This is also the approach taken at the regional level

by the Helsinki Convention, which among other things regulates dumping in the Baltic Sea.¹¹⁴

It should be noted that State parties to the London regime have demonstrated a continuing interest to combat plastics pollution at sea, as can be seen from the work undertaken by the Marine Litter and Microplastics group. This interest is evident also from a recommendation adopted by London Convention and Protocol parties in 2016 expressing ‘concern’ over marine plastics and ‘encouraging Member States to make every effort to combat marine litter, including through the identification and control of marine litter at source and to encourage monitoring, additional study and knowledge-sharing on this issue’.¹¹⁵

What then is required of States with regard to the dumping of plastics under the UNCLOS and London regime? It should be recalled that the obligation on States to adopt laws and regulations, and other measures as may be necessary, to prevent, reduce and control pollution of the marine environment – here, pollution by dumping – is one of due diligence, requiring best possible efforts (see [section 2](#)). Measures to be adopted clearly include those specified in the London Convention and Protocol on how the permitting of dumping operations is to be undertaken; requirements for the subsequent monitoring of dumpsites; and reporting obligations – though given the prohibition to dump plastics altogether, these do not require further setting out here.¹¹⁶ States are also under a duty (London Protocol)¹¹⁷ and non-binding commitment (London Convention)¹¹⁸ not to export wastes to other States for the purpose of their dumping or incineration at

110 See e.g. Scott (n 68); Robin Churchill, ‘Just a Harmless Fishing fad – or Does the Use of FADs Contravene International Marine Pollution Law’ (2021) 52 *Ocean Development and International Law* 169 – 192.

111 Referring to the Report of the Fortieth Consultative Meeting and the Thirteenth Meeting of Contracting Parties, 5 – 19 November 2018 LC 40/16 para 9.51.

112 Scott (n 68).

113 *South China Sea* (n 62), para. 940, citing with approval *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC)*, Advisory Opinion of 2 April 2015, ITLOS Reports 2015, para. 120.

114 Article 1 Helsinki Convention.

115 Annex 8 ‘Recommendation to Encourage Action to Combat Marine Litter’, Report of the Thirty-eighth Consultative Meeting and the Eleventh Meeting of the Contracting Parties, 18 October, 2016, LC 28/16.

116 For an overview, see e.g. Churchill, Lowe, and Sander (n 109), 677.

117 Article 6 LP.

118 Res. LDC.29(10) (1986).



sea.¹¹⁹ As for the question of enforcement of the prohibition to dump plastics, see [section 5](#).

4.2 A DUTY TO PROHIBIT THE DISCHARGE OF PLASTIC GARBAGE FROM VESSELS AND REQUIREMENTS FOR THE CARRIAGE OF PELLETS

Vessel-source plastics pollution is an increasingly well-documented concern. For instance, hundreds of thousands of tons of plastic fishing gear may be ending up in the oceans annually as a result of fishing activities.¹²⁰ Recent events such as the X-Press Pearl disaster have moreover brought the transport of particularly harmful types of plastic goods (in the case of the X-Press Pearl, the transport of pellets) and the dramatic consequences of accidental spillages to greater international attention.¹²¹

As is the case for pollution by dumping, vessel-source pollution benefits from its own, detailed provision: Article 211 UNCLOS. It reaffirms the obligation on States to adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment – here, from vessels flying their flag or of their registry. Article 211 UNCLOS moreover refers to external measures as the minimum threshold for action, in so far that the measures which States are to adopt ‘shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference’ (Article 211(2)). Generally accepted rules and standards moreover set the ceiling for coastal State enforcement action (Article 211(5)) which is considered below.

What are the generally accepted rules and standards for the purpose of preventing, reducing, and controlling plastics pollution

from vessels? Lack of clarity remains over what constitutes ‘generally accepted’ rules and standards; wording that was kept deliberately vague during the negotiations, and which is likely determined by considering State practice.¹²² What is clear however is that the ‘competent international organization’ that establishes such rules and standards is generally considered to be the IMO.¹²³ The reference to ‘general diplomatic conference’ has been interpreted as more widely indicating a ‘plenipotentiary conference of the representatives of States (and not a conference composed exclusively of the representatives of international intergovernmental organizations or of independent experts), regardless of the type of instrument it adopts’ and whose general nature likely implies a ‘conference open to universal participation (as understood in United Nations practice).’¹²⁴ The plastics treaty, which is planned for adoption by diplomatic conference of plenipotentiaries mid-2025, could also fit this description, provided it sets out rules and standards for vessel-source pollution.¹²⁵

Generally accepted international rules and standards adopted by the IMO with relevance to plastics pollution from vessels are found in the 1973 MARPOL, as modified by the Protocol of 1978, and which today counts 161 contracting States, the combined merchant fleets of which constitute approximately 98.89% of the gross tonnage of the world’s merchant fleet.¹²⁶ MARPOL targets both accidental pollution and that from routine operations and sets out detailed regulations across several topic-specific Annexes, each

¹²² For a discussion, see Nguyen (n 98), p. 425ff.

¹²³ See Nordquist et al. (n 58), that ‘The use of the singular “competent international organization” in this paragraph and, indeed, throughout this article is to be noted (cf. para. 211.15(a) above). The underlying concept is that only one international intergovernmental organization – the International Maritime Organization – is competent for the purposes of establishing international rules and standards to prevent, reduce and control pollution of the marine environment from vessels, and for adopting, where appropriate, routing systems designed to minimize the threat of accidents which might cause pollution of the marine environment. Regional organizations, whose specific competence in the part of the sea concerned is generally acknowledged and recognized, especially by the flag State, and whose decisions are compatible with the Convention, could assist in the implementation of the international rules and standards, the elaboration of regional rules and standards and the establishment of regional monitoring systems, the dissemination of information and the promotion of technical cooperation.’ (§211.15(d), at p. 201).

¹²⁴ See Nordquist et al. (ibid), §207.7(2), at p. 133 and §211.15(2), at p. 202.

¹²⁵ This point is discussed in Van der Marel and Stöfen-O’Brien (n 65), where this paragraph originates.

¹²⁶ IMO, ‘Status of IMO Treaties’, 20 February 2024, at: [INTERNATIONAL MARITIME ORGANIZATION \(imo.org\)](https://www.imo.org).

¹¹⁹ Not discussed in this Issue Paper are the recent amendments (COP14, May 2019) to the Basel Convention on the Trade in Hazardous Wastes, entering into force in 2021, and which clearly bring plastics within its regulatory scope. For a discussion and the ambiguity of some of the exceptions for exporting ‘green’ plastic wastes that nevertheless persist, see Eva R van der Marel, ‘Trading Plastic Waste in a Global Economy: Soundly Regulated by the Basel Convention?’ (2022) 34(3) *Journal of Environmental Law* 477.

¹²⁰ See e.g. K. Richardson, B. D. Hardesty, and C. Wilcox, ‘Estimates of fishing gear loss rates at a global scale: A literature review and meta-analysis’, (2019) 20(6) *Fish and Fisheries* 1218.

¹²¹ See n 11.

of which are to be ratified separately with the exception of Annexes I (oil) and II (noxious liquid substances) which are mandatory. Particularly relevant to plastics are Annex V concerning the disposal of different types of garbage and Annex III on harmful substances in packaged form. It should be noted that, though Annex V and III are not mandatory, they have attracted significant ratifications. Annex V has 156 parties and Annex III has 151 parties, the combined merchant fleets of which constitute approximately 98.54% of the gross tonnage of the world's merchant fleet.¹²⁷ This makes MARPOL the longest-standing and likely 'generally accepted' set of standards on the discharge of plastics into the oceans. We discuss each Annex in turn.

Marine pollution caused by the **discharge of plastic garbage** from vessels is regulated by MARPOL Annex V which prohibits the 'discharge into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products.'¹²⁸ Ships are required to dispose of their waste at special land-based waste facilities, and States are obliged to provide ships with this infrastructure. MARPOL Annex V was moreover amended in 2018 to strengthen the obligations to ensure adequate port reception facilities to receive ship waste.¹²⁹ Guidelines have been adopted which provide further guidance on reducing (plastic) wastes on board, as well as on reporting requirements and cooperation over lost fishing gear.¹³⁰ Moreover, on 26 October 2018, the IMO Marine Environment Protection Committee (MEPC) adopted an Action Plan to reduce marine plastic litter from ships, in which it was supported by the London Convention and its Protocol.¹³¹ This was followed in 2021

by a Strategy to address marine plastic litter from ships to help implement the Action Plan, identifying which measures require prioritizing and on which timescale.¹³²

Although the prohibition to discharge 'all plastics' is broad, there exist some limitations and uncertainties over the extent to which it covers plastics pollution. Regulation 7 provides for certain exceptions, including for the 'accidental loss of garbage resulting from damage to a ship or its equipment, provided that all reasonable precautions have been taken before and after the damage to prevent or minimize the accidental loss', as well as for the 'accidental loss of fishing gear' – again provided all reasonable precautions have been taken. What constitutes such 'reasonable measures' remains a matter of speculation.¹³³

We next turn to marine pollution caused by the **carriage of plastics onboard vessels** and their potential spillage. MARPOL Annex III contains the generally accepted international rules and standards on the carriage of harmful substances in packaged form, and its relevance to plastics has recently been discussed in the MEPC sub-committees following major spillages of pellets. MARPOL regulations on transporting packaged goods are complemented by the 1974 SOLAS Convention for the safety of life at sea, another IMO instrument, and in particular its requirements regarding safety of navigation and the carriage of cargos and dangerous goods. As per Regulation 1(1) Annex III MARPOL, 'harmful substances' are those substances which are identified as 'marine pollutants' in the International Maritime Dangerous Goods (IMDG) Code, or which meet one of the criteria set out in an Appendix to Annex III. Substances that fall within this scope may only be carried aboard ships in accordance with Annex III (Regulation 1(2)). This among others entails requirements for their packaging, which must be 'adequate to minimize the hazard to the marine environment, having regard to their specific contents' (Regulation 2); their marking

127 Ibid, p. 129 and 136.

128 1973/78 MARPOL, Annex V, Regulation 3.2. See also Resolution MEPC 295(71) (2017) *2017 Guidelines for the Implementation of MARPOL, Annex V* which further indicate that where plastic is mixed with other garbage, the mixture must be treated as if it were all plastic para 2.4.6.

129 Annex V, Regulation 8. Specified ships are also required to carry a garbage management plan and/ or a garbage record book. See *ibid*, Regulations, 10.1.1, 10.1.2, 10.2, 10.3 and Resolution MEPC.220(63) (2012) *2012 Guidelines of the Development of Garbage Management Plans*.

130 2017 Guidelines for the Implementation of MARPOL Annex V (2017, and consolidated edition of 2022). Note some questionable suggestions on waste minimization, such as that options to decrease the amounts of garbage including 'avoiding supplies that are packaged in plastic, unless a reusable or recyclable plastic is used' (para. 2.1.2).

131 Resolution MEPC.310(73).

132 Resolution MEPC.341(77)

133 See Scott (n 68) who points at the 2017 Guidelines to argue that incorrect storage likely does not constitute a reasonable measure.

and labelling (Regulation 3); documentation to be provided to port authorities, which must be in accordance with the IMDG Code (Regulation 4); and proper stowage requirements 'so as to minimize the hazards to the marine environment' (Regulation 5). The IMDG Code is moreover made mandatory through Chapter VII SOLAS, which provides that 'the carriage of dangerous goods in packaged form shall be in compliance with the relevant provisions of the IMDG Code' (Regulation 3).¹³⁴ This makes the question of whether plastics (and which kinds) fall within the scope of the IMDG Code particularly relevant – an ongoing and complex discussion of which only highlights are set out in what follows.

The IMDG Code contains a 'dangerous goods list', further distinguishing between different classes and packaging groups in accordance with the degree of danger which they present, and identifies among other things which of these dangerous substances, materials, and articles constitute 'marine pollutants' for the purpose of MARPOL Annex III. Proposals were recently put forward for plastic pellets to be included within this scope, either by modifying Annex III MARPOL criteria for the identification of harmful substances,¹³⁵ or by classifying them within existing dangerous goods categories of the IMDG Code, namely as 'other substances or articles presenting a danger during transport' or as 'environmentally hazardous substances'.¹³⁶ These proposals called for the immediate development of recommendations with regard to transporting pellets, as well as longer-term mandatory measures. A draft circular has therefore been prepared containing minimum (non-binding) recommendations including as to 'good quality' and 'strong enough' packaging; the identification of plastic pellets on transport documents; and proper stowage including under deck 'wherever reasonably practicable' – to be considered and adopted by the MEPC in March

2024.¹³⁷ The development of future mandatory measures for the carriage of plastic pellets in freight containers is also foreseen,¹³⁸ though some of the difficult discussions that have arisen in this regard is the role (if any) the IMDG Code should play in this regard.¹³⁹

However, the absence of generally accepted international rules and standards (whether under MARPOL Annex III or elsewhere) on the spillage of pellets or other forms of carried plastic goods does not absolve States from their duties under the UNCLOS. It should be recalled that the obligation on States to adopt laws and regulations, and other measures as may be necessary, to prevent, reduce and control pollution of the marine environment – here, pollution from vessels – is one of due diligence. States must adopt appropriate rules and measures and maintain a certain level of vigilance in their enforcement, on which see the discussion above. The generally accepted international rules and standards that the UNCLOS refers to provide a minimum threshold for flag States; they are not an exhaustive list. This would speak in favour of interpreting flag State responsibilities as entailing strict regulation of the transport of pellets and other 'risky' plastics goods or wastes, beyond current generally accepted international rules and standards.

As for the coastal State's right to regulate vessel-source pollution in the maritime zones off its coast, i.e. the permitted extent of its prescriptive jurisdiction at sea (see also [section 2](#)), there exist various key limitations. This is notwithstanding

¹³⁴ Note that some paragraphs of the IMDG Code remain recommendatory.

¹³⁵ Proposal by the Cook Islands and others (PPR 9/15/1).

¹³⁶ Proposal by FOEI et al (PPR 9/15/4).

¹³⁷ MEPC, Urgent matters emanating from the eleventh session of the PPR Sub-Committee, Annex 'Recommendations for the Carriage of Plastic Pellets by Sea in Freight Containers', 26 February 2024, MEPC 81/WP.11.

¹³⁸ PPR 10, held from 24 to 28 April 2023 agreed on this two-stage approach, as noted at MEPC 80, held from 3 to 7 July 2023. The draft circular (ibid) also confirms that the Recommendations constitute 'the first step in a two-stage approach aimed at reducing the environmental risks associated with the carriage of plastic pellets in packaged form by sea, pending the Committee's consideration of future mandatory measures for the carriage of plastic pellets in freight containers'.

¹³⁹ Showing hesitation to the use of the IMDG Code, see eg CEFIC, 'Reaction to proposed amendments to the criteria for the identification of harmful substances and classification of plastic pellets in package form', 11 February 2022, PPR 9/15/8; DGAC, 'Comments on proposals to classify plastic pellets as dangerous goods', 11 February 2022, PPR 9/15/9; DGAC and CEFIC, 'Consideration of options for reducing the environmental risk associated with the maritime transport of plastic pellets', 26 June 2023, CCC 9/2/2; CEFIC and DGAG, 'Development of the draft MEPC circular containing recommendations for the carriage of plastic pellets by sea in freight containers', 15 December 2023, PPR 11/13/6. See also the proposal PPR 10/INF.6, annex 1, pages 11 to 15 and 23 to 28.



the fact that States are under a general duty to protect and preserve the marine environment (Article 192 UNCLOS) – an obligation which applies to all maritime zones. These limitations to coastal State prescriptive jurisdiction look as follows.

In the territorial sea, the coastal State may adopt laws and regulations in respect of the preservation of its environment and the prevention, reduction, and control of pollution, including pollution from vessels, also concerning ships that are in innocent passage (Articles 21(1)(f) and 211(4) UNCLOS). Passage ceases to be innocent when a foreign flagged vessel engages, in the territorial sea, in any act of wilful and serious pollution contrary to the UNCLOS (Article 19(2)(h) UNCLOS). However, the coastal State may not adopt laws and regulations on design, construction, manning, or equipment unless these give effect to generally accepted international rules and standards (Article 21(2) UNCLOS), and it may not hamper the innocent passage of foreign vessels (Article 211(4) UNCLOS). This means that a coastal State cannot set 'structural' requirements for foreign vessels navigating through its territorial sea to prevent and reduce marine plastics pollution from foreign vessels, such as using particular marine paints and coatings – unless these requirements constitute generally accepted international rules and standards.¹⁴⁰

In the EEZ, generally accepted international rules and standards, of which as discussed MARPOL Annex V and III are most relevant to plastics, provide a regulatory ceiling for coastal State measures concerning vessel-source pollution. Namely, the coastal State may only adopt laws and regulations for the prevention, reduction, and control of pollution from vessels conforming to and giving effect to such generally accepted international rules and standards (Article 211(5) UNCLOS). This means that whilst the coastal State may (and arguably should) consider the criminalisation of plastics pollution from vessels

in its EEZ, this would currently be limited to criminalising the discharge of plastic wastes from vessels (as understood under MARPOL Annex V, and giving effect to its exceptions and limitations). The UNCLOS foresees that some coastal States may need to go beyond internationally agreed rules and standards in cases of special circumstances and in clearly defined areas of the EEZ, for recognized technical reasons in relation to oceanographical and ecological conditions, in which case they may direct a communication to the IMO for the adoption of such measures (Article 211(6)(a)-(c) UNCLOS). As for the territorial sea, however, this cannot include stricter requirements on design, construction, manning or equipment standards beyond what is agreed upon internationally (Article 211(6)(c) UNCLOS). This significantly limits the scope of coastal State prescriptive jurisdiction. We turn next to the question of enforcement of these measures, and what possibilities exist for the role of criminal law.

¹⁴⁰ On the uncertainties over the release of microplastics from marine paints see e.g. IMO 'Hull Scrapings and Marine Coatings as a Source of Microplastics' (2019).

States have the responsibility to enforce the laws



V.

**THE ENFORCEMENT
OF MARINE PLASTICS
POLLUTION MEASURES:
WHAT SCOPE FOR
CRIMINAL LAW
PENALTIES?**



and regulations they adopt in implementation of their marine environmental protection responsibilities, as set out in the previous two sections, with there being a clear role for national criminal law. It should be recalled that the 'due diligence' obligation to protect and preserve the marine environment, and to prevent, reduce, and control marine (plastics) pollution, requires not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement. More specifically, States are under explicit enforcement duties vis-à-vis international rules and standards on dumping and vessel-source pollution. These duties, as well as some of the limitations to enforcement that are set out by law, should be taken into consideration when adopting or amending national legislation on marine (plastics) pollution crimes, or when considering the inclusion of provisions to this effect in a new plastics treaty. This look as follows.

5.1 ENFORCEMENT WITH RESPECT TO POLLUTION BY DUMPING

In relation to pollution by dumping, States are under a duty to enforce the rules and standards of the London regime. Article VII(2) of the London Convention and Article 10(2) of the London Protocol spell out an obligation on each State party to take appropriate measures [in accordance with international law] to prevent and [if necessary] punish acts contrary to the provisions of the London Convention/Protocol.¹⁴¹ This translates into an explicit duty to punish the dumping of plastics, if necessary, which as seen above would be contrary to both the Convention and Protocol. Such enforcement action has to be 'in accordance with international law'. **Section 2** introduced permitted bases under international law for States to extend their prescriptive jurisdiction over conduct abroad, and noted that enforcement action is generally territorially bound, unless agreed otherwise. In addition, the UNCLOS contains the following relevant provisions in relation to the enforcement of

measures on dumping.

The UNCLOS confirms the explicit obligation to enforce measures to prevent, reduce, and control pollution by dumping. Article 216(1) UNCLOS stipulates that standards on dumping adopted in accordance with the UNCLOS or through competent international organizations or diplomatic conference on dumping (here: the duty not to dump plastics in accordance with the London regime) 'shall be enforced' by the flag State in respect of vessels flying its flag or vessels or aircraft of its registry; by 'any State with regard to acts of loading of wastes or other matter occurring within its territory or at its off-shore terminals' (i.e. port States where waste or other matter is loaded); and by the coastal State with regard to dumping within its territorial sea or its EEZ or onto its continental shelf. The UNCLOS does not specify in further detail what coastal State enforcement action over dumping would look like, though Article 216(2) provides that there is no obligation to institute proceedings where another State (that is, the flag, coastal, or loading State) has already done so in accordance with Article 216. We discuss each in turn.

As for the **loading State**, the UNCLOS clearly sets out a duty on State where materials-to-be-dumped are loaded. This will often be the port State but could also extend to landlocked States where waste is loaded into vessels in river ports.¹⁴² Churchill, Lowe, and Sander explain that these (due diligence) obligations on the loading State imply that it must 'prevent a ship leaving its ports if it reasonably suspects it of intending to dump waste in contravention of the [London Convention and Protocol]', and where it 'reasonably suspects that a ship has returned to one of its ports after having dumped matter in contravention of the [London Convention and Protocol] in respect of waste loaded there, it must institute criminal or administrative proceedings against the ship if it has sufficient evidence to do so'.¹⁴³

141 Text in brackets as found in the LP, the wording of which is slightly more nuanced than the LC.

142 Bartenstein, 'Art. 216' in Proelss (n 89), para. 12, p. 1472; arguably, such States are also port States.

143 Churchill, Lowe, and Sander (n 109), 678.

As for the **flag and coastal State**, it has been suggested that, as Article 216 does not provide any further detail on States' enforcement powers, it is 'necessary to refer to the detailed enforcement obligations of the flag State set forth in Article 217, and to those of the coastal State set forth in [Article 220]'.¹⁴⁴ This would significantly curtail enforcement powers for at least the coastal State, as discussed in the section below, and is not convincing for the following reasons. As for the flag State, Article 217 is explicitly concerned with the enforcement of 'international rules and standards, established through *the competent international organization* or general diplomatic conference' and 'laws and regulations in accordance with [the UNCLOS] for the prevention, reduction, and control of pollution of the marine environment *from vessels*' (Article 217(1), emphasis added). Article 220 is similarly concerned with the enforcement by the coastal State of 'laws and regulations adopted in accordance with [the UNCLOS] or applicable international rules and standards for the prevention, reduction, and control of pollution *from vessels*' (Article 220(1), (2) emphasis added), and in certain cases which are discussed below in the context of vessel-source pollution, only international rules and standards on pollution from vessels or national laws and regulations that give effect to these rules and standards (Article 220(3)-(7)). The reference to 'the' competent international organization and specifically pollution 'from vessels' suggests that Articles 217 and 220 are only concerned with the enforcement by flag and coastal States of rules and standards adopted through the IMO on vessel-source pollution, i.e. MARPOL, and conforming national laws and regulations.¹⁴⁵ In other words, Articles 217 and 210 are concerned with the enforcement of measures on vessel-source pollution adopted pursuant to Article 211. This is in contrast to Article 216, which concerns the enforcement of 'laws and regulations adopted in accordance with [the UNCLOS] and applicable international rules and

standards established by *competent international organizations or diplomatic conference for the prevention, reduction, and control of pollution of the marine environment by dumping*' (Article 216(1), emphasis added), i.e. the London dumping regime and other relevant rules and standards on dumping.

Only a few paragraphs in Article 217 on enforcement by **flag States** do not explicitly refer to pollution 'from vessels' or rules and standards by 'the' competent organization, and therefore may also be relevant to the duty under Article 216 to enforce national laws and regulations and global rules and standards on dumping, such as the prohibition to dump plastics under the London Convention and Protocol. Namely, flag States may request the assistance of other States, who shall then endeavour to cooperate (Art. 217(5)). Flag States have an obligation to investigate 'any violation alleged to have been committed by vessels flying their flag' and, if there is sufficient evidence, institute proceedings (Art. 217(6)). Moreover, 'Penalties provided for by the laws and regulations of States for vessels flying their flag shall be adequate in severity to discourage violations wherever they occur' (Art. 217(8)). These obligations are not only phrased in general terms; they reflect the general customary law duty to cooperate¹⁴⁶ as well as flag State responsibilities over vessels flying their flag more broadly beyond the context of marine pollution (Article 94(6)).¹⁴⁷ This means that the duties on the flag State to enforce dumping related measures with regard to vessels flying its flag, or vessels or aircraft of its registry, entail the following. As Churchill, Lowe, and Sander explain, 'regardless of whether it issued, or

¹⁴⁴ Bartenstein, 'Art. 216' in Proelss (n 89), para. 12, p. 1472. Note that the text refers to Art. 222, not 220, a presumed typo.

¹⁴⁵ See the discussion at n 129.

¹⁴⁶ ITLOS, *MOX Plant (Ireland v. United Kingdom)*, Provisional Measures, 3 December 2001, ITLOS Reports 2001, p. 95, para 82, that 'the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the [UNCLOS] and general international law'.

¹⁴⁷ See also the broad interpretation given by the ITLOS to what constitutes due diligence by flag States to ensure that vessels flying their flag do not undermine their responsibilities in respect of the conservation and management of marine living resources, *inter alia* under Article 192 UNCLOS, in *Advisory Opinion to the SRFC* (n 81), para. 138, that 'While the nature of the laws, regulations and measures that are to be adopted by the flag State is left to be determined by each flag State in accordance with its legal system, the flag State nevertheless has the obligation to include in them enforcement mechanisms to monitor and secure compliance with these laws and regulations. Sanctions applicable to involvement in IUU fishing activities must be sufficient to deter violations and to deprive offenders of the benefits accruing from their IUU fishing activities.'

should have issued, a permit, the flag State must institute criminal or administrative proceedings against a ship having its nationality where it has sufficient evidence that the ship has violated the [London Convention and Protocol], unless the State of loading has already taken action.’¹⁴⁸ The flag State can of course request cooperation from other States in their investigation of vessels flying their flag; it should investigate alleged violations by vessels flying its flag and, if appropriate, institute proceedings; and flag State penalties must be adequate in severity. This suggests a clear role for criminal law as part of the arsenal of measures to be taken by the flag State.

As for the **coastal State**, all paragraphs in Article 220 UNCLOS explicitly refer to pollution ‘from vessels’ or rules and standards by ‘the’ competent organization. This provision does therefore not appear to add further relevant detail to the coastal State’s duty under Article 216 to enforce national laws and regulations and applicable international rules and standards on pollution by dumping, such as the prohibition to dump plastics under the London Convention and Protocol. As the coastal State may prohibit dumping in their EEZ and territorial seas altogether (Article 210(3) UNCLOS), is under a clear duty to enforce laws, regulations, and applicable international rules and standards (Article 216 UNCLOS), and absent clear limitations on enforcement, it logically follows that they also enjoy wide enforcement powers over illegal dumping activities. It is suggested here that their enforcement powers are thereby broader than over measures that address vessel-source pollution, discussed below, for which Article 220 sets out enforcement limitations vis-à-vis foreign vessels. If both the loading State and flag State have failed to institute proceedings, the coastal State is clearly under an obligation to do so, provided the unlawful dumping occurred in a maritime zone over which it has jurisdiction.¹⁴⁹ Again, national criminal law may clearly play a role in the

coastal State’s enforcement of the international prohibition to dump plastics.

However, the UNCLOS also contains various **procedural safeguards** that apply to enforcement action taken over pollution incidents, which are set out in Articles 223-233 UNCLOS. National law investigations and (criminal) penalties for marine pollution offences, including dumping, should remain in line with these. These safeguards include rules on the facilitation of proceedings (Article 223 UNCLOS), and the need not to delay a foreign vessel longer than is essential, including for the purpose of enforcement pursuant to Article 216 on dumping, and allow for its prompt release upon the posting of a reasonable bond (Article 226 UNCLOS). Moreover, of particular importance from a criminal law perspective is Article 230 UNCLOS which provides as follows (emphasis added):

1. Monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment, committed by foreign vessels *beyond the territorial sea*.
2. Monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment, committed by foreign vessels in the territorial sea, except in the case of a wilful and serious act of pollution *in the territorial sea*.
3. In the conduct of proceedings in respect of such violations committed by a foreign vessel which may result in the imposition of penalties, recognized rights of the accused shall be observed.

The question arises whether Article 230 UNCLOS pertains to all kinds of pollution offences by foreign vessels, including dumping, or only concerns vessel-source pollution as understood in the context of Article 211 UNCLOS. If it pertains

¹⁴⁸ Churchill, Lowe, and Sander (n 109), 678.

¹⁴⁹ Ibid.

to all kinds of pollution offences, including dumping, this limits the role that criminal law penalties could play for coastal States – though it would not affect the use of criminal law penalties by flag State over vessels flying their flag. An interpretation of Article 230 UNCLOS that would greatly restrain coastal State enforcement actions vis-à-vis dumping is not necessarily convincing, for the following reasons.

On the one hand, the ordinary wording of Article 230 UNCLOS does not indicate its application to any particular type of marine pollution per se, provided it be ‘committed by foreign vessels’. This is unlike for instance Article 228 UNCLOS on the suspension of proceedings, also part of Section 7 on safeguards, which more explicitly applies to penalties in respect of violations related to the ‘prevention, reduction and control of pollution from vessels committed by a foreign vessel’ (emphasis added). This would suggest that Article 230 UNCLOS applies generally to all marine pollution offences committed by foreign vessels. Its context does not give further clarity either. In principle, the provisions of Section 7 (including Article 230 UNCLOS) apply generally to the marine pollution offences covered by Part XII UNCLOS, however only Article 226 (investigation of foreign vessels) makes it explicit that it pertains to investigations for the purpose of the enforcement provisions on dumping and vessel-source pollution; and evidently Article 228 UNCLOS only appears to apply to vessel-source pollution given its specific wording.

On the other hand, the object and purpose of Article 230 UNCLOS is to provide a balance between the jurisdictional powers of the coastal State over environmental matters and the freedom of navigation that foreign vessels enjoy in a foreign EEZ; and their right to innocent passage in a foreign territorial sea. This balance is tilted more in favour of the coastal State in the territorial sea, whereby non-monetary penalties may be imposed in the case of a ‘wilful and serious’ act of pollution. It can be considered that dumping in the territorial sea would always be ‘wilful and serious’, and therefore the question of the scope of Article 230 UNCLOS is most relevant

in the context of the EEZ. Considering the object and purpose of Article 230, it may be suggested that the need to limit coastal State enforcement powers is far greater where this concerns vessels enjoying their freedom of navigation through a foreign EEZ, during which they cause marine pollution due to non-conformity to international rules and standards (e.g. the unlawful disposal of plastic wastes generated on board the vessel during its voyage). This is different from a dumping offence, in so far that dumping may not occur in the EEZ in the first place without coastal State consent.

Moreover, even if Article 230 UNCLOS covers both vessel-source pollution and dumping, this means that coastal State penalties for dumping offences are *only* limited to non-monetary penalties for *some* acts of dumping. It is clear from the definition of dumping that dumping may be carried out not only by vessels but concerns ‘any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea’ (Article 1(5) (a) UNCLOS). This means that however Article 230 is interpreted, the penalties that the coastal State may impose on dumping from aircraft, platforms, or other man-made structures at sea, can be both monetary and non-monetary. This would mean that the same act of pollution in the same maritime zone could attract a different type of penalty depending on the vehicle for dumping, which is not an attractive conclusion and would be in dissonance with the principle of effectiveness of treaty interpretation.¹⁵⁰

In practice, it would appear that at least some countries support the view that Article 230 UNCLOS does not limit penalties by the coastal State over dumping offences in the EEZ to

¹⁵⁰ According to Fitzmaurice, ‘treaties are to be interpreted with reference to their declared or apparent objects and purposes; and particular provisions are to be interpreted so as to give them their fullest weight and effect consistent with the normal sense of the words and with other parts of the text, and in such a way that a reason and a meaning can be attributed to every part of the text’; G Fitzmaurice, *Law and Procedure of the International Court* (1986), 345. See also, ICJ, *Territorial Dispute between Chad and Libya* (1994), ICJ Reports 1994, pp 23–4, para. 47.



monetary penalties only.¹⁵¹ If, nevertheless, Article 230 UNCLOS applies to all marine pollution offences by foreign vessels, including dumping, this limits the application of criminal penalties by the coastal State to monetary fines alone – at least for dumping offences in the EEZ.

5.2 ENFORCEMENT WITH RESPECT TO VESSEL-SOURCE POLLUTION

We turn next to the enforcement of measures in related to vessel-source plastics pollution, that is, measures to prevent, reduce, and control the discharge of plastic wastes contrary to MARPOL Annex V, or possibly future measures to prevent, reduce, and control the spillage of pellets or other plastics cargo contrary to Annex III.

Enforcement of measures on vessel-source pollution rests first and foremost on **flag States**, which in addition to their general flag State responsibilities (Article 94 UNCLOS, previously discussed), are obliged under Article 217(1) UNCLOS to 'ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards ... and with their laws and regulations adopted in accordance with [the UNCLOS] for the prevention, reduction and control of pollution of the marine environment from vessels, and shall accordingly adopt

laws and regulations and take other measures necessary for their implementation. Flag States shall provide for the effective enforcement of such rules, standards, laws and regulations, irrespective of where a violation occurs.' Where the violation is of the applicable international rules and standards, i.e. if a violation of MARPOL Annex V on the discharge of plastics occurs, Article 217(4) moreover provides that the flag State 'shall provide for immediate investigation and where appropriate institute proceedings in respect of the alleged violation irrespective of where the violation occurred or where the pollution caused by such violation has occurred or has been spotted'. This sets a high threshold for action expected by flag States vis-à-vis marine plastics pollution from their vessels.

In addition, there is a need for penalties of 'adequate in severity to discourage violations wherever they occur' (Article 217(8), see [section 5.1](#)). This language also appears under MARPOL, which further provides that these penalties shall be 'equally severe irrespective of where the violations occur'.¹⁵² This suggests that there is not only scope, but a clear role for criminal law as part of the arsenal of measures to be taken by flag States against plastics pollution from vessels flying their flag – wherever the violation occurs. As Bartenstein also notes, and in contrast to penalties upon foreign vessels under Article 230 UNCLOS, 'there is nothing to prevent the flag State from providing for administrative penalties or even imprisonment as far as vessels flying its flag or of its registry are concerned'.¹⁵³

As for the enforcement powers of coastal and port States over pollution from foreign vessels, this is subject to more legal restraint than in the case of pollution by dumping, discussed above. The scope for enforcement of these measures (and the potential role that criminal law may play here) depends on what is being violated (international or national rules and standards), where the violation occurred, where the vessel

151 See e.g. the USA. Though not a party to the UNCLOS, it is telling that the identical proposed understandings and declarations appended to the Senate Foreign Relations Committee's 2004 and 2007 reports on the UNCLOS suggest that 'The United States understands that articles 220, 228, and 230 apply only to pollution from vessels (as referred to in article 211) and not, for example, to pollution from dumping' (Text of Resolution of Advice and Consent to Ratification, in 'Convention on the Law of the Sea', Senate Executive Report 110-9, 2008, at Section 3 para. 8, cited in John E. Noyes 'The Law of the Sea Convention and the United States of America' (2014) 47(1) *Revue Belge de Droit International*, Appendix). See a similar understanding by the Committee in its 1994 commentary at: [treaty_103-39.pdf \[senate.gov\]](#), p. 39. For context, it should be noted that although no reservations or exceptions may be made to the UNCLOS (see Article 309 UNCLOS), Article 310 UNCLOS provides that this 'does not preclude a State, when signing, ratifying or acceding to this Convention, from making declarations or statements, however phrased or named, with a view, inter alia, to the harmonization of its laws and regulations with the provisions of this Convention, provided that such declarations or statements do not purport to exclude or to modify the legal effect of the provisions of this Convention in their application to that State'. See moreover the Ireland Dumping at Sea Act 1996 (revised), Section 10(1) that 'A person guilty of an offence under this Act shall be liable, on conviction on indictment, to a fine of such amount as the court considers appropriate or, at the discretion of the court, to imprisonment for a term not exceeding 5 years or to both the fine and the imprisonment'. An offence under the Act includes the dumping (defined as excluding vessel-source pollution in accordance with MARPOL, see Section 1, F1) of a substance or material in the maritime area, unless it took place under a permit (see Section 2). The 'maritime area' comprises both inland waters, territorial sea, the subsoil and seabed below it, and the EEZ (see Section 1, F7). See also the application of the German Criminal Code to the discharge of substances at sea, n 43).

152 Article 4(4) MARPOL: 'The penalties specified under the law of the Party pursuant to the present Article shall be adequate in severity to discourage violations of the present Convention and shall be equally severe irrespective of where the violations occur'.

153 Bartenstein, 'Article 217' in Proelss (n 89), para. 32, p. 1487.



is at the time of enforcement, and whether the necessary safeguards are applied. We discuss various scenarios in turn.

Turning first to the powers of the **coastal State**, which has jurisdiction over the protection and preservation of the marine environment in its EEZ by virtue of Article 56(1)(b)(iii) UNCLOS. The coastal State may institute proceedings to enforce its laws and regulations (provided they are adopted in accordance with the UNCLOS) or international rules and standards on vessel-source pollution, when a foreign vessel has committed a violation in the territorial sea or the EEZ, and it finds itself voluntarily in the coastal State's port or off-shore terminal (Article 220(1) UNCLOS). Moreover, the coastal State enjoys limited powers of intervention over foreign vessels whilst they are navigating in its maritime zones. If a foreign vessel has violated coastal State laws and regulations or international rules and standards on vessel-source pollution whilst navigating the territorial sea, the coastal State may inspect and even detain the vessel (if warranted) – even though the vessel is not in port, but still navigating in the territorial sea (Article 220(2) UNCLOS).

Moreover, if a foreign vessel has violated any international rules and standards on vessel-source pollution applicable in the EEZ, or coastal State laws and regulations giving effect to them, the coastal State may request certain information from the vessel whilst it is navigating through either the EEZ or the territorial sea. Specifically, it 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 (Article 220(3) UNCLOS).

Only in very limited circumstances may the coastal State go further than requesting information. If there are 'clear grounds' for believing that the violation of international rules and standards (or its own laws and regulations giving effect to them) in the EEZ has resulted in 'a substantial discharge causing or threatening significant pollution of the marine environment',

and if the vessel has either refused to give information or supplied manifestly inaccurate information, and if the circumstances justify it, then the coastal State may also carry out a physical inspection of the vessel. At this point, the coastal State would have to notify the flag State which may follow up with further measures, in line with the general duty to notify the flag State and other States concerned of any measures taken against foreign vessels (Article 231 UNCLOS). Further proceedings by the coastal State including detention of foreign vessels for vessel-source pollution in the EEZ is reserved for the most exceptional situations. There must be 'clear objective evidence' that the vessel committed a violation of international EEZ rules and standards '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 EEZ' (Article 220(6) UNCLOS). Safeguards and limitations moreover apply, as discussed in [section 5.1](#) and below. Moreover, where detention occurs, a vessel must be released promptly upon the posting of a reasonable bond, failing which a special procedure exists for requesting its release under the UNCLOS dispute settlement provisions (Article 292 UNCLOS). Although these exceptional coastal State enforcement powers in the EEZ for vessel-source pollution have not yet been tested, it could be envisaged that a spillage of plastic pellets would constitute a 'discharge causing major damage or threat of major damage' to either the coastline or interests of the coastal State. If plastics pellets were included within the scope of MARPOL Annex III this would significantly extend coastal State prescriptive and enforcement jurisdiction in the EEZ over incidents resulting in pellet spillages.

Finally, **port State** jurisdiction over pollution within its port (e.g. particular entry requirements for foreign vessels) is not explicitly regulated by the UNCLOS, but ports shall give due publicity and communicate any requirements in relation to vessel-source pollution to the IMO (Article 211(3) UNCLOS). As for violations that occurred beyond any coastal State zones, i.e. on the high seas,



the port State is entitled to investigate and, if warranted, institute proceedings in respect of any discharges in violation of relevant international rules and standards established through the competent international organisations or diplomatic conference – which for plastics means those found in MARPOL, as discussed above (Article 218(1) UNCLOS). It has been argued that the term ‘discharge’ be interpreted here in line with MARPOL, meaning that it does not include dumping (the enforcement of which is regulated under Article 216 UNCLOS).¹⁵⁴ Furthermore, a port State may institute proceedings against a vessel that is voluntary in its port at the request of another (coastal, flag, or affected) State, or where a discharge violation in another coastal State’s maritime zones ‘has caused or is likely to cause pollution’ of the port State’s own maritime zones (Article 218(2) UNCLOS). The other coastal State may however suspend or take over the proceedings if a violation occurred in its maritime zones, and so doing would preclude the port State from continuing its proceedings (Article 218(4) UNCLOS).

Finally, it is recalled that Articles 223-233 UNCLOS include important safeguards and limitations on enforcement. It is recalled that ‘monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment’ (Article 230(1)), except in the case of ‘a wilful and serious act of pollution in the territorial sea’ (Article 230(2)). This imposes a significant limitation on coastal and port State enforcement action over foreign vessels. The provision does however give leeway to the coastal State with regard to ‘a wilful and serious act of pollution in the territorial sea’, and of course does not affect the actions that can be taken by flag States vis-à-vis their own flagged vessels. Furthermore, Article 228(1) provides that proceedings to impose penalties on a foreign flagged vessel shall be suspended if that vessel’s flag State

takes proceedings to impose penalties in respect of corresponding charges. This explicitly applies to penalties in respect of violations related to the ‘prevention, reduction and control of pollution from vessels committed by a foreign vessel’ (emphasis added), and therefore does not limit proceedings over dumping offences as discussed above. The relevance of Article 228 for national criminal law is arguably negligible as it pertains to proceedings over a violation of pollution from vessels *beyond* the territorial sea of the State instituting proceedings, which necessarily incur monetary penalties only as per Article 230, and such offences are therefore unlikely to be criminalized. The UNCLOS also provides that proceedings do not have to be suspended where they relate to ‘a case of major damage to the coastal State or the flag State in question has repeatedly disregarded its obligation to enforce effectively the applicable international rules and standards in respect of violations committed by its vessels’ (Article 228(1)), which effectively provides a safeguard against unwilling or incapable flag States.

¹⁵⁴ Article 2(3)(b) MARPOL; see Jo König, ‘Article 218’ in Proelss (n 89), p. 1493.



VI.

CONCLUDING REMARKS



This Issue Paper has set out how the UNCLOS and related instruments on marine pollution currently regulate the discharge of plastics directly into the marine environment and which States should take into consideration when adopting or amending national legislation on marine pollution crimes, or when considering the inclusion of provisions to this effect in a new international agreement. It also considered the relevance and operational implementation of the UNTOC provisions in this regard. It underscored the need to consider *all* avenues to prevent, reduce, and control it, including using criminal penalties for marine plastics pollution where this is relevant and appropriate – though keeping in mind the jurisdictional limitations provided for in the UNCLOS. It considered that the UNCLOS sets out both general (Articles 192, 194 UNCLOS) and specific (Articles 210, 211) duties on States to exercise their jurisdiction over plastics pollution by dumping and from vessels. These include the adoption of relevant measures, and vigilance in their enforcement, and national criminal law may well play an important role in this respect.

However, it was also discussed that the UNCLOS also contains limitations to the prescription and enforcement of laws and regulations concerning marine (plastics) pollution. Particularly limited is the extent that coastal States may prescribe and enforce measures concerning marine plastics pollution from vessels in their EEZ, whereby international rules and standards provide a regulatory ceiling, and physical intervention is only allowed for particularly harmful pollution incidents (namely, at least a substantial discharge causing or threatening significant marine pollution). Port State jurisdiction over pollution offences on the high seas is similarly restricted to the enforcement of international rules and standards. The UNCLOS moreover sets out various safeguards that would have to be followed if States were to criminalize marine plastics pollution incidents. States must allow a vessel to be promptly released upon the posting of a reasonable financial security, and with the exception of wilful and serious pollution in the territorial sea, penalties are limited to

monetary penalties only – although importantly, this limitation may not pertain to dumping offences. Moreover, whilst such limitations apply to coastal State enforcement over foreign vessels, they logically do not limit a flag State's jurisdiction over vessels flying their flag. Flag States clearly have jurisdiction over, and may enforce criminal sanctions against, crimes that affect the environment which are committed on board vessels flying their flag, and falling within the scope of UNTOC. What is more, flag States must ensure that vessels flying their flag do not undermine their UNCLOS responsibilities, including their duty to protect and preserve the marine environment under Article 192 UNCLOS. Flag State responsibility entails both prescriptive and enforcement duties, and flag State penalties over (vessel-source) pollution offences must be adequate in severity. As this Issue Paper has argued, there is therefore a clear role for criminal law as part of the arsenal of measures to be taken by the flag State in respect of plastics pollution at sea.

The new plastics treaty under negotiation could further encourage the use of national criminal law in combating marine plastics pollution. This would most logically entail the obligation of criminalization by the future contacting parties, which, in turn, and according to their domestic legal system, could provide for penalties of the kind amounting to serious crimes under UNTOC (namely, offences punishable by a maximum deprivation of liberty of at least four years or a more serious penalty). Inspiration could for instance be drawn from the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, which explicitly provides that 'The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal' (Article 4(4)). The Basel Convention has recently been amended to bring plastic wastes more clearly within its regulatory scope,¹⁵⁵ and together with other environmental law and the law of the sea discussed in this Issue Paper, provides the relevant regulatory backdrop for the negotiations of a new plastics treaty.

155 See Van der Marel (n 125).

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