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ARTICLE

Shared State Responsibility for Land-Based Marine Plastic Pollution

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Abstract
Plastic litter is introduced into the oceans from land-based sources located in many countries around the world. Marine plastic pollution may therefore be attributable to multiple states, resulting in shared state responsibility. This article discusses the issue of shared state responsibility for land-based marine plastic pollution by examining (i) primary rules of international law concerning the prevention of land-based marine plastic pollution; (ii) secondary rules of international law on this subject; and (iii) possible ways of strengthening the primary rules. It concludes that the barrier for the invocation of state responsibility may become higher in cases of shared state responsibility. Three cumulative solutions to this problem are proposed: elaborating the obligation of due diligence, strengthening compliance procedures, and interlinking regimes governing the marine environment and international watercourses.

Keywords: Shared state responsibility, Land-based marine plastic pollution, Microplastics, Obligations *erga omnes*, Primary and secondary rules

1. INTRODUCTION

The prevention and reduction of marine plastic litter,[1] including microplastics,[2] is becoming a matter of growing concern related to protection of the marine

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1 According to UNEP, marine litter is defined as 'any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment': UNEP, 'Marine Litter', available at: https://www.unep.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/marine-litter. For the purpose of this article, marine plastic litter refers to marine litter which consists of items including plastics. For a study that estimates that 75% of all marine litter is plastic, see I.E. Napper & R.C. Thompson, 'Plastic Debris in the Marine Environment: History and Future Challenge' (2020) 4(6) *Global Challenges*, pp. 1–9, at 1.

2 Plastics can be categorized depending on particular size as: macroplastics (with particles larger than 2.5 cm), mesoplastics (with particles between 5 mm and 2.5 cm), microplastics (with particles between 1 μm and

environment. According to the United Nations Environmental Programme (UNEP), 'the amount of plastics in the oceans has been estimated to be around 75–199 million tons'.[3] On 28 March 2019, the United Nations (UN) Environment Assembly voiced its concerns by stating that '[t]he high and rapidly increasing levels of marine litter, including plastic litter and microplastics, represent a serious environmental problem at a global scale, negatively affecting marine biodiversity, ecosystems, animal well-being, societies, livelihoods, fisheries, maritime transport, recreation, tourism and economics'.[4]

In the light of its transboundary nature[5] and long-lasting environmental implications,[6] marine plastic pollution constitutes one of the most serious environmental protection challenges. Given that marine plastic litter creates cumulative pollution that may affect the marine environment, including marine species and ecosystems,[7] it could be argued that the introduction of plastics into the oceans would fall within the scope of the definition of marine pollution under the UN Convention on the Law of the Sea (UNCLOS).[8] For the purposes of this article, marine plastic pollution is considered to refer to any type of pollution arising from the direct or indirect introduction (as plastic is not naturally occurring, the presence of plastics in the marine

5 mm), and nanoplastics (with particles between 1 and 100 nm): see D. Barcelo & Y. Pico, 'Case Studies of Macro-and Microplastics Pollution in Coastal Waters and Rivers: Is There a Solution with New Removal Technologies and Policy Actions?' (2020) 2 *Case Studies in Chemical and Environmental Engineering*, pp. 1–5, at 1. There are several variations on the size of these particles in addition to those shown here; for further discussion see, e.g., UNEP, *From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution* (UNEP, 2021), pp. 11–2, available at: https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution.

3 UNEP, *From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution – Synthesis* (UNEP, 2021), p. 3, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/36965/POLSOLSum.pdf.

4 UN Environment Assembly Res. 4/6, 'Marine Plastic Litter and Microplastics', 15 Mar. 2019, UN Doc. UNEP/EA.4/Res.6, Preamble, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/28471/English.pdf?sequence=3&isAllowed=y.

5 N. Oral, 'From the Plastics Revolution to the Marine Plastics Crisis: A Patchwork of International Law', in R. Barnes & R. Long (eds), *Frontiers in International Environmental Law: Oceans and Climate Challenge, Essays in Honour of David Freestone* (Brill/Nijhoff, 2021), pp. 281–315, at 286; M. Eriksen et al., 'Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighting over 250,000 Tons Afloat at Sea' (2014) 9(12) *PLoS ONE*, article e111913, pp. 1–15, at 10.

6 Ibid., p. 11.

7 UNEP refers to the following negative impacts on the marine environment: mortality or sub-lethal effects when plastic is ingested by animals such as turtles, small-toothed whales, and seabirds; entanglement of animals such as dolphins and large whales in nylon fishing gear (like nets) and other plastic debris; damage to critical ecosystems such as coral reefs and smothering of sediments; chemical contamination of marine organisms through ingestion of small plastic particles; and potential changes in biodiversity as a result of the transport of invasive species on plastic fragments: *UNEP Year Book 2014: Emerging Issues in Our Global Environment* (UNEP, 2014), p. 49, available at: https://wedocs.unep.org/handle/20.500.11822/9130. See also N.J. Beamont et al., 'Global Ecological, Social and Economic Impacts of Marine Plastic' (2019) 142 *Marine Pollution Bulletin*, pp. 189–95.

8 Montego Bay (Jamaica), 10 Dec. 1982, in force 16 Nov. 1994, available at: http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm. Art. 1(1)–(4) UNCLOS defines 'pollution of the marine environment' as 'the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities'.

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environment is by definition as a result of human action) of plastic substances into the marine environment.

Under Article 192 UNCLOS 'states have the obligation to protect and preserve the marine environment'. It has generally been agreed that Article 192 reflects customary international law.[9] Furthermore, arguably the obligation to protect and preserve the marine environment can be considered an obligation *erga omnes*.[10] Thus marine plastic pollution may raise the issue of state responsibility for a breach of the obligation *erga omnes* concerning marine environmental protection.

To establish the responsibility of a state, the state's conduct, consisting of an action or omission, must be attributable to the state under international law and constitute a breach of an international obligation of the state.[11] Damage is not considered to be an element required to establish the existence of an internationally wrongful act of a state.[12] While the conduct of private persons in itself is not attributable to the state,[13] a state may be responsible for the conduct of private parties if it failed to take necessary measures to prevent such conduct.[14] In other words, if a state fails to exercise due diligence to prevent the conduct of private parties, it may bear responsibility for its failure to exercise due diligence.[15] In the particular context of environmental protection, a state bears an obligation of due diligence to control and regulate all private activities in its territory to prevent transboundary pollution. If the state fails to exercise due diligence to prevent transboundary pollution resulting from private activities, state responsibility may arise.[16] Given that private persons are the main actors involved in producing and discharging plastics, this due diligence obligation of the state is of particular importance.[17]

As plastic litter is discharaged from the territoriy of multiple states, the origin of the problem of marine plastic pollution is shared between many states. Here, an issue arises with regard to shared state responsibility of multiple states.[18] As remedies for

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[9] A. Boyle & C. Redgwell, *Birnie, Boyle and Redgwell's International Law and the Environment*, 4th edn (Oxford University Press, 2021), p. 511; P. Sands et al., *Principles of International Environmental Law*, 3rd edn, (Cambridge University Press, 2012), p. 350; D. Czybulka, 'Article 192', in A. Proelss (ed.), *The United Nations Convention on the Law of the Sea: A Commentary* (Hart, 2017), pp. 1277–87, at 1284–5.

[10] See Section 2.1 of this article.

[11] Art. 2 of the International Law Commission (ILC) Articles on State Responsibility, reproduced in J. Crawford, *The International Law Commission's Articles on State Responsibility: Introduction, Text and Commentaries* (Cambridge University Press, 2002), p. 61.

[12] Ibid., pp. 84, 203.

[13] Ibid., p. 91

[14] Ibid., p. 92.

[15] R.L. Johnstone, *Offshore Oil and Gas Development in the Arctic under International Law: Risk and Responsibility* (Nijhoff, 2015), p. 198.

[16] T. Koivurova, 'Due Diligence', in R. Wolfrum (ed.), *Max Planck Encyclopedias of International Law* (online, Oxford University Press, 2010), para. 19.

[17] L. 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), pp. 158–9, available at: https://munin.uit.no/handle/10037/23741.

[18] According to Nolkaemper, the concept of shared responsibility refers to 'situations where a multiplicity of actors contributes to a single harmful outcome, and legal responsibility for this harmful outcome is distributed among more than one of the contributing actors': A. Nollkaemper, 'Introduction', in A. Nollkaemper & I. Plakokefalos (eds), *Principles of Shared Responsibility in International Law:*

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environmental harm and a means for restoring the situation to its condition before the illegal act occurred,[19] shared state responsibility of multiple states should be an issue that needs further consideration. While shared responsibility has been considered in multiple branches of international law,[20] there is relatively little scholarly literature on shared state responsibility for marine plastic pollution.[21] Shared state responsibility poses legal issues which have not been adequately discussed in the International Law Commission (ILC) Articles on State Responsibility;[22] such issues need to be examined in connection with actual problems, not in the abstract. Land-based marine plastic pollution provides an insight into shared state responsibility in international law; this article therefore examines the legal issues concerning shared state responsibility for marine plastic pollution. While marine plastic pollution arises from both land-based and ocean-based sources (vessel-source plastic pollution, such as lost or abandoned fishing gear, and dumping), it is derived largely from the former.[23] Because of limitations of space, this article focuses on land-based marine plastic pollution.[24]

The article consists of five sections. Following the introduction, Section 2 examines primary rules of international law concerning the prevention of land-based marine plastic pollution.[25] Section 3 analyses secondary rules of international law

An Appraisal of the State of the Art (Cambridge University Press, 2014), pp. 1–24, at 6–7. According to Nedeski, shared responsibility is an inevitable consequence of a breach of an indivisible shared obligation: N. Nedeski, *Shared Obligations in International Law* (Cambridge University Press, 2022), p. 222.

19 Permanent Court of International Justice (PCIJ), *Factory at Chorzów*, Merits, PCIJ Series A No. 17, 1928, p. 47. For the remedial function of the law of state responsibility, see D. Shelton, 'Righting Wrongs: Reparations in the Articles on State Responsibility' (2002) 96(4) *American Journal of International Law*, pp. 833–56, at 844.

20 A comprehensive examination of shared responsibility in various fields of international law was made by A. Nollkaemper & I. Plakokefalos (eds), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2017). While shared state responsibility for marine plastic pollution was not discussed in the book, shared state responsibility for land-based marine pollution was examined in Y. Tanaka, 'Land-Based Marine Pollution', in Nollkaemper & Plakokefalos, ibid., pp. 294–315.

21 E.g., Maljean-Dubois and Mayer considered liability for marine plastic pollution, but no discussion was made with regard to shared state responsibility: S. Maljean-Dubois & B. Mayer, 'Liability and Compensation for Marine Plastic Pollution: Conceptual Issues and Possible Ways Forward' (2020) 114 *American Journal of International Law Unbound*, pp. 206–11. While Finska examined some relevant issues of state responsibility for marine plastic pollution, no consideration was given to shared state responsibility: Finska, n. 17 above, pp. 155–83.

22 N. 11 above. Nollkaemper, n. 18 above, p. 3.

23 D. McRae, 'Introduction to the Symposium on Global Plastic Pollution' (2020) 114 *American Journal of International Law Unbound*, pp. 192–4, at 192; J. Schäli, 'Marine Plastic Pollution as a Common Concern of Mankind', in T. Cottier & Z. Ahmad (eds), *The Prospects of Common Concern of Humankind in International Law* (Cambridge University Press, 2021), pp. 153–98, at 160; Oral, n. 5 above, p. 287. Land-based sources are responsible for approximately 80% of marine pollution: UN General Assembly, 'Oceans and the Law of the Sea: Report of the Secretary-General', 18 Aug. 2004, UN Doc. A/59/62/Add.1, p. 29, para. 97, available at: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N04/464/58/PDF/N0446458.pdf?OpenElement.

24 It is not suggested that ocean-based marine plastic pollution is less important; on this issue, see Oral, n. 5 above, pp. 296–305; Finska, n. 17 above, pp. 75–94.

25 UNCLOS refers to 'prevent, reduce and control' in provisions concerning marine environmental protection. However, that phrase is not defined in the Convention and the relationship between prevention, reduction and control remains obscure: R. Churchill, V. Lowe & A. Sander, *The Law of the Sea*, 4th edn (Manchester University Press, 2022), pp. 623–4. In the view of the ILC, the obligation to 'prevent' relates to new pollution and the obligations to 'reduce' and 'control' relate to existing pollution: ILC, Draft Articles on the Law of Non-Navigational Uses of International Watercourses (1994) II(2)

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regarding shared state responsibility for land-based marine plastic pollution. Section 4 explores possible ways to strengthen the primary rules on this subject. Section 5 concludes.

2. PRIMARY RULES OF INTERNATIONAL LAW CONCERNING THE PREVENTION OF LAND-BASED MARINE PLASTIC POLLUTION

This section examines four main issues with regard to primary rules of international law concerning the prevention of land-based marine plastic pollution: (i) the obligation to protect and preserve the marine environment; (ii) the obligation not to cause transboundary harm (that is, the no-harm principle); (iii) the obligation to prevent land-based marine pollution; and (iv) the obligation to cooperate.

2.1. *Obligation to Protect and Preserve the Marine Environment*

States are under the obligation to protect and preserve the marine environment in Article 192 UNCLOS and customary international law. According to the *South China Sea* arbitral award on merits, the 'general obligation' under Article 192 extends both to 'protection' of the marine environment from future damage and 'preservation' in the sense of maintaining or improving its present condition.[26] It would seem to follow that the obligation to protect and preserve the marine environment entails a positive obligation to take active measures to protect and preserve this environment from plastic pollution, and a negative obligation not to degrade the marine environment by such pollution at the same time. Furthermore, according to the *South China Sea* arbitral award, 'the general obligation to "protect and preserve the marine environment" in Article 192 includes a due diligence obligation to prevent the harvesting of species that are recognised internationally as being at risk of extinction and requiring international protection'.[27]

Given that protecting marine species is an element of the protection and preservation of the marine environment,[28] by analogy it may not be unreasonable to consider that the obligation to protect and preserve in Article 192 includes a due diligence obligation to prevent adverse impacts of marine pollution, including plastic pollution, on marine species.

Yearbook of the International Law Commission, pp. 89–135, Commentary on Draft Article 21, p. 122, para. 4. Yet, there seems to be no clear reason why the obligation to prevent is not applicable to existing pollution. Prevention, reduction and control commonly aim to minimize marine pollution. For the sake of simplicity, this article uses the term 'prevention' rather than the somewhat burdensome phrase 'prevent, reduce and control', and the concept of 'prevention' should be taken to cover 'reduction' and/or 'control' where appropriate.

[26] Permanent Court of Arbitration, Case No. 2013-19, *South China Sea Arbitration (Philippines* v. *China)*, Case No. 2013-19, Award of 12 July 2016, (2020) XXXIII *Reports of International Arbitral Awards* (*RIAA*), p. 153, at 519, para. 941.

[27] Ibid., p. 526, para. 956.

[28] ITLOS, *Southern Bluefin Tuna Cases (New Zealand* v. *Japan; Australia* v. *Japan)*, Case Nos 3 and 4, Provisional Measures, Order of 27 Aug. 1999, *ITLOS Reports* (1999), p. 280, at 295, para. 70.

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Of note is the *erga omnes* character of the obligation to preserve the marine environment. In this respect, the International Tribunal for the Law of the Sea (ITLOS) Seabed Disputes Chamber, in its advisory opinion of 2011, stated: 'Each State Party may also be entitled to claim compensation in light of the *erga omnes* character of the obligations relating to preservation of the environment of the high seas and in the Area'.[29]

The reference to '[e]ach State Party' implies that the obligation relating to environmental preservation of the high seas and the Area is an obligation *erga omnes partes* which, in the light of the obligation under Article 192 UNCLOS, covers the ocean as a whole.[30] Given that, as noted, Article 192 reflects customary international law, the obligation can also be regarded as an obligation *erga omnes*.[31] As obligations *erga omnes* and obligations *erga omnes partes* concern the protection of common values and community interests, these obligations can be referred to as 'communitarian norms'.[32] It can be considered that the prevention of marine plastic litter is part of obligations *erga omnes (partes)* concerning marine environmental protection. As discussed in Section 3.2, the *erga omnes* nature of the obligation to protect and preserve the marine environment affects the *locus standi* of states other than a directly injured state in international adjudication.

2.2. *The No-harm Principle*

The no-harm principle is a cardinal principle of the international law of the environment. According to the International Court of Justice (ICJ), '[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment'.[33] As can be seen in the *dictum*, it is generally recognized that the no-harm principle is part of customary international law.[34]

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[29] ITLOS, *Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area*, Advisory Opinion, 1 Feb. 2011, *ITLOS Reports* (2011), p. 10, at 59, para. 180.

[30] Johnstone, n. 15 above, p. 223; P. Chandrasekhara Rao & P. Gautier, *The International Tribunal for the Law of the Sea: Law, Practice and Procedure* (Edward Elgar, 2018), p. 327; Y. Tanaka, 'The Legal Consequences of Obligations *Erga Omnes* in International Law' (2021) 68(1) *Netherlands International Law Review*, pp. 1–33, at 5.

[31] J. Harrison, *Saving the Oceans through Law: The International Legal Framework for the Protection of the Marine Environment* (Oxford University Press, 2017), pp. 24–5; Tanaka, n. 30 above, p. 5.

[32] The concept of obligations *erga omnes partes* is distinct from that of obligations *erga omnes*. According to the Institut de Droit International, an obligation *erga omnes partes* refers to 'an obligation under a multilateral treaty that a State party to the treaty owes in any given case to all the other States parties to the same treaty', while an obligation *erga omnes* refers to 'an obligation under general international law that a State owes in any given case to the international community': Institut de Droit International, 'Resolution: Obligation *Erga Omnes* in International Law, Krakow Session 2005', Art. 1, available at: http://www.idi-iil.org/app/uploads/2017/06/2005_kra_01_en.pdf. Crawford seemed to assimilate 'communitarian norms' with obligations *erga omnes*: J. Crawford, *Chance, Order, Change: The Course of International Law* (Brill/Nijhoff, 2014), p. 260.

[33] ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 8 July 1996, *ICJ Reports* (1996), p. 226, at 241–2, para. 29. This *dictum* was confirmed by the ICJ in *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, 25 Sept. 1997, *ICJ Reports* (1997), p. 7, at 41, para. 53.

[34] Boyle & Redgwell, n. 9 above, p. 152; Koivurova, n. 16 above, para. 3.

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The no-harm principle, which can be traced to the 1941 *Trail Smelter* arbitration,[35] was formulated by Principle 2 of the 1992 Rio Declaration on Environment and Development as follows:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[36]

Rio Principle 2 requires states to protect the environment beyond the limits of national jurisdiction. It would seem to follow that the no-harm principle is no longer bilateral but operates *erga omnes* in relation to areas beyond the limits of national jurisdiction.[37] In this sense, the no-harm principle resembles a communitarian norm. This formulation is relevant in the prevention of land-based marine pollution because marine plastic litter can spread widely in marine spaces beyond the limits of national jurisdiction. As regards marine environmental protection, the no-harm principle is provided for in Article 194(2) UNCLOS.[38] However, determining a breach of the no-harm principle is challenging for at least three reasons.

Firstly, the no-harm principle is an obligation of conduct, not of result, and requires states to act with due diligence.[39] Under the no-harm principle a state is not responsible for damage if it has paid due diligence. Rather, to invoke state responsibility, an injured state must prove a lack of diligent efforts or negligence on the part of the origin state.[40] A fundamental issue that arises here concerns its temporal element. Due diligence is a progressive and evolutionary standard.[41] A reasonable standard of care or due diligence may change with time and the development of science and technology. This point was highlighted by the Seabed Disputes Chamber of ITLOS in its first advisory opinion of 2011, in which it stated:

> Among the factors that make such a description difficult is the fact that 'due diligence' is a variable concept. 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.[42]

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[35] *Trail Smelter Arbitration*, Award of Arbitral Tribunal, 11 Mar. 1941, (2006) 3 *RIAA*, pp. 1905–82.

[36] Adopted by the UN Conference on Environment and Development, Rio de Janeiro (Brazil), 3–14 June 1992, UN Doc. A/CONF.151/26/Rev.1 (Vol. I), Annex I, available at: https://www.un.org/esa/dsd/agenda21/Agenda%2021.pdf.

[37] Boyle & Redgwell, n. 9 above, p. 162.

[38] This provision evolved from Principle 21 of the Stockholm Declaration (Declaration of the United Nations Conference on the Human Environment, adopted by the UN Conference on Environment and Development, Stockholm (Sweden), 5–16 June 1972, UN Doc. A/Conf.48/14/Rev. 1); D. Czybulka, 'Article 194', in Proelss, n. 9 above, pp. 1295–315, at 1306.

[39] Koivurova, n. 16 above, para. 8. An obligation of conduct is regarded as a best-efforts obligation: Nedeski, n. 18 above, p. 108. See also J. Clawford, *State Responsibility: The General Part* (Cambridge University Press, 2013), pp. 226–32.

[40] Koivurova, n. 16 above, para. 30.

[41] S. Besson, *La* due diligence *en droit international* (Brill/Nijhoff, 2021), p. 138.

[42] *Responsibilities and Obligations of States Sponsoring Persons*, n. 29 above, p. 43, para. 117.

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The International Law Commission (ILC) also stated:

> What would be considered a reasonable standard of care or due diligence may change with time; what might be considered an appropriate and reasonable procedure, standard or rule at one point in time may not be considered as such at some point in the future. Hence, due diligence in ensuring safety requires a State to keep abreast of technological changes and scientific developments.[43]

A due diligence obligation can flexibly accommodate progressive development of scientific knowledge and technology. In the light of its evolutionary nature, however, an international court or tribunal may encounter difficulties in deciding a breach of a due diligence obligation because it is difficult to identify an appropriate standard for due diligence at one point in the past, which currently may not be valid. Furthermore, due diligence does not require that all states must apply the same standard;[44] thus, it is necessary to decide an appropriate standard of due diligence considering the economic and technological capacities of each state. This, however, is not an easy task. As land-based marine plastic pollution arises from various sources located in multiple states, including both developed and developing states, different degrees of control must apply on a case-by-case basis. Hence, finding a breach of the due diligence obligation of several states not to cause transboundary harm will be complicated.

Secondly, the no-harm principle does not absolutely prohibit environmental damage[45] but protects the environment only from significant or substantial damage.[46] Yet, there is no established standard for measuring levels of marine pollution in international law. Furthermore, the degree of environmental damage differs according to the regions of the world. Accordingly, an objective determination of what constitutes 'significant or substantial harm' is particularly challenging for marine plastic pollution.[47]

Thirdly, the no-harm principle essentially activates *after* damage has already been caused in the other state's territory with a view to establishing state responsibility. In this sense, it does not directly oblige states to protect the marine environment or to regulate specific sources of marine pollution. Human activities that cause plastic pollution are not necessarily unlawful under international law. Given that the use of plastics is closely bound up with industrial development, the prohibition or restriction of crucial industrial activities will encounter strong state resistance.

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[43] ILC, 'Draft Articles on Prevention of Transboundary Harm from Hazardous Activities with Commentaries', Report of the ILC on its 53rd Session, 23 Apr.–1 June and 2 July–10 Aug. 2001, UN Doc. A/56/10, p. 154, para. 11, Commentary to Art. 3, available at: http://legal.un.org/ilc/documentation/english/reports/a_56_10.pdf.

[44] Koivurova, n. 16 above, para. 19.

[45] Boyle and Redgwell, n. 9 above, p. 162.

[46] R. Wolfrum, 'Purposes and Principles of International Environmental Law' (1990) 33 *German Yearbook of International Law*, pp. 308–30, at 317.

[47] The ILC recognized that the term 'significant' is not without ambiguity and that a determination has to be made in each specific case: ILC, n. 43 above, p. 152, para. 4. See also O. Schachter, *International Law in Theory and Practice* (Brill/Nijhoff, 1991), p. 366.

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2.3. *Obligations to Prevent Land-Based Marine Pollution*

UNCLOS is the only global treaty that imposes obligations to prevent land-based marine pollution. In broad terms the obligations respecting the prevention of land-based marine pollution under UNCLOS can be divided into two categories.

The first concerns obligations that are implemented by individual states. In this respect, UNCLOS provides the prescriptive and enforcement jurisdiction to regulate land-based marine pollution in a general manner. As regards prescriptive jurisdiction, Article 207(1) requires states to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment from land-based sources, 'taking into account internationally agreed rules, standards and recommended practices and procedures'. With regard to enforcement jurisdiction, Article 213 obliges states to enforce their laws and regulations adopted under Article 207 and to take other measures necessary to implement applicable international rules and regulations. States are also under a duty to take other measures as may be necessary to prevent, reduce, and control such pollution under Article 207(2). Breach of these obligations gives rise to the independent responsibility of the state that failed to meet the obligations.

The second category relates to the obligations that necessitate international cooperation between states. Under Article 207(3), states are required to endeavour to harmonize their policies in this respect at the appropriate regional level. Harmonization of policies of multiple states cannot be achieved by a single state only. Similarly, states are under an obligation to 'endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources', pursuant to Article 207(4). The global and regional rules cannot be established by one state only. Accordingly, implementation of the obligations mentioned above necessitates international cooperation between states. If relevant states fail to fulfil these obligations, shared state responsibility may be at issue.

The obligation to prevent pollution from land-based sources under UNCLOS is weaker than that concerning pollution from other sources. As regards pollution from sea-bed activities subject to national jurisdiction, pollution from dumping as well as pollution from vessels, states are obliged to adopt laws and regulations which must be no less effective than international rules and standards.[48] In the case of land-based marine pollution, however, states are required only to 'take into account' internationally agreed rules and standards when adopting relevant laws and regulations. Hence control by internationally agreed criteria upon national standards remains modest.[49] Furthermore, Article 207 offers no guidance with regard to preventive measures that must be taken by states. Moreover, the obligations set out under Article 207(3) and (4) are qualified by the term 'endeavour'. In addition, Article 207(4) allows states to take account of 'characteristic regional features, the economic capacity of developing states and their need for economic development'. It

[48] Arts 208(3), 210(6) and 211(2) UNCLOS.

[49] A.E. Boyle, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 *American Journal of International Law*, pp. 347–72, at 354; Tanaka, n. 20 above, p. 300.

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would follow that states have a wide discretion in deciding the content of law and policy regarding the prevention of land-based marine pollution.

In response to the weakness of the global legal framework, attempts have been made to elaborate rules respecting land-based pollution, in particular under the auspices of UNEP. These attempts have resulted in the following international instruments:

- Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources (1982);[50]
- Agenda 21 (1992);[51]
- Washington Declaration on the Protection of the Marine Environment from Land-based Activities (1995)[52]
- Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (1995)[53]
- Montreal Declaration on the Protection of the Marine Environment from Land-based Activities (2001)[54]
- Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (2012)[55]

While these instruments can be used as a factor in the interpretation of the obligation to prevent land-based marine pollution under UNCLOS, they are not legally binding.

All in all, it can be observed that attempts to address land-based marine pollution at the global level have been made only in the form of non-binding instruments. State practice seems to indicate that states are unwilling to undertake the same level of obligation as is imposed on other types of marine pollution.[56] In the light of the weakness of the obligation under UNCLOS, it may be difficult for an adjudicative body to decide whether there has been a breach of the obligations regarding land-based marine pollution under UNCLOS, all the more so if several states are involved in this type of pollution.[57]

2.4. *Obligation to Cooperate*

As ITLOS stated in the 2001 *MOX Plant* case, 'the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the

[50] Reproduced in H. Hohmann (ed.), *Basic Documents of International Environmental Law*, vol. I (Graham & Trotman, 1992), pp. 130–47.

[51] Available at: https://sdgs.un.org/publications/agenda21.

[52] Available at: http://wedocs.unep.org/handle/20.500.11822/13421.

[53] UN Doc. UNEP(OCA)/LBA/IG.2/7 5, Dec. 1995, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/13422/GPAFullTextEn.pdf?sequence=1&isAllowed=y.

[54] (2002) 48 *Law of the Sea Bulletin*, pp. 58–61.

[55] UN Doc. UNEP/GPA/IGR.3/CRP.1/Rev.1, 26 Jan. 2012, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/12347/ManillaDeclarationREV.pdf?sequence=1&isAllowed=y.

[56] Boyle & Redgwell, n. 9 above, pp. 467, 477.

[57] Tanaka, n. 20 above, p. 299.

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Convention and general international law'.[58] Thus, international cooperation is a prerequisite to effectuate the obligation *erga omnes* with regard to the protection of the marine environment. In this sense, it can be considered that the duty to cooperate is incorporated into the obligation *erga omnes* to preserve and protect the marine environment.

The obligation to cooperate has been incorporated in various international instruments and its content varies according to the instrument.[59] In order to preserve and protect the marine environment, UNCLOS details the duty to cooperate in several provisions. For instance, Article 197 requires states to cooperate on a global or regional basis in formulating and elaborating international rules, standards and recommended practices for the protection of the preservation of the marine environment. Article 123 provides several obligations to cooperate in enclosed or semi-enclosed seas, including the obligation to cooperate 'to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment'. If states fail to fulfil the duty to cooperate set out in the above provisions, arguably joint shared state responsibility arises. As the duty to cooperate constitutes a key element of the obligation *erga omnes* to preserve and protect the marine environment, the obligation *erga omnes* and shared state responsibility are to be linked via the duty to cooperate in protecting the marine environment.[60]

However, this obligation to cooperate contains no guidance with regard to specific measures that must be taken to ensure cooperation. Furthermore, specific measures to prevent plastic pollution require consideration of various economic, political, social, and scientific factors. As this consideration is essentially a matter of national policy, states have a wide discretion in deciding appropriate measures. Given that the obligation to cooperate is also an obligation of conduct,[61] it is not easy to decide whether there has been a breach of the obligation to cooperate in the prevention of marine plastic pollution.

3. SECONDARY RULES OF INTERNATIONAL LAW CONCERNING SHARED STATE RESPONSIBILITY IN THE CONTEXT OF LAND-BASED MARINE PLASTIC POLLUTION

This section examines four issues that may arise when invoking shared state responsibility for land-based marine plastic pollution: (i) *lex specialis* with regard to shared state

[58] ITLOS, *The MOX Plant Case (Ireland* v. *United Kingdom)*, Provisional Measures, Order of 3 Dec. 2001, *ITLOS Reports* (2001), p. 110, para. 82.

[59] R. Wolfrum, *Solidarity and Community Interests: Driving Forces for the Interpretation and Development of International Law* (Brill/Nijhoff, 2021), pp. 243 et seq.

[60] Gattini also considered that '[t]his category of obligations [i.e. obligations *erga omnes*] seems especially suitable for developing a general concept of shared responsibility': A. Gattini, 'Breach of International Obligations', in Nollkaemper & Plakokefalos, n. 18 above, pp. 25–59, at 32.

[61] According to Nedeski, the majority of obligations in the context of cooperation and the pursuit of common goals are obligations of conduct: Nedeski, n. 18 above, p. 129.

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responsibility for land-based marine plastic pollution; (ii) *locus standi*; (iii) challenges for invoking shared state responsibility; and (iv) reparation.

3.1. Lex Specialis

In the context of marine environmental protection, shared state responsibility may arise in three distinct situations.[62]

Firstly, *concurrent* shared state responsibility may arise in the situation where two or more states have caused environmental harm and each of the respective acts or omissions of multiple international persons would have been sufficient to cause the harm.

Secondly, *cumulative* shared state responsibility may arise in the situation where cumulative pollution was caused by the conduct of several sates, even though each contribution in itself would have been insufficient to cause the environmental harm.

Thirdly, *joint* shared state responsibility may arise in the situation, for instance, where multiple states caused the environmental harm in an offshore area of a third state by discharging a large amount of plastic litter from joint activities, or states failed to meet an obligation to take joint measures to prevent marine plastic pollution.

An issue that arises here is whether a *lex specialis* exists with regard to shared state responsibility for land-based marine plastic pollution.[63] UNCLOS contains no detailed provisions concerning responsibility. Article 235(1) provides:

> States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.

In the view of the ITLOS Seabed Disputes Chamber, 'the term "responsibility" refers to the primary obligation whereas the term "liability" refers to the secondary obligation, namely, the consequences of a breach of the primary obligation'.[64] The phrase 'in accordance with international law' refers to general international law of state responsibility.[65] Thus, this provision merely confirms the application of a *lex generalis*. Article 235(2) UNCLOS further provides:

> States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.

To this end, Article 235(3) requires states to:

> cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and

[62] Nollkaemper, n. 18 above, pp. 9–10.

[63] In space law, e.g., a *lex specialis* on shared state responsibility can be found in Art. IV(1) of the Convention on the International Liability for Damage caused by Space Objects, Washington, DC (US), Moscow (USSR), and London (United Kingdom), 29 Mar. 1972, in force 1 Sept. 1972, available at: https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introliability-convention.html#:~:text=Elaborating%20on%20Article%207%20of,to%20its%20faults%20in%20space.

[64] *Responsibilities and Obligations of States Sponsoring Persons and Entities*, n. 29 above, p. 30, para. 66.

[65] T. Stephens, 'Article 235', in Proelss, n. 9 above, pp. 1585–90, at 1588.

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> compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

This provision may open the way to develop a new regime for responsibility and liability for environmental damage, but such a regime has not yet been established.

With regard to regional treaties, Article 25 of the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) provides:

> The Contracting Parties undertake jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of this Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.[66]

Similarly, under the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, the contracting parties are required to cooperate with a view to adopting appropriate rules and procedures in the field of liability and compensation for damage resulting from pollution of the 'Convention Area'.[67] However, these provisions remain highly abstract and the formulation of a *lex specialis* on this matter is left to the development of the law in the future.

Based on these observations, it can be concluded that at present there is no *lex specialis* with regard to shared state responsibility in the context of land-based marine plastic pollution.[68] Without a *lex specialis*, shared responsibility of multiple states is to be governed by the general principles of the law of state responsibility. In accordance with Article 42 of the ILC Articles on State Responsibility, an injured state is entitled to invoke the responsibility of another state if the obligation breached is owed to '(b) a group of States including that State, or the international community as a whole, and the breach of the obligation (i) specifically affects that State'. Marine pollution is a case in point.[69] Furthermore, under Article 47(1) of the ILC Articles on State Responsibility, '[w]here several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act'.

This provision can apply to the situation where several states have contributed to cause the same environmental damage, such as marine plastic pollution.[70] It can also apply to the situation where several states have failed to fulfil the duty to cooperate. According to the commentary on this provision, 'the general principle in the case of

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[66] Helsinki (Finland), 9 Apr. 1992, in force 17 Jan. 2000, available at: https://helcom.fi/about-us/convention.

[67] Cartagena (Colombia), 24 Mar. 1983, in force 11 Oct. 1986, Art.14, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/27875/SPAWSTAC5_2012-en.pdf?sequence=1&isAllowed=y.

[68] Finska, n. 17 above, p. 156. This is not a particular problem that arises in the prevention of land-based marine plastic pollution only. Nollkaemper and Plakokefalos indicated that 'most regimes that protect public interests have not developed special rules regarding responsibility': A. Nollkaemper and I. Plakokefalos, 'Conclusions', in Nollkaemper and Plakokefalos, n. 20 above, pp. 1097–115, at 1114.

[69] By way of example, the ILC Commentary refers to breach of Art. 194 UNCLOS: Crawford, n. 11 above, p. 259.

[70] By way of example, the ILC Commentary refers to the situation where 'several States might contribute to polluting a river by the separate discharge of pollutants': ibid., p. 274.

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a plurality of responsible States is that each State is separately responsible for conduct attributable to it in the sense of article 2'.[71] In such a case 'the responsibility of each participating State is determined individually, on the basis of its own conduct and by reference to its own international obligations'.[72] This view was affirmed by the ICJ in the *Certain Phosphate Lands in Nauru* case.[73] Thus, a state responsible for an internationally wrongful act cannot escape from its own responsibility on the pretext that other states were jointly involved in the wrongful act.[74]

Land-based marine plastic pollution continues unless a state or states take measures necessary to prevent the introduction of plastics into the oceans. In this sense, the breach of an international obligation to prevent land-based marine plastic pollution by a state has a continuing character.[75] In the light of Article 14(3) of the ILC Articles on State Responsibility it can be considered that in breach of an international obligation that requires a state to prevent marine plastic pollution, when pollution occurs and extends over the entire period during which the pollution continues and remains is not in conformity with that obligation. As the ILC suggests, composite acts also give rise to continuing breaches.[76] Given that land-based marine plastic pollution arises from multiple sources located in the state territory, it seems likely that this type of pollution is caused by a series of actions or omissions of states. Hence there appears to be some scope to argue that land-based marine plastic pollution is the result of a breach of a composite obligation under Article 15 of the ILC Articles on State Responsibility.[77] In any event, the state responsible for the internationally wrongful act is under an obligation to cease that act in accordance with Article 30(a) of the ILC Articles on State Responsibility.[78] Cessation of the internationally wrongful act is important to protect the interests of injured states and those of the international community as a whole in the protection of the marine environment.[79]

3.2. *Invocation of Shared State Responsibility*

The second issue concerns the invocation of shared state responsibility for land-based marine plastic pollution. It is clear that an injured state is entitled to invoke the

[71] Ibid., p. 272.

[72] Ibid., pp. 274–5.

[73] ICJ, *Certain Phosphate Lands in Nauru (Nauru* v. *Australia)*, Preliminary Objections, Judgment, 26 June 1992, *ICJ Reports* (1992), pp. 258–9, para. 48.

[74] See also Principles 2, 3 and 4 of of the the Guiding Principles on Shared Responsibility in International Law (Guiding Principles): A. Nollkaemper et al., 'Guiding Principles on Shared Responsibility in International Law' (2020) 31(1) *European Journal of International Law*, pp. 15–72, at 16–7. The Guiding Principles have been elaborated by a group of international lawyers, and 'provide guidance to judges, practitioners and researchers when confronted with legal questions of shared responsibility of states and international organizations': ibid., pp. 20–1.

[75] ILC, Articles on State Responsibility, Art. 14(2), in Crawford, n. 11 above, p. 63.

[76] Crawford, ibid., p. 141, para. 1.

[77] Finska, n. 17 above, pp. 167–8.

[78] See also Guiding Principles, Principle 9: Nollkaemper et al., n. 74 above, p. 51

[79] See also Nedeski, n. 18 above, p. 180.

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responsibility of each of the wrongful states that share responsibility.[80] For instance, where the shoreline of a coastal state (the downstream state) is polluted by a large amount of plastic litter discharged from upstream states via an international watercourse, the coastal state may invoke responsibility of the responsible states. The question is whether states other than injured states ('not directly injured states') are entitled to invoke shared state responsibility for a breach of obligations to protect the marine environment from plastic pollution.[81] This issue may arise with regard to plastic pollution in the high seas. In approaching this issue, it is relevant to review the *locus standi* of the not directly injured states in response to a breach of obligations *erga omnes*. While the matter is disputed, the 2005 Resolution of the Institut de Droit International states in Article 3:

> In the event of there being a jurisdictional link between a State alleged to have committed a breach of an obligation *erga omnes* and a State to which the obligation is owed, the latter State has standing to bring a claim to the International Court of Justice or other international judicial institution in relation to a dispute concerning compliance with that obligation.[82]

To some extent, this landmark statement seems to be supported by the jurisprudence. A frequently cited case is ICJ, *Questions relating to the Obligation to Prosecute or Extradite*.[83] The case concerned Senegal's compliance with its obligation to prosecute Hissène Habré, the former President of the Republic of Chad, or to extradite him to Belgium for the purpose of criminal proceedings under Articles 6(2) and 7(1) of the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.[84] The ICJ accepted in this case that Belgium had standing to invoke the responsibility of Senegal on the basis of Article 30(1) of the Convention,[85] even though none of the alleged victims of the acts said to be attributable to Habré was of Belgian nationality at the time when the acts were committed.[86] Related to this, the ICJ explicitly ruled that '[t]hese obligations [under the Convention against Torture] may be defined as "obligations *erga omnes partes*" in the sense that each State party has an interest in compliance with them in any given case'.[87]

By the same token, the ICJ, in its order for provisional measures in *Application of the Convention on the Prevention and Punishment of the Crime of Genocide* between the Gambia and Myanmar, held:

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80 Principle 14(1): Nollkaemper et al., above n. 74, p. 20.

81 The term 'not directly injured States' was used in K. Kawasaki, 'The "Injured State" in the International Law of State Responsibility' (2000) 28 *Hitotsubashi Journal of Law and Politics*, pp. 17–31, at 22.

82 Institut de Droit International, n. 32 above.

83 ICJ, *Questions relating to the Obligation to Prosecute or Extradite (Belgium* v. *Senegal)*, Judgment, 20 July 2012, *ICJ Reports* (2012), p. 422.

84 New York, NY (US), 10 Dec. 1984, in force 26 June 1987, available at: https://www.ohchr.org/sites/default/files/cat.pdf.

85 *Questions relating to the Obligation to Prosecute or Extradite*, n. 83 above, p. 450, para. 70.

86 Ibid., p. 448, paras 64–5.

87 Ibid., para. 69.

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> [A]ny State party to the Genocide Convention, and not only a specially affected State, may invoke the responsibility of another State party with a view to ascertaining the alleged failure to comply with its obligations *erga omnes partes*, and to bring that failure to an end.[88]

The Court accordingly accepted that 'The Gambia has prima facie standing to submit to it [the ICJ] the dispute with Myanmar on the basis of alleged violations of obligations under the Genocide Convention' by virtue of Article IX of the Genocide Convention.[89] Subsequently the Court confirmed, in its judgment of 2022, that it has jurisdiction to entertain the application filed by the Gambia on the basis of Article IX of the Convention on the Prevention and Punishment of the Crime of Genocide.[90]

Another leading case is *Whaling in the Antarctic* between Australia and Japan.[91] Unlike the two cases referred to above, which relied on a compromissory clause, this case was submitted to the ICJ by Australia on the basis of Article 36(2) of the Statute of the ICJ.[92] In this case, Australia was not an injured state because it suffered no material damage from Japan's scientific whaling programme, JARPA II.[93] It is difficult to disagree with Judge Crawford, who stated that Australia invoked 'Japan's obligations *erga omnes partes* under the Whaling Convention'.[94] The ICJ, in its judgment of 2014, accepted that Australia had standing on the basis of the optional clause.[95]

In this context, the *South China Sea Arbitration* award also merits mention.[96] In this case, the Philippines, in its Submission No 11 as amended, claimed:

> (11) China has violated its obligations under the Convention to protect and preserve the marine environment at Scarborough Shoal, Second Thomas Shoal, Cuarteron Reef, Fiery Cross Reef, Gaven Reef, Johnson Reef, Hughes Reef and Subi Reef.

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88 ICJ, *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (The Gambia* v. *Myanmar)*, Provisional Measures, Order, 23 Jan. 2020, *ICJ Reports* (2020), p. 3, at 17, para. 41.

89 Ibid., para. 42. Convention on the Prevention and Punishment of the Crime of Genocide, Paris (France), 9 Dec. 1948, in force 12 Jan. 1951, available at: https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-prevention-and-punishment-crime-genocide.

90 ICJ, *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (The Gambia* v. *Mynmar)*, Preliminary Objections, Judgment, 22 July 2022, *ICJ Reports* (2022), p. 1, at 38, para. 115(5); see also para. 112.

91 ICJ, *Whaling in the Antarctic (Australia* v. *Japan: New Zealand intervening)*, Judgment, 31 Mar. 2014, *ICJ Reports* (2014), p. 226.

92 San Francisco, CA (US), 26 June 1945, in force 24 Oct. 1945, available at: http://www.icj-cij.org/en/statute. Australia and Japan accepted the jurisdiction of the ICJ in 2002 and 2007, respectively.

93 H. Sakai, 'After the Whaling in the Antarctic Judgment: Its Lessons and Prospects from a Japanese Perspective', in M. Fitzmaurice & D. Tamada (eds), *Whaling in the Antarctic: Significance and Implications of the ICJ Judgment* (Nijhoff/Brill, 2016), pp. 308–45, at 314.

94 J. Crawford, 'Responsibility for Breaches of Communitarian Norms: An Appraisal of Article 48 of the ILC Articles on Responsibility of States for Internationally Wrongful Acts', in U. Fastenrath et al. (eds), *From Bilateralism to Community Interest: Essays in Honour of Judge Bruno Simma* (Oxford University Press, 2011), pp. 224–40, at 236. See also M. Fitzmaurice, *Whaling and International Law* (Cambridge University Press, 2015), p. 110; International Convention for the Regulation of Whaling, Washington, DC (US), 2 Dec. 1946, in force 10 Nov. 1948, available at: https://archive.iwc.int/pages/view.php?ref=3607&k=.

95 *Whaling in the Antarctic*, n. 91 above, p. 246, para. 41.

96 *South China Sea Arbitration*, n. 26 above.

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Cuarteron Reef, Fiery Cross Reef, Gaven Reef and Subi Reef are located in the area beyond 200 nautical miles from the coasts of the Philippines.[97] In addition, the territorial sovereignty over these maritime features remains undetermined. Accordingly, the Philippines suffered no material damage from Chinese activities in its jurisdictional zones. Even so, the Annex VII Arbitral Tribunal accepted the *locus standi* of the Philippines because 'the environmental obligations in Part XII apply to states irrespective of where the alleged harmful activities took place'.[98]

All in all, the jurisprudence hints in the direction that an international court or tribunal would accept the *locus standi* of a not directly injured state in response to a breach of obligations *erga omnes partes* if there is a consensual basis for its jurisdiction. By analogy, there may be room for the view that the *locus standi* of a not directly injured state in response to a breach of obligations *erga omnes* may be accepted if a court or tribunal can establish its jurisdiction.[99] Thus, there are good reasons to argue that states other than the directly injured state are entitled to invoke the responsibility of each of the states that share responsibility. This view was supported by Principle 14(2) of the the Guiding Principles on Shared Responsibility in International Law (Guiding Principles), which provides:

> An international person other than the injured international person is entitled to invoke the responsibility of each of the international persons that share responsibility if the obligation breached is owed to a group of international persons that includes that international person or to the international community as a whole.[100]

In the light of the *erga omnes* character of the obligation to protect and preserve the marine environment, it can be considered that all states, including those not directly injured, are entitled to invoke shared state responsibility for land-based marine plastic pollution.

3.3. *Challenges to Invoking Shared State Responsibility*

In practice, states that attempt to invoke shared state responsibility for land-based marine plastic pollution will encounter considerable difficulties. Two challenges, in particular, merit attention.

The first challenge relates to establishing a causal relationship between environmental damage and the wrongful conduct. In the case of shared state responsibility for land-

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97 Y. Tanaka, *The South China Sea Arbitration: Toward an International Legal Order in the Oceans* (Hart, 2019), p. 193.

98 *South China Sea Arbitration*, n. 26 above, p. 515, para. 927.

99 ICJ, *Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament (Marshall Islands* v. *United Kingdom)*, Preliminary Objections, Judgment, 5 Oct. 2016, *ICJ Reports* (2016), p. 833, Dissenting Opinion of Judge Crawford, p. 1102, para. 22. See also C.J. Tams, *Enforcing Obligations* Erga Omnes *in International Law* (Cambridge University Press, 2005), pp. 210–1; C.J. Tams & A. Asteriti, '*Erga Omnes*, *Jus Cogens* and their Impact on the Law of Responsibility', in M. Evans & P. Koutrakos (eds), *The International Responsibility of the European Union: European and International Perspective* (Hart, 2013), pp. 163–88, at 170; Tanaka, n. 30 above, p. 23.

100 Nollkaemper et al., n. 74 above, p. 20.

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based marine plastic pollution, sources are located in multiple states. Hence establishing causation is far more complicated compared with that of bilateral environmental pollution.[101] This is particularly true where microplastics or nanoplastics spread widely across the world's oceans. Detection, proper identification, and quantification of microplastics is challenging because of their small size and diversity.[102] Furthermore, the comparability of data on microplastics is hampered by the absence of standardization of methodologies for identification and quantification of microplastics in the marine environment.[103] It is also difficult to identify precisely the proportion of the contribution to marine plastic pollution between multiple states. The situation becomes further complicated if an injured state itself contributes to the land-based marine plastic pollution.

The second challenge relates to the application of the *Monetary Gold* rule. As the Annex VII Arbitral Tribunal ruled in the *South China Sea Arbitration*: '*Monetary Gold* calls for a court or tribunal to refrain from exercising its jurisdiction where the "legal interests [of a third State] would not only be affected by a decision, but would form the very subject-matter of the decision"'.[104]

The *Monetary Gold* rule is a well-established principle of international adjudication.[105] As demonstrated by the *East Timor* case,[106] the application of the *Monetary Gold* rule could effectively preclude a finding of shared state responsibility.[107] As the Annex VII Arbitral Tribunal rightly observed, however, 'any more expansive reading [of *Monetary Gold*] would impermissibly constrain the practical ability of courts and tribunals to carry out their function'.[108] In this respect a commentary to the Guiding Principles states:

> The mere fact that a court could make a determination of responsibility in relation to one state, in a situation where that state may share responsibility with another state that is not party to the proceedings, in principle should not be a reason to abstain from the exercise of jurisdiction.[109]

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[101] E.A. Kirk & N. Popattanachai, 'Marine Plastics: Fragmentation, Effectiveness and Legitimacy in International Lawmaking' (2018) 27(3) *Review of European, Comparative and International Environmental Law*, pp. 222–33, at 223–4. See also Nedeski, n. 18 above, p. 190; Finska, n. 17 above, pp. 164–5.

[102] M. Bergmann, L. Gutow & M. Klages, 'Preface', in M. Bergmann, L. Gutow & M. Klages (eds), *Marine Anthropogenic Litter* (Springer, 2015), pp. i–xiv, at xii.

[103] M.G.J. Löder & G. Gerdts, 'Methodology Used for the Detection and Identification of Microplastics: A Critical Appraisal', in Bergmann, Gutow & Klages, ibid., pp. 201–27, at 222. So far, there is no established analytical method for detecting nanoplasitcs in the oceans: A.A. Koelmans, E. Besseling & W.J. Shim, 'Nanoplastics in the Aquatic Environment: Critical Review', in Bergmann, Gutow & Klages, ibid., pp. 325–40, at 330.

[104] *South China Sea Arbitration*, n. 26 above, pp. 417–8, para. 640; ICJ, *Monetary Gold Removed from Rome in 1943* (*Italy* v. *France, United Kingdom of Great Britain and Northern Ireland and United States of America*), Judgment, 15 June 1954, *ICJ Reports* (1954), p. 19, at 32.

[105] In fact, the *dictum* was repeatedly confirmed in the jurisprudence: ICJ, *East Timor* (*Portugal* v. *Australia*), Judgment, 30 June 1995, *ICJ Reports* (1995), p. 90, at 102, para. 28.

[106] Ibid., pp. 104–5, paras 34–35.

[107] Nollkaemper et al., n. 74 above, p. 68, para. 9. In this regard, Okowa considered that '[i]t is difficult to see how the principle of joint or several responsibility can be applied on the international plane without offending this principle [i.e. the Monetary Gold rule]': P.N. Okowa, *State Responsibility for Transboundary Air Pollution in International Law* (Oxford University Press, 2000), p. 199.

[108] *South China Sea Arbitration*, n. 26 above, pp. 417–8, para. 640.

[109] Nollkaemper et al., n. 74 above, p. 69, para. 10.

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The relevance of the statement seems to rely on the interpretation of the concept of 'the very-subject matter of the decision'. To minimize the legal effect of the *Monetary Gold* rule in cases concerning shared state responsibility, there will be a need to interpret this concept in a restrictive manner.[110]

3.4. *Reparation of Shared State Responsibility for Land-based Marine Plastic Pollution*

Furthermore, reparation of shared state responsibility for land-based marine plastic pollution must be considered. Under Principle 9(1) of the Guiding Principles:

> Each international person sharing responsibility is under an obligation:
> (a) to cease the act attributable to it, if this act is continuing;
> (b) to offer appropriate assurances and guarantees of non-repetition, if circumstances so require.[111]

This principle is applicable to land-based marine plastic pollution. In accordance with Principle 11(1) of the Guiding Principles: 'Full reparation for the indivisible injury caused shall take the form of restitution, compensation and satisfaction, either singly or in combination'.[112]

As the ILC Commentary on Articles on State Responsibility states, restitution is the first of the form of reparation in accordance with Article 34. It means 'the reestablishment as far as possible of the situation which existed prior to the commission of the internationally wrongful act, to the extent that any changes that have occurred in that situation may be traced to that act'.[113] From a technical viewpoint, it may be possible to remove microplastics from water by using removal or cleaning technologies.[114] According to the development of removal technologies, to a certain extent at least restitution in kind may be possible as reparation for marine plastic pollution. However, the application of advanced technologies may need a cost-benefit analysis.[115] Furthermore, restitution in kind must be made to the true victims. In the case of plastic pollution on the high seas, however, there is no directly injured state; accordingly, no state may be entitled to demand restitution in kind. Likewise, satisfaction must be made to the true victims. It would follow that in the case of plastic pollution in the high seas, no state may be entitled to demand satisfaction.

As regards compensation, Principle 11(3) of the Guiding Principles states: 'In so far as the damage is not made good by restitution, each of the responsible international persons is under an obligation to compensate for the indivisible injury caused'.[116]

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[110] See also Nedeski, n. 18 above, pp. 211–7.

[111] Nollkaemper et al., n. 74 above, p. 18.

[112] Ibid., p. 19.

[113] Crawford, n. 11 above, p. 213.

[114] For an analysis of various removal technologies for microplastics, see Xuan-Thanh Bui et al., 'Microplastics Pollution in Wastewater: Characteristics, Occurrence and Removal Technologies' (2020) 19 *Environmental Technology and Innovation*, pp. 1–18, at 8–13. With regard to ocean clean-up systems, see https://theoceancleanup.com/oceans.

[115] Bui et al., ibid., p. 13; Barcelo & Pico, n. 2 above, p. 3.

[116] Nollkaemper et al., n. 74 above, p. 19.

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In the *Costa Rica* v. *Nicaragua* judgment of 2 February 2018, the ICJ, for the first time, adjudicated on compensation for environmental damage.[117] The Court adopted an overall assessment approach which evaluates environmental damage 'from the perspective of the ecosystem as a whole'.[118] However, the overall assessment approach is open to criticism with regard to, inter alia, its legal and scientific basis and the criteria for the assessment.[119] Hence, whether the ICJ approach can be directly applicable to the valuation of environmental damage to the oceans needs careful consideration. Furthermore, in the case of shared state responsibility, compensation may raise a new debatable issue as to how it is to be allocated between multiple responsible states. To determine the proportion of compensation between such states, there will be a need to identify the state's proportion of the contribution to the damage. Yet, this seems to be a difficult task in the light of the cumulative nature of marine plastic pollution. It must also be noted that in the case of plastic pollution on the high seas, states that are not directly injured may not be entitled to demand compensation as obtaining compensation without any loss or damage would amount to a type of undue profit.[120]

4. EVALUATION AND PROSPECTS

On the basis of the above considerations, this section considers the limitations of communitarian norms concerning the prevention of land-based marine plastic pollution and proposes how to strengthen the normativity of primary rules on this subject.

4.1. *Limitations of Communitarian Norms*

Because environmental damage is often irreversible[121] and can have a long-standing dimension,[122] such damage affects the well-being of future generations. This holds particularly true for marine plastic pollution. Yet reparation, including compensation, is essentially a past-oriented concept; it may not be suitable for protecting the well-being of future generations from environmental damage.[123] In the light of this, *ex post facto* responsibility, independent or shared, contains an inherent limitation in the protection

[117] ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica* v. *Nicaragua)*, Compensation, Judgment, 2 Feb. 2018, *ICJ Reports* (2018), p. 15.

[118] Ibid., p. 37, para. 78.

[119] See, e.g., K. Kindji & M. Faure, 'Assessing Reparation of Environmental Damage by the ICJ: A Lost Opportunity?' (2019) 57 *Questions of International Law, Zoom-in*, pp. 5–33, at 26; J. Rudall, 'Certain Activities Carried Out by Nicaragua in the Border Area (*Costa Rica* v. *Nicaragua*): Compensation Owed by the Republic of Nicaragua to the Republic of Costa Rica' (2018) 112(2) *American Journal of International Law*, pp. 288–94, at 292; Y. Tanaka, 'Temporal Elements in the Valuation of Environmental Damage: Reflections on the *Costa Rica v. Nicaragua Compensation* Case before the International Court of Justice' (2021) 90 *Nordic Journal of International Law*, pp. 257–91, at 265–78.

[120] Kawasaki, n. 81 above, p. 27.

[121] *Gabčíkovo-Nagymarous Project*, n. 33 above, p. 78, para. 140.

[122] *Costa Rica* v. *Nicaragua*, n. 117 above, Separate Opinion of Judge Cançado Trindade, p. 65, para. 15.

[123] Tanaka, n. 119 above, p. 271.

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of the marine environment. Thus far, there has not been a case on this subject at the international level.[124]

In general, the secondary rules of international law perform an important role in reparation for injury and restoration of legal relations after breach of a primary rule of international law. Without the secondary rules, the effectiveness of the primary rules cannot be adequately secured. Conversely, if primary rules are less elaborated, it becomes difficult to invoke state responsibility. Thus, primary and secondary rules complement one another.

As has been seen, rules regulating land-based marine pollution under UNCLOS remain general and abstract. Furthermore, a due diligence obligation and an obligation to cooperate constitute an obligation of conduct. In the light of this, the normative strength of primary rules of international law in this area remains modest. Thus, it would be difficult to trigger secondary rules concerning state responsibility. Furthermore, as explained earlier, invoking state responsibility is not easy. All in all, in the particular context of land-based marine plastic pollution, both primary and secondary rules of international law contain limitations. This is the essential problem of international law with regard to the prevention of this type of marine pollution. One way to address the problem is to strengthen the relevant primary rules of international law. This article therefore proposes the following three ways to further elaborate the primary rules.

4.2. *Strengthening the Due Diligence Obligation*

The first proposition is to strengthen the obligation of due diligence. Here, at least two issues must be considered: (i) elaboration of the content of due diligence, and (ii) the inter-temporality of due diligence.

Firstly, it appears that the due diligence obligation in the context of preventing marine pollution is not adequately elaborated in international law. There is a need to specify factors that need to be considered in the application of this obligation. The ILC, in its Draft Articles on Prevention of Transboundary Harm from Hazardous Activities with Commentaries, enumerates factors that need to be considered in determining the due diligence requirement in each instance. Such factors include the size of the operation, its location, special climate conditions, materials used in the activity, and whether the conclusions drawn from the application of these factors in a specific case are reasonable.[125] While these elements seem to be relevant in the prevention of land-based marine plastic pollution, their application in practice relies on the specific context. In this respect, it is of particular interest to note that the Annex VII Arbitral Tribunal, in the *South China Sea* arbitration, specified two components of the obligation of due diligence. The first concerned an obligation to adopt rules and measures to prevent harmful

[124] A similar issue may arise in climate change litigation. As Peel observed, however, '[t]o date, no claim has been determined at the international level based on a theory of (shared) responsibility for climate change-related injuries, or breaches of joint obligation to take action on aspects of the climate change problem': J. Peel, 'Climate Change', in Nollkaemper & Plakokefalos, n. 20 above, pp. 1009–50, at 1013.

[125] ILC, n. 43 above, p. 154, para. 11.

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acts; the second element related to an obligation to maintain a level of vigilance in enforcing those rules and measures.[126] This distinction between the adoption of rules and maintenance of a level of vigilance is noteworthy. According to the Arbitral Tribunal, the adoption of rules and measures alone is inadequate to fulfil the obligation of due diligence.[127]

Secondly, as explained earlier, determining a breach of a due diligence obligation is challenging because of its evolutionary nature. A difficult question thus arises of how can one address the inter-temporality of a due diligence obligation. A possible solution may be to link the obligation of due diligence with the obligation to apply best environmental practices and/or best available techniques. The interlink between a due diligence obligation and best environmental practices was highlighted by the ITLOS Seabed Dispute Chamber.[128] Such environmental practices and techniques evolve over time.[129] Where states are under the obligation to apply best environmental practices and best available techniques, they are required to review and update their technology and practice with regard to environmental protection in the light of technological and scientific advances.[130] If a state's activities have caused serious environmental damage and the state has failed to fulfil this obligation, it will be difficult to claim that due diligence has been exercised.

Another possible way to overcome the problem may be to strengthen the standard of due diligence in environmental obligations by combining it with a clear procedural rule, such as the obligation to conduct an environmental impact assessment (EIA). An EIA is a procedure to detect environmental risks and the likely impacts of a proposed project and integrate environmental concerns into the decision-making process before authorizing or funding a project.[131] An EIA is inter-temporal in the sense that it seeks to detect signs of future environmental risks of a proposed project.[132] The obligation to conduct a transboundary EIA is generally regarded as a rule of customary international law.[133] If a state's activities create serious environmental damage, including marine plastic

[126] *South China Sea Arbitration*, n. 26 above, pp. 527–8, para. 961. See also ICJ, *Pulp Mills on the River Uruguay (Argentina* v. *Uruguay)*, Judgment, 20 Apr. 2010, *ICJ Reports* (2010), p. 14, at 83, para. 204.

[127] *South China Sea Arbitration*, n. 26 above, p. 542, para. 992.

[128] *Responsibilities and Obligations of States Sponsoring Persons and Entities*, n. 29 above, p. 48, para. 136. See also Boyle & Redgwell, n. 9 above, p. 165.

[129] See the OSPAR Convention, Paris (France), 22 Sept. 1992, in force 25 Mar. 1998, Appendix 1, paras 2 and 8, available at: http://www.ospar.org.

[130] See also Boyle & Redgwell, n. 9 above, p. 165.

[131] Ibid., p. 184. By way of example, EIA is defined as 'a national procedure for evaluating the likely impact of a proposed activity on the environment' in Art. 1(vi) of the 1991 Convention on Environmental Impact Assessment in a Transboundary Context, Espoo (Finland), 25 Feb. 1991, in force 10 Sept. 1997, available at: https://unece.org/fileadmin/DAM/env/eia/documents/legaltexts/Espoo_Convention_authentic_ENG.pdf.

[132] Y. Tanaka, 'Obligation to Conduct an Environmental Impact Assessment (EIA) in International Adjudication: Interaction between Law and Time' (2021) 90 *Nordic Journal of International Law*, pp. 86–121, at 93, 101.

[133] *Responsibilities and Obligations of States Sponsoring Persons and Entities*, n. 29 above, p. 50, para. 145; *Pulp Mills on the River Uruguay*, n. 126 above, p. 83, para. 204; ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica* v. *Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Judgment, 16 Dec. 2015, *ICJ Reports* (2015), p. 665, at 706–7, para. 104.

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pollution, the state will not be able to deny breach of an obligation of due diligence on grounds of non-foreseeability if it has not conducted an EIA. Thus, an EIA provides a procedural means to effectuate the obligation of due diligence. As such, the obligation to conduct an EIA contributes to strengthening the standard of due diligence in environmental obligations.[134]

4.3. *Strengthening Compliance Procedures*

The second proposition is to strengthen procedures for ensuring compliance with environmental norms with regard to the prevention of land-based marine plastic pollution. Compliance procedures are increasingly set out in multilateral environmental agreements (MEAs).[135] According to a definition in *Max Planck Encyclopedia of International Procedural Law*, a compliance procedure in the context of environmental protection is 'a procedure to ensure the fulfilment by the Contracting Parties of their obligations in implementing MEAs'.[136] Compliance procedures are of critical importance in ensuring effective compliance with obligations *erga omnes partes* provided in MEAs. Some regional treaties that regulate land-based marine plastic pollution provide these procedures. Under Article 16 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention), for instance, the contracting parties are obliged to report to the Baltic Marine Environment Protection Commission (HELCOM) at regular intervals on the legal or other measures taken for implementation of the Convention, Annexes and recommendations, the effectiveness of the measures, and problems encountered in their implementation.[137] On the basis of the reports, under Article 20(1), HELCOM is '(a) to keep the implementation of this [Helsinki] Convention under continuous observation' and '(b) to make recommendations on measures relating to the purpose of this Convention'.[138] In 2015, HELCOM adopted the Regional Action Plan on Marine Litter in accordance with Article 20(1)(b), and revised it in October 2021.[139] Among other things, the revised Regional Action Plan specifies '(i) actions to combat land-based and (ii) sea-based sources of marine litter which include also actions on removal and disposal of litter already present in the marine environment'.[140]

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[134] Tanaka, n. 132 above, pp. 92–102.

[135] There is much literature on compliance procedures; see, e.g., T. Treves et al. (eds), *Non-Compliance Procedures and Mechanisms and the Effectiveness of International Environmental Agreements* (TMC Asser Press, 2009); N. Goeteyn & F. Maes, 'Compliance Mechanisms in Multilateral Environmental Agreements: An Effective Way to Improve Compliance?' (2011) 10 *Chinese Journal of International Law*, pp. 791–826; A. Huggins, *Multilateral Environmental Agreements and Compliance: The Benefits of Administrative Procedures* (Routledge, 2018); Y. Tanaka, 'Compliance Procedure (Multilateral Environmental Agreements)', in H.R. Fabri (ed.), *Max Planck Encyclopedia of International Procedural Law (MPEiPro)* (online, Oxford University Press, 2021).

[136] Tanaka, ibid., para. 3.

[137] N. 66 above.

[138] Ibid., Art. 20 (1)(a) and (b).

[139] HELCOM Recommendation 42-43/3, available at: https://helcom.fi/action-areas/marine-litter-and-noise/marine-litter/marine-litter-action-plan.

[140] Ibid., p. 5.

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A similar compliance procedure is also set out in the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention).[141] Under Article 23(b) of the Convention, the OSPAR Commission is empowered to 'when appropriate, *decide upon and call for steps to bring about full compliance with the Convention*, and decisions adopted thereunder, and promote the implementation of recommendations, including measures to assist a Contracting Party to carry out its obligations'.[142] In so doing, the OSPAR Commission is to assist the contracting party concerned to comply with treaty obligations, rather than to establish responsibility of the party. It appears that compliance procedures through a treaty commission are worth considering in legal regimes regarding the prevention of land-based marine plastic pollution in other regions. It appears that the establishment of effective compliance procedures should be a crucial issue in a new international legally binding instrument on plastic pollution.[143]

4.4. *Interlink between the Protection of the Marine Environment and International Watercourses*

The third proposition is to strengthen the interlink between protection of the marine environment and international watercourses. According to one study, the top ten major rivers, including six international watercourses, transport 88 to 95% of the global plastic load into the sea.[144] Given that a considerable volume of marine plastic debris flows into the ocean via rivers, including international watercourses,[145] more focus should be placed on the interface between the regimes governing international watercourses and protection of the marine environment.[146] The nexus between an international watercourse and the marine environment is reflected in Article 23 of the 1997 UN Convention on the Law of the Non-Navigational Uses of International

[141] N. 129 above.

[142] Ibid., see also Art. 21.

[143] On 2 Mar. 2022, the UNEP Environmental Assembly decided to convene, by 2024, an intergovernmental negotiating committee to adopt a new international legally binding instrument on plastic pollution, including in the marine environment: Res. 5/14 'End Plastic Pollution: Towards an Internationally Binding Legal Instrument', 2 Mar. 2022, UN Doc. UNEP/EA.5/Res.14, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/40597/Plastic_pollution_UNEP_EA.5_Res.14_EPP_EN.pdf?sequence=6&isAllowed=y. See also UNEP Press Release, 'Historic Day in the Campaign to Beat Plastic Pollution: Nations Commit to Develop a Legally Binding Agreement', 2 Mar. 2022, available at: https://www.unep.org/news-and-stories/press-release/historic-day-campaign-beat-plastic-pollution-nations-commit-develop. See also A. Stöfen-O'Brien, 'The Prospects of an International Treaty on Plastic Pollution' (2022) 37(4) *The International Journal of Marine and Coastal Law*, pp. 727–40.

[144] C. Schmidt, T. Krauth & S. Wagner, 'Export of Plastic Debris by Rivers into the Sea' (2017) 51(21) *Environmental Science and Technology*, pp. 12246–53. According to the authors' supporting information, mismanaged plastic waste (MMPW) and plastic loads for the top 10 ranked catchments sorted by MMPW are Chang Jian (Yangtze River), Indus, Huang He (Yellow River), Hai He, Nile, Meghna/Bramaputra/Ganges, Zhujiang (Pearl River), Amur, Niger, and Mekong. Among these rivers, international watercourses are the Amur, Ganges, Indus, Mekong, Nile, and Niger rivers.

[145] L. Finska & J.G. Howden, 'Troubled Waters: Where is the Bridge? Confronting Marine Plastic Pollution from International Watercourses' (2018) 27(3) *Review of European, Comparative and International Environmental Law*, pp. 245–53, at 245; Oral, n. 5 above, p. 288.

[146] Further, see Finska, n. 17 above, pp. 115–28.

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Watercourses.[147] A similar obligation is set out in Article 2(6) of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes[148] and Article 6(4) of the Helsinki Convention.

Of particular note in this regard is the interlink between the OSPAR Convention and the Convention for the Protection of the Rhine,[149] Article 3(5) of which states that one of its aims is 'to help restore the North Sea in conjunction with the other actions taken to protect it'. The interlink is clearly reflected in Rhine 2040, which is a programme to achieve sustainable management of the Rhine. Noting that '[t]he OSPAR action plan on marine litter also addresses the rivers as influx pathways, and provides for cooperation with the river basin commissions', Rhine 2040 states that the International Commission for the Protection of the Rhine (ICPR) 'can provide support to reduce the influx of waste, especially plastic, into the water'.[150] Thus, it sets out a goal to reduce 'influx at source, through the better management of plastics along the value chain, in particular through waste management'.[151] It also states that the ICPR will continue to exchange information with marine organizations, including the OSPAR Commission.[152] In fact, the ICPR has observer status with the OSPAR Commission.[153]

A similar form of cooperation can be found in the legal regimes governing the Danube river and the Black Sea. In 2001, the International Commission for the Protection of the Black Sea and the International Commission for the Protection of the Danube River adopted a Memorandum of Understanding to achieve common strategic goals to safeguard the wider Black Sea Basin.[154] Such cooperation between treaty commissions provides a useful means to prevent land-based marine pollution via an international watercourse.

5. CONCLUSION

This article examined (i) primary rules of international law concerning the prevention of land-based marine plastic pollution, (ii) secondary rules of international law respecting shared state responsibility for land-based marine plastic pollution, and (iii) possible ways of strengthening the primary rules on this subject. Its principal findings can be summarized as follows.

[147] New York, NY (US), 21 May 1997, in force 17 Aug. 2014, available at: http://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf; see Arts 20 and 22.

[148] Helsinki (Finland), 17 Mar. 1992, in force 6 Oct. 1996, available at: http://www.unece.org/env/water.

[149] Bern (Switzerland), 12 Apr. 1999, in force 1 Jan. 2003, available at: https://www.iksr.org/fileadmin/user_upload/DKDM/Dokumente/Rechtliche_Basis/EN/legal_En_1999.pdf.

[150] ICPR, '"RHINE 2040" Programme: The Rhine and its Catchment: Sustainably Managed and Climate-Resilient', 13 Feb. 2020, p. 17, available at: https://www.iksr.org/fileadmin/user_upload/DKDM/Dokumente/Sonstiges/EN/ot_En_Rhine_2040.pdf.

[151] Ibid.

[152] Ibid., p. 24.

[153] OSPAR Commission, 'Observers', available at: https://www.ospar.org/organisation/observers.

[154] Memorandum of Understanding between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) on Common Strategic Goals, available at: http://www.icpdr.org/main/resources/mou-between-icpbs-and-icpdr.

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Firstly, the prevention of land-based marine plastic pollution is part of obligations *erga omnes partes* concerning the protection of the marine environment. International cooperation is a prerequisite to effectuate the obligation *erga omnes* with regard to such protection. It is argued that the duty to cooperate is inherent in the obligation *erga omnes* to preserve and protect the marine environment. When states breach the obligation to cooperate, shared state responsibility may arise. Thus, the obligation *erga omnes* and shared state responsibility are linked via the duty to cooperate in the protection of the marine environment.

Secondly, the no-harm principle requires states to act with due diligence and the obligation to cooperate, which constitute obligations of conduct. It may be difficult, if not impossible, for an international court or tribunal to determine an alleged breach of these types of obligation; all the more so if multiple states were to be involved in such an alleged breach. Moreover, rules that regulate land-based marine pollution under UNCLOS need further elaboration.

Thirdly, there is no *lex specialis* with regard to shared state responsibility in the context of land-based marine plastic pollution. Accordingly, shared state responsibility for such pollution is to be governed by the principles of the law of state responsibility in international law in general.

Fourthly, the jurisprudence hints in the direction that an international court or tribunal would accept the *locus standi* of a not directly injured state in response to a breach of obligations *erga omnes partes* if there is a consensual basis for its jurisdiction. It follows that all states, including those other than the directly injured state, could be entitled to invoke the responsibility of each of the states that share responsibility for land-based marine plastic pollution. However, invoking shared state responsibility may be hampered, inter alia, by the difficulty in establishing a causal relationship between environmental damage and the wrongful conduct and the possible restriction of jurisdiction of an adjudicative body as a result of the application of the *Monetary Gold* rule. Furthermore, difficulties associated with reparation can undermine the relevance of invoking shared state responsibility.

In response, this article suggests three paths for improvement of the current situation through (i) elaboration of the contents of the due diligence obligation; (ii) strengthening compliance procedures; and (iii) strengthening the relationship between regimes governing the marine environment related to international watercourses. By elaborating the primary rules, including an obligation of due diligence, to a certain extent at least it may be possible to lower the hurdle for invoking shared state responsibility. It is hoped that rules and obligations regarding the prevention of (marine) plastic pollution could be further elaborated in the new treaty.