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Intergovernmental negotiating committee to develop an international legally binding instrument on plastic pollution, including in the marine environment
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Preparation of an international legally binding instrument on plastic pollution, including in the marine environment

Information submitted by the United Nations Environment Programme World Conservation Monitoring Centre

Note by the secretariat

1. The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) has submitted the following information that may be of relevance to the intergovernmental negotiating committee: "Overview of multilateral legally binding agreements and provisions relevant to the prevention, reduction, and elimination of plastic pollution from fishing and aquaculture gear." The document can be found in the annex to the present note.

2. The present note, including its annex, has not been formally edited.

Annex

Overview of multilateral legally binding agreements and provisions relevant to the prevention, reduction, and elimination of plastic pollution from fishing and aquaculture gear

I. Introduction

1. Fishing and aquaculture gear has been recognised recognized as a significant source of marine plastic pollution and is understood to have negative environmental, social, and economic impacts[1] A life cycle framework was applied to prepare an overview and analysis of provisions relevant to the prevention, reduction, and elimination of plastic pollution from fishing and aquaculture gear contained in the text of legally binding multilateral agreements, which is outlined below. The full report is attached as Annex. At the international level, fishing and aquaculture gear as a source of marine plastic pollution is relevant to several multilateral legally binding instruments. However, there is no single instrument that addresses the full life cycle of fishing and aquaculture gear. The present document is divided into five sections and comprises four appendices. Key provisions and their potential scope and applicability to the life cycle of fishing and aquaculture gear are highlighted in Sections II and III. An overview of the instruments selected for analysis in this document and their coverage in relation to the life cycle of fishing and aquaculture gear can be seen in Appendix II and III, particularly Tables 1 and 2. Additional insights on the coverage of some key international voluntary instruments are included in Section IV and Appendix III, especially Tables 3 and 4.

2. The present document comprises the findings of a legal review prepared as a contribution to the discussions taking place at the fourth session of the intergovernmental negotiating committee to develop an international legally binding instrument on plastic pollution, including in the marine environment (INC-4), which will take place from 23 to 29 April 2024 in Ottawa, Canada.[2]

II. Scope and content of provisions of multilateral legally binding frameworks relevant to the prevention, reduction, and elimination of plastic pollution from fishing and aquaculture gear

3. Fishing and aquaculture gear as a source of marine plastic pollution is a recognized concern at the global level.[3] Whereas the full extent of the issue remains uncertain due to data limitations, it is estimated that a substantial proportion of marine litter is comprised of fishing and aquaculture gear that has become abandoned, lost, or otherwise discarded (ALDFG).[4] Fishing and

1 Macfadyen, G., Huntington, T., & Cappell, R. (2009). *Abandoned, Lost or Otherwise Discarded Fishing Gear*. UNEP Regional Seas Reports and Studies No. 185.; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024).

[2] In 2022, the United Nations Environment Assembly (UNEA), through resolution 5/14, requested the Executive Director of the United Nations Environment Programme (UN Environment) to convene an intergovernmental negotiation committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment. The INC has convened three times in Punta del Este, Uruguay (28 November – 02 December 2022), Paris, France (29 May – 02 June 2023), and Nairobi, Kenya (13-19 November 2023). The fourth session of the INC will include a discussion on the revised draft text of the international legally binding instrument on plastic pollution, including on the marine environment (UNEP/PP/INC.4/3), which includes draft language on fishing and aquaculture gear. More information about the INC process is available at https://www.unep.org/inc-plastic-pollution/sessions (Accessed 03 April 2024).

[3] Macfadyen, G., Huntington, T., & Cappell, R. (2009). *Abandoned, Lost or Otherwise Discarded Fishing Gear*. UNEP Regional Seas Reports and Studies No. 185.; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024.

[4] For more information on marine plastic pollution from abandoned, lost, or otherwise discarded fishing gear, see: Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). Working Group 43. 2021. *Sea-based Sources of Marine Litter*. GESAMP Reports and Studies No. 108. London: International Maritime Organization.

aquaculture gear may be abandoned, lost, or otherwise discarded, whole or in parts, for a multitude of reasons spanning intentional and unintentional actions and unforeseen circumstances. Regardless of the mechanism through which such gear enters marine ecosystems, it constitutes a harmful form of pollution with severe environmental, social, and economic impacts.[5] These may include damage to critical marine habitats, the unintended capture of aquatic animals (so-called "ghost fishing"), the contamination of aquatic food webs, and navigational hazards, *inter alia*.[6]

4. Over the past decades, a number of multilateral binding agreements have contributed to addressing some aspects of marine plastic pollution from fishing and aquaculture gear across the life cycle of such gear. Whilst there is currently no multilaterally agreed definition of 'life cycle.'[7], the life cycle of plastics is generally understood to include their entire value chain, from extraction to design, production, consumption, monitoring, disposal, and waste management, *inter alia*.[8] For the purposes of this document, a tailored categorization was developed on the basis of a literature and desk review, taking into consideration relevant established stages in the life cycle of fishing and aquaculture gear.[9] Three overarching categories were identified, namely (1) the production of virgin plastic polymers and design of fishing and aquaculture gear, (2) the use of fishing and aquaculture gear (including gear marking, use conditions, and management measures), and (3) the end-of-life of fishing and aquaculture gear (encompassing disposal and discard, recovery, reuse, recycling, repair, waste management, and lost gear reporting).

5. In the preparation of the present document, a desk-based literature review was conducted to identify relevant binding international agreements across different regulatory regimes that contained provisions directly relating to the three overarching categories identified above. The review identified eight instruments using this criterion, which are presented below. This includes a brief description of their scope, key provisions of relevance to addressing plastic pollution from fishing and aquaculture gear, limitations with reference to relevant coverage, and key recent developments.[10] This information is also summarized in **Table 1 of Appendix III** to the present note.

A. United Nations Convention on the Law of the Sea (UNCLOS)

6. UNCLOS provides a comprehensive regime for maritime activities, including all uses of the oceans and their resources. While the Convention does not specifically address plastic pollution from fishing and aquaculture gear, it does provide an overarching framework for the protection of the marine environment, which is covered in Part II of the Convention (Articles 192 to 237). This includes a primary obligation of States to protect and preserve the marine environment (Article

http://www.gesamp.org/site/assets/files/2213/rs108e.pdf (Accessed 10 April 2024); Macfadyen, G., Huntington, T., & Cappell, R. (2009). *Abandoned, Lost or Otherwise Discarded Fishing Gear*. UNEP Regional Seas Reports and Studies No. 185.; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024); and Agriculture Organization of the United Nations. 2022. *The State of World Fisheries and Aquaculture 2022*: Towards Blue Transformation. Rome. https://www.fao.org/3/cc0461en/cc0461en.pdf (Accessed 10 April 2024).

[5] Giskes, I., Baziuk, J., Pragnell-Raasch, H. and Perez Roda, A. 2022. Report on good practices to prevent and reduce marine plastic litter from fishing activities. Rome and London, FAO, and IMO. https://doi.org/10.4060/cb8665en (Accessed 10 April 2024)

[6] For more information, see FAO, 2022, and Global Ghost Gear Initiative. 2022. GGGI 2022 Annual Report. https://www.ghostgear.org/news/2023/8/30/gggi-2022-annual-report (Accessed 10 April 2024).

[7] There is also limited understanding of the life cycle and end-of-life management of non-biodegradable fishing and aquaculture gear. See, for instance, Gilman, E., Musyl, M., Suuronen, P. et al. (2021). Highest risk abandoned, lost and discarded fishing gear. Scientific Reports, 11(7195). https://doi.org/10.1038/s41598-021-86123-3 (Accessed 10 April 2024).

[8] See UNEP/AHEG/4/7 and United Nations Environment Programme (UNEP), 2022. "Marine Litter and Microplastics: Global Lessons and Research to Inspire Action and Guide Policy Change." United Nations Environment Management Group (UNEMG). [Accessed: 01 April 2024]. Available at: https://unemg.org/wp-content/uploads/2022/01/UNEP_EMG-REPORT_Marine-Litter-Microplastics.pdf

[9] Global Ghost Gear Initiative (2021) Best Practice Framework for the Management of Aquaculture Gear. Prepared by T. Huntington. Poseidon Aquatic Resources Management Ltd. for GGGI, 81pp. plus appendices. DOI: http://dx.doi.org/10.25607/OBP-1649; Huntington, T. (2016) Development of a best practice framework for the management of fishing gear. Part 1: Overview and current status. London, UK, World Animal Protection for Global Ghost Gear Initiative, 50pp. DOI: http://dx.doi.org/10.25607/OBP-973; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024); Giskes, I., Baziuk, J., Pragnell-Raasch, H. and Perez Roda, A. 2022. Report on good practices to prevent and reduce marine plastic litter from fishing activities. Rome and London, FAO and IMO. https://doi.org/10.4060/cb8665en

[10] As of January 2024.

192) and a corresponding duty of States to protect the marine environment from any source of pollution (Article 194.1) and to take all measures necessary to ensure that activities under their jurisdiction or control do not cause damage by pollution to other States and their environment (Article 194.2), among others. Furthermore, UNCLOS incorporates provisions with limited and indirect application to the design, use, and disposal of fishing gear. For example, Article 194 provides that measures taken to prevent, reduce, and control pollution of the marine environment shall include those designed to minimize to the fullest possible extent pollution from installations and devices operating in the marine environment. Additionally, Articles 87 and 117 address the freedom of all States to fish in the high seas with the requirement that they adopt measures for the conservation of living resources in the high seas. Similarly, Article 118 provides that States must, as appropriate, cooperate to establish subregional or regional fisheries organizations to cooperate in the conservation and management of living resources in the areas of the high seas. According to Article 210, States shall also adopt laws and regulations to prevent, reduce, and control pollution of the marine environment by dumping.[11] UNCLOS was adopted in 1982, entered into force in 1994, and has 169 Parties as of April 2024.[12]

B. Annex V to the International Convention for the Prevention of Pollution from Ships (MARPOL), as modified by the Protocol of 1978 (MARPOL 73/78)[13]

7. MARPOL 73/78 focuses on the protection of the marine environment from pollution from ships,[14] including from routine operations and accidental pollution. It comprises six technical annexes covering different sources of pollution. More specifically, Annex V[15] deals with the disposal of various kinds of "garbage"[16] and directly addresses plastic pollution from fishing gear. Regulation 3 of Annex V introduces a complete ban on the discharge into the sea of all forms of plastics, "including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastics products." Exceptions to the discharge ban include accidental loss and discharge of fishing gear under certain conditions, including that all reasonable precautions have been taken to prevent such loss. Annex V also encompasses a number of other key provisions relating to the end of life of fishing and aquaculture gear (i.e., waste management measures and lost gear reporting). These include Regulation 10, which provides for placards, garbage management plans, and Garbage Record Books for ships meeting minimum thresholds. According to it, ships of 12 meters or more in length overall, as well as fixed or floating platforms, shall display placards containing discharge requirements (Regulation 10.1.1). Ships of 100 tonnes (gross) or more and every ship certified to carry fifteen or more people, as well as platforms, shall carry a garbage management plan, which should include a designated person(s) for implementing the plan and written procedures for minimizing collecting, storing, processing, and disposing of garbage, which may consist of fishing gear (Regulation 10.2). Additionally,

[11] As per Article 210 of UNCLOS "1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping. 2. States shall take other measures as may be necessary to prevent, reduce and control such pollution. 3. Such laws, regulations and measures shall ensure that dumping is not carried out without the permission of the competent authorities of States. 4. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary. […] 6. National laws, regulations and measures shall be no less effective in preventing, reducing and controlling such pollution than the global rules and standards."

[12] https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en (Accessed 16 April 2024).

[13] The Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships incorporates with modifications the provisions of MARPOL 1979. "Accordingly, as of 2 October 1983, the regime to be applied by the States Parties to it is the regime contained in the 1973 Convention as modified by the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (1973/78 MARPOL)." For more information, see https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf (Accessed 03 April 2024).

[14] As per Article 1, MARPOL seeks to "prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention." Discharge is understood as "any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying" (see Article 2(3)(a)). Under MARPOL, "discharge" does not include dumping with the meaning of the London Convention and Protocol.

[15] As amended by resolutions MEPC.36(28), MEPC.42(30), MEPC.48(31), MEPC.65(37), MEPC.89(45), MEPC.116(51), MEPC.201(62), MEPC.216(63), MEPC.246(66), MEPC.265(68), MEPC.277(70) from the Marine Environment Protection Committee (MEPC), and Resolution 3 of the Conference of Parties to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978.

[16] See Appendix I – Glossary of terms.

every ship of 400 tonnes and above and every ship certified to carry fifteen or more people engaged in voyages to other jurisdictions shall be provided with a Garbage Record Book (Regulation 10.3).[17] Fishing vessel operators are required to record the accidental loss of fishing gear and the discharge of fishing gear undertaken according to Regulations 7.3 and 7.4 of Annex V[18] in the Garbage Record Book or the ship's official logbook for ships less than 400 tonnes (see Regulation 7 and Regulation 10.3.4). Such accidental loss or discharge of fishing gear that poses a significant threat to the marine environment and navigation shall be *reported* to the flag State and, if applicable, to the coastal State where the loss or discharge occurs (Regulation 10.6). The fishing industry, relevant international organizations, and governments are encouraged to undertake research, technology development, information sharing, and management measures to minimize the probability of loss and maximize the likelihood of retrieval of fishing gear from reception facilities (see MEPC 71/17/Add.1, 2.2.2.4). Concerning such facilities, Regulation 8 of MARPOL 73/78 Annex V provides that each Party must provide adequate facilities at ports and terminals for the reception of garbage (Regulation 8.1) and shall notify the International Maritime Organization (IMO) of all cases where the facilities are alleged to be inadequate (Regulation 8.2). Small Island Developing States may satisfy these requirements through regional arrangements under certain conditions (see Regulation 8.2*bis*).[19] As of 18 March 2024, MARPOL 73/78 has 161 Parties. 156 Parties accepted Optional Annex V.[20]

8. In the context of recent developments relating to MARPOL 73/78 Annex V, it is important to note that the IMO's International Code for Ships Operating in Polar Waters (Polar Code) entered into force in 2017, establishing more strict safety and environmental considerations for ships operating in Arctic and/or Antarctic waters.[21] Furthermore, in 2018, the IMO Marine Environment Protection Committee (MEPC) adopted in its seventy-third session an Action Plan to address marine plastic litter from ships through Resolution MEPC.310(73). The latter enumerates a number of activities relating to fishing gear (e.g., the consideration of making marking of gear mandatory, the development of best management practices to facilitate the retrieval of derelict fishing gear, and the preparation of a study on marine plastic litter – including macro and microplastics from ships, *inter alia)*. The Action Plan was followed by the adoption of a Strategy to guide, monitor, and oversee its timely and effective implementation (see Resolution MEPC.341(77)). The plan is currently under review. In this context, there are ongoing discussions on the future direction for the IMO study on marine plastic litter from ships, a possible revision of Annex V to include a goal-based requirement for mandatory marking of fishing gear, and the potential development of a MEPC circular[22] to promote the implementation of fishing gear marking systems and the Food and Agriculture Organization of the United Nations (FAO) Voluntary Guidelines for the Marking of fishing gear (for more information, see MEPC 80/17, MEPC 79/15, MEPC 78/17, MEPC 77/16).

C. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (London Convention), as amended (LC 1972), and the Protocol to the Convention

[17] The Administration may waive the requirements for Garbage Record Books for any ship engaged on voyages of one hour or less in duration which are certified to carry fifteen or more persons or fixed floating platforms (MARPOL 73/78, Annex V, Regulation 10.4)

[18] As per Regulation 7 of MARPOL Annex V, regulations 3, 4, 5, and 6 shall not apply to the accidental loss of fishing gear from a ship provided that all reasonable precautions have been taken to prevent such loss (Regulation 7.1.3) and to the discharge of fishing gear from a ship for the protection of the marine environment or for the safety of that ship or its crew (Regulation 7.1.3 *bis*), among others.

[19] It is important to highlight that IMO issued circular MEPC.1/Circ.893 in July 2021, reminding parties to Annex V of their obligation to ensure the provision of adequate facilities at ports and terminals for the reception of garbage, including fishing gear.

[20] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf (Accessed 03 April 2024).

[21] For more information, see https://www.imo.org/en/MediaCentre/HotTopics/Pages/polar-default.aspx (Accessed 03 April 2024).

[22] IMO consists of an Assembly, a Council, five main Committees (the Maritime Safety Committee, the Legal Committee, the Technical Cooperation Committee, the Facilitation Committee, and the Marine Environment Protection Committee), and several subcommittees that support their work. The Marine Environment Protection Committee (MEPC) addresses environmental issues under IMO's purview, including the control and prevention of pollution ships. MEPC circulars are intended to assist Parties and other stakeholders in implementing maritime environmental conventions. They often provide clarification, recommendations, technical guidelines, and further guidance in relation to subjects under the Committee's remit. For more information, see https://www.imo.org/en/OurWork/Circulars/Pages/default.aspx (Accessed 03 April 2024).

on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol)

9. The London Convention seeks to promote the effective control of all sources of pollution in the marine environment and to take all practicable steps to prevent the pollution of the sea by the dumping[23] of waste and other matter (see Article I).[24] The London Convention introduced a prohibition of dumping wastes from vessels and man-made structures at sea in whatever form or condition (Article IV). For Parties to the Convention, the dumping of wastes and other matter listed in its Annex I is prohibited, including persistent plastics and other persistent synthetic materials such as netting and ropes. The dumping of wastes and other matter listed in Annex II requires a prior special permit,[25] and the dumping of all other types of wastes or matter requires a prior general permit (Article IV). Article V provides for exceptions to the prohibition of dumping, including where risks to life and man-made structures, risks to human health, and force majeure may limit the application of Article IV.[26] The London Convention also introduced other key provisions relevant to the end of life of fishing gear that may fall within its purview, particularly in relation to the disposal of such materials. Specifically, Article VI(1) requires Parties to operate a permitting system for the dumping of relevant materials, to "keep records of the nature and quantities of all matter permitted to be dumped," and to monitor the condition of the seas. It also requires Parties to report to IMO and, where appropriate, to other Parties information concerning the records and monitoring referred to in Article VI(1). The London Convention entered into force in 1975 and currently has 87 Parties (as of 18 March 2024).[27]

10. The London Protocol was adopted in 1972 to modernize the London Convention, setting out more restrictive measures. Its overarching objective is to protect and preserve the marine environment from all sources of pollution and take effective measures to prevent, reduce, and, where practicable, eliminate pollution caused by dumping[28] or incineration at sea of wastes and other matters, as well as to harmonize policies in this regard (Article 2). Article 3 of the Protocol includes an express reference to the polluter-pays principle and to "applying a precautionary approach to environmental protection." Under the Protocol, a "reverse list" approach is adopted, where all dumping is prohibited unless expressly permitted. Parties are prohibited from dumping any wastes or other matter into the sea, with the exception of those listed in Annex 1 of the London Protocol.[29] Fishing and aquaculture gear is not explicitly included in the list of wastes contained in Annex I. Therefore, it can be assumed that dumping of such material is prohibited as a general rule. An exception would be any circumstances where such gear could be considered a"

[23] See Appendix I – Glossary of terms.

[24] Parties shall apply measures contained in the London Convention to vessels and aircraft registered in its territory or flying its flag; vessels and aircraft loading in its territory or territorial seas matter which is to be dumped; vessels and aircraft and fixed or floating platforms under its jurisdiction believed to be engaged in dumping (see Article VII).

[25] Annex II applies to substances and materials of a non-toxic nature that may become harmful due to the quantities in which they are dumped or which are liable to seriously reduce amenities (see London Convention, Annex II).

[26] As per Article V “The provisions of Article IV shall not apply when it is necessary to secure the safety of human life or of vessels, aircraft, platforms or other man-made structures at sea in cases of force majeure caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels, aircraft, platforms or other man-made structures at sea, if dumping appears to be the only way of averting the threat and if there is every probability that the damage consequent upon such dumping will be less than would otherwise occur. Such dumping shall be so conducted as to minimise the likelihood of damage to human or marine life and shall be reported forthwith to the Organisation."

[27] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf (Accessed 03 April 2024).

[28] Dumping is defined in the London Protocol as “any deliberate disposal into the sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea;” “any deliberate disposal into the sea of vessels, aircraft, platforms or other man-made structures at sea;” “any storage of wastes or other matter in the seabed and the subsoil thereof from vessels, aircraft, platforms or other man-made structures at sea;” and/or “any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal.” (see Article 1(4)(1)).

[29] According to Annex 1 to the London Protocol, “[t]he following wastes or other matter are those that may be considered for dumping being mindful of the Objectives and General Obligations of this Protocol set out in articles 2 and 3: .1 dredged material; .2 sewage sludge; .3 fish waste, or material resulting from industrial fish processing operations; .4 vessels and platforms or other man-made structures at sea; .5 inert, inorganic geological material; .6 organic material of natural origin; .7 bulky items primarily comprising iron, steel, concrete and similarly unharmful materials for which the concern is physical impact, and limited to those circumstances where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping; and .8 Carbon dioxide streams from carbon dioxide capture processes for sequestration.”

bulky item" "for which the concern is physical impact and limited to those circumstances where such wastes are generated at locations […] having no practicable access to disposal options other than dumping" (see Annex 1(1)(7)). In such cases, special conditions shall apply, including the requirement of issuing a permit in accordance with the Protocol (see Articles 4(1)(2) and 9) and fulfilling obligations contained in Annex II (e.g., describing and characterizing the chemical, physical and biological properties of the waste, undergoing a waste prevention audit, demonstrating appropriate consideration of waste management options, verifying that the permit conditions are met through monitoring, *inter alia)*. The London Protocol entered into force in 2006 and currently has 54 Parties (as of 18 March 2024).[30]

11. Concerning recent developments in the context of the Convention and Protocol, it is relevant to note that the Contracting Parties to the London Convention in their thirty-eighth consultative meeting and the Contracting Parties to the London Protocol in their eleventh Meeting, which took place in 2016, adopted a recommendation to encourage action to combat marine litter.[31]

D. United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA)

12. UNFSA aims to ensure the long-term conservation and sustainable use of highly migratory fish stocks and straddling fish stocks (Article 2). It provides a framework for subregional and regional fisheries management organizations (RFMOs) to cooperate in relation to such stocks (Article 8) and sets out general principles for their conservation, management, and exploitation (see Article 5). It also establishes that measures to ensure the long-term sustainability of straddling fish stocks and highly migratory fish stocks must be based on the best available scientific evidence (Article 5(b)) and the precautionary approach (Article 6). UNFSA includes a number of measures relevant to the design, use, and end-of-life of fishing and aquaculture gear. A key provision relating to the design of such gear includes an obligation on coastal States and States fishing in the high seas that are Parties to UNFSA to "minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, […] and impacts on associated or dependent species […] through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques" (Article 5(f)). Concerning the use of fishing and aquaculture gear, flag State Parties to UNFSA have a duty to take the necessary measures to ensure that vessels flying their flag comply with subregional and regional conservation and management provisions, including establishing requirements for the marking of fishing vessels and fishing gear for identification in accordance with uniform and internationally recognizable vessel and gear marking systems (Article 18(3)(d)).[32] Similarly, they must establish a national record of fishing vessels authorized to fish on the high seas and provide access to this record upon request by directly interested States, taking into account national laws regarding the release of such information (Article 18(3)(c)). Additionally, Article 18 provides a series of further requirements of flag States, such as the requirement to establish regulations to curb illegal, unreported, and unregulated fishing (IUU fishing) under certain circumstances (Article 18(3)(b)).[33] Regarding the end-of-life stage of

[30] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf (Accessed 03 April 2024).

[31] See LC 38/16, Annex 8.

[32] According to Annex I of UNFSA, Parties to the Agreement should also collect data relating to fishing gear description (e.g., types, gear specifications, and quantities) for standardizing fleet composition and vessel fishing power and for converting between different measures of effort in the analysis of catch and effort data.

[33] According to Article 18(3)(b), "[m]easures to be taken by a State in respect of vessels flying its flag shall include: (a) control of such vessels on the high seas by means of fishing licences, authorizations or permits, in accordance with any applicable procedures agreed at the subregional, regional or global level; (b) establishment of regulations: (i) to apply terms and conditions to the licence, authorization or permit sufficient to fulfil any subregional, regional or global obligations of the flag State; (ii) to prohibit fishing on the high seas by vessels which are not duly licensed or authorized to fish, or fishing on the high seas by vessels otherwise than in

fishing and aquaculture gear, Part VI of UNFSA sets out a series of provisions relating to compliance and enforcement with subregional and regional conservation and management measures for straddling fish stocks and highly migratory fish stocks. This includes provisions relating to compliance by the flag State (Article 19), to international cooperation in enforcement (Article 20), to subregional and regional cooperation in enforcement (Article 21), to basic procedures for boarding and inspection of vessels flying the flag of another State Party for the purposes of ensuring compliance (Article 22), and to the duties of port States to take measures in accordance with public international law to promote the effectiveness of subregional, regional, and global conservation and management measures (Article 23). It is relevant to note that using prohibited fishing gear can constitute a "serious violation" within the meaning of Article 21. UNFSA was adopted in 1995 and entered into force in 2001. It has 93 Parties as of April 2024.[34]

E. FAO Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA)

13. The FAO PSMA is the first multilateral binding agreement to specifically address IUU fishing. It seeks to prevent, deter, and eliminate IUU fishing through the implementation of effective port State measures and, consequently, to ensure the long-term conservation and sustainable use of living marine ecosystems (Article 2). It encompasses a number of key provisions directly relevant to the use and end-of-life of plastic-made fishing and aquaculture gear. For instance, Article 5 includes measures relating to "integration and coordination at the national level," including the obligation of each Party, to the greatest extent possible, to integrate port State measures with other measures to prevent, deter, and eliminate IUU fishing and related activities in support of such fishing (Article 5(b)). Additionally, the FAO PSMA provides for a duty of States to require specific information (as per Annex A) before granting entry to a vessel to its port (Article 8), which is to be followed by a decision to authorize or deny entry based on engagement in IUU activities (Article 9). Part 3 of the Agreement addresses the use of ports, and Part 4 sets out provisions for vessel inspections, including those relating to inspection priorities (Article 12), conduct (Article 13), results (Article 14), and transmittal of inspection results (Article 15). Concerning the inspection of fishing and aquaculture gear, provisions of the FAO PSAM only relate to the inspection of gear insofar as it relates to IUU fishing. According to Article 13(2)(c), Parties must "ensure that inspectors examine all relevant areas of the vessel, the fish on board, the nets and any other gear, equipment, and any document or record on board that is relevant to verifying compliance with relevant conservation and management measures." Annex B paragraph (b) further provides that inspectors must "examine, to the extent possible, all relevant fishing gear onboard, including any gear stowed out of sight as well as related devices, and to the extent possible, verify that they are in conformity with the conditions of the authorizations. The fishing gear shall, to the extent possible, also be checked to ensure that features such as the mesh and twine size, devices and attachments, dimensions and configuration of nets, pots, dredges, hook sizes and numbers are in conformity with applicable regulations and that the markings correspond to those authorized for the vessel […]." The PSMA was adopted in 2008 and entered into force in 2016 and has 78 Parties as of April 2024.[35]

14. Concerning relevant developments, it is worth noting that the Parties to the FAO PSMA, in their fourth meeting, adopted "A Strategy to Improve the Effectiveness of the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing" (the so-called Bali Strategy).[36] According to the latter, Parties should consider, domestically and within their RFMOs, having procedures in place for conducting inspections that include any needed interagency coordination in accordance with measures laid out in Annex B to the PSMA,

accordance with the terms and conditions of a licence, authorization or permit; (iii) to require vessels fishing on the high seas to carry the licence, authorization or permit on board at all times and to produce it on demand for inspection by a duly authorized person; and (iv) to ensure that vessels flying its flag do not conduct unauthorized fishing within areas under the national jurisdiction of other States; […]."

[34] https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXI-7&chapter=21&clang=_en (Accessed 16 April 2024).

[35] https://www.fao.org/treaties/results/details/en/c/TRE-000003/ (Accessed 16 April 2024).

[36] See NFIFP/R1411, Appendix 4. https://www.fao.org/3/cc6667en/cc6667en.pdf (Accessed 16 April 2024).

including review of documentation and physical inspection of vessels, gear, and catches. At the same meeting, Parties also adopted an amended PSMA questionnaire for Parties that covers certain aspects of fishing and aquaculture gear.[37]

F. FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement)

15. The FAO Compliance Agreement seeks to ensure compliance with measures for the conservation, management, and sustainable use of living resources on the high seas. Whereas it does not address fishing and aquaculture gear expressly, its provisions contribute to the management of plastic pollution from fishing gear indirectly through measures relating to the authorization, monitoring, controlling, and reflagging of vessels fishing on the high seas. For instance, Article III sets out measures relating to flag State responsibility, including the obligation of Parties to ensure that fishing vessels entitled to fly their flag do not engage in any activity that may undermine the effectiveness of international conservation and management measures (Article III(1)(a)). It is relevant to note that Parties may exempt vessels of less than twenty-four meters in length from the application of the Agreement provided that certain conditions are met (see Article II (2)[38] and Article II (3)). Should such exemption be granted, Parties must take measures to ensure that any exempted fishing vessel does not undermine the effectiveness of international conservation and management measures (Article III(1)(b)). Additionally, under the FAO Compliance Agreement, Parties must only allow fishing vessels authorized by their appropriate authority or authorities to fish in the high seas (Article III (2)) and maintain a record of such fishing vessels (Article IV). They also must make available to the FAO detailed information about vessels entered in the record, which must include - to the extent practicable - their type of fishing method or methods (Article VI). The FAO Compliance Agreement was adopted in 1993 and entered into force in 2003. Currently, it has 45 Parties as of April 2024.[39]

G. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention), as revised in 2019

16. The Basel Convention seeks to protect human health and the environment against the adverse effects of the transboundary movement of hazardous wastes[40] and other wastes. General obligations include those that require Parties to observe the fundamental principles of environmentally sound management of waste, to minimize waste generation, and to follow a prior informed consent procedure (PIC) for transboundary movements of hazardous wastes and other wastes (see Articles 4, 6, 7, and 8).[41] Of note is that Annex I comprises a list of categories of "wastes to be controlled," which are considered hazardous wastes and which are subsequently subject to the PIC procedure; Annex II sets out categories of "wastes requiring special consideration," also subject to the PIC procedure; Annex VIII lists wastes that are presumed to be hazardous, also subject to the PIC procedure; and Annex IX enumerates wastes presumed not to be hazardous and not subject to the PIC procedure. The Basel Convention encompasses a number of relevant rules governing the movement of plastic waste across boundaries, particularly those clarified via the so-called "plastic waste amendments" (decision BC-14/12 of the Conference of the Parties (COP) to the Basel Convention). The latter approved changes introducing new entry Y48 to Annex II (broadening its coverage to include plastic waste, including mixtures of such

[37] NFIFP/R1411, Appendix 5. https://www.fao.org/3/cc6667en/cc6667en.pdf (Accessed 16 April 2024).

[38] A per Article II(2) of the FAO Compliance Agreement, "[a] Party may exempt fishing vessels of less than 24 metres in length entitled to fly its flag from the application of this Agreement unless the Party determines that such an exemption would undermine the object and purpose of this Agreement, provided that such exemptions: (a) shall not be granted in respect of fishing vessels operating in fishing regions referred to in paragraph 3 below, other than fishing vessels that are entitled to fly the flag of a coastal State of that fishing region; and (b) shall not apply to the obligations undertaken by a Party under paragraph 1 of Article III, or paragraph 7 of Article VI of this Agreement."

[39] https://www.fao.org/treaties/results/details/en/c/TRE-000023/ (Accessed 16 April 2024).

[40] See Annex II – Glossary of key terms.

[41] The so-called "ban amendment" has 103 Parties and provides for the prohibition by Annex VII Parties (i.e., Parties and other States that are members of the Organisation for Economic Co-operation and Development (OECD), the European Union, and Liechstain) of all transboundary movement of hazardous wastes that are intended for final disposal to non-Annex VII States (see Article 4 A(a)(1)). For more information, see https://www.basel.int/Implementation/LegalMatters/BanAmendment/Overview/tabid/1484/Default.aspx (Accessed 16 April 2024).

waste, with certain exceptions[42]), new entry A3210 to Annex VIII (focused on hazardous plastic waste), and new entry B3011 to Annex IX (covering plastic waste almost exclusively consisting of one non-halogenated polymer, one cured resin or condensation product, or one of selected fluorinated polymers provided that they are destined for recycling in environmentally sound manner and almost free from contamination and other types for waste and which will then not be subject to the PIC procedure).[43] The Basel Convention was adopted in 1989 and entered into force in 1922. It has 191 Parties as of April 2024.[44]

17. The COP to the Basel Convention has issued a number of decisions providing guidance and supporting work on several aspects relating to plastic pollution, marine litter, and microplastics.[45] Among those, it is relevant to highlight COP Decision BC-14/13 on further actions to address plastic waste under the Convention. Through this decision, the COP called upon Parties and others to "promote the environmentally sound and efficient management of plastic waste, for example, single-use plastic and fishing gear, by improving the collection, transport, treatment and recycling of plastic waste, by improving or creating markets for recycled materials made from plastic waste, by improving other means of recovery, by reducing transboundary movement of plastic waste to a minimum, consistent with environmentally sound and efficient management, and by reducing the discharge of plastic waste and microplastics." Additionally, technical guidelines on the environmentally sound management of plastic waste were adopted through COP decision 16/4. These guidelines list plastic waste from fishing and aquaculture - including nets and other fishing gear - as a main source of plastic waste (see UNEP/CHW.16/6/Add.3/Rev.1). They also provide guidance on the reduction of waste from the unintended loss of plastic products such as gear,[46] and on the collection of plastic wastes and waste leakages originating from maritime activities such as fishing and aquaculture.[47]

III. Analysis of coverage of the internationally legally binding provisions relating to ending plastic pollution from fishing and aquaculture gear

18. The eight instruments outlined in Section II set out various provisions that are relevant to the prevention, reduction, and elimination of plastic pollution from fishing and aquaculture gear, which are clustered, summarized, and analyzed in the present section and **Table 2** of Appendix III. In general terms, the majority of identified measures focus on the end-of-life stage of the life cycle of fishing and aquaculture gear, with limited coverage of the other two categories used in this review, as outlined below.

19. Of central concern to the application of relevant provisions, as analysed below, is the **meaning and scope of 'fishing and aquaculture gear'** but a universal definition has not, to date,

[42] See Basel Convention COP decision BC-14/1.

[43] Basel Convention COP decision BC-14/1. New entry 3011 to Annex IX includes mixtures of plastic waste, consisting of polyethylene (PE), polypropylene (PP) and/or polyethylene terephthalate (PET), provided they are destined for separate recycling each material and in an environmentally sound manner, and almost free from contamination and other types of wastes.

[44] https://treaties.un.org/pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-3&chapter=27&clang=_en (Accessed 16 April 2024).

[45] See, for instance, COP decisions BC-16/18, BC-16/11, BC-16/4, BC-15/10, BC-14/21, BC-14/20, BC-14/13, BC-14/12, BC-14/10, BC-14/9, BC-13/11 *inter alia*. It is important to note that the COP has the mandate to consider additional measures needed to assist Parties in fulfilling their responsibilities with respect to the protection and the preservation of the marine environment in the context of the Basel Convention (see Article 15(4), Basel Convention).

[46] As per the technical guidelines "Waste prevention and minimization measures described above should reduce the leakage of plastics from the waste phase. In addition, special care should be taken to reduce the release of plastics to the environment from the unintended loss of plastic products, such as fishing gear, plastic pellets and artificial turf" (UNEP/CHW.16/6/Add.3/Rev.1).

[47] According to the technical guidelines, "182. Plastic wastes originating from maritime activities such as aquaculture and fisheries, both as their own waste and marine litter that gets caught in the fishing gear of commercial fishing vessels (e.g., nets, trawls and ropes), should be brought back on land and delivered to port reception facilities. 183. Waste leakages from marine activities, e.g., loss of fishing gear, should also be collected and delivered to a municipally or privately operated waste management system, as should plastic wastes from clean-ups along beaches, rivers and waterways and other water bodies. This also applies to the unintended leakage of other plastics, such as plastic pellets. Special collection schemes may be applied to retrieve unintentionally lost plastic products. For instance, lost fishing gear can be located, e.g., by equipping the gear with GPS thereby ensuring targeted retrieval of lost gear. Plastic wastes from marine litter, collected by clean-ups or by fishing vessels, typically contain significant amounts of ropes and nets. Extra separation operations will therefore be needed to untangle the materials in order to facilitate recycling of the waste. Waste prevention and minimization measures described above should reduce the leakage of plastics from the waste phase. In addition, special care should be taken to reduce the release of plastics to the environment from the unintended loss of plastic products, such as fishing gear, plastic pellets and artificial turf" (UNEP/CHW.16/6/Add.3/Rev.1).

been developed within the selected instruments. Among the selected instruments only MARPOL 73/78 defines the term 'fishing and aquaculture gear': under Regulation 1(6), fishing and aquaculture gear means any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of capturing, or controlling for subsequent capture or harvesting, marine or freshwater organisms. This is a broad definition that may have the potential to include large pieces of gear or associated structures, such FADs.[48] However, in establishing the discharge ban, Regulation 3 refers specifically to ropes and nets and not to fishing and aquaculture gear more broadly. Further, MEPC Guidelines (2017) provide that "fishing gear that is released into the water with the intention of later retrieval, such as fish aggregating devices (FADs), traps and static nets, should not be considered garbage or accidental loss in the context of MARPOL Annex V".[49] In some other instances, only fishing and/or fishing gear, and not aquaculture and/or aquaculture gear, is explicitly mentioned in the relevant text. For example, the FAO Agreement on Port State Measures refers to "fishing related activities" and "illegal, unreported and unregulated fishing".

20. Measures in the **production and design** stage of the life cycle can include those that determine or guide choices about the use of materials in fishing and aquaculture gear, for example, whether or not plastics or specified plastics may be used or choices concerning the incorporation or use of materials that are biodegradable as well as other aspects of design intended to minimize the environmental impacts of gear in the event that it becomes abandoned, lost or otherwise discarded.

21. Provisions relating to the production and design of plastic polymers for the manufacture of fishing and aquaculture gear feature infrequently in the legally binding instruments considered in this study (see Table 3, Appendix III). The design of fishing and aquaculture gear may, to some extent, fall within the scope of some additional provisions, as described below:

a. **UNFSA** provides a broad directive that could relate to both the production and design of fishing and aquaculture gear as it refers to the adoption, by Parties, of measures including the development of selective, environmentally safe, and cost-effective fishing and aquaculture gear and techniques. Article 5 of UNFSA directs States, as a general principle, to "minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species […] through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing and aquaculture gear and techniques." The reference to development here could be read as applying to both production and design. It may be noted that the application of this provision is restricted by the condition 'to the extent practicable.'

b. **UNCLOS** provides an overarching framework for the protection of the marine environment (see UNCLOS, Articles 192 to 237). It requires Parties to prevent, reduce, and control pollution of the marine environment, including in the case of "pollution from other installations and devices operating in the marine environment, [adopting] in particular measures for [...] regulating the design, construction, equipment, operation, and manning of such installations and devices" [emphasis added] (UNCLOS, Article 194). Depending upon the extent to which fishing and aquaculture gear falls within the scope of 'devices,' this measure provides a limited basis for addressing their design while providing discretion to

[48] FADs are categorised as a type of 'auxillary gear' under the FAO classification: see He, P., Chopin, F., Suuronen, P., Ferro, R.S.T and Lansley, J. 2021. Classification and illustrated definition of fishing gears. FAO Fisheries and Aquaculture Technical Paper No. 672. Rome, FAO. https://doi.org/10.4060/cb4966en

[49] Resolution MEPC.295(71) (adopted on 7 July 2017) 2017 Guidelines for the Implementation of MARPOL ANNEX V. On the interpretation of retrieval in that context, see also discussion in IMO Secretariat. (1990). *The London Dumping Convention: The First Decade and Beyond*; Churchill, R. (2021). *Just a Harmless Fishing Fad—or Does the Use of FADs Contravene International Marine Pollution Law?* Ocean Development & International Law, 52(2), 169–192. https://doi.org/10.1080/00908320.2021.1901342

Parties as to what measures to adopt. The term 'devices' is not defined within the text of UNCLOS.

c. The **London Protocol** prohibits all forms of dumping except for wastes and other matter listed in Annex 1 of the Protocol. Annex 1 includes "bulky items" including unharmful materials for which the concern is physical impact […]" (Article 1(7)). It would not usually be the case that fishing and aquaculture gear would fall within the scope of Annex 1(1)(7) – bulky items – which are subject to permitting requirements. However, in situations where it does, under Annex 2, factors relating to a "waste prevention audit" would be applicable, for instance, regarding the feasibility of waste reduction/prevention techniques, including product reformulation.[50]

22. The phrase '**use of fishing and aquaculture gear**' in the present document refers to measures that may prevent fishing and aquaculture gear from becoming abandoned, lost, or discarded and which may mitigate their impact on the marine environment where this does occur. Examples of measures could include those applying conditions to the use of fishing and aquaculture gear (e.g., those relating to types of gear to be used or permitted and the location or duration of their placement) as well as to gear marking to assist its identification and enable traceability. Key provisions include:

a. A requirement under **UNSFA** for the marking of fishing and aquaculture gear in accordance with uniform and internationally recognizable vessel and gear marking systems, such as the Food and Agriculture Organization of the United Nations Standard Specifications for the Marking and Identification of Fishing Vessels. Associated measures require the recording of data, including a description of fishing and aquaculture gear (e.g., types, gear specifications, and quantity) (UNFSA, Article 18(3)).

b. Binding provisions establishing other conditions for the use and management of fishing and aquaculture gear are generally not addressed within the instruments considered. It is relevant to note, however, that **UNCLOS** provides, in Article 208, a possible basis to address a narrow range of activities connected with fishing and aquaculture gear with reference to measures applying to seabed activities (for instance, if 'seabed activities' were read to include activities such as bottom trawling). Such measures would be adopted in accordance with the requirement under UNCLOS for the Coastal States to adopt laws and regulations and take other measures as may be necessary to prevent, reduce, and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction (see UNCLOS, Article 208). The possibility of trawling and other bottom fishing having a detrimental impact on marine ecosystems has been acknowledged in relation to the possible use of deterrent protection reefs.[51]

23. Measures relating to the **end-of-life stage** of fishing and aquaculture gear may address planned responses to the treatment, management, or handling of fishing and aquaculture gear after its use is complete. This could be, for example, through waste management measures or as a response to fishing and aquaculture gear that has become abandoned, lost, or discarded (e.g.,

[50] Concerning bulky items, under the London Convention, 'bulky wastes' which may be considered for disposal (Annex II) are described as "containers, scrap metal and other bulky wastes liable to sink to the sea bottom which may present a serious obstacle to fishing or navigation." This is in contrast to the prohibited wastes (Annex I), which include "[p]ersistent plastics and other persistent synthetic materials, for example netting and ropes, which may float or may remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea." In this case, it seems clear that even large items of gear would be unlikely to fall within the scope of Annex II. This is also made clear by the IMO (IMO Secretariat. 1990. *The London Dumping Convention: The First Decade and Beyond*, page 26). On the other hand, under the London Protocol, the reference in Annex II to bulky items is expressed in terms of their potential physical impact. While this may be primarily in relation to iron, steel, and concrete, this list is not framed as an exclusive list, and if large fishing gear could have such an impact, it might be seen as potentially falling within the scope of Annex II.

[51] See International Maritime Organization (IMO) / United Nations Environment Programme (UNEP). (2009). Guidelines for the Placement of Artificial Reefs. London, UK: International Maritime Organization. 100 pp.

through the use of reporting or recovery requirements). Measures relating to the end-of-life fishing and aquaculture gear feature more frequently in the instruments reviewed in the preparation of the present note. Key provisions relating to end-of-life include:

a. **UNCLOS** requires States to adopt national laws and regulations and take other measures to prevent, reduce, and control pollution of the marine environment by dumping, which must be no less effective than global rules and standards (see Article 210). The framing of this requirement is broad enough to include the dumping of fishing and aquaculture gear, but such gear is not explicitly mentioned.

b. Under the **London Protocol**, fishing and aquaculture gear can be assumed to fall within the prohibition on the dumping of wastes since it is not listed in Annex 1, which applies a 'negative list' approach (i.e., all forms of dumping are prohibited unless expressly permitted in Annex 1).

c. **MARPOL 73/78 Annex V** prohibits the discharge of plastics into the sea[52] as they fall within the definition of 'garbage,' which includes fishing and aquaculture gear, including ropes and fishing nets (see Regulations 3 and 7 of MARPOL 73/78 Annex V).

d. Under the **London Convention**, **London Protocol**, and **UNCLOS**, the 'disposal' of fishing and aquaculture must be deliberate to be covered by related provisions. This means that the accidental loss of fishing and aquaculture gear does not fall within the scope of measures on the dumping of wastes at sea. Potentially less certain is the situation in which losses might be considered to have been foreseeable, are viewed as arising as a result of negligence in some form, or are otherwise understood as fault-based. Although *prima facie,* these are not examples of disposal since establishing the requirement of 'deliberate' is not certain. In contrast, under **MARPOL Annex V**, accidental loss and discharge of fishing gear under certain conditions is excepted from the general ban on discharges. The conditions for this exception include that all reasonable precautions have been taken to prevent such loss. In this case accidental losses of gear in circumstances of, for example, foreseeability or neglect might be understood as contrary to the discharge ban. It is relevant to note that IMO has stated that the placement of matter for the purpose of aquaculture will fall outside of the scope of 'dumping.'[53] Exclusions also apply to the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels. In this case there may be some margin for consideration of whether the disposal of fishing gear would be seen as incidental to or derived from the operation of fishing vessels.

e. **UNFSA** provides for the minimization of waste and discards of 'gear' in the context of reducing impacts on target and non-target species. This is a general principle but does not impose specific requirements (see UNFSA, Article 5(f)).

f. The **Basel Convention** on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, following amendments in 2019, clarified the scope of plastic waste covered under its provisions and requires Parties to apply the prior informed consent procedure to control the transboundary movements of certain types of plastic wastes (see decision BC-14/12 of the Conference of the Parties to the Basel Convention). In certain circumstances, some plastics will not be subject

[52] Subject to exceptions.

[53] IMO Secretariat. (1990). *The London Dumping Convention: The First Decade and Beyond*; Churchill, R. (2021). *Just a Harmless Fishing Fad—or Does the Use of FADs Contravene International Marine Pollution Law?* Ocean Development & International Law, 52(2), 169–192. https://doi.org/10.1080/00908320.2021.1901342

to the PIC procedure.[54] Similarly, it provides guidelines for the environmentally sound management of waste.

g. **MARPOL 73/78 Annex V** includes further "end-of-life measures," including requirements on reporting the accidental loss or discharge of fishing and aquaculture gear where it poses a significant threat to the marine environment or navigation (Regulations 7.1.3 and 7.1.4 of MARPOL 73/78 Annex V).[55] Under Annex V, parties also undertake to ensure the provision of adequate facilities at ports and terminals for the reception of garbage without causing undue delay to ships and according to the needs of the boats using them (MARPOL 73/78 Annex V, Regulation 8).

24. When considering coverage of the selected binding instruments, it is also relevant to note their **scope and extent of application**. One dimension of this coverage is membership. While the multilateral instruments selected for analysis are globally applicable in the context of their membership, it can be seen from section II that, in practice, the current number of Parties varies by instrument. Of note here is that MARPOL 73/78 Annex V is identified in the present analysis as a key source of provisions relating to the end-of-life stage of fishing and aquaculture gear, and its current membership is 156 States. At the "production and design" and "use" stages of the life cycle, the UNFSA is identified as a key source of provisions and currently has a more limited membership of 93 States.

25. An additional dimension of coverage concerns the **scope of relevant provisions**. The UNFSA, for example, applies, except where otherwise provided, to fishing beyond the scope of national jurisdiction (per Article 3).[47] This includes Article 5 which sets out general principles and is relevant to the production and design stage. Certain provisions under MARPOL 73/78 Annex V are subject to threshold requirements and will, therefore, not apply in all cases, with implications for the application of certain end-of-life measures.

26. Applicable **definitions** are also relevant to understanding the scope of binding provisions. The applicability of some provisions may be subject to a degree of **uncertainty** since their applicability to fishing and aquaculture gear may not yet have been fully and expressly addressed or clarified through relevant decision-making processes or jurisprudence. The analysis identifies examples, including the meaning of 'devices' and 'seabed activities' in the context of UNCLOS and of 'bulky items' in the context of wastes subject to special permitting under Annex I of the London Convention and Annex II of the London Protocol.

27. Lastly, it is important to note that the life cycle categories adopted for the present review do not directly incorporate provisions for **IUU fishing or broader flag-state measures**. However, efforts to address IUU fishing have also been noted to reduce gear losses and abandonment.[56] Such measures include port State measures aiming to address IUU, such as measures requiring vessel inspections and requiring gear and/or vessels to be marked in order to identify ownership. In this respect, although provisions of the FAO Agreement on Port State Measures (see Tables 1 and 2, Appendix III) were not identified in relation to the stages of the gear life cycle, they do contain measures of relevance to this issue. Article 5 of FAO PSMA includes relevant provisions relating to the use of ports, including the obligation of each Party, to the extent possible, to integrate port State measures with other measures to prevent, deter, and eliminate IUU fishing and fishing-related activities in support of such fishing. The FAO PSMA also requires specified information ahead of port entry (Article 8), followed by a decision to authorize or deny based on engagement in IUU (Article 9). In addition, under Article 12, inspection activities are to be prioritized for vessels for which there is evidence of IUU fishing, and inspections are to include nets and any other gear (Article 13(2)). Measures responding to IUU fishing can, therefore, be of relevance to the use and

[54] See new entry B3011 to Annex IX

[55] Reporting is to the State whose flag the ship is entitled to fly, and, where the loss or discharge occurs within waters subject to the jurisdiction of a coastal State, also to that coastal State.

[56] Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). Working Group 43. 2021. *Sea-based Sources of Marine Litter*. GESAMP Reports and Studies No. 108. London: International Maritime Organization.

end-of-life stages of the fishing and aquaculture gear life cycle. IUU measures may aim to address criminal activity. Still, they may, in certain cases, provide a basis for addressing plastic pollution resulting from such gear and for addressing the abandonment or discard of gear from illegitimate operators.

IV. Additional considerations

28. In addition to the binding instruments covered by this review, a number of non-binding instruments and regional measures (of binding and non-binding nature) contribute to addressing plastic pollution from fishing and aquaculture gear. These include but are not limited to the following:

A. Resolutions from the United Nations General Assembly (UNGA) and the United Nations Environment Assembly (UNEA)

29. Over the past decades, the United Nations General Assembly (UNGA) has been playing a relevant role in reviewing reports on the implementation of UNCLOS and other instruments referred to in Section II, as well as in providing guidance and encouraging States and other stakeholders through its resolutions to take action on issues relating to marine plastic pollution and derelict gear. A number of these resolutions target, *inter alia*, the environmental impacts of lost and discarded gear, such as resolution 60/31[57] (on sustainable fisheries), resolution 71/312 (our ocean, our future: call for action), and resolution 78/68 (on sustainable fisheries). It is important to note that these resolutions "are not legally binding except to the extent that they restate or reflect international law."[58]

30. On a similar note, the United Nations Environment Assembly (UNEA) sets out priorities for international environmental law and global environmental policies. Despite not being legally binding,[59] UNEA resolutions also play a crucial role in promoting action to address pressing environmental issues. In the context of plastic pollution from fishing and aquaculture gear, UNEA has issued a series of resolutions targeting the problems of marine plastic litter and microplastics, single-use plastics, and the related problem of environmentally sound management of waste.[60] The most recent developments are UNEA resolution 5/14, which provides the mandate for the INC, and UNEA resolution 6/15 on strengthening ocean efforts to tackle climate change, marine biodiversity loss, and pollution.

B. Voluntary international measures relevant to the prevention, reduction, and elimination of plastic pollution across the life cycle of fishing and aquaculture gear

31. Amongst the wide range of international voluntary measures relevant to addressing plastic pollution from fishing and aquaculture gear, two instruments are particularly relevant to the governance and management of such gear which is made from or using plastics. Notably, the FAO Code of Conduct for Responsible Fisheries (CCRF)[61] and the FAO Voluntary Guidelines for the Marking of Fishing Gear (VGMFG), [62] which are endorsed by the FAO Conference[63] and

[57] For an overview of initiatives and actions included in UNGA resolution 60/31 and more information on the role of UNGA resolutions in addressing ALDFG., see Hodgson, S. (2022). Legal aspects of abandoned, lost or otherwise discarded fishing gear. Rome, FAO and IMO. Retrieved from https://doi.org/10.4060/cb8071en (Accessed 18 April 2024).

[58] Hodgson, S. (2022). Legal aspects of abandoned, lost or otherwise discarded fishing gear. Rome, FAO and IMO. Retrieved from https://doi.org/10.4060/cb8071en (Accessed 18 April 2024).

[59] Only to the extent that they restate international law rules and principles.

[60] See, for instance, resolution 5/14 on ending plastic pollution, resolution 4/9 on addressing single-use plastic products pollution, Resolution 4/7 on the environmentally sound management of waste, resolution 3/7 on marine litter and microplastics, resolution 4/6 on marine plastic litter and microplastics, resolution 2/11 on marine plastic litter and microplastics, and resolution 1/6 on marine plastic debris and microplastics.

[61] Food and Agriculture Organization of the United Nations. (1995). Code of Conduct for Responsible Fisheries. Rome: FAO. http://www.fao.org/3/v9878e/v9878e00.htm (Accessed 16 April 2024).

[62] Food and Agriculture Organization of the United Nations. (2018). Voluntary Guidelines for the Marking of Fishing Gear. Rome: FAO. http://www.fao.org/3/I9256EN/i9256en.pdf (Accessed 16 April 2024).

[63] See resolution Resolution 4/95 of the FAO Conference.

the FAO Committee of Fisheries (COFI)[64] (respectively). These instruments establish useful principles, provide standards, and encourage actions for sustainable fishing and fisheries activities. However, they do not create rights and legal obligations for countries or other stakeholders. Following the life cycle categorization used in section II of the present document, the key voluntary measures contained in these two instruments are summarized below and in Tables 3 and 4 of Appendix III.

32. Concerning the **production of virgin plastic polymers and the design of fishing and aquaculture gear**, both the CCRF and VGMFG address production in the form of measures that encourage the design of environmentally safe gear (CCRF) and the use of biodegradable materials (VGMFG). Particularly:

a. Within the specific context of fish aggregating devices (FADs), the **VGMFG** provides that States and Regional Fisheries Bodies should encourage the use of non-entangling designs and materials, as well as natural and biodegradable materials in the construction of FADs.

b. The **CCRF** provides that the "performance of all existing fishing gear […] should be examined and measures taken to ensure that fishing and aquaculture gear, methods and practices which are not consistent with responsible fishing are phased out and replaced with more acceptable alternatives (CCRF, Article 7.6.4). This can be understood as implicitly addressing the design of fishing and aquaculture gear.

c. The **CCRF** further provides that States should require sufficiently selective gear, and that fishers should cooperate in the development of selective fishing and aquaculture gear and methods (in order to minimize waste, discards, catch of non-target species, both fish and non-fish species, and associated impacts) (CCRF, Article 8.5.1).

33. Concerning the **use of fishing and aquaculture gear,** key measures include:

a. Under the **CCRF**, use conditions should be applied by States, including to reduce catch by lost or abandoned gear; "such measures may include technical measures related to fish size, mesh size or gear […and] States and sub-regional or regional fisheries management organizations and arrangements should promote, to the extent practicable, the development and use of selective, environmentally safe and cost-effective gear and techniques" (see CCRF, Article 7.6.9). Further details on the scope of relevant terms such as 'selective' are not defined in the current text.

b. The **CCRF** provides guidelines on the marking of fishing and aquaculture gear, including directing that fishing and aquaculture gear should be marked in accordance with national legislation in order that the owner of the gear can be identified. Similarly, gear marking requirements should take into account uniform and internationally recognizable gear marking systems (CCRF, Article 8.2.4), and States should cooperate in developing and applying technologies, materials, and operational methods that minimize the loss of fishing and aquaculture gear and the ghost fishing effects of lost or abandoned fishing and aquaculture gear (CCRF, Article 8.4.6).

c. The **VGMFG** provides detailed provisions on gear marking and takes the specific position that a "risk-based approach to implementing gear marking systems to mitigate against abandoned, lost or other discarded fishing gear (ALDFG) can reduce the likelihood of loss and the impact of the loss if it occurs."[65]

[64] See FIAP/R1249.

[65] See the VGMFG annex "Risk-based approach to assist relevant authorities in determining the need for and requirements of a system for marking of fishing gear."

34. Key measures concerning the **end-of-life stage** include:

a. The **CCRF** includes provisions of broad relevance to the end-of-life of fishing and aquaculture gear, including the sustainable fisheries management objectives that pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, and impacts on associated or dependent species are minimized (CCRF, Article 7.2.2(g)) and the broad direction to examine the performance of all existing fishing and aquaculture gear, methods and practices.

b. In the context of creating a system for the marking of fishing and aquaculture gear, the **VGMFG** provides detailed measures, which include guidance to include the reporting of ALDFG, reporting of fishing and aquaculture gear found (Guidelines 34- 38), recovery of ALDFG (Guidelines 39 –45 and see traceability, guidelines 46-49), and where possible, the safe and environmentally sound disposal of unwanted gear(Guidelines 20, 43, 44, 46).

c. The VGMFG provides that recovered ALDFG and fishing and aquaculture gear no longer in use should be recycled or disposed of responsibly on land and that States should ensure the provision of adequate port reception facilities for the disposal of such fishing gear in accordance with MARPOL 73/78 Annex V (Guideline 44).

C. Regional measures relevant to the prevention, reduction, and elimination of plastic pollution across the life cycle of fishing and aquaculture gear

35. The analysis of specific regional measures is outside of the scope of the present document. However, it is important to acknowledge that regional bodies, including, *inter alia*, RFMOs, other Regional Fisheries Bodies, and those governing bodies established under Regional Seas Conventions also play a significant role in establishing and implementing rules which may directly or indirectly address the lifecycle of fishing and aquaculture gear. Such measures may be voluntary or mandatory. The ability to adopt mandatory measures is dependent upon the mandate of the body in question. It should be further noted that in many cases the binding multilateral instruments discussed in this document make express reference to regional cooperation or the role of regional bodies.[66]

36. Appendix IV provides an annotated summary of reports on regional measures relevant to the life cycle of fishing and aquaculture gear as a source of marine plastic pollution, including those shared with UNEP-WCMC by stakeholders. This provides some further detail on the availability of reports examining the particular dimension of regional measures for this issue and highlights some key comments and findings as reported therein.

V. Concluding observations

37. As can be seen in Sections II, III, and IV, as well as in Tables 1 and 2 contained in Appendix III, several instruments address marine pollution in various forms and include provisions that may apply to the regulation of fishing and aquaculture gear in certain circumstances or at particular stages of the life cycle. However, there is no single legally binding instrument that covers the full life cycle of fishing and aquaculture gear. That is, from the production of virgin plastic polymers to their use and their disposal. The scope and applicability of some relevant measures are also subject to a degree of uncertainty, particularly concerning relevant terms and definitions.

38. Concerning the production and design stage of the fishing and aquaculture gear life cycle, the most directly applicable measure is Article 5 of the UNFSA. However, this is a general principle rather than a specific obligation. There are some measures under UNCLOS and the

[66] For instance, UNCLOS Article 118 provides that States must, as appropriate, cooperate to establish subregional or regional fisheries organizations to cooperate in the conservation and management of living resources in the areas of the high seas and see for example, Article 12 to the London Protocol and Article 20 UNFSA both on regional cooperation.

London Protocol that possibly provide some limited coverage of this stage. Still, this assumption would rely on an interpretation of certain definitions (devices, under UNCLOS 194; bulky items, under Annex 1 London Protocol) that are not necessarily within their scope.

39. In the use phase of the life cycle, the key provision is the UNSFA requirement for the marking of gear (Article 18), along with associated measures also require recording of data, including a description of fishing and aquaculture gear covering, e.g., types, gear specifications, and quantity. A broad basis for Parties to adopt measures in connection with seabed activities subject to their jurisdiction exists under UNCLOS, and this potentially applies to a narrow range of activities connected with fishing and aquaculture gear related to activities such as bottom trawling.

40. The analysis identifies several measures relevant to the end-of-life stage in the life cycle, particularly those relating to waste dumping and garbage discharge. A cross-cutting limitation with respect to the scope of these measures is that they do not apply to accidental losses. MARPOL, under Annex V, does include requirements for reporting the accidental loss or discharge of fishing and aquaculture gear; this is limited in the text to circumstances in which it poses a significant threat to the marine environment or navigation.

Acknowledgments*: The analysis contained in this information document was commissioned by the Kingdom of Belgium and the Principality of Monaco and undertaken by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). The preliminary key findings of this exercise were presented at a webinar hosted on Wednesday, 17 April 2024. The webinar gathered INC national focal points and stakeholders. Feedback received during and after the webinar was incorporated, as appropriate, into the present note and its appendices. UNEP-WCMC acknowledges the generous financial contribution from the Governments of Belgium and Monaco, as well as the invaluable contribution of webinar participants and other stakeholders to the preparation of this information document.*

Appendices

Appendix I – Glossary of key terms

Abandoned, lost or otherwise discarded fishing gear (ALDFG): Collective term for fishing gear that has been abandoned, lost or otherwise discarded (see separate glossary entries). Sometimes referred to as "derelict fishing gear".[67]

Dumping: For the purposes of the London Convention (Article III (1) (a)) and London Protocol (Article 4 (1)), "Dumping" means: (i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea; (ii) any deliberate disposal at sea [London Convention]/ into the sea [London Protocol] of vessels, aircraft, platforms or other manmade structures at sea. Additionally, in the London Protocol dumping means .2 any deliberate disposal into the sea of vessels, aircraft, platforms or other man-made structures at sea; .3 any storage of wastes or other matter in the seabed and the subsoil thereof from vessels, aircraft, platforms or other man-made structures at sea; and .4 any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal. "Dumping" under the London Convention (Article III (1)(b)) and London Protocol (Article 4 (2)) does not include: (i) the disposal at sea [London Convention] / into the sea [London Protocol] of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures; (ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention/ Protocol [respectively]." In addition, under the London Protocol (Article 4 (1)(b)) dumping does not include abandonment in the sea of matter (e.g., cables, pipelines and marine research devices) placed for a purpose other than the mere disposal thereof. .3 The disposal or storage of wastes or other matter directly arising from, or related to the exploration, exploitation and associated off-shore processing of seabed mineral resources is not covered by the provisions of this Protocol."

Environmentally sound management of hazardous wastes or other wastes: Taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes (Article 2(8), Basel Convention).

Fishing and aquaculture gear: Any physical device or part thereof or combination of items that may be placed on or in the water or on the sea-bed with the intended purpose of capturing, or controlling for subsequent capture or harvesting, marine or freshwater organisms (Regulation 1(6), MARPOL 73/78 Annex V).

Fishing related activities: Any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transhipping or transporting of fish that have not been previously landed at a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea (Article 1(d), FAO PSMA).

Garbage: All kinds of food wastes, domestic wastes and operational wastes, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention […] (Regulation 1(9), MARPOL 73/78 Annex V).

[67] Macfadyen, G., Huntington, T., & Cappell, R. (2009). *Abandoned, Lost or Otherwise Discarded Fishing Gear*. UNEP Regional Seas Reports and Studies No. 185.; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024.

Ghost fishing: The term describes the capture of marine organisms by lost, abandoned or otherwise discarded fishing gear or parts thereof. Effectively, the capture of fish and other species takes place after all control of fishing gear is lost by a fish fisher. For example, a lost, abandoned or discarded gillnet might continue to fish with consequent mortality to the enmeshed fish. Ghost fishing is often cyclical and the pattern, duration and extent will depend on a large number of factors including the gear type, water depth, currents and local environment (UNEP AND FAO Rome, 2009).

Hazardous wastes for the purposes of the Basel Convention: (a) Wastes that belong to any category contained in Annex I [of the Convention], unless they do not possess any of the characteristics contained in Annex III; and (b) Wastes that are not covered under paragraph (a) but are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit (Article 1(1), Basel Convention).

Illegal, unreported and unregulated fishing: refers to the activities set out in paragraph 3 of the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, hereinafter referred to as 'IUU fishing' (Article 1(e), 2009 FAO Agreement). International conservation and management measures: measures to conserve or manage one or more species of living marine resources that are adopted and applied in accordance with the relevant rules of international law as reflected in the 1982 United Nations Convention on the Law of the Sea (Article 1(b), FAO PSMA).

Plastic: a solid material which contains as an essential ingredient one or more high molecular mass polymers, and which is formed (shaped) during either manufacture of the polymer or the fabrication into a finished product by heat and/or pressure. Plastics have material properties ranging from hard and brittle to soft and elastic (1973 International Convention for the Prevention of Pollution from Ships (MARPOL)), as modified by the Protocol of 1978 (Regulation 1(13), MARPOL 73/78)).

Pollution of the marine environment: refers to the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of seawater and reduction of amenities (Article 1(4), 1982 United Nations Convention on the Law of the Sea).

Transboundary Movement: Any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement (Article 2(3), Basel Convention).

Wastes: Substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law (Article 2(1), Basel Convention).

Appendix II – List of binding instruments included in this review

- United Nations Convention on the Law of the Sea (Montego Bay, 10 December 1982, entered into force 16 November 1994) United Nations, Treaty Series, vol. 1833, p. 3.

- International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 Relating Thereto (MARPOL 73/78), Annex V (London, 2 November 1973 (Convention), 17 February 1978 (1978 Protocol), Annex V adopted 1 December 1988, entered into force 31 December 1988) United Nations, Treaty Series, vol. 1340, p. 184.

- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London, 29 December 1972, entered into force 30 August 1975) United Nations, Treaty Series, vol. 1046, p. 120.

- Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London, 7 November 1996, entered into force 24 March 2006).

- United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (New York, 4 December 1995, entered into force 11 December 2001) United Nations, Treaty Series, vol. 2167, p. 3.

- Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Rome, 22 November 2009, entered into force 5 June 2016) Food and Agriculture Organization of the United Nations, FAO Fisheries and Aquaculture Department.

- Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Rome, 24 November 1993, entered into force 24 April 2003) Food and Agriculture Organization of the United Nations, FAO Fisheries and Aquaculture Department.

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel, 22 March 1989, entered into force 5 May 1992) United Nations, Treaty Series, vol. 1673, p. 57.

Appendix III – Supporting Materials

Table 1: Summary information for international binding instruments

Instrument	Number of Parties	Overarching objective	Obligations broadly relating to marine pollution, if any	Provisions directly or indirectly addressing fishing and aquaculture gear?	Relevant definitions, if any
UNCLOS	169[68]	Provides an overarching legal framework for maritime activities, promoting the protection of the marine environment and international cooperation (see Article 192, UNCLOS).	• Obligation of States to preserve the marine environment (Article 192, UNCLOS). • Duty of States to protect the marine environment from any source of pollution (Article 194, UNCLOS). • Recognition of the freedom of all States to fish in the high seas (Article 87, UNCLOS) with the requirement that states must adopt (or cooperate with other States to adopt) measures for the conservation of living resources (Article 117, UNCLOS). • States shall also cooperate in the conservation and living sources in the areas of the high seas (Article 118, UNCLOS).	Indirectly	**Article 1(4)** provides that "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment 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 seawater and reduction of amenities. This definition is broad enough to include marine plastics and plastic pollution from fishing and aquaculture gear. **Article 1(5)(a)** provides that dumping means: "(i) any deliberate disposal of wastes and other matter from vessels, aircraft, platforms or other man-made structures at sea; (ii) any deliberate disposal of vessels, aircraft, platforms or other man-made structures at sea." **Article 1(5)(b)** provides that: "dumping" does not include (i) the disposal of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures; (ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention.

[68] See https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en [Accessed: 02 April 2024].

MARPOL 73/78,[69] particularly Annex V	161 Contracting States (protocol) [70] 156 Contracting States (Annex V)[71]	Prevention of pollution by garbage from ships (see Article 1, MARPOL 73/78)	• MARPOL 73/78, as a whole, addresses the prevention of pollution of the marine environment by ships. • Annex V addresses the Prevention of Pollution by Garbage from Ships and includes a prohibition on the discharge of plastics (see Regulation 3 of Annex V, MARPOL 73/78).	Directly	**Regulation 1(6) -** Fishing and aquaculture gear means any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of capturing, or controlling for subsequent capture or harvesting, marine or fresh water organisms. **Regulation 1(9) -** Garbage means all kinds of food wastes, domestic wastes and operational wastes, all plastics, cargo residues, incinerator ashes, cooking oil, fishing and aquaculture gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention. **Regulation 1(13) -** Plastic means a solid material which contains as an essential ingredient one or more high molecular mass polymers and which is formed (shaped) during either manufacture of the polymer or the fabrication into a finished product by heat and/or pressure. Plastics have material properties ranging from hard and brittle to soft and elastic. For the purposes of Annex V, "all plastics" means all garbage that consists of or includes plastic in any form, including synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products.
London Convention, as amended (LC 1972)	87 Contracting States[72]	To promote the effective control of all sources of marine pollution and to take all practicable steps to prevent sea pollution by dumping wastes and other matters (see Article I, London Convention).	• Article I of the London Convention establishes that "Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, andenvironment and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."	Indirectly	**Article III(1)(a) -** "For the purposes of this Convention: 1 (a) "*Dumping*" means: (i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea; (ii) any deliberate disposal at sea of vessels, aircraft, platforms or other manmade structures at sea. (b) "*Dumping" does not include:* (i) the disposal at sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the

[69] As amended by resolutions MEPC.36(28), MEPC.42(30), MEPC.48(31), MEPC.65(37), MEPC.89(45), MEPC.116(51), MEPC.201(62), MEPC.216(63), MEPC.246(66), MEPC.265(68), MEPC.277(70) from the Marine Environment Protection Committee (MEPC), and Resolution 3 of the Conference of Parties to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978.

[70] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf [Accessed 03 April 2024].

[71] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf [Accessed 03 April 2024].

[72] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf [Accessed 03 April 2024].

					treatment of such wastes or other matter on such vessels, aircraft, platforms or structures; (ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention." **Article III(1)(4)** - "Wastes or other matter" means material and substance of any kind, form or description. **Annex I, para. 4**: "Persistent plastics and other persistent synthetic materials, for example, netting and ropes, which may float or may remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea."
London Protocol	54 Contracting States[73]	To promote the effective control of all sources of marine pollution (see Article 2, London Protocol)	• The focus and content of the London Protocol addresses pollution in the marine environment specifically in the form of dumping at sea. • This includes Article 2 of the protocol: "Contracting Parties shall individually and collectively protect and preserve the marine environment from all sources of pollution and take effective measures, according to their scientific, technical and economic capabilities, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter […]."	Indirectly	**Article 1** - "Dumping" means: .1 any deliberate disposal into the sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea; .2 any deliberate disposal into the sea of vessels, aircraft, platforms or other man-made structures at sea. .3 any storage of wastes or other matter in the seabed and the subsoil thereof from vessels, aircraft, platforms or other man-made structures at sea; and .4 any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal. **Article 2** - "Dumping" does not include: 1 the disposal into the sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or other man-made structures. .2 placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Protocol; and .3 notwithstanding paragraph 4.1.4, abandonment in the sea of matter (e.g., cables, pipelines and marine research devices) placed for a purpose other than the mere disposal thereof. **Article 2(8)** - "Wastes or other matter" means material and substance of any kind, form or description.
UNFSA	93[74]	To ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective	• Does not apply to marine pollution specifically; the focus is on sustainable fisheries. Article 6 of UNFSA requires the application of the precautionary principle (i.e.	Directly	Not applicable.

[73] See Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depositary or other functions, available at https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202024.pdf [Accessed 03 April 2024].

[74] See https://www.un.org/oceancapacity/sites/www.un.org.oceancapacity/files/unclosstatus2024.pdf [Accessed 03 April 2024].

		implementation of the relevant provisions of the Convention (see Article 2, UNFSA).	" States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment […]."		
FAO Compliance Agreement	45[75]	Ensure compliance with measures for the conservation of living resources on the high seas (see Article 61, UNCLOS).	• Provisions relate to authorization, monitoring and control of fishing vessels for use in the high seas in relation to international conservation and management measures (see Article III(5)(a), Article V, and Article VIII(2).	Indirectly	**Article 1(b)** – "international conservation and management measures" means measures to conserve or manage one or more species of living marine resources that are adopted and applied in accordance with the relevant rules of international law as reflected in the 1982 United Nations Convention on the Law of the Sea. Such measures may be adopted either by global, regional or subregional fisheries organizations, subject to the rights and obligations of their members, or by treaties or other international agreements.
FAO Agreement on Port State Measures	78[76]	To prevent, deter, and eliminate IUU fishing through the implementation of effective port State measures, and thereby to ensure the long-term conservation and sustainable use of living marine resources and marine ecosystems (see Article 2, PSMA)	• Not applicable.	Directly	**Article 1(d)** - *"fishing related activities*" means any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping or transporting of fish that have not been previously landed at a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea. **Article 1(e**) – *"illegal, unreported and unregulated fishing"* refers to the activities set out in paragraph 3 of the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, hereinafter referred to as 'IUU fishing'.
Basel Convention	191[77]	Regulation of the transboundary movement of hazardous wastes and their disposal (see Article 1, Basel Convention).	• Article 15(4) of the Convention provides that: "Parties at their first meeting shall consider any additional measures need to assist them in fulfilling their responsibilities with respect to the protection and the preservation of the marine environment in the context of this Convention." A number of COP decisions have addressed the issue or marine plastic pollution."	Indirectly	**Article 2(8)** - "Environmentally sound management of hazardous wastes or other wastes" means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes. **Article 2(1)** - "Wastes" are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law;

Table 2: Summary – Coverage analysis of international legally binding instruments with reference to the life cycle of fishing and aquaculture gear [(a)]

[75] See https://www.fao.org/treaties/results/details/en/c/TRE-000023/ [Accessed 10 April 2024].

[76] See https://www.fao.org/treaties/results/details/en/c/TRE-000003/ [Accessed 10 April 2024].

[77] See https://treaties.un.org/pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-3&chapter=27&clang=_en#:~:text=Parties%20%3A%20191.&text=United%20Nations%2C%20Treaty%20Series%20%2C%20vol. [Accessed 10 April 2024]

Stage in the lifecycle of fishing and aquaculture gear	**Production of virgin plastic polymers and design of fishing and aquaculture gear**		**Use of fishing and aquaculture gear**			**End of life of fishing and aquaculture gear**				
Provisions relating to:	Production of virgin plastic polymers used in fishing and aquaculture gear	Design	Gear marking	Use conditions	Management of fishing and aquaculture gear (other)	Disposal and discard	Recovery	Reusing, recycling, and repair	Waste management including port reception facilities	Lost gear reporting
UNCLOS	**X**	**Limited**	**X**	**Limited**	**X**	**Limited**	**X**	**X**	**X**	**X**
MARPOL 73/78, Annex V	**X**	**X**	**X**	**X**	**X**	✓	**X**	**X**	✓	✓
London Convention, as amended (LC 1972)	**X**	**X**	**X**	**X**	**X**	✓	**X**	**X**	**X**	**X**
London Protocol	**Limited**	**Limited**	**X**	**X**	**X**	✓	**X**	**Limited**	**X**	**X**
UNFSA	**Limited**	**Limited**	✓	**X**	**X**	**Limited**	**X**	**X**	**X**	**X**
FAO Compliance Agreement	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
FAO Agreement on Port State Measures	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Basel Convention	**X**	**X**	**X**	**X**	**X**	**Limited**	**X**	**X**	**X**	**X**

Caption: ✓ = The instrument includes provisions directly relevant to this stage of the life cycle of fishing gear. **Limited** = The instrument includes provisions with limited direct application to this stage of the life cycle of fishing gear. **X** = The instrument does not include provisions directly relevant to this stage of the life cycle of fishing gear.

(a) This summary table provides an overview of the provisions relating to plastic pollution from fishing and aquaculture gear contained in the eight legally binding instruments included in UNEP-WCMC's analysis.

Table 3: Summary information for voluntary instruments

Voluntary instrument	Overarching objective	General measures relating to marine pollution	Provisions directly or indirectly addressing fishing gear?	Provisions directly or indirectly addressing fishing and aquaculture gear?
FAO Code of Conduct for Responsible Fisheries	The Code of Conduct for Responsible Fisheries has the objectives of, *inter alia*, providing guidance, principles, and criteria in connection with national policies for responsible fishing and fisheries activities; promoting the protection of living aquatic resources and their environments and coastal areas; and providing standards of conduct for all persons involved in the fisheries sector.	Measures include the general principle of protection of marine ecosystems from pollution (see Provision 6.8) and that fisheries management objectives should include minimizing pollution (Provision 7.2.2(g)).	Directly	Not applicable.
FAO Voluntary Guidelines for the Marking of gear	The Voluntary Guidelines on the Marking of Fishing Gear is a tool to contribute to sustainable fisheries, to improve the state of the marine environment, and to enhance safety at sea by combatting, minimizing, and eliminating abandoned, lost or otherwise discarded fishing gear (ALDFG), as well as facilitating the identification and recovery of such gear. The Guidelines assist fisheries management and can be used as a tool in the identification of illegal, unreported and unregulated (IUU) fishing activities.	The system for the marking of fishing gear should [...] promote employment of methods that do not pose an environmental risk, e.g., plastic pollution (see Guideline 11.	Directly	"Fishing gear" refers to any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of capturing or controlling for subsequent capture or harvesting marine organisms, in accordance with MARPOL 73/78 Annex V. "Abandoned fishing gear" means fishing gear over which that operator/owner has control and that could be retrieved by owner/operator, but that is deliberately left at sea due to force majeure or other unforeseen reasons. "Lost fishing gear" means fishing gear over which the owner/operator has accidentally lost control and that cannot be located and/or retrieved by the owner/operator. "Discarded fishing gear" means fishing gear that is released at sea without any attempt for further control or recovery by the owner/operator.

Table 4: Summary – Coverage analysis of voluntary international measures [(pb)]

Stage in the lifecycle of fishing and aquaculture gear	**Design and Production**		**Use of fishing and aquaculture gear**			**End of life of fishing and aquaculture gear**				
Provisions relating to:	Production and consumption of virgin plastic polymers used in fishing and aquaculture gear	Design	Gear marking	Use conditions	Management of fishing and aquaculture gear (other)	Disposal and discard	Recovery	Reusing, recycling, and repair	Waste management including port reception facilities	Lost gear reporting
FAO Code of Conduct for Responsible Fisheries	✓	✓	✓	✓	**X**	**Limited**	**Limited**	**Limited**	**Limited**	**Limited**
FAO Voluntary Guidelines for the Marking of Fishing gear	✓	✓	✓	✓	**X**	✓	✓	✓	✓	✓

Caption: ✓ = The voluntary instrument includes provisions directly relevant to this stage of the life cycle of fishing gear. **Limited** = The voluntary instrument includes provisions with limited direct application to this stage of the life cycle of fishing gear. **X** = The instrument does not include provisions directly relevant to this stage of the life cycle of fishing gear.

(b) This summary table provides an overview of the measures relating to plastic pollution from fishing and aquaculture gear contained in the two voluntary instruments included in UNEP-WCMC's analysis.

Appendix IV – Annotated summary of reports on regional measures relevant to the life cycle of fishing and aquaculture gear as a source of marine plastic pollution

Title	Author/ publishing organisation and year of publication	Summary	Regional bodies or measures referred to	Noteworthy comments or findings (relating to the application of regional measures to marine plastic pollution and/or fisheries and aquaculture gear)
Operationalization of FAO Voluntary Guidelines for the Marking of Fishing Gear in the Indian Ocean Tuna Commission (IOTC) area of competence[78]	FAO (2022)	This document evaluates the major fishing gears that harvest species under the management of the Indian Ocean Tuna Commission (IOTC) through a risk assessment of fishing gear marking implementation. Includes 5 types of fishing gear and FAD's and buoys (including out of plastic)	The Southern Indian Ocean Fisheries Agreement (SIOFA)	Outlines the relative importance of fishing gear alongside their overall plastic amount. Discusses ecological risks of plastic as outlined in the FAO Voluntary Guidelines on the Marking of Fishing Gear Provides examples of gear marking requirements from selected jurisdictions. Makes recommendations for gear marking measures in the IOTC area of competence including measures to mitigate the impact of ALDFG, including the retrieval of ALDDFG and requirements for collection, reuse and recycling of end-of-life gear
Briefing 'Untangled The plastics treaty's critical role in tackling fishing gear' Policy briefing for the Intergovernmental Negotiation Committee for UNEA 5/14[79]	EIA, University of Wollongong Australia, SPREP PROE, Ocean Care (2023)	Proposes the relevance of fishing and aquaculture for inclusion in the negotiations for a new instrument to address plastic pollution, including in the marine environment. Presents information on the relevance of this topic and possible regulatory options.	Highlights broad areas of activity or adoption of measures by various regional bodies and organisations	Highlights requirements or other measures on the marking of gear and implementation of fisheries management licensing schemes adopted by a range of RFMOs and other regional organisations.

[78] He, P. & Lansley, J. 2022. Operationalization of FAO Voluntary Guidelines for the Marking of Fishing Gear in the Indian Ocean Tuna Commission (IOTC) area of competence. FAO Fisheries and Aquaculture Circular No. 1261. Rome, FAO. https://doi.org/10.4060/cc2889en

[79] Environmental Investigation Agency. (2023). Untangled: The plastics treaty's critical role in tackling fishing gear, Policy briefing for the Intergovernmental Negotiation Committee for UNEA 5/14.

Sea-based sources of marine litter[80]	GESAMP (2021)	Aims to identify sources of marine litter from sea-based sources, estimate relative contribution and impacts of different sources, assess gaps to prioritise future work, identify ALDFG hotspots, quantify impacts of ALDFG, review solutions.	Regional Seas Conventions, Regional Fisheries Bodies, Regional Fisheries Management Authorities Northwest Pacific Action Plan - NOWPAP Regional Action Plan on Marine Litter Regional Seas Convention for the North-East Atlantic) Regional Reception Facilities Plan for the SIDS in the Pacific Region Additional regional reports and documents are included in the report's bibliography	Notes the development of best practice guidelines around ALDFG in the Northwest Pacific (NOWPAP Regional Action Plan on Marine Litter) and Adriatic Sea Notes also that. guidelines are under development for Asia-Pacific region. Highlights the particular treatment of FADS as distinct from other types of fishing gear, including by regional fisheries bodies. Refers to roles of RSCs in relation to dumping of waste as a source of marine litter References work under OSPAR Convention (the Regional Seas Convention for the North-East Atlantic) to develop suitable indicators for microplastics in marine sediment (OSPAR 2019) References good practice in the development of waste reception hubs under the Regional Reception Facilities Plan for the SIDS in the Pacific Region
Reporting and retrieval of lost fishing gear[81]	GloLitter Partnership (FAO, IMO) (2022)	Report describes systems for fisher-led reporting and retrieval of lost fishing gear. In doing so it identifies critical elements of successful programmes and recommends next steps for countries to develop such programmes in their turn.	RFMOs and RFBs (collectively). Refers to the existence of binding measures including in CCAMLR, IOTC, NAFO, NEAFC, SEAFO, IATTC, SPRFMO and WCPFC.	Notes that binding measures relating to ALDFG reporting through logbooks or observer reports are in effect in CCAMLR, IOTC, IATTC, SPRFMO and WCPFC. Notes that Gilman (2015) found that none of the RFMOS with LPC or PC membership have binding measures around the detection and removal of ALDFG; this includes requiring retrieval equipment on board and requiring at least an attempt to retrieve lost gear. Only three RFMOs do

[80] Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). Working Group 43. 2021. *Sea-based Sources of Marine Litter*. GESAMP Reports and Studies No. 108. London: International Maritime Organization.

[81] Drinkwin, J. 2022. Reporting and retrieval of lost fishing gear: recommendations for developing effective programmes. Rome, FAO and IMO. https://doi.org/10.4060/cb8067e

				have binding measures relating to the detection and removal of ALDFG: NAFO, NEAFC and SEAFO. Provides recommendations for measures at the RFMO level.
IASS Study – Stronger Together: The role of regional instruments in strengthening global governance of marine plastic pollution[82]	IASS (2021)	The report is the final output of a research project which analysed the role of regional instruments in combating marine plastic litter and identified linkages of these regional efforts with a new global agreement on marine plastic litter.	Regional Seas Conventions and Action Plans (various and collectively) Regional Fisheries Bodies and RFMOs (various and collectively)	Notes that: Only the Western and Central Pacific Fisheries Commission (WCPFC) Convention includes an explicit mandate to mitigate ALDFG and ghost fishing (WCPFC, 2000: Article 5e) The Northwest Atlantic Fisheries Organization (NAFO) has binding measures in place pertaining to accidental loss and efforts for retrieval of fishing gears at sea (NAFO, 2019:22) and a draft proposal pertaining to garbage, including fishing gear. The North East Atlantic Fisheries Commission (NEAFC) broadened its binding measures on retrieval and disposal of fishing gear in 2019 and introduced a new article adding that Contracting Parties shall require their vessels not to deliberately abandon or discard gear (NEAFC, 2020: Articles 7a and 7b). The Western Central Atlantic Fishery Commission (WECAFC) recommended that its members implement the FAO Voluntary Guidelines on the Marking of Fishing Gear (WECAFC, 2019).

[82] Wienrich, N., Weiand, L., & Unger, S. (2021). Stronger together: The role of regional instruments in strengthening global governance of marine plastic pollution. IASS Study, February 2021

				The South Pacific Regional Fisheries Management Organisation (SPRFMO) adopted a Conservation and Management Measure on marine pollution in 2019, introducing *inter alia* measures related to the minimisation and retrieval of ALDFG and prohibiting vessels from discharging plastics in the sea, except if necessary for security and safety reasons (SPRFMO, 2019). The International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Indian Ocean Tuna Commission (IOTC) promoted research on/use of biodegradable materials in their respective Fish Aggregating Devices (FAD) management plans (ICCAT, 2019:8, Section 40ii). IOTC additionally introduced an obligation to remove all traditional FADs encountered from 2022 onwards from the water, retain them on board and dispose them in ports (IOTC, 2019:4/18). CCAMLR established its Marine Debris program in 1989 in order to monitor litter levels in the Convention Area, with specific regard to fishing-related items. CCAMLR and the International Association of Antarctica Tour Operators (IAATO) collaborated in refining an e-form for opportunistic sightings of marine litter and agreed that IAATO may form part of a new Intersessional Correspondence Group on Marine Debris of CCAMLR4 Notes that several binding and non-binding measures which directly and indirectly prevent and reduce ALDFG have been introduced by RFBs in the past years.

				Efforts are described in the report as varying widely amongst the RFBs and several RFBs have not introduced measures at this stage. Proposes that further progress in adopting relevant measures and a harmonization of management systems should be made in order address the issue of ALDFG.
20 Years of Government Responses to the Global Plastic Pollution Problem: The Plastics Policy Inventory[83]	Karasik et al - Nicholas Institute for Environmental Policy Solutions (2020)	Presents a synthesis of policy responses of governments to the global plastic pollution problem, with reference to the need for monitoring progress as called for in UNEA Resolution 4/6 The scope of the study is limited to public policies introduced during the period from January 2000 to July 2019	RSCs and RSCAPS as well as other regional organizations	Asserts that, bon the Global Plastics Policy Inventory, 39 regional policy documents were agreed with instruments intended to address the plastic pollution problem, of which 22 are binding and 17 are nonbinding. Provides a summary of identified measures and a list of policy measures adopted at regional level.
Managing Abandoned, Lost or Discarded Fishing Gear and Aquaculture Equipment in the APEC Region - Best Practice Guide[84]	Asia-Pacific Economic Cooperation Secretariat (2023)	Provides a Best Practice Guide for APEC member economies on ALDFG with reference also to IUU. Aims to highlight and explain relevant gear management best practices and provide real-world examples.	Refers to binding and voluntary international instruments and national case study examples.	Notes that APEC region dominates global aquaculture production.
Regional fisheries management organizations and advisory bodies: Activities and developments, 2000–2017[85]	FAO (2020)	The overview is intended to communicate to a wide audience the role and work of RFMOs and RFABs in the context of regional and global ocean governance in general and fisheries sustainability in particular.	Provides a detailed overview of RFMO activities including activities relating to conservation. Of most direct relevance are the following: Inter-American Tropical Tuna Commission (IATTC) established under the Convention for the Establishment of an Inter-American Tropical Tuna	Provides an overview of RFMOs that have adopted measures to combat IUU fishing and of RFMO treaties that refer to the precautionary and ecosystem approaches. On conservation and management: ICCAT has established a system for data collection for nominal annual catches, number of

[83] Karasik, R., T. Vegh, Z. Diana, J. Bering, J. Caldas, A. Pickle, D. Rittschof, and J. Virdin. 2020. 20 Years of Government Responses to the Global Plastic Pollution Problem: The Plastics Policy Inventory. NI X 20-05. Durham, NC: Duke University.

[84] Tim Huntington and Joan Drinkwin, Managing Abandoned, Lost or Discarded Fishing Gear and Aquaculture Equipment in the APEC Region Best Practice Guide, APEC Oceans and Fisheries Working Group August 2023

[85] Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, P. 2020. Regional fisheries management organizations and advisory bodies. Activities and developments, 2000–2017. FAO Fisheries and Aquaculture Technical Paper No. 651. Rome, FAO. https://doi.org/10.4060/ ca7843en

			Commission; General Fisheries Commission for the Mediterranean (GFCM) established under the provisions of Article XIV of the FAO Constitution; the International Whaling commission, established under the International Convention for the Regulation of Whaling; Mekong River Commission (MRC) established through the Agreement on the Cooperation for Sustainable Development of the Mekong River Basin; South East Atlantic Fisheries Organization (SEAFO) established under the SEAFO Convention; South Pacific Regional Fisheries Management Organization (SPRFMO) established under the SPRFMO Convention; Indian Ocean Tuna Commission (IOTC) established under the provisions of Article XIV of the FAO Constitution	fishing vessels by size, gear and flag, catch and effort by area, gear, flag, species and month, actual size frequencies of fish, and catch-at-size data (with several adjustments adopted in recent years). ICCAT also encourages the provision of data on interactions with, and incidental catches of, seabirds and turtles; on cooperation it is noted that GFCM also collaborates with the Commission on the Protection of the Black Sea Against Pollution; for the IWC it was noted that The Scientific Committee, which meets annually, provides scientific advice to the Commission on management regimes for [inter alia] assessing the effects on cetaceans of environmental change, such as global warming and pollution...; on conservation, MRC members have agreed to cooperate in fisheries management and to protect the environment, natural resources, aquatic life and conditions and ecological balance of the Mekong River Basin from pollution or other harmful effects; under conservation measures, SEAFO has established measures on incidental bycatch of seabirds, on reduction of sea turtle mortality and on incidental catches of sharks. SEAFO banned the use of gillnets in 2009; SPRFMO banned large-scale and deep-water gillnets; IOTC has adopted measures concerning large-scale driftnets (2013)
Abandoned, lost or otherwise discarded fishing gear[86]	UNEP/FAO (2009)			Notes that UNEP is dealing with the issue of ALDFG as part of a broader Global Initiative on Marine Litter, which is being implemented through the UNEP Regional Seas

[86] Macfadyen, G., Huntington, T., & Cappell, R. (2009). *Abandoned, Lost or Otherwise Discarded Fishing Gear*. UNEP Regional Seas Reports and Studies No. 185.; FAO Fisheries and Aquaculture Technical Paper No. 523. Rome: UNEP/FAO. https://www.fao.org/3/i0620e/i0620e.pdf (Accessed 10 April 2024).

				Programme (RSP). Reports that RSP took an active lead on the marine litter issue and in 2005 began organizing and implementing regional activities on marine litter in 12 Regional Seas[5]. The regional activities are reported as being arranged through an agreement concluded between each of 12 Regional Organizations/Regional Coordinating Units and UNEP/RSP on the management of marine litter in the region. It is noted that each of the regions has a customized programme and a work plan based on the same concept. It is noted that at a regional level, the Asia-Pacific Economic Cooperation (APEC) has recognized the problem of ALDFG and is seeking solutions to the problem and agreed the Bali Plan of Action (September, 2005) to support efforts "to address derelict fishing gear and derelict vessels, including the implementation of recommendations from research already undertaken in the APEC context". Notes that the European Commission (EC) Communication on Promoting more Environmentally-friendly Fishing Methods (EC, 2004) identifies the need to address ghost fishing as part of the broader drive to tackle unwanted catches. EC Regulation 356/2005 (EC, 2005) also lays down rules for the marking of passive gear and beam trawls in EC waters. Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has an active programme to combat marine debris, including debris from fishing activities such as large-scale trawl fisheries for krill and longline fishing for Patagonian toothfish (NRC, 2008). Conservation Measure 10-01

				on the Marking of Fishing Gear requires all fishing gear such as pots, marker buoys and floats to be marked with the vessel name, call sign and flag state. Notes that ICCAT does not have measures concerning ALD fishing gear, but Contracting Parties have to ensure that fishing gear is marked in accordance with generally accepted standards. Observes that generally, the marking of gear remains the choice of individual operators with guidance from authorities focusing on navigational safety rather than ALDFG Purposes. Even where tagging schemes are introduced... tags tend to be attached to headropes and ground -ropes rather than directly to sections of net or line. This...does not assist in the identification of most ALDFG as this is predominantly made up of nets and lines. Reduced fishing effort: management of the crab fishery in the CCAMLR region is reported as requires an accurate reporting of location data, number of pots set, spacing of pots on the line, number of pots lost, depth, soak time and bait type (CCAMLR, 2006). However, this is noted to amount to soak times contributing to an overall limit of effort rather than a limit imposed on soak time specifically. It is noted that the EC banned the use of deep-sea gillnets in some areas in waters deeper than 600m and only permitted their use at other depths under conditions designed to avoid ghost fishing. Vessels in the NEAFC Regulatory Area were reported as being prohibited from deploying gillnets, entangling nets or trammel nets in waters deeper than 200 m until regulatory measures were adopted, and

				all such nets were to be removed by February 2006. Output or catch restrictions (e.g. a quota allocated per vessel) are noted as also having positive side effects with respect to ALDFG. The International Pacific Halibut Commission (IPHC) has reported that overall gear losses have decreased markedly since the introduction of individual transferable quotas. Biodegradeable materials: the Pacific Region Integrated Fisheries Management Plan for crab by traps, 2008, is noted to include various requirements related to biodegradable escape mechanisms; the Australian and New Zealand Environment Conservation Council (ANZECC) was instrumental in promoting a national approach towards the use of biodegradable materials in bait bag manufacture
Global overview of lost fishing gear reporting obligations implemented under regional fisheries management organizations and progress in the implementation of the Voluntary Guidelines on the Marking of Fishing Gear to reduce ALDFG and its impact[87]	FAO (2023)	The document provides an overview of existing reporting obligations for lost fishing gear implemented by regional fisheries management organizations and an update on the work conducted by FAO to support implementation of the FAO Voluntary Guidelines on the Marking of Fishing Gear, and the FAO Global ALDFG Surveys	The document provides a detailed overview of regional measures relevent to lost gear reporting. Not all of the measures identified are publicly available. CCAMLR - Conservation Measures (CM) 23-04 and 23-06. ICCAT - 9-11 Recommendation by ICCAT on abandoned, lost or otherwise discarded fishing gear. IOTC - Resolution 23-01 on management of Anchored Fish Aggregating Devices (AFADs) NEAFC - NEAFC Scheme of Control and Enforcement - Article 7b – Garbage at Sea and Retrieval of Lost Gear NAFO - Lost or Abandoned Fishing Gears - Article 13.11 to Article 14 of the NAFO Conservation and Enforcement Measures.	The measures identified include both voluntary and mandatory measures. Key findings include: 1. from the 11 RFMOs listed, 8 have adopted mandatory measures and one non-mandatory measure for reporting of lost fishing gear or fish aggregating devices (FADs) over the period from 2007 to 2023; 2. none of the RFMOs listed have applied thresholds to reporting requirements; 3. the total number of lost gear reports received range from zero to 130; 4. where a mandatory obligation exists, all vessels report to their flag State who then report to the RFMO Secretariat, who then forward notification in accordance with the measure; and

[87] Global overview of lost fishing gear reporting obligations implemented under regional fisheries management organizations and progress in the implementation of the Voluntary Guidelines on the Marking of Fishing Gear to reduce ALDFG and its impacts, submitted by FAO to IMO PPR 11/13/2, 15 December 2023

			SEAFO - System of Observation, Inspection, Compliance and enforcement (Article 8.f). SIOFA - A CMM 09 (2022) for Control of fishing activities in the Agreement Area (para 7). SPRFMO - CMM 17-2022 Conservation and Management Measure on Fishing Gear and Marine Plastic Pollution in the SPRFMO Convention Area GFCM - Resolution GFCM/44/2021/14 on abandoned, lost or otherwise discarded fishing gear NPFC - CMM 2023-15 On the Prevention, reduction, and elimination of Marine Pollution. WCPFC - CMM 2017-04 - Conservation and Management Measure on Marine Pollution	5. publicly available anonymized data on lost gear is provided by four RFMOs
Legal aspects of abandoned, lost or otherwise discarded fishing gear[88]	FAO and IMO (2022)		CCAMLAR; WCPFC; ICCAT	Examples of regional measures are given: Commission for the Conservation of Antarctic Marine Living Resources (CCAMLAR) in 2009 agreed to adopt reporting on lost fishing gear as part of its mandatory data forms for longline fisheries; the International Commission for the Conservation of Atlantic Tuna (ICCAT) and the Western and Central Pacific Fisheries Commission (WCPFC) have adopted conservation and management measures that recognize ALDFG as a contributor to marine pollution, target ALDFG directly, or target ALDFG via the broader category of marine pollution. , ICCAT Recommendation 19-1 prohibits the abandoning or discarding of fishing gear within the ICCAT convention area except for safety reasons. It also requires vessels of 12 m and over to have equipment on board to retrieve lost fishing gear, and for the master of a vessel

[88] Hodgson, S. (2022). Legal aspects of abandoned, lost or otherwise discarded fishing gear. Rome, FAO and IMO. Retrieved from https://doi.org/10.4060/cb8071en (Accessed 18 April 2024).

				that has lost fishing gear, whether wholly or in part, to make every reasonable attempt to retrieve it as soon as possible, to the extent possible. Finally, it sets out reporting requirements in cases where lost fishing gear cannot be retrieved and in cases where it can, which must be transmitted to the ICCAT secretariat. The most far-reaching measures relating to ALDFG are found in the WCPFC coverage area. The Conservation and Management Measure on Marine Pollution 2017-04 provides that fishing nets found unattached to a vessel are to be treated as garbage. Moreover, the abandoning of fishing nets is considered to be dumping, which is prohibited. The measure also requires vessels, where possible, to retrieve lost, abandoned or discarded fishing gear or, alternatively, to report the location of the same, if retrieval is not possible. RFMOs: the Black Sea Marine Litter Regional Action Plan was adopted at the 34th Meeting of the Commission on the Protection of the Black Sea against Pollution, and calls upon the contracting parties to explore and implement, to the extent possible, gear marking and measures to reduce ghost fishing. It also calls upon them to implement “Fishing for Litter” practices to facilitate the clean-up of “floating litter and the seabed from marine litter caught incidentally and/or generated by fishing vessels in their regular activities including derelict fishing gears”. It also explicitly notes the need for measures relating to gear marking and ghost fishing, which should be implemented in consultation with the competent international and regional organizations in the fishing sector.