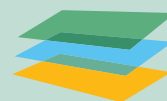


Ocean Plastic Pollution

A Survey of Existing Global Agreements
and Proposals for Reform

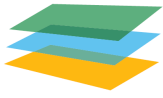
Sara Savarani & Bryce Rudyk

November 2018



Guarini Center

Frank J. Guarini Center on Environmental,
Energy, and Land Use Law
at NYU School of Law



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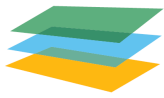
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INTRODUCTION

Plastics present a relatively new and significant threat to the marine environment. Production and use of plastics has increased globally in the past decades, and much of it ends up adrift in the ocean. Single-use plastics, including plastic bags, are particularly common sources of marine pollution, though plastic particles come from a diverse range of products and processes. In 2010 alone, between 5 and 13 million metric tons of plastic waste entered the ocean and by 2025, this annual amount will double.¹ Without effective interventions now, we can expect that the amount of plastics in our oceans will continue to increase without end.

The impact of this marine plastic pollution is far-reaching. Plastic in the ocean does not biodegrade; rather, it breaks down again and again into microplastics. It washes onto shores all over the world, collects in ocean gyres, floats freely in the water, and makes its way into the guts of fish, shellfish, turtles, and birds.² Nearly 700 different species have been affected by plastic pollution in some way, and scientists have recently discovered plastic fragments and microplastics in fish and shellfish we regularly consume.³ Much of the true effects of marine microplastics on human health is unknown; plastics are not uniform in their composition and each different additive may have different health effects.⁴ In addition, plastic particles also often have other chemicals and contaminants that adhere to their surfaces, becoming increasingly toxic.⁵ The long-term effects of this vast amount of plastic in the ocean, on marine environments and on our own health, is worthy of concern.

Recently, the issue of ocean plastics has been brought to the forefront of public attention. Local and national efforts across the globe have taken off, many of which including both public and private actors. While these efforts need to continue to expand, this collective action problem requires global action. However, there is a lack of robust, effective global instruments needed to address the magnitude problem of marine plastic pollution.

Compiled here are the existing international and regional instruments, with both state and non-state parties, that directly or indirectly address marine plastic pollution. Many of these instruments, like MARPOL or the London Convention, focus solely on sea-based pollution—pollution that originates from ships that dump waste overboard, or that become adrift during ocean activities. But the majority of marine plastic pollution is not sea-based; much of it originates from land, swept into the ocean from coasts or rivers. And many of the agreements that do address land-based pollution, like the Basel Convention, do not explicitly cover plastics. Other international instruments, like UNCLOS, the Washington Declaration of the Global Programme of Action, address pollution of marine environments generally and could cover plastics if interpreted in a certain way. Still other instruments, like the Honolulu Strategy, may provide frameworks and guidance for addressing ocean plastics, but may not be sufficiently robust to ensure progress is made.

There has been a lot of discussion in recent years about how to address the issue of ocean plastics at a global level. A representative sample of these articles promoting these discussions are included in **Annex C**. Some argue that plastics are in fact covered under existing international law, and stress that enforcement is the true weakness. Others call for amending existing international instruments to strengthen their ability to address plastics. The majority, however, call for a new, targeted agreement that would specifically address ocean plastics, and provide varied proposals for what such an agreement would look like. It is clear that there is a

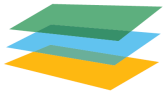
¹ Jenna R. Jambeck et al., *Plastic Waste Inputs from Land into the Ocean*, 347 *SCIENCE* 768 (2015), <http://science.sciencemag.org/content/347/6223/768>.

² Elizabeth Royte, *We Know Plastic is Harming Marine Life. What About Us?*, *NAT'L GEOGRAPHIC*, June 2018, available at <https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-health-pollution-waste-microplastics/>.

³ *Id.*

⁴ *Id.* See list of common polymers, chemical additives, and organic contaminants at GESAMP, *SOURCES, FATE AND EFFECTS OF MICROPLASTICS IN THE MARINE ENVIRONMENT: PART 2 OF A GLOBAL ASSESSMENT 3* (P.J.Kershaw & C.M. Rochman, eds., 2016), <http://www.gesamp.org/site/assets/files/1275/sources-fate-and-effects-of-microplastics-in-the-marine-environment-part-2-of-a-global-assessment-en.pdf>.

⁵ *Id.*

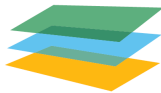


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governance void that needs to be filled—a targeted, hybrid global agreement, bringing together both states and non-state actors, with appropriate commitments and incentives for each, may be what is needed to clean our seas of plastic pollution.



ANNEX A: AGREEMENTS & INSTRUMENTS THAT COVER PLASTICS

INSTRUMENT	What Is Covered	Who Is Covered	Commitments	Joined By
International Conventions				
<p>International Convention for the Prevention of Pollution from Ships (MARPOL)⁶ (1973)</p> <p>Annex V: Regulations for the Prevention of Pollution by Garbage from Ships⁷ (1988)</p>	<p>Sea-based. Annex V bans ships from dumping any plastics at sea, including (but not limited to) synthetic ropes, synthetic fishing nets, plastic garbage bags, or incinerator ashes from plastic products.</p>	<p>All ships, regulated through States.</p>	<p><u>Regulation 3</u>: Specifically prohibits the disposal of any plastic into the sea. Prohibits the discharge of other garbage into the sea if within a certain distance of land.</p>	<p>156 Parties</p>
<p>Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)⁸ (1972)</p> <p>Protocol to the London Convention (London Protocol)⁹ (1996, amended in 2006)</p>	<p>Sea-based. Regulates the dumping of wastes at sea. Annex I of the Convention lists persistent plastics and other persistent synthetic materials.</p> <p>The Protocol does not mention plastics. However, Annex 1 contains list of items that may be considered for dumping, and does not include plastics in the list.</p>	<p>States</p>	<p><u>Convention Article 4</u>: States must prohibit the dumping or incineration of any Annex I wastes or other matter into the seas. Permits are required for Annex II or other wastes.</p> <p><u>Protocol Article 4</u>: State must prohibit the dumping of any wastes or other matter that are not listed in Annex 1. Permits are needed for Annex 1 waste.</p> <p><u>Protocol Article 5</u>: States must prohibit incinerating wastes or other matter at sea.</p>	<p>89 Parties</p>
<p>Stockholm Convention on Persistent Organic Pollutants (POPs)¹⁰</p>	<p>Land-based. Limits the production or use of persistent organic pollutants (POP), including a number that are</p>	<p>States and regional economic integration organizations</p>	<p><u>Article 3</u>: States are required to prohibit or take measures necessary to eliminate production, use, and import and export</p>	<p>182 Parties</p>

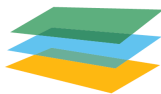
⁶ Available at <http://www.mar.ist.utl.pt/mventura/Projecto-Navios-I/IMO-Conventions%20%28copies%29/MARPOL.pdf>.

⁷ Available at http://www.marpoltraining.com/MMSKOREAN/MARPOL/Annex_V/index.htm.

⁸ Available at <http://www.imo.org/en/OurWork/Environment/LCLP/Documents/LC1972.pdf>.

⁹ Available at <http://www.imo.org/en/OurWork/Environment/LCLP/Documents/PROTOCOLAmended2006.pdf>.

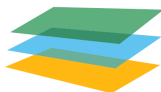
¹⁰ Available at <http://chm.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>.



(2001)	<p>used in plastic production.</p> <p>Plastic is only explicitly mentioned once, as an acceptable purpose or specific exception for one listed chemical in Annex B.</p>	<p><u>Article 2</u>: “Party” is defined as a state or consenting regional economic integration organization.</p>	<p>of Annex A chemicals; restrict production and use of Annex B chemicals.</p> <p><u>Article 6</u>: States must identify, manage, and take appropriate measures to reduce or eliminate chemical releases from stockpiles and wastes.</p>	
Other International Agreements & Instruments				
<p>Honolulu Strategy¹¹ (2011)</p>	<p>Land- and sea-based. Explicitly addresses plastics as marine debris (including single-use plastics and microplastics) and comprehensively discusses the impacts of marine plastic pollution.</p>	<p>States and non-states, including governments, industries, and intergovernmental organizations.</p> <p>Addresses collaboration and monitoring on the global, regional, national, and local levels.</p>	<p>No binding commitments.</p> <p>Provides framework and recommendations for coordination and monitoring efforts addressing marine debris, with goals to reduce the amount and impact of:</p> <p>(1) land-based sources of marine debris introduced to the sea, (2) sea-based sources of marine debris introduced to the sea, and (3) marine debris collected on shorelines.</p>	<p>Joint initiative of UNEP and NOAA, developed at the Fifth International Marine Debris Conference (SIMDC). Carried out by governments, industries, and intergovernmental organizations.</p>
<p>Global Partnership on Marine Litter (GPML)¹² (2012)</p>	<p>Land- and sea-based. Global partnership intending to implement the Honolulu Strategy. Includes a specific objective to “assess emerging issues,” including plastics and microplastics.</p>	<p>State and non-state participants</p>	<p>No binding commitments.</p> <p>Voluntary coordination effort that aims to promote international cooperation in reducing marine litter and share knowledge and resources. Participants contribute to development and implementation of actions through “financial support, in-kind contributions and/or technical expertise.”</p>	<p>Joint initiative of UNEP and NOAA. Joined by States and non-states, including governments, agencies, academia, NGOs, private sector, civil society, and individuals.</p>

¹¹ Available at https://marinedebris.noaa.gov/sites/default/files/publications-files/Honolulu_Strategy.pdf.

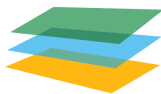
¹² Available at <https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-partnership-marine>.



<p>G20 Action Plan on Marine Litter¹³ (2017)</p>	<p>Land- and sea-based. Specifically targets single-use plastics and microplastics, including micro-beads, single-use plastic bags, and plastic pellets.</p>	<p>States</p>	<p>Action Plan Introduction reiterates Parties’ commitment to “substantially reduce marine litter and its impacts by 2025,” in accordance with the 2030 Agenda for Sustainable Development.</p> <p>Parties commit to focus on several priority areas:</p> <ul style="list-style-type: none"> - <u>Priority 1</u>: Promote the socio-economic benefits of establishing policies to prevent marine litter. - <u>Priority 2</u>: Promote waste prevention and resource efficiency. - <u>Priority 3</u>: Promote sustainable waste management. - <u>Priority 4</u>: Promote effective wastewater treatment and stormwater management. - <u>Priority 5</u>: Raise awareness, promote education and research - <u>Priority 6</u>: Support removal and remediation action - <u>Priority 7</u>: Strengthen stakeholder engagement. 	<p>G20 Parties</p>
<p>UNEP Clean Seas Campaign¹⁴ (2017)</p>	<p>Land-based. Campaign specifically targets the production and consumption of non-recoverable and single-use plastic.</p>	<p>States and non-states. The campaign works to connect private individuals, nongovernmental organizations, industry, and governments.</p>	<p>No binding commitments.</p> <p>Voluntary partnership in which countries and businesses make pledges and pass individual measures to reduce or ban single-use plastics or microplastics.</p>	<p>54 States, plus businesses, organizations, governments, and private citizens.</p>

¹³ Available at <https://www.mofa.go.jp/mofaj/files/000272290.pdf>.

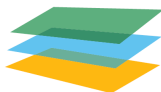
¹⁴ See CLEAN SEAS, <http://www.cleanseas.org>.



<p>Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics (AHEG)¹⁵ (2017)</p>	<p>Land-based. Group established by UNEA Resolution to addresses marine plastic pollution by targeting discharge and waste management. Specifically addresses plastic litter and microplastics.</p>	<p>States and non-states, including intergovernmental organizations.</p>	<p>No binding commitments.</p>	<p>First meeting attended by 226 participants, including States, intergovernmental organizations, and other stakeholder groups</p>
<p>G7 Ocean Plastics Charter¹⁶ (2018)</p>	<p>Land- and sea-based. Specifically targets ocean plastics by focusing on taking a lifecycle approach to plastic waste and reuse/recycling/recovery.</p>	<p>States</p>	<p>Parties commit to "take action toward a resource-efficient lifecycle management approach to plastics" by targeting five areas of approach.</p> <p><u>Commitment 1(a)</u>: Parties commit to work with industry toward making all plastics reusable, recyclable, or recoverable by 2030</p> <p><u>Commitment 1(d)</u>: Parties commit to work with industry toward increasing the recycled content of plastic products by at least 50 percent by 2030.</p> <p><u>Commitment 1(f)</u>: Parties commit to work with industry toward reduce the use of plastic microbeads "to the extent possible" by 2020.</p> <p><u>Commitment 2(a)</u>: Parties commit to work with industry and government to recycle and reuse at least 55 percent of plastic packaging by 2030. Parties also commit to recover 100 percent of all plastics by 2040.</p> <p>Parties also make commitments regarding education, research, and</p>	<p>Canada, France, Germany, Italy, and the UK</p> <p>(US and Japan declined to join)</p>

¹⁵ Available at <https://papersmart.unon.org/resolution/uploads/k1800210.english.pdf>.

¹⁶ Available at <https://g7.gc.ca/en/official-documents/charlevoix-blueprint-healthy-oceans-seas-resilient-coastal-communities/#a1>.

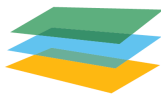


			development.	
Regional Instruments				
<p>Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)¹⁷ (1976)</p> <p>Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities (LBS Protocol)¹⁸ (1980)</p> <p>Regional Plan on Marine Litter Management in the Mediterranean¹⁹ (2013)</p>	<p>Land- and sea-based. Plastics are not mentioned in the Convention or Protocol. The Regional Plan under the LBS Protocol addresses marine litter specifically, including plastic packaging, plastic bags, and other plastic-made products.</p>	<p>States</p>	<p><u>Article 4</u>: States must take all appropriate measures to prevent, abate, combat, and eliminate pollution, and protect the marine environment.</p> <p><u>Article 5</u>: Applies requirement to pollution from ship or aircraft dumping.</p> <p><u>Article 6</u>: Applies requirement to pollution from ships.</p> <p><u>Article 8</u>: Applies requirement to pollution from land-based sources. Also requires States to create and implement plans to reduce and phase out substances that are “toxic, persistent, and liable to bioaccumulate.”</p> <p><u>LBS Protocol Article 15</u>: Requires Parties to adopt regional action plans.</p> <p><u>Regional Plan Article 8</u>: Requires Parties to adopt legislation or institutional arrangements “to ensure efficient marine litter reduction.”</p> <p><u>Regional Plan Article 9</u>: By 2017, Parties must “explore and implement to the extent possible prevention measures related to” making producers and manufacturers responsible for the life-cycle of products.</p>	<p>22 Parties</p>

¹⁷ Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/7096/Consolidated_BC95_Eng.pdf?sequence=1&isAllowed=y.

¹⁸ Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/7096/Consolidated_LBS96_ENG.pdf?sequence=5&isAllowed=y.

¹⁹ Available at <https://www.cbd.int/doc/meetings/mar/mcbem-2014-03/other/mcbem-2014-03-120-en.pdf>.

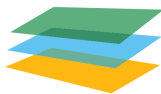


			<p>By 2019, Parties must implement reducing, reusing, and recycling measures for plastic packaging waste.</p> <p>By 2020, Parties must “take necessary measures to establish as appropriate adequate urban sewer, wastewater treatment plants, and waste management systems.”</p> <p>By 2025, Parties must base their solid waste management system on reduction at the source.</p>	
Commonwealth Clean Oceans Alliance (CCOA) ²⁰ (2018)	Alliance specifically created to eliminate single-use plastics and address marine plastic pollution.	States	Parties pledged to ban microbeads in personal care products and reduce plastic bag use by 2021. ²¹	UK, Ghana, Sri Lanka, New Zealand and Vanuatu
Private Instruments				
Plastic Pollution Coalition ²² (2009)	Land- and sea-based. Addresses plastic pollution generally, and works to reduce its impact on humans, animals, waterways, oceans, and the environment.	Non-states (global alliance of organizations, businesses, and individuals)	<p>No binding commitments.</p> <p>Coalition voluntarily works toward eliminating single-use plastic and reducing plastic use, and provide information and resource support to other members.</p>	Coalition includes more than 700 organizations, businesses, and leaders in 60 countries.

²⁰ See Press Release, UK Dept. for Int’l Dev., Commonwealth Unites to End Scourge of Plastic (Apr. 15, 2018), <https://www.gov.uk/government/news/commonwealth-unites-to-end-scourge-of-plastic>.

²¹ See Catherine Benson Wahlén, *Commonwealth Clean Oceans Alliance Supports SDG 14 Achievement*, IISD (Apr. 17, 2018), <http://sdg.iisd.org/news/commonwealth-clean-oceans-alliance-supports-sdg-14-achievement/>.

²² See *The Coalition*, PLASTIC POLLUTION COALITION, <https://www.plasticpollutioncoalition.org/the-coalition/> (last visited Oct. 31, 2018).



Global Plastics Alliance: Declaration of the Global Plastics Associations for Solutions on Marine Litter ²³ (2011)	Land-based. Pledge by plastics industry to create and launch marine litter solution projects.	Non-states (plastics industry members)	No binding commitments. Voluntary pledge to contribute to initiatives targeting marine litter.	75 plastic associations in 40 countries (as of Dec. 2017)
Global Plastics Outreach Alliance ²⁴ (2017)	Land-based. Alliance to coordinate plastics recycling industry voice towards goal of creating a Global Plastics Protocol.	Non-states (three plastics recycling organizations)	No binding commitments.	The Association of Plastic Recyclers, Plastics Recyclers Europe, European PET Bottle Platform
Ellen MacArthur Foundation: New Plastics Economy Global Commitment ²⁵ (2018)	Land-based. Coalition of businesses and governments to guide national and international strategies to target plastics waste through “circular economy” commitments.	States and non-states (businesses, governments, and organizations)	Signatories commit to meet certain plastic-reduction and circular economy targets by 2025, depending on the nature of the signatory and their business or authority.	285 signatories ²⁶

²³ Available at https://www.marinelittersolutions.com/wp-content/uploads/2016/11/MLS-Declaration-2016_V3-002.pdf.

²⁴ See Press Release, Global Plastics Outreach Alliance, North American and EU Plastic Trade Associations Create Global Coalition to Harmonize Testing Protocols (Oct. 9, 2017), https://www.plasticsrecycling.org/images/Press_Releases/APR_EU_Plastic_Recycling_Associations_Release_October2017.pdf.

²⁵ See *Global Commitment*, NEW PLASTICS ECONOMY, <https://newplasticseconomy.org/projects/global-commitment> (last visited Oct. 30, 2018).

²⁶ For a complete list of the signatories, see NEW PLASTICS ECONOMY, GLOBAL COMMITMENT 4, <https://newplasticseconomy.org/assets/doc/global-commitment-download.pdf> (last updated Oct. 25, 2018).

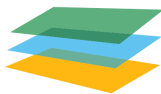
Annex B: AGREEMENTS & INSTRUMENTS THAT MAY COVER PLASTICS

INSTRUMENT	What Is Covered	Who Is Covered	Commitments	Joined By
International Agreements & Instruments				
United Nations Convention on the Law of the Sea (UNCLOS)²⁷ (1982)	<p>Primary convention for all aspects of ocean governance.</p> <p>Does not explicitly mention plastics; addresses marine pollution generally. The broad scope of Article 194 may be used to support the argument that plastics would be included.²⁸</p>	States	<p><u>Article 192</u>: States are required to protect and preserve the marine environment.</p> <p><u>Article 194.1</u>: States must take all measures necessary to prevent reduce, and control pollution of the marine environment from <i>any</i> source.</p>	168 Parties
Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal²⁹ (1989)	<p>Transboundary movements of hazardous wastes. Solid plastic or mixed plastic materials are currently in Annex IX, but not considered “hazardous wastes” and so few obligations apply.</p> <p>However, plastics may be considered “hazardous wastes” if they are defined as such in national legislation.</p> <p>In May 2019, the COP will consider an amendment that will move plastic waste from Annex IX to Annex II (other wastes).</p>	States	<p><u>Article 3</u>: States must inform the Secretariat of any wastes considered or defined as hazardous by national legislation, and inform of any changes.</p> <p><u>Article 4</u>: Strict notice and consent requirements for all Party States involved in transboundary movement of hazardous or other wastes. States cannot export hazardous wastes and other wastes to those who have not consented in writing to the import, or who have notified other Parties that such waste is prohibited.</p> <p>Article 4 also requires States to minimize its generation of hazardous and other wastes</p> <p><u>Article 6</u>: Exporting States are</p>	186 Parties

²⁷ Available at http://www.un.org/Depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm.

²⁸ See, e.g., Roger Harrabin, *Ocean Plastic Tide ‘Violates the Law,’* BBC (Feb. 20, 2018), <https://www.bbc.com/news/science-environment-43115486>.

²⁹ Available at <http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf>.

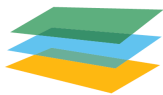


			required to notify any States of transboundary movement of hazardous wastes or other wastes within their boundaries, and must acquire consent from the States of import in order to proceed. Party states are also required to notify upon delivery or receipt of hazardous or other waste.	
Washington Declaration on Protection of the Marine Environment from Land-based Activities ³⁰ (1995)	Land-based. Does not mention plastics; provides guidance to protect the marine environment from “all land-based impacts.” However, it specifically addresses contaminants including persistent organic pollutants and litter, which may extend to plastics.	States	No binding commitments. Declares intent to to take preventative and remedial action, where possible. Implementation is within the purview of the States.	108 Governments and the European Commission
Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) ³¹ (1995)	Land-based. Does not mention plastics, but addresses emerging issues in marine pollution generally. Like the Washington Declaration, it specifically addresses persistent organic pollutants and litter, which may extend to plastics.	States	No binding commitments.	108 Governments and the European Commission
Global Partnership on Waste Management (GPWM) ³² (2010)	Land-based. Does not specifically mention plastics, but marine litter is one of the six focuses of the partnership. Launched to aid with international cooperation among stakeholders, including with regard to information and resources.	States and non-states (including international organizations, governments, businesses, academia, local authorities and NGOs)	No binding commitments.	
Regional Agreements				

³⁰ Available at <http://wedocs.unep.org/bitstream/handle/20.500.11822/13421/WashingtonDeclaration.pdf?sequence=1>,

³¹ Available at <https://sustainabledevelopment.un.org/partnership/?p=7432>.

³² Available at <https://sustainabledevelopment.un.org/partnership/?p=7462>.

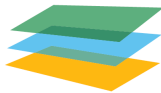


<p>Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention)³³ (1981)</p>	<p>Land- and sea-based. Does not mention plastics, but addresses pollution of the marine and coastal environment generally, including from ships, dumping, land-based sources, seabed activities, and atmospheric pollution.</p>	<p>States</p>	<p><u>Article 4</u>: Parties have general obligation to “take all appropriate measures” to prevent, reduce, combat, and control pollution in the region.</p> <p><u>Article 5</u>: Applies general obligation to pollution from ships.</p> <p><u>Article 6</u>: Applies general obligation to pollution from dumping.</p> <p><u>Article 7</u>: Applies general obligation to pollution from land-based sources.</p>	<p>22 Parties</p>
<p>Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)³⁴ (1983)</p>	<p>Land- and sea-based. Does not mention plastics, but addresses ocean pollution and marine debris caused by dumping or from land-based sources (which was supplemented by the 1999 Protocol).</p>	<p>States</p>	<p><u>Article 4</u>: Parties have a general obligation to “take all appropriate measures” to prevent, reduce, and control pollution in the region.</p> <p><u>Article 6</u>: Extends general obligation to cover pollution from dumping</p> <p><u>Article 7</u>: Extends general obligation to cover pollution from land-based sources</p>	<p>25 Parties</p>
<p>Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment Against Pollution from Land-Based Sources (Kuwait Protocol)³⁵ (1990)</p>	<p>Land-based. Does not mention plastics, but covers direct or indirect pollution of the marine environment generally.</p>	<p>States</p>	<p><u>Article 7</u>: Parties must carry out monitoring activities.</p> <p>Parties must cooperate in research and information exchange.</p> <p><u>Article 13</u>: Parties must face liability for pollution, by ensuring that “recourse is available” and that liability can be determined.</p>	<p>Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates</p>

³³ Available at https://abidjanconvention.org/index.php?option=com_content&view=article&id=100&Itemid=200&lang=en.

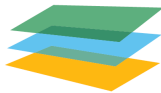
³⁴ Available at <http://www.cep.unep.org/cartagena-convention/text-of-the-cartagena-convention>.

³⁵ Available at <http://sedac.ciesin.columbia.edu/entri/texts/acrc/kuwaitprot.txt.html>.



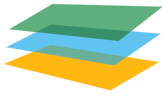
<p>Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa³⁶ (1991)</p>	<p>Land- and sea-based. Transboundary movements of hazardous wastes within Africa. Defines wastes that possess characteristics of Annex II, including wastes that “present or may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects upon biotic systems” as hazardous wastes, which may extend to plastics.</p>	<p>States</p>	<p><u>Article 4.1</u>: Parties must prohibit the import of all hazardous wastes from non-Contracting Parties.</p> <p><u>Article 4.2</u>: Parties must also ban the dumping or incineration of hazardous wastes at sea.</p>	<p>27 Parties</p>
<p>Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)³⁷ (1992)</p>	<p>Land- and sea-based. Does not mention plastics, but addresses marine pollution generally.</p>	<p>States</p>	<p><u>Article 2</u>: Parties must “take all possible steps to prevent and eliminate pollution” and protect the marine environment.</p>	<p>Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and the EU.</p>
<p>Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)³⁸ (1992)</p>	<p>Land- and sea-based. Does not mention plastics, but addresses marine pollution sources generally.</p>	<p>States</p>	<p><u>Article 5</u>: Parties must take “all necessary measures” to prevent, reduce, and control pollution.</p> <p><u>Article 7</u>: Parties must prevent, reduce and control marine pollution from land-based sources.</p>	<p>Bulgaria, Georgia, Romania, Russia, Turkey, Ukraine</p>
<p>Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention)³⁹</p>	<p>Land-based. Does not mention plastics, but addresses pollution of the marine environment by land-based sources generally.</p>	<p>States</p>	<p><u>Article 3.1</u>: Parties must “take all appropriate legislative, administrative or other relevant measures” to prevent and eliminate pollution.</p>	<p>Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia,</p>

³⁶ Available at <https://www.jus.uio.no/lm/hazardous.waste.ban.afriam.import.bamako.convention.1991/portrait.pdf>.
³⁷ Available at https://www.ospar.org/site/assets/files/1290/ospar_convention_e_updated_text_in_2007_no_revs.pdf.
³⁸ Available at http://www.blacksea-commission.org/_convention-fulltext.asp.
³⁹ Available at <http://www.helcom.fi/about-us/convention>.



(1992)	The convention also covers “harmful substances” from all sources, which are defined as any sources liable to cause pollution, and which may extend to plastics.		<p><u>Article 3.3</u>: Parties must promote the use of best environmental practice and best available technology.</p> <p><u>Article 6.3</u>: Parties must not introduce harmful substances from point sources into the Baltic Sea Area, either directly or indirectly, except in negligible amounts.</p>	Sweden and the EU.
<p>Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention)⁴⁰ (2003)</p>	Land- and sea-based. Does not mention plastics, but addresses pollution from land-based sources, seabed activities, vessels, dumping, or other human activities. Also addresses hazardous substances, which include any substances that are “toxic, carcinogenic, mutagenic, teratogenic or bio- accumulative, especially when they are persistent,” which may extend to some plastics.	States	<p><u>Article 7</u>: Parties must “take all appropriate measures” to prevent, reduce, and control pollution from land-based sources.</p> <p><u>Article 10</u>: Parties must “take all appropriate measures” to prevent, reduce, and control pollution from dumping.</p>	Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan

⁴⁰ Available at http://www.tehranconvention.org/IMG/pdf/Tehran_Convention_text_final_pdf.pdf.



ANNEX C: PROPOSED NEW INTERNATIONAL INSTRUMENTS

Nils Simon, *Opinion: We Need a Global Treaty on Plastics. Here's What it Should Look Like*, ENSIA (Aug. 9, 2016): Article by Berlin-based political scientist that discusses the issue of plastic pollution generally (including on land and in the ocean). Argues that existing initiatives to address plastic pollution have been inadequate, and that either a new treaty or an amendment to the Basel Convention is needed. According to the author, a new treaty should be land-based (to target the source of the problem) and include measures to address collection and recycling, promote a more circular economy for plastics and should provide mechanisms for cleanup and funds for implementation.

Nils Simon & Maro Luisa Schulte, *Strengthening Plastic Governance: Towards a New Global Convention* (2017): Argues in favor of a new convention that would directly target the issue of plastic pollution, including marine litter, by targeting it at the source. Discusses the impacts of plastic waste and of its production. Also discusses the existing governance landscape, and argues that the current binding mechanisms and voluntary efforts regarding plastic pollution do not present adequate means to address the issue.

Nils Simon & Maro Luisa Schulte, *Stopping Global Plastic Pollution: The Case for an International Convention*, 43 *Publication Series Ecology* (2017): Argues in favor of a multilateral convention on plastic pollution generally (including on land and in the ocean) to tackle the issue at its source. Proposes that a new global plastics convention should be legally binding, and based on five pillars (clear and binding goals, individual state action plans, financing, review, non-state inclusion).

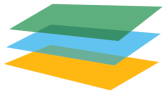
Nils Simon & Lili Fuhr, *Toward a Global Treaty on Plastic Waste*, ECO-BUSINESS (May 17, 2017): Article that stresses the need to reduce global plastic waste generally and calls for a comprehensive global plastics treaty.

Stephanie B. Borrelle et al., *Opinion: Why We Need an International Agreement on Marine Plastic Pollution*, 114 *PNAS* 9994 (2017): Discusses how existing international efforts to stem marine plastic pollution, including MARPOL Annex V, have not been successful, in part because they do not address plastic pollution that enters the oceans from land and often contain no binding commitments. Argues in favor of a new convention—directly addressing marine plastic pollution—with measurable reduction targets and resources for nations to pursue local efforts.

Mark Gold et al., *Stemming the Tide of Plastic Marine Litter: A Global Action Agenda*, 27 *TUL. ENVTL. L.J.* 165 (2014): UCLA-based article that calls for a new international agreement addressing marine plastic litter, due to the global nature of the problem and the limits of existing international instruments in solving the problem. Makes several recommendations, including using the Montreal Protocol as a model for the scale and scope of a new international agreement, and coupling this with amendments to existing international law and actions at the regional, national, and local levels.

CIWM & WasteAid UK, *From the Land to the Sea: How Better Solid Waste Management Can Improve the Lives of the World's Poorest and Halve the Quantity of Plastic Entering the Oceans* (2018): Article making recommendations to the UK to address population, human health, and environment concerns. One of the recommendations included in the report (on p. 2) is a suggestion that the UK spearhead the negotiation of a new binding international treaty addressing marine plastic pollution—in particular, by addressing solid waste management and cleanup efforts.

Karen Raubenheimer & Alistair McIlgorm, *Is the Montreal Protocol a Model that can Help Solve the Global Marine Plastic Debris Problem?*, 81 *MARINE POL'Y* 322 (2017): Examines the feasibility and potential structure of a new international, legally binding instrument, specifically to address global marine plastics, based



on the Montreal Protocol and targeting plastic production on land. Proposes that the new instrument would focus on reducing production with virgin materials or chemicals and growing the recycling industry for plastics.

Karen Raubenheimer & Alistair McIlgorm, *Can the Basel and Stockholm Conventions Provide a Global Framework to Reduce the Impact of Marine Plastic Litter?*, 96 *MARINE POL'Y* 285 (2018): Finds that the Basel Convention and Stockholm Convention do not adequately protect against marine plastic pollution, and suggests either creating a new protocol or annex to an existing agreement (such as the Basel Convention) or creating a new binding plastics instrument.

Marcus Haward, *Plastic Pollution of the World's Seas and Oceans as a Contemporary Challenge in Ocean Governance*, 9 *NATURE COMMUNICATIONS* 667 (2018): Short comment that discusses the issue of marine plastic pollution, and makes some recommendations for how to proceed with an international agreement addressing marine plastics.

Justin P. Leous & Neal B. Parry, *Who is Responsible for Marine Debris? The International Politics of Cleaning Our Oceans*, 59 *J. INT'L AFFAIRS* 257 (2005): Report that discusses the problems of marine debris (including plastics) and the international efforts to address the problems. Finds that the current international regime falls short of addressing them, and calls for a comprehensive binding instrument to protect the marine environment.

Peter Dauvergne, *Why is the Global Governance of Plastic Failing the Oceans?* 51 *GLOBAL ENVTL. CHANGE* 22 (2018): Article that comments on the failure of current legal measures to address marine plastic pollution, and advocates for a new binding international plastics treaty with targets and deadlines to reduce these shortcomings.

Guy Graney, *Slipping Through the Cracks: How Tiny Plastic Microbeads are Currently Escaping Water Treatment Plants and International Pollution Regulation*, 39 *FORDHAM INT'L L.J.* 1023 (2016): Calls for an international treaty banning microbeads.

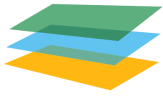
Hague Institute for Global Justice, *A Sea of Debris: Oceans Governance and the Challenge of Plastic Pollution* (Apr. 21, 2016): Argues that the severity of the problem warrants a “global commitment to action plans and regulations that prevent and reduce plastic waste pollution in the marine environment.” Stresses the need for both an international instrument and supplementing regional efforts.

Matthew Schroeder, *Forgotten at Sea – An International Call to Combat Islands of Plastic Waste in the Pacific Ocean*, 16 *SW. J. INT'L L.* 265 (2010): Article discussing the impacts of marine plastic pollution in the Eastern Garbage Patch, analyzing the weaknesses of the existing international laws and treaties, and proposing solutions to address the problem. Calls for a binding regional framework in the Pacific Ocean, modeled after the Barcelona Convention.

Linda Nowlan, *An International Plastics Treaty Could Avert a ‘Silent Spring’ for Our Seas*, *THE CONVERSATION* (Feb. 8, 2018): Article that discusses the need for an international plastic treaty, due to the lack of any binding international law addressing land-based plastic pollution. Also points to several proposals for a new treaty (each included in this bibliography).

Gregory Rehmke, *Ocean Plastics: Time for a New Convention?*, *ECONOMIC THINKING* (Apr. 27, 2018): Discusses a series of articles proposing new conventions or reforms to existing ones (each of which are also in this bibliography), plus one suggestion regarding an article about establishing floating cities.

Peter Stoett, *People and Plastic: The Oceans Plastic Crisis, Global Governance, and Development Norms* (2016): Paper presented at the ACUNS annual meeting, which makes several recommendations for addressing the marine plastics problem, including adopting a global accord to “re-invigorat[e]” the Honolulu Strategy.



PROPOSED REFORMS FOR OTHER INTERNATIONAL INSTRUMENTS

Rachel Tiller & Elizabeth Nyman, *Ocean Plastics and the BBNJ Treaty—Is Plastic Frightening Enough to Insert Itself into the BBNJ Treaty, Or Do We Need to Wait for a Treaty of its Own?*, *J. ENVTL. STUDIES & SCIENCES* (May 8, 2018): Argues in favor of including measures addressing marine plastic litter in the negotiations for the treaty on the protection of biodiversity in areas beyond national jurisdictions.

Andrew Rakestraw, *Open Oceans and Marine Debris: Solutions for the Ineffective Enforcement of MARPOL Annex V*, 35 *HASTINGS INT'L & COMP. L. REV.* 383 (2012): Article discussing the effectiveness (or lack thereof) of MARPOL Annex V in addressing marine pollution, including plastic pollution. Proposes solutions to increase the effectiveness of the agreement.

ENFORCEMENT UNDER EXISTING INTERNATIONAL INSTRUMENTS

Oliver Tickell, *International Law and Marine Plastic Pollution – Holding Offenders Accountable* (2018): Argues that current international law already addresses marine plastic pollution. Lists the international hard and soft law instruments (including sea-based and land-based ones) that directly or could indirectly prevent marine plastic pollution, as well as regional conventions and individual state initiatives. Discusses the measures in each legal instrument that could be construed to include plastic pollution.

Christopher C. Joyner & Scot Frew, *Plastic Pollution in the Marine Environment*, 22 *OCEAN DEV. & INT'L L.* 33 (1991): Older article that looked at the relevant international and regional conventions and discussed their ability to address the issue of plastic pollution in the ocean. Discusses how a norm has arisen that prohibits ocean pollution.

Sally Ann Lentz, *Plastics in the Marine Environment: Legal Approaches for International Action*, 18 *MARINE POLLUTION BULLETIN* 361 (1987): Older article that looks at several existing international conventions addressing marine pollution, and determines that, though many do not provide specific mechanisms to address marine debris, they may adequately address the problem if specific mitigation measures are introduced and fully implemented.