

Review

Integrated and Consolidated Review of Plastic Waste Management and Bio-Based Biodegradable Plastics: Challenges and Opportunities

Supplementary Material–Policies

Table S1. Global Frameworks, Declarations and Conventions Signed to Date to Protect the Marine Environment.

Framework/Declaration/Commitment	Date Signed/launched	No. of Signatories/Parties	Targets/Goal	Additional Comments
London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter [48]	1972	As of March 2018, there are 87 Contracting Parties to the London Convention	To control sea pollution through marine dumping	The United States of America is a contracting party
OSLO Dumping Convention [47]	1972	13 signatories	Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft	control dumping of harmful substances from ships and aircraft into the sea, including plastic
International Convention for the Prevention of Marine Pollution from Ships, 1973 (MARPOL 73/78) and its revised Annex V [49,272]	1973	174 Member States and 3 Associate Members.	prevention of pollution of the marine environment by ships from operational or accidental causes.	complete ban imposed on the disposal into the sea of all forms of plastics.
Paris Convention [50,272]	1974	13 countries	for the prevention of marine pollution from land-based sources	Replaced by OSPAR Convention of 1992
Barcelona Convention (The Convention for the Protection of the Mediterranean Sea Against Pollution) [51, 272]	Initially adopted in 1976 and amended in 1995.	22 countries as signatories (a)	To reduce or eliminate marine pollution from sea and land-based sources.	Legally Binding Regional Plan on Marine Litter Management. After amendment in 1995, it became known as “Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean”

Convention on Migratory Species of Wild Animals (Bonn Convention) [273]	1979	129 member states	preservation of wildlife and habitats	Marine animals such as turtles & cetaceans are included.
The Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region (Abidjan Convention)	1981 [274]	22 signatories	To protect the marine area from Mauritania to South Africa which (14,000 km).	Provides an inclusive legal framework for all programmes in West, Central and Southern Africa
United Nations Convention on the Law of the Sea [272,275]	1982	168 parties& European Union	Prevention and control of marine pollution	It is an international agreement birthed during the third United Nations Conference on the Law of the Sea (UNCLOS III)
Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region [276]	1983	26 parties out of 28 countries	Prevent, reduce and control marine pollution from various activities.	It is legally binding.
Nairobi Convention [277]	1985	10 contracting parties	To protect the Western Indian Ocean Region	It is a regional legal framework
The Convention for the Protection of Natural Resources and Environment of the South Pacific Region (Noumea Convention/ SPREP Convention) [278]	1986	12 Pacific Island Countries	umbrella agreement for the protection, of the marine and coastal environment of the South Pacific Region.	Regional legal framework of the Action Plan for managing the Natural Resources and Environment of the South Pacific adopted in 1982.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal [42,272]	1992	187 members, 53 signatories. Haiti and America signed but yet to ratify.	Minimise movement of hazardous waste between countries, especially from developed countries to less developed ones.	Amended in 2019 in to include contaminated plastic waste.
Bucharest Convention [272,279]	1992	6 countries (Bulgaria, Georgia, Romania, Russia, Turkey, Ukraine)	Convention on the Protection of the Black Sea Against Pollution	To control land-based pollution sources, waste dumping and working jointly, and to clean accidents.
OSPAR Convention [272,280]	1992	15 signatories plus the EU	The Convention for the Protection of the Marine Environment of the North-East Atlantic	Combined the Oslo and Paris Conventions (1972 & 1974 respectively).

Helsinki Convention [272,281,282]	1992	10 contracting parties	To prevent and eradicate marine pollution in the Baltic Sea area	Also known as the Convention on the Protection of the Marine Environment of the Baltic Sea Area
Regional action plan on marine litter management (RAPMALI) for the wider Caribbean region [283]	2008		Management of litter in the Caribbean region	A regional framework.
Honolulu Strategy [272,284,285]	2011	Endorsed by 64 governments and the European Commission	It is a framework for a comprehensive and global effort to prevent, reduce and control marine litter.	Has three goals and associated strategies
Manilla Declaration [286]	2012	65 Governments and the European Commission	Protection of the Marine Environment from Land-based Activities	Global Programme of Action
Rio +20 Declaration [20,272,287]	2012	over 375 participants from 169 organizations and 46 countries	Significant reduction of marine litter	Also referred to as Rio Ocean Declaration
United Nations Environment Assembly Resolution 1/6 (UNEA I) [288]	2014		Marine plastic debris and microplastics	Followed by another resolution 2/11 (UNEA II) in 2016 also addressing similar issues.
G7 Action Plan to Combat Marine Litter [289]	2015	7 countries	Combating marine litter, specifically plastic.	This was followed by another Action Plan in 2017 by G20 countries.
CONVENTION ON BIOLOGICAL DIVERSITY (CBD) XIII/10 [272,290]	2016	196 states	Addressing impacts of marine debris.	anthropogenic underwater noise on marine and coastal biodiversity is also assessed
G7 Ise-Shima Leaders' Declaration [272]	2016	7 countries	prevention and reduction of marine litter, specifically plastic, from land-based sources.	Advocating for efforts on resource efficiency and the 3Rs (Reduce, Reuse, Recycle)
G20 Action Plan on Marine Litter [272]	2017	19 countries and the European Union.	To significantly reduce and prevent marine litter by 2025 in support of the United Nations' SDG 14 target.	It is voluntary, not legally binding, countries do not feel compelled to act.

Global Network of the Committed (GNC) [272]	2017	19 countries and the European Union.	A platform to assist in the implementation of the G20 Action Plan. Its goal is to address marine litter	Voluntary. Its linked to the UNEP's Global Partnership on Marine Litter (GPML)
Osaka Blue Ocean Vision G20 [291]	2019	19 countries and the European Union.	To reduce additional pollution by marine plastic litter to zero by 2050 through a comprehensive life-cycle approach	Builds on to the 2017 Action Plan. Remains voluntary. The importance of plastic is also acknowledged.