



STILL ONLY ONE EARTH:
Lessons from 50 years of UN sustainable development policy

BRIEF #28

“The Ocean Is Not a Dumping Ground”

Fifty Years of Regulating Ocean Dumping

Leila Mead
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Key Messages and Recommendations

- Dumping waste not only threatens the ocean we know, but also the 80% of the ocean that has yet to be explored.
- The 1972 London Convention and its 1996 Protocol banned dumping of specific wastes, such as those containing mercury, cadmium, oil, and radioactive wastes, and applied a precautionary approach to regulating dumping of other wastes.
- Uneven application of and adherence to the ocean dumping regime has resulted in a piecemeal approach to ocean dumping governance. Broader participation in and implementation of these agreements are necessary to improve effectiveness.
- Advocacy, activism, international pressure, and media campaigns can hold those responsible for dumping in contradiction to international law to account.

Deliberately sinking a ship bigger than the Titanic would be unimaginable, right? But that is exactly what happened in 2020 in the Indian Ocean off the coast of Mauritius when the Japanese-owned, Panama-flagged ship, *Wakashio*, ran aground. After hitting a coral reef en route from China to Brazil, the ship began leaking up to 1,000 tonnes of oil, devastating the surrounding ecosystem. The ship split in two in mid-August of that year.

The larger front of the vessel was towed by Maltese-flagged ships for deliberate sinking, with the consent of the Mauritian government. The Indian Ocean’s biggest ecological disaster alarmed experts and activists alike.

Renowned oceanographer Sylvia Earle said sinking the ship for disposal was “unconscionable” when “strict littering rules prevent anyone from so much as discarding a



plastic bottle in the ocean” (Degnarain, 2020). Even Pope Francis weighed in, offering prayers for Mauritius and urging respect for nature. An estimated 100,000 people marched in the streets of Port Louis, the capital of Mauritius, to protest the government’s inaction in one of the largest demonstrations the country has ever seen. The *Wakashio* incident resulted in the contamination and destruction of ecosystems in the lagoons and shoreline of Mauritius, leading to the death of some 50 whales and dolphins, and threatening the livelihoods of many who depend on tourism and fishing. Efforts to determine who to hold to account and how are complex and ongoing.

Considering this recent tragedy, and after nearly 50 years since the adoption of the first global treaties on ocean dumping, reviewing what exactly the international community has accomplished and what more needs to be done is both timely and worthwhile.

The World’s Dumping Ground

Covering about 70% of the Earth’s surface and accounting for 97% of its water, the ocean is the lifeblood of our planet. More than three billion people depend on the ocean for their



The International Maritime Organization (IMO) helped to mitigate the impacts of MV Wakashio oil spill in Mauritius (Photo: IMO)

livelihoods and food security. The ocean is also home to millions of plants and animals. It produces over half of the world’s oxygen, regulates climate and weather patterns, and provides medicinal ingredients that help fight cancer and other diseases.

Yet many take the ocean for granted. For hundreds of years, we have used the ocean as a dumping ground for waste, with little consideration given to the impact on human

Did you know:

- Dumping of wastes at sea contributes an estimated 10% of the overall input of pollutants into the sea.
- Dredged material makes up about 80-90% of all licensed materials dumped.
- On average, 500 million tonnes of dredged material are dumped annually in waters of London Convention and Protocol Contracting Parties.
- Approximately 10% of dredged material is contaminated by shipping, industrial and municipal discharges, or by land run-off.

Source: [IMO website](#)



and ecological health, biodiversity, and livelihoods. Dumping waste not only threatens the ocean we know, but also the 80% of the ocean that has yet to be explored. In the words of Sylvia Earle, the ocean is like a “library of priceless knowledge that can be carefully extracted without destroying the source. Changing the chemistry of the ocean with pollution closes the book on information vital to our future and future generations” (Degnarain, 2020).

An “out of sight, out of mind” attitude and the belief that dumping waste far enough from land would not cause harm led to the dumping of millions of tonnes of waste in the ocean annually by the late 1960s and early 1970s. This waste included dredged material from ports and rivers, waste from land-based [mining](#) (or tailings), industrial waste, and ash from power stations. At the same time, growing awareness led to increased concern about the impacts of dumping on the marine environment. Accumulation of [waste](#) and toxic materials in the ocean damage and often destroy entire habitats and ecosystems, are detrimental to marine and human health,

“The ocean is not a dumping ground. It is quite likely where life originated from. While we can forgive previous generations for not fully recognizing the importance of a clean ocean for life on this planet, there is no excuse today. The science and knowledge about how important the ocean is to the existence of life—ours included—is now widely understood.”

[SYLVIA EARLE, LEGENDARY OCEAN EXPLORER.](#)

and threaten livelihoods and economies. Ocean currents can carry and spread toxins, impacting regions far from where the dumping occurred.

Origins of Global Action on Ocean Dumping

With growing awareness of environmental issues overall and marine pollution, in particular, governments attending the [Stockholm Conference](#) in June 1972 considered draft articles of a new treaty on ocean dumping. Less than six months later, governments meeting in London adopted the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter ([London Convention](#)), one of the first global treaties aimed at protecting the marine environment from human activities. The Convention’s preamble recognizes the limited “capacity of the sea to assimilate wastes and render them harmless, and its ability to regenerate natural resources.”

Dumping, as defined in Article III of the London Convention, refers to the deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms, and other man-made structures at sea, as well as to the deliberate disposal at sea of vessels, aircraft, platforms, or other man-made structures themselves.

The Convention, which entered into force in 1975, banned dumping of specific wastes, such as those containing mercury, cadmium, oil, and high-level radioactive wastes. In 1993, the treaty was amended to: ban the dumping of low-level radioactive wastes; phase out dumping of industrial wastes; and ban incineration of industrial wastes at sea.



London Protocol

The more restrictive 1996 [London Protocol](#), which updated the Convention, entered into force in 2006. It prohibits all dumping of wastes and other matter, except for those on a prescribed list that undergo a rigorous assessment and permitting process. In addition, the Protocol regulates disposal of wastes from land-based mining operations and implementation of marine geoengineering, which it allows for research purposes only. The London Protocol also bans the exportation of waste to other countries for dumping, as well as the burning of waste at sea. While initially used to limit the dumping of dangerous chemical waste into the ocean, incineration produces emissions of hazardous chemicals that can end up spilling into the ocean as well.

Countries that engage in illegal dumping often lack the capacity to implement safe and sound dumping strategies. Thus, the London Protocol, in its preamble, recognizes the interests and capacities of developing countries, particularly [small island developing states](#), which often lack the necessary resources to properly dispose of their waste and enforce regulations. The Protocol also includes a provision promoting support for access to and the transfer of [environmentally sound technologies](#) and know-how, and adequate resources for implementation to developing country parties that request it.

Importantly, the Protocol applies a [precautionary approach](#). This means lack of conclusive scientific evidence regarding damage to the marine environment from dumping cannot be used to justify lack of action and preventative measures.



Toxic and hazardous waste barrels washed up on the shore of Russia's Arctic Coast. (Photo: iStock)

Radioactive Waste in the Ocean

Radioactive waste provides one example of growing acceptance and application of a precautionary approach in the context of ocean dumping. While the London Convention initially banned dumping high-level radioactive waste and allowed dumping low-level waste, a [1993 amendment](#) prohibited dumping of all nuclear waste.

The United States was the first country to dispose of radioactive waste in the ocean in 1946, with the advent of nuclear power, but halted the practice in 1970. According to the [US Environmental Protection Agency](#) (EPA), more than 55,000 containers of radioactive wastes were dumped at three sites in the Pacific Ocean between 1946 and 1970. Other nuclear powers, however, continued dumping millions of litres of radioactive waste until 1993, when [Greenpeace](#) documented a Russian navy ship dumping 900 tonnes of nuclear waste into the Sea of Japan.



Expanding the scope of regulations to include social and political concerns, in addition to scientific and technical matters, combined with growing acceptance of the precautionary approach, allowed the parties to the Convention to respond to Russia's actions (McCullagh, 1996). As a result of international pressure, Russian President Boris Yeltsin halted the dumping.

Governments continue to grapple with large amounts of nuclear waste and contaminated water. For example, the Government of Japan is planning to dump 1.25 million tonnes of contaminated radioactive water from the Fukushima Daiichi nuclear power plant into the Pacific Ocean as storage space at the plant runs out—enough to fill 500 Olympic-sized swimming pools (BBC, 2021). While protests and debate delayed plans, dumping could now begin in the spring of 2023 and take decades to complete. In April 2021, Japan approved a plan to begin releasing the contaminated water and in August, the Japanese utility company, TEPCO, said it would build an undersea tunnel to release the water.

However, opposition has been and remains fierce. Local fishers say dumping the wastewater will devastate their livelihoods and industry. Environmental groups are also vehemently opposed, as is neighboring Republic of Korea, which still bans seafood imports from the Fukushima region and argues dumping the contaminated water would threaten its marine environment. The Republic of Korea, Chile, and China raised their concerns at the 2019 meeting of the Contracting Parties to the London Convention (Greenpeace, 2019). Following the recent announcements, the Republic of Korea expressed its “strong regret” over Japan’s actions and said Japan should “immediately

halt” its plan to release radioactive water into the sea and “consult and communicate sufficiently beforehand” with neighboring countries (Yonhap, 2021). While China has urged Japan to revoke its “highly irresponsible unilateral decision,” the US believes the planned release is in line with global standards (Clark & Masumi, 2021). These protestations are expected to continue.

Using the Ocean to Mitigate Climate Change

The urgency of addressing [climate change](#) and the debate over mitigating technologies, such as carbon capture and storage (CCS) and marine geoengineering, propelled Protocol parties to take steps to ensure these technologies are controlled and regulated, given their potential to harm the marine environment. While conclusive scientific evidence regarding their damage and harm is still elusive, the Intergovernmental Panel on Climate Change (IPCC) views CCS as a short-term technological option for reducing net CO₂ emissions, and as a requirement in IPCC scenarios to keep temperature rise below 1.5°C.

In 2006, the Protocol was [amended](#) to allow CCS under the seabed when deemed “safe” and to regulate the injection of CO₂ waste streams into sub-seabed geological formations for permanent isolation. In October 2019, Protocol parties agreed to permit the provisional application of a [2009 amendment](#) allowing for the transboundary export of CO₂ for CCS, under certain circumstances, even though the amendment has not yet entered into force.

In 2013, parties adopted [an amendment](#) to allow marine geoengineering activities for



research purposes only, although it has not yet entered into force. Marine geoengineering, as defined under the Protocol, refers to “a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or its impacts, and that has the potential to result in deleterious effects, especially where those effects may be widespread, long-lasting, or severe.” One marine geoengineering technique, ocean fertilization, refers to the practice of dumping iron or other nutrients into the ocean to manipulate the marine environment in a manner that draws CO₂ from the atmosphere. However, balancing climate mitigation with protection of the marine environment remains a challenge.

Many governments and environmental activists alike oppose such activities. For example, the German government’s scientific Advisory Council on Global Change opposed introducing CO₂ into seawater because “the risk of ecological damage cannot be assessed and the retention period in the oceans is too short” (The Guardian, 2008). A March 2019 report from the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection calls for a precautionary approach with respect to marine geoengineering, given lack of scientific evidence on the impacts on the marine environment (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, 2019).

Other Treaties Addressing Ocean Dumping

Since the 1972 Stockholm Conference and the adoption of the London Convention, the international community and regions have

also adopted other treaties to combat ocean dumping. The 1973 [International Convention for the Prevention of Pollution from Ships \(MARPOL\)](#) aims to prevent and minimize pollution of the marine environment from ships from operational or accidental causes, including dumping of oil and other harmful substances. All ships flagged under parties to MARPOL are subject to its requirements, regardless of where they sail. In 1990, the US National Research Council Marine Board credited MARPOL with making “a substantial positive impact in decreasing the amount of oil that enters the sea” (Riviera Newsletters, 2008). In 1998, the volume of oil spilled was over 5,000,000 gallons less than that in 1978.

The 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic ([OSPAR Convention](#)) deals with the prevention and elimination of pollution by dumping or incineration. It entered into force in 1998, replacing the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention) and the Convention for the Prevention of Marine Pollution from Land-based Sources (Paris Convention). In 2007, amendments to the Convention allowed for storing CO₂ in geological formations under the seabed. OSPAR cooperates with the London Convention in such areas as radioactive substances and CCS.

The 1976 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean ([Barcelona Convention](#)), the first [regional seas convention](#) entered into force in 1978. The Barcelona Convention has seven protocols, including the [Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or](#)



[Incineration at Sea](#). The Protocol obligates Contracting Parties to take “all appropriate measures to prevent, abate and eliminate to the fullest extent possible pollution of the Mediterranean Sea by dumping of wastes or other matter.” Amendments, yet to enter into force, prohibit dumping activities except for wastes or other matters listed in the Protocol, including dredged material, fish wastes, and uncontaminated geological material. The [Mediterranean Pollution Assessment and Control Programme](#) helps parties meet their obligations under the Dumping Protocol, including through the development of guidelines containing procedures to evaluate wastes and other matter considered for disposal at sea.

The Future of International Governance of Ocean Dumping

Banning ocean dumping is, unfortunately, not enough to eliminate it. Ocean dumping is tightly controlled and regulated in some countries but not in others. Some countries have not ratified the London Convention and Protocol. Some regional agreements are more robust than others. This has led to an uneven application of and adherence to the ocean dumping regime, and the various international and regional instruments it entails, resulting in a piecemeal approach to ocean dumping governance. Reporting, compliance, and enforcement challenges persist, with countries often not living up to their obligations in practice (Ringbom and Henriksen, 2017). Encouraging broader participation in and implementation of these agreements will determine the effectiveness of ocean dumping governance.



Dredged material makes up about 80-90% of all licensed materials dumped. (Photo: iStock)

On the other hand, advocacy, activism, international pressure, and media campaigns have spotlighted the impacts of dumping on the marine environment and countries that cause damage. This has led to increased international and regional action to regulate and outright ban some ocean dumping, as well as hold those responsible for dumping to account. In this sense, international governance of ocean dumping has achieved significant success since its humble beginning fifty years ago. Countries that dump with impunity will be called out. Governments often respond when faced with bad press or boycotts, lest they be viewed as pariahs. Shining a light on the impacts of dumping on the marine environment has progressed the cause of strengthened ocean dumping governance, albeit slowly.

As Sylvia Earle said, while previous generations can be forgiven for not fully recognizing the importance of a clean ocean for life on this planet, the science and knowledge about the ocean’s importance to the existence of life is now widely understood and no excuses can justify such deliberate action.



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