

Forum: United Nations Environmental Programme

Topic: The question of reducing pollution in coastal regions and the global marine environment

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Introduction

Pollution is one of the major issues of planet Earth is dealing with. Since oceans and, in general, water cover 71% of Earth's surface, the pollution of the marine environment is very dangerous for the survival of vegetal and animal species. Until almost a century ago, pollution was not even acknowledged by scientists, and despite the fact that pollution has a significantly long story, international juridical actions have been enacted only at the end of the Second World War.

Pollution

According to UNEP, two main types of marine pollution can be identified as highly dangerous to the marine environment: Noise pollution and the release of chemical waste (or invasive organisms).

Submarine noise sources are having a negative impact on the marine environment. Anthropogenic sounds may come from sources such as ship movements and naval sonars and they are damaging life in the sea. They affect every type of marine creatures from mammals, cetaceans, to simple organisms. In fact, human activity in the water (e.g. Vibrations) may damage certain organisms (corals) by destroying or modifying their structure and, by extension, damaging the marine food chain.

The pollution of water due to **chemical waste** is often caused by the direct discharge of urban sewerage and industrial discharges who contain pollutant agents and even toxic substances. Also, the extraction of minerals is involved in marine pollution in the case that minerals and soil waste flow to the sea.

Other sources of pollution:

Deep sea mining, which occurs on the ocean floor, is the extraction of precious metals from certain areas of the seabed that increases the toxicity of water and that damages area full of sediments and its environment (including living organisms);

The increase of carbon dioxide in the atmosphere, which is modifying marine ecosystems and fish distributions and is causing the acidification of oceans;

Invasive organisms that reach a different environment (through different means) from the native one and modify the environment they are occupying besides jeopardising the survival of certain species;

The flow of rainwater to the sea. Runoffs may carry soil and pollutant substances taken from inland to the sea;

Atmospheric pollution due to wind-blown substances that are brought from inland to oceans;

Ship pollution by ballast water, oil spills, bulk carriers' wastes;

Types of pollution

Acidification of water that is caused by the increasing level of carbon dioxide in the atmosphere. Oceans usually absorb carbon dioxide, but the dangerous level of this substance in the environment (and the resultant ocean warming phenomenon) are making corals and other types of marine creatures weaker. Acidification affects both marine and global environment since oceans are slowly losing their ability to absorb carbon dioxide.

Eutrophication is an anomalous increase of chemicals substances, generally nitrogen and phosphorus-based compounds, in an ecosystem. Principally fertilizers, livestock and humans' waste could lead specific zones to hypoxia (i.e. low oxygen conditions) and, as a result, to dead zones.

Marine debris is a phenomenon that is produced by the discharge of human waste (generally plastic) in water areas. It could be an accidental or a deliberate disposal of plastic (that is called *Ocean dumping*) in oceans. Once in the water, plastic that does not biodegrade will accumulate at the centre of circulating marine currents or in coastal areas, leading to the death of fishes, birds, reptiles and mammals living near a water source.

It is estimated that almost 8.8 million metric tons of plastic are dumped in oceans every year and that over 1 million animals are endangered by plastic pollution.

A popular example of plastic pollution is the *Great Pacific garbage patch*, a system of circulating ocean currents full of floating trash (mostly plastic) which has been discovered in 1988. Today his extension is still unknown (satellites are unable to distinguish low-density materials). It is estimated to be 700,000 square kilometres size.

With regard to coastal regions, mainly affected Nations are India, United States (mostly the State of Hawaii), Japan, Vietnam, Philippines, Brazil.

What has been done

Main international actions to reduce marine pollution did start from simple treaties signed around 1958 to most recent conventions and agreement between States all over the world.

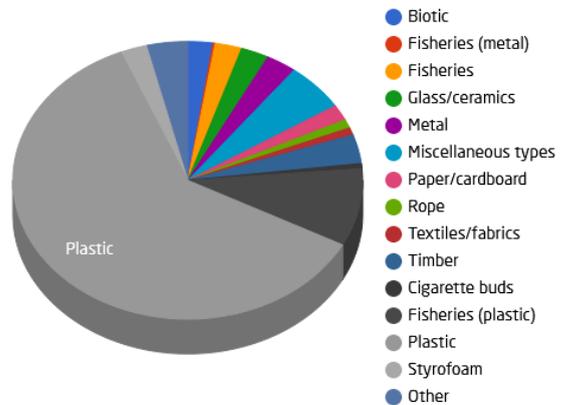
The most relevant UN agreements in history are:

- the **United Nations Convention on the Law of the Sea (UNCLOS), UNCLOS II and UNCLOS III** respectively held in 1958, 1960 and 1967, which define the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources.
- The **London Convention**, held in 1972 by UNCHE, an agreement to control ocean dumping and punish deliberate waste disposal in water sources

Question a resolution must answer:

- **How to promote a separate collection of garbage?**
- **How to promote the reduction of the discharge of chemical waste in water sources?**
- **How to decrease plastic debris in the ocean?**
- **How to spread information about marine pollution's effects?**
- **How to reduce the number of plastic materials that are dumped in the ocean every year?**
- **How to reduce pollution of coastal areas in LEDCs?**
- **How to convince LEDCs on the vital importance of reducing marine pollution?**

Global composition of marine litter



Bibliography and useful links

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