

Plastic and its Effect on Marine Environment

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EDITORIAL

Plastic is a petroleum-based synthetic organic polymer having qualities that make it appropriate for a wide range of uses, including packaging, construction, home and sporting goods, cars, electronics, and agriculture. Plastic is a versatile material that is inexpensive, lightweight, strong, and pliable. Every year, more than 300 million tonnes of plastic are manufactured, half of which is used to manufacture single-use goods like shopping bags, cups, and straws.

Every year, at least 8 million tonnes of plastic wind up in our oceans. Floating plastic waste is the most common type of marine litter right now. From surface waters to deep-sea strata, waste plastic accounts for 80% of all marine trash. Plastic has been detected on all continents' shorelines, with greater amounts of plastic surrounding popular tourist destinations and highly populated places.

Urban and storm runoff, sewer overflows, beach visitors, inadequate waste disposal and management, industrial operations, construction, and illegal dumping are the main sources of marine plastic. The fishing sector, nautical operations, and aquaculture are the primary sources of ocean-based plastic.

Plastic fragments into microscopic particles called microplastics (particles smaller than 5 mm) or nanoplastics as a result of sun UV radiation, wind, currents, and other natural processes (particles smaller than 100 nm). The most pervasive hazard harming the maritime ecosystem is plastic pollution. It also puts ocean health, food safety and quality, human health, coastal tourism, and climate change at risk.

Impacts on marine environment

Ingestion, suffocation, and entanglement of hundreds of marine

species are the most apparent and unpleasant effects of marine plastics. Seabirds, whales, fish, and turtles mistake plastic garbage for food, and the majority of them starve to death as their bellies fill with plastic garbage. They also have lacerations, infections, impaired swimming abilities, and internal traumas. Invasive marine species and bacteria are also propagated by floating trash, disrupting ecosystems.

Impacts on food and health

Invisible plastic has been found in tap water, beer, and salt, as well as in all ocean samples taken worldwide, even the Arctic. Several chemicals used in the manufacture of plastic products are known to be carcinogenic and to disrupt the body's endocrine system, resulting in developmental, reproductive, neurological, and immunological issues in humans and wildlife.

Long-term contact to seawater causes toxic pollutants to build on the surface of plastic products. Plastic waste ingested by marine species enters their digestive systems, where it accumulates over time in the food chain. The transfer of pollutants from marine organisms to humans through seafood eating has been identified as a health danger, although it has yet to be thoroughly investigated.

Impacts on climate change

Plastic, which is made from petroleum, causes global warming. When plastic garbage is burned, carbon dioxide is released into the atmosphere, increasing carbon emissions.

Impacts on tourism

Plastic trash degrades the visual value of tourist attractions, resulting in lower tourism-related revenues and significant economic expenditures associated with site cleaning and upkeep.

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