

## PLASTIC POLLUTION

- Over **460 million metric tons of plastic** are produced every year for use in a wide variety of applications.
- An estimated **20 million metric tons of plastic litter** end up in the environment every year. That amount is expected to increase significantly by 2040.
- Plastic pollution **affects all land, freshwater, and marine ecosystems**. It is a major driver of biodiversity loss and ecosystem degradation and contributes to climate change.
- As plastic pollution is a transboundary issue, a **global plastics treaty is needed** to ambitiously reduce plastic production, phase out harmful subsidies, eliminate products and chemicals of concern, and adopt strong national plans and rigorous reporting and compliance mechanisms.

### What is the issue?

Plastic is a synthetic, organic polymer made from fossil fuels, such as gas and petroleum. Over **460 million metric tons of plastic are produced every year**, [according to the United Nations Environment Programme](#). Plastic is used in almost all consumer and industrial activities, from construction and vehicles to electronics and agriculture.

**Discarded improperly, plastic waste pollutes and harms the environment**, becoming a widespread driver of biodiversity loss and ecosystem degradation. It threatens human health, affects food and water safety, burdens economic activities, and contributes to climate change.

Macro-plastics (pieces larger than 0.5 mm) made up 88% of global plastic leakage to the environment in 2019, around 20 million metric tons, polluting all ecosystems. Much of the world's **plastic pollution is generated by single-use products** such as bottles, caps, cigarettes, shopping bags, cups, and straws.

**Pollution sources are mainly land-based**, coming from urban and stormwater runoff, littering, industrial activities, tyre abrasion, construction, and agriculture. In the marine environment, plastic pollution originates primarily from land runoff, but includes paint shed from shipping, discarded fishing gear, and more.

Due to solar radiation, wind, currents and other natural factors, **plastic breaks down into microplastic (smaller than 5 mm) and nanoplastic (smaller than 100 nm) particles**. [‘Primary’ microplastic particles](#) are also shed by products such as synthetic textiles and tyres, through abrasion. Nanoplastics are able to cross cell membrane walls and enter living organisms.

**Many nations lack the capacities and facilities to properly manage plastic products and waste**, and



*Millions of tons of plastic pollute land and water every year, causing impacts to the environment, ecosystems, and human health. ([mbeo/Flickr](#))*

the burden often falls on the local level. That impact is disproportionately felt by islands, developing countries, Indigenous peoples, local communities, women, and children. This problem is deepened by the global trade of plastic products and waste to locations where infrastructure is not sufficient for safe and environmentally sound management.

### Why is this important?

#### *Impacts on human health*

Microplastics have been found in human blood and placentas and in food and drinks, including tap water, beer, and salt. Several chemicals [used in the production of plastic materials](#) are known to be carcinogenic and can cause developmental, reproductive, neurological, and immune disorders.

#### *Impacts on economies*

The build-up of plastic litter can have a negative impact on aspects of a country's economy and trade systems, with income declines in sectors such as small- and medium-enterprises, the informal sector, tourism,

fisheries, agriculture, and water safety. [IUCN's research on these economic impacts demonstrates examples and possible solutions.](#)

### **Impacts on species and ecosystems**

**All land, freshwater, and marine ecosystems are affected by plastic pollution.** Natural ecosystems provide a broad range of services that are not only fundamental for conservation, but also key for economies and human well-being. For example, healthy mangroves provide coastal protection services, whereas wetlands are important for freshwater provision.

The most visible impacts of plastic debris are the ingestion, suffocation, and entanglement of species. Wildlife such as birds, whales, fish, and turtles mistake indigestible plastic waste for food and die of starvation as their stomachs become filled with it. It also causes internal and external injuries that reduce the ability to swim and fly. Domesticated farm animals are also affected by plastic pollution. Floating plastics transport [invasive alien species](#), one of the leading causes of biodiversity loss and species extinction.

Plastic pollution can also seep carcinogenic chemicals (such as those contained in certain plastic products or fireproofing coatings) into the soil. These can run into groundwater or rivers, affecting exposed people and ecosystems.

### **Impacts on climate**

Climate impacts begin with oil and gas extraction, the refining of these products into plastics, and then plastic pollution itself. Incinerated plastic waste releases greenhouse gases and other pollutants into the atmosphere, including carbon dioxide, dioxins, and methane.

## **What can be done?**

The removal of legacy plastics and prevention of pollution **requires that fewer plastic products be made, that the circularity of supply and value chains be increased, and that consumer behaviour be changed.** It also involves public and private investment and the development of infrastructure along the full lifecycle of plastics, including circular economy solutions like reuse, refill, etc.

Despite positive efforts from countries to tackle plastic pollution, such as bans on certain forms of single-use plastics, **a global plastics treaty is essential because plastic pollution is transboundary and a main driver of biodiversity loss.**

To best address the triple planetary crisis and ensure the proper implementation of the Global Biodiversity Framework (GBF); the Paris Agreement; the Sustainable Development Goals (SDGs); and initiatives under the broader chemicals, waste, and pollution agenda; a future plastics treaty needs a common

approach and requires collective action on a global scale.

Biodiversity has come to play a prominent role in international law, including in multilateral environmental agreements. **A focus on the connections between plastic pollution, biodiversity loss, and the degradation of ecosystems at the global, regional, and national levels is important for effective action.** The protection and restoration of biodiversity, and nature *per se*, [must be incorporated](#) in the legally binding control measures and enforcement terms of a future treaty.

To address plastic pollution globally, IUCN supports:

- Ambitious reductions in plastic production, phasing out harmful subsidies, eliminating products and chemicals of concern, and agreeing on the adoption of strong national plans, reporting requirements, and compliance mechanisms.
- Measurable and ecologically sustainable objectives, targets, and actions.
- An inclusive, just, and gender-responsive process and effective and science-based nature-positive frameworks, including a global treaty.
- Convergence between commitments made by States at various international and regional treaties, including the [Kunming-Montreal Global Biodiversity Framework \(GBF\)](#), the agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction ([BBNJ](#)), the [Ramsar Convention on Wetlands](#), and others.
- Improved product design created with full lifecycle approaches for a more circular economy, and support for nature-positive [Extended Producer Responsibility Systems](#) that go beyond waste management.
- Enhanced national legislation and capabilities to address plastic pollution, reporting, and compliance.
- Funding a strong financing mechanism, for capacity building, technological assistance and transfer, education, and to build on and share Indigenous and traditional knowledge.

### **Where can I get more information?**

[IUCN publications on plastic pollution](#)

[IUCN Brief and proposed text](#) for inclusion of biodiversity protection in the Plastics Treaty

IUCN Resolution [019](#) *Stopping the global plastic pollution crisis in marine environments by 2030*

IUCN Resolution [069](#) *Eliminate plastic pollution in protected areas, with priority action on single-use plastic products*

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