

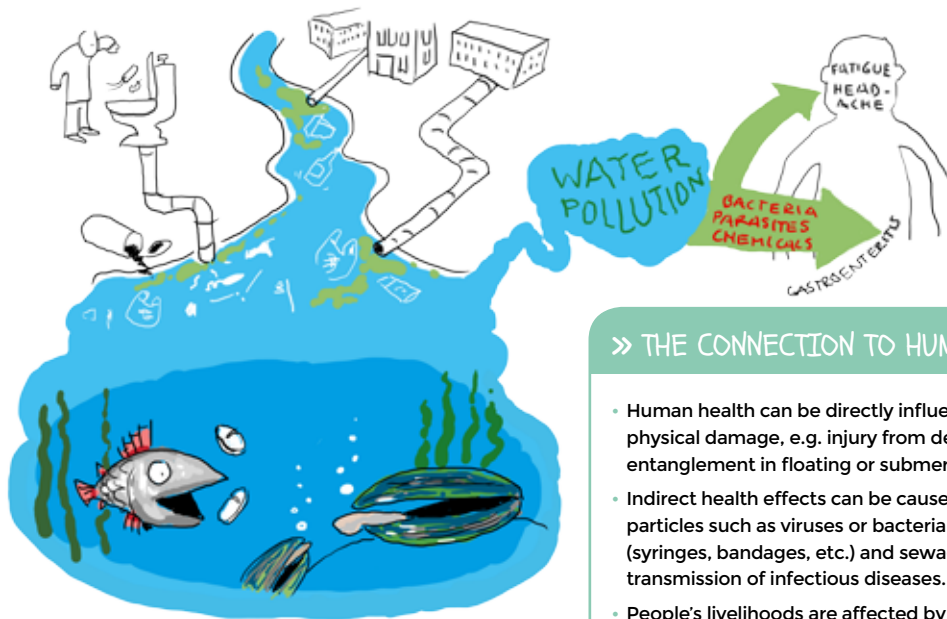
Marine Pollution and Human Health

Many of our waste products end up in the sea. This includes visible litter as well as invisible waste such as chemicals from personal care products and pharmaceuticals that we flush down our toilets and drains. Once in the sea, these pollutants can move through the ocean, endangering marine life through entanglement, ingestion and intoxication.

When we visit coastal areas, engage in activities in the sea and eat seafood, we too can be exposed to marine pollution that harms our health. We can all help to reduce marine pollution by changing our consumption patterns and reducing, reusing and recycling our waste.

» SOURCES OF MARINE POLLUTION

- The sea is the final resting place for much of our litter. Common items of marine litter include cigarette butts, crisp/sweet packets, cotton bud sticks, bags and bottles.
- Man-made items of debris are found in marine habitats throughout the world, from the poles to the equator, from shorelines and estuaries to remote areas of the high seas, and from the sea surface to the ocean floor.
- Approximately 80% of marine litter comes from land-based sources (eg. through drains, sewage outfalls, industrial outfalls, direct littering) while 20% comes from marine-based activities such as illegal dumping and shipping for transport, tourism and fishing.
- Plastics are estimated to represent between 60 and 80% of the total marine debris. Manufactured in abundance since the mid-20th century, most of the plastics that have been produced are still present in the environment.
- The cumulative amount of plastic produced since the mid-20th century is of the order of 5 billion tons, enough to wrap the Earth in a layer of plastic wrap. The amount projected by 2050, on current trends, is about 40 billion tons, which is enough to wrap 6 layers of plastic wrap around the planet.



» THE CONNECTION TO HUMAN HEALTH

- Human health can be directly influenced by marine litter in the form of physical damage, e.g. injury from debris such as broken glass, medical waste or entanglement in floating or submerged debris.
- Indirect health effects can be caused by chemicals, toxins or other harmful particles such as viruses or bacteria in the water. For example, medical waste (syringes, bandages, etc.) and sewage pose a public health hazard through transmission of infectious diseases.
- People's livelihoods are affected by marine pollution. For example, littered beaches or polluted water does not attract tourists. Fewer tourists means less income for coastal communities.
- Plastic particles have been found in a wide variety of species including some that we eat, such as bivalves (e.g. mussels), crustaceans (e.g. crabs) and fish. The risk of chemicals adhered to plastics transferring through the food web from marine organisms to humans has not yet been conclusively established and represents an important knowledge gap.

» A DANGER TO MARINE LIFE

- Observed effects in wildlife attributed to microcontaminant exposure (a diverse class of chemicals including pharmaceuticals, pesticides and industrial chemicals) include reproductive abnormalities and behavioural effects.
- All sea turtle species, 45% of all species of marine mammals, and 21% of all species of sea birds have been affected by ingestion of or entanglement in marine debris, with plastic items being the most frequently documented.
- Plastics can absorb toxins from surrounding seawater, such as pesticides and those in the class of chemicals known as Persistent Organic Pollutants (POPs). They can also release harmful constituents such as Bisphenol A (known to mimic the hormone estrogen), as they degrade.
- Because of their small size, microplastics (plastic fragments < 5mm) can be ingested by a wide range of organisms. This can cause physical damage from abrasions, blockages or accumulation of toxins in organisms.

» SMALL ACTIONS MAKE A BIG DIFFERENCE

The best way we can all help is to minimize new litter entering the marine environment.

Reduce: Choose products with less packaging. Better still, choose shops where you can refill your own container.

Reuse: Use reusable coffee mugs, water bottles and shopping bags.

Recycle: Separate items that can be recycled (i.e. plastic, paper, cardboard).

» THE MARINE STRATEGY FRAMEWORK DIRECTIVE – PROTECTING EUROPE'S MARINE ENVIRONMENT

Europe's Marine Strategy Framework Directive (MSFD) is the framework for Member States to achieve Good Environmental Status for their marine waters by 2020. Descriptor 10 of the MSFD focuses on marine litter. It states that Good Environmental Status is only achieved when "properties and quantities of marine litter do not cause harm to the coastal and marine environment".



Find out more about initiatives you can get involved in and the everyday actions you can take by visiting the Sea Change website.

Remember
**OUR OCEAN
OUR HEALTH**

Key Information Sources and Further Reading

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