Marine litter – a growing threat worldwide

European Environment Agency

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Increasing amounts of litter are ending up in the world's oceans and harming the health of ecosystems, killing animals when they become trapped or swallow the litter. Human health is also at risk, as plastics may break down into smaller pieces that may subsequently end up in our food. These are just a few of the problems emerging from the waste collecting in our seas.

There are now vast patches of litter and smaller plastic particles funnelled together by ocean currents in all oceans. The patch in the Pacific is the size of Europe according to some estimates, while there is also a smaller but significant patch right on Europe's doorstep in the Atlantic. Marine litter also accumulates in coastal areas, either on the sea bottom or on beaches when washed ashore. See the EEA's infographic on marine litter.

World leaders increasingly recognise the scale of the problem, and at the 2012 Rio Earth Summit they committed to "a significant reduction in marine litter by 2025". The European Marine Strategy Framework Directive, which aims for seas to reach 'good environmental status' by 2020, recognises marine litter as one of the main threats to the marine environment alongside fisheries, pollution, invasive alien species and noise.

The European Environment Agency (EEA) will consider marine litter in its forthcoming assessment of the state of the marine environment, to be published in autumn 2014.

Poisoning and ‘ghost fishing’

Fish, birds and other sea creatures also swallow pieces of litter which can eventually kill them – globally at least 43 % of cetacean species, all species of marine turtles, approximately 36 % of the world’s seabird species and many species of fish have been reported to ingest marine litter. Animals can also become trapped in discarded nets or other rubbish. Around 10 % of the litter in the world’s oceans is discarded fishing gear, which continues to catch fish – a phenomenon known as ‘ghost fishing’.

Most of the litter in the sea is plastic, for example plastic bags, bottles, bottle caps and Styrofoam, mainly as a result of our current consumer habits where plastic packaging has increased dramatically. Part of the problem arises from the fact that these materials never biodegrade but are instead only partially degraded by sunlight. Together with the movement of the waves, this breaks the plastic into ever smaller pieces.

An emerging problem is caused by the way these ‘microplastics’ can accumulate harmful chemicals such as persistent organic pollutants (POPs) from the sea. When these are concentrated on a tiny piece of plastic, swallowing it can be deadly for some marine organisms. These small plastic particles also become part of the beach. For example, some studies have found many types of plastic to be commonplace in the sediment on the British coastline.

And it’s not just wildlife that is affected by marine litter. It can eventually enter the human food chain, when microplastics are ingested by fish or shellfish which may subsequently be eaten by people. Researchers are currently looking into this emerging potential health risk.

There are also economic costs of this pollution, from beach cleaning to ruined fishing gear, from reduced tourism to fouled ship propellers. Such costs are set to grow as litter concentrations continue to increase in some areas.

Poor waste management and careless littering on land are two of the main causes of the problem, as waste is discharged into the sea via rivers or sewerage pipes, or washed into the sea by the wind and rain. Waste from cargo ships, cruise liners and fishing boats also often ends up in the ocean.

A cleaner sea

Because a large part of marine litter is consumer waste, educating people on its effects could significantly reduce the waste going into the sea, according to several studies. Shops should also take on some of the responsibility, for example making it easier for customers to return bottles or phasing out single-use plastic bags. The waste management industry also has a part to play in more effectively collecting and processing litter which would otherwise end up in the sea.

Next year the EEA will launch 'Marine LitterWatch', a new mobile phone app for conservation groups and other 'citizen scientists' to log and report the amount of litter they find on the beach. This information will help the EEA understand this growing problem and also provide data to support better policy implementation.

Litter is not the only problem affecting Europe's beaches. Untreated sewage and animal manure from farms also finds its way into the sea, which can be a risk to human health. To assess this problem, the EEA collates data on bacteria levels from more than 22 000 beaches across Europe. In 2012 the bathing water quality was generally very good, with approximately 94 % meeting the minimum standard. You can find out more about the water quality at your local beach by zooming into this map.

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Temporal coverage

Dynamic

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