

9 June 2019

## Pervasive plastic (Season 2) : in the Mediterranean Sea and in our food

We already had the opportunity to draw the attention of our readers to the pervasiveness of plastic [\[read\]](#) New evidence reinforces the urgency of clearly defined actions.

Research conducted by the [World Wildlife Fund](#) (WWF) reminded us on the eve of [World Oceans Day](#) that the Mediterranean Sea has become a huge plastic dump. According to the report drafted by the WWF in 2018, every year we dump 600,000 tonnes of plastic into that sea. It states that also that *“plastics account for 95% of the waste in the open sea, on the seabed and on beaches across the Mediterranean”*. The plastic comes mainly from Turkey (144 tonnes per day), Spain (126), Italy (90), Egypt (77) and France (66).



Source: WWF, Pollution plastique en Méditerranée. Sortons du piège !

It continues: *“Europe is the second largest plastics producer in the world, after China. In 2016, the EU-28, Norway and Switzerland produced 60 million tonnes of plastics, and generated 27 million tonnes of plastic waste of which only 31% was sent for recycling”*. All this plastic is mainly used for packaging, in particular for food packaging (including plastic bottles). Most of the plastic dumped into our environment is not biodegradable and may remain there for hundreds, if not thousands, of years. The Mediterranean is particularly affected by plastic pollution as it *“holds only 1% of the world’s waters, but concentrates 7% of all global microplastics”*.

Plastic remaining in the water is a source of mortality for animals either by choking or by poisoning, as it contains toxic components. It has a negative impact on biodiversity. According to the WWF study, 344 species have been found trapped in plastics. In the

Mediterranean, the main victims are, by order of decreasing occurrence, birds, fish, invertebrates, marine mammals and sea turtles. These findings largely confirm what had been found in an earlier British study on the conclusions of which we have already reported earlier, regarding the presence of plastic in living animals in the seas surrounding the British Isles and in processed sea food.

Another study published recently in the Journal of Environmental Science and Technology by a team of Canadian scientists stresses the pervasiveness of plastic in our environment, a fact that makes its ingestion by humans unavoidable. Authors estimate, based on the average food consumption by US citizens, that they eat at least 50,000 microplastic particles every year. They add that this estimated amount is a minimum and that the quantity absorbed could in fact be several times bigger as they have only analysed a small part of the food consumed that represents around 15% of average caloric intake. Consumption of water from plastic bottles is a particularly important source of particles: it is estimated that a person consuming only water from plastic bottles would absorb around 130,000 particles a year just from that water! (compared to 4,000 particles for a person consuming only tap water). Moreover, this study also mentions the presence of microplastic particles in the air that we breathe and in human feces.

The health consequences of the absorption and inhaling of microplastics are not known, but scientists believe that in cases of high consumption, they could represent a health hazard, given the toxic nature of some of the components of plastic, and they suggest to take measures of precaution.

WWF's work is very explicit regarding the measures to be taken in order to combat the presence of plastic in our environment. The NGO suggests, in particular:

- At the international level:
  - A legally binding international agreement to eliminate plastic discharge into the oceans, along with a monitoring and funding mechanism;
  - A zero vision for the industry regarding plastic leakage into the environment;
  - The retrieval and appropriate disposal of all ghost fishing gear;
  - The adoption of international trade regulations for plastic waste that define recycling criteria for exporters of plastic waste.
- At national level:
  - Move from the current target of 30% of plastic waste recycled and reusable to 100% by 2030;
  - Ban the use of single-use plastic bags and the addition of microplastics to products by 2025;
  - Achieve 100% waste collection.
- At industry level:
  - Invest in innovation for recyclable or sustainable alternatives;
  - Reduce plastic use starting with all unnecessary small plastic items and packaging.
- At the individual level, to behave like a responsible person:
  - By choosing, when possible, products made of biodegradable or recycled materials instead of plastics: biodegradable dental floss; wooden hair combs or clothes pegs; sponges made of cellulose; ceramic plates, bowls and cups; glass bottles; cotton napkins, etc.;
  - By avoiding disposable products;

- By storing food in glass rather than in plastic containers;
- By avoiding soaps and cosmetic products that contain microplastics;
- By buying unpackaged products;
- By paying attention to the waste and recycling procedures in your city or village.

It is the combination of all these measures and responsible behaviours that will allow to bring an end to the polluting and threatening pervasiveness of plastic in our environment.

---

To know more:

- Cox, K.D., *et al*, Human Consumption of Microplastics, Journal of Environmental Science and Technology, 2019.
- Alessi. *et al.*, Out of the plastic trap: saving the Mediterranean from plastic pollution, WWF Mediterranean Marine Initiative, 2018.

Selection of recent articles on [hungerexplained.org](https://hungerexplained.org) related to the topic:

- Life plagued by human madness: we must change our paradigms, objectives and values, 2019.
- Pervasive plastic: from food in plastic to plastic in food, 2018.
- The global food crunch: myth or reality? 2018.