


A wide-angle photograph of a beach completely covered in plastic waste. The foreground and middle ground are filled with a dense layer of discarded items, including plastic bottles, bags, and fragments. The background shows the ocean waves under a clear sky. A semi-transparent white box with black text is overlaid on the right side of the image.

Plastic waste can  
be found all over  
the planet.



When plastic waste is decomposed into smaller and smaller pieces by UV radiation, wind and water, we have an even bigger problem called microplastic.

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# NO MICROPLASTICS JUST WAVES



BENEFICIARIO COORDINATORE



BENEFICIARI ASSOCIATI



PROGETTO COFINANZIATO DA



**LET'S DEFEND  
OUR LAKES  
TOGETHER**

## Project partners in Italy

- Legambiente Onlus (overall coordination)
- Central Apennines River Basin District Authority (ABDAC)
- Environmental Protection Agency of Umbria (ARPA UMBRIA)
- Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)
- Polytechnic University Marche

## Project partners in Germany

- Global Nature Fund
- Lake Constance Foundation



## Project areas in Italy

- Lake Bracciano
- Lake Garda
- Lake Trasimeno

## Project areas in Germany

- Lake Constance
- Lake Chiemsee

## Project duration

- 10/2019 – 09/2023

# Microplastics found in lakes

Microplastic particles were detected in all five project lakes in Italy and Germany.



# What are microplastics?

The term microplastics is used to describe tiny plastic particles or fibres that are smaller than 5 mm.

They can consist of different types synthetic polymers.

*But: A standardised definition for microplastics for scientific or legislative purposes is still pending.*



Polyurethane (PU)

Polypropylene (PP)

Polyethylene terephthalate (PET)

Polyethylene (PE)

Polyamide (PA)

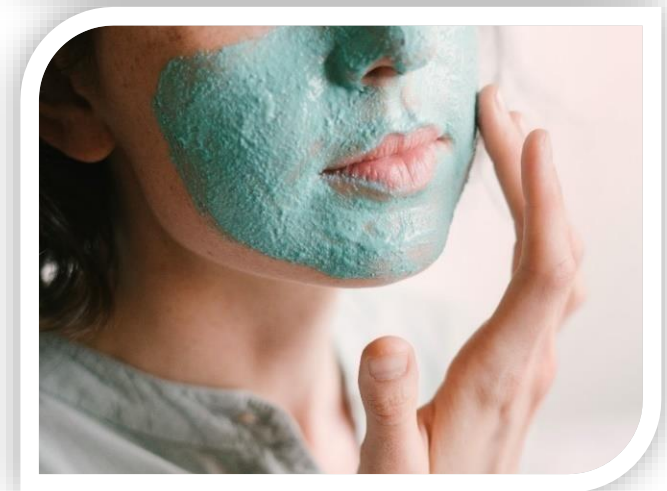
# What are microplastics?

A basic distinction is made between primary and secondary microplastics.

*But here too, there is so far no uniform definition for this classification.*

**Primary microplastics** are industrially produced in the form of granulates and pellets and are intentionally added to products for a specific purpose.

- Raw material for the production of plastic products
- As abrasive in cleaning products or used in cosmetic products like peelings

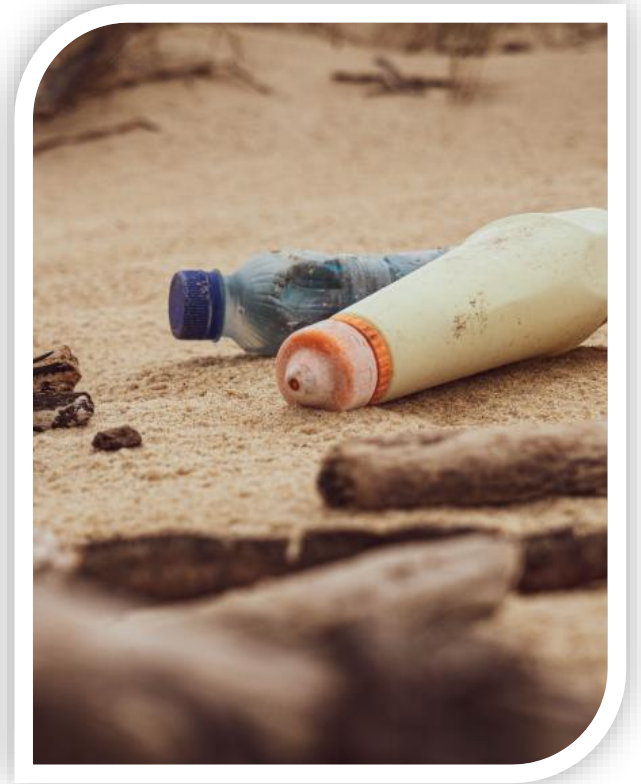




# What are microplastics?

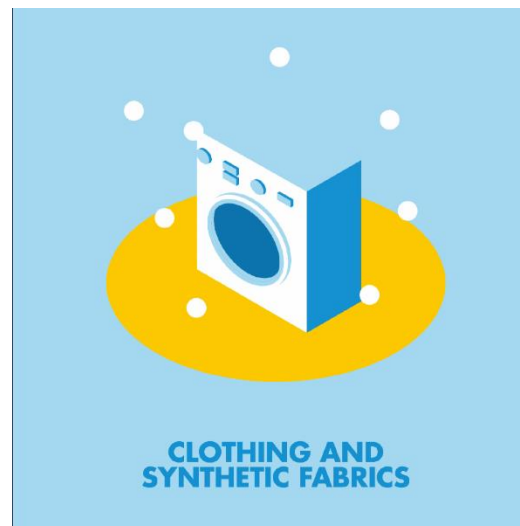
Most microplastics found in the environment consist mainly of secondary microplastics.

**Secondary microplastics** are the result of chemical and physical ageing and degradation processes of plastic products or tyre wear particles and microfibres from synthetic clothing.



# Sources of microplastics

- Abrasion from vehicle tyres and road surfaces
- Microfibres are released when synthetic textiles are washed or worn
- They are used as additives in cosmetic and cleaning products
- Agriculture (in fertilisers and plant protection products)
- Artificial turf pitches



# Risks of microplastics to the environment and human health

- Very persistent in environment;
- Small, can therefore be absorbed and may enter the food chain;
- Pollutants and bacteria can attach themselves to the rough surface of the fragments.
- (Eco)toxicological hazards may also occur from the polymers themselves, or via the additives (e.g. stabilisers) or other substances.



SOURCE: Report of the European Chemicals Agency (ECHA) ANNEX XV RESTRICTION REPORT – MICROPLASTICS (2019)

# Project measures

- A **Lake Paper** for municipalities;
- A **standard monitoring protocol** for the analysis of microplastics in water samples.
- A **technical protocol** for the reduction of microplastics in municipal drinking and wastewater treatment plants.
- A **participatory process** to involve companies of the outdoor, tyre and cosmetic industry
- A **Lake White Paper** to improve the legal framework



# Project measures

## *Awareness-raising campaign*

- Raising awareness of the public (residents, schools, tourists);
- Information flyer with background information on microplastics and tips how to reduce (micro)plastic waste in everyday life.
- Interactive information tool
- Social Media Campaign



# Thank you very much for your attention.

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