



EU GREEN DEAL

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REAL**

PARTNER EVENT
#EUGREENWEEK
30 MAY – 5 JUNE 2022



**Online-Seminar on
Microplastics in Lakes –
The LIFE Blue Lakes
Project
30th May 2022**

**Next
Gen
EU**

www.lifebluelakes.eu / info@lifebluelakes.eu



Seminar on microplastics in lakes – The LIFE Blue Lakes project EU Green Week 2022

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30/05/2022

Online



BENEFICIARIO COORDINATORE



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Autorità di Bacino
Distrettuale
dell'Appennino Centrale



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The problem

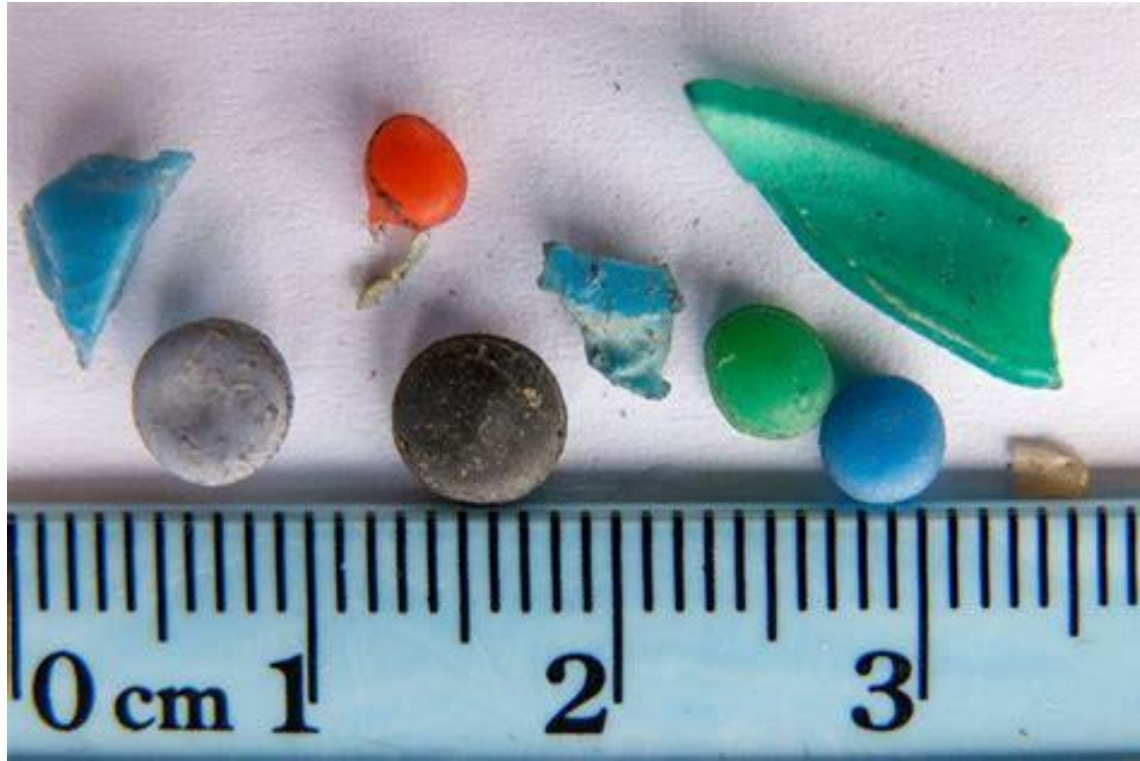


When plastic waste is decomposed into smaller and smaller pieces by UV radiation, wind and water, we have an even bigger problem called microplastic.

Plastic waste can be found all over the planet.



Microplastics and their impacts



Microplastics: particles smaller than 5 mm.
They can consist of different types synthetic polymers.

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

A basic distinction is made between primary and secondary microplastics.

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

Microplastics and their impacts

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

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.



Microplastics and their impacts

Sources of microplastics

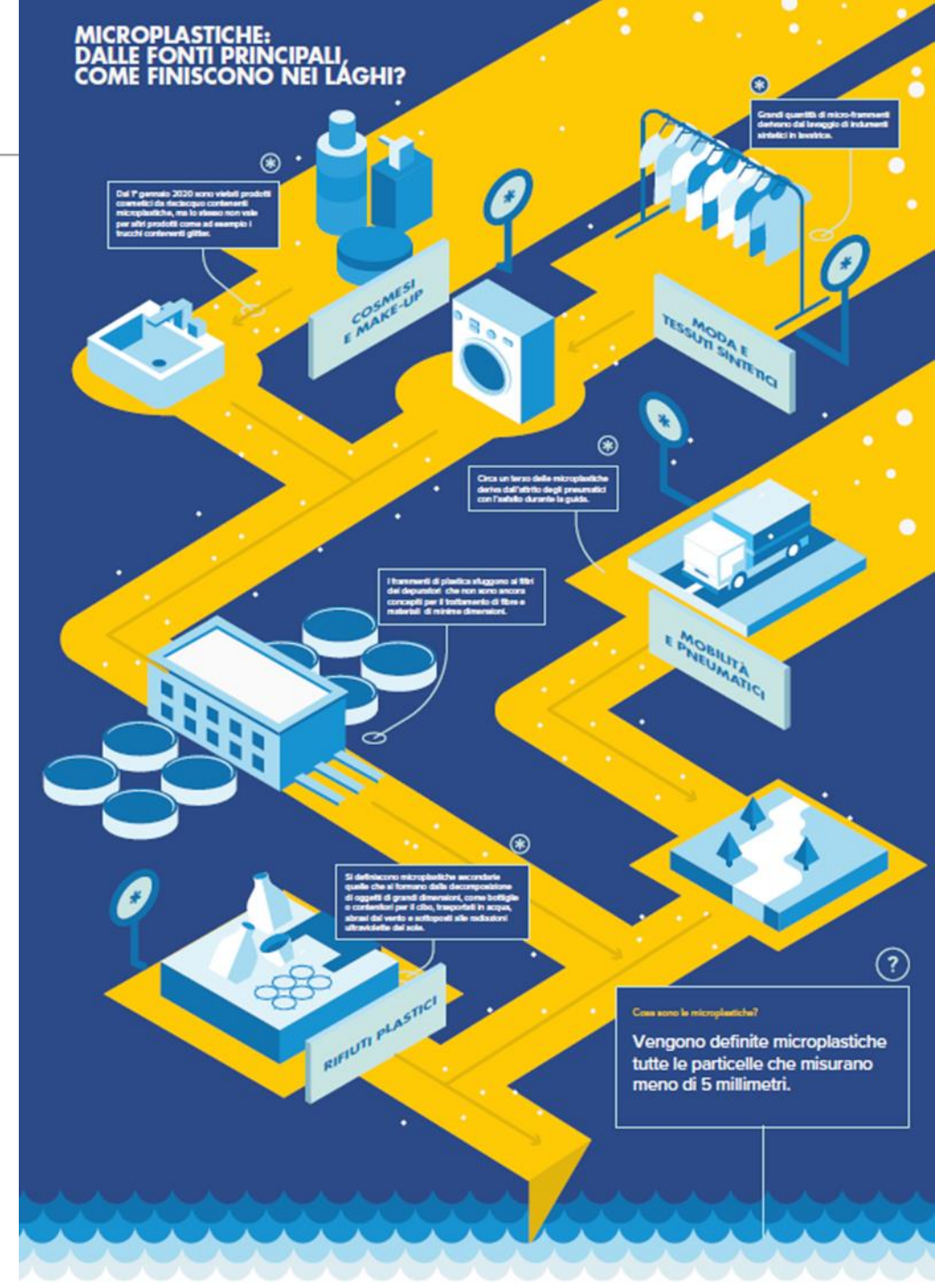
- Abrasion from vehicle tyres and road surfaces
- Microfibres are released when synthetic textiles are washed or worn
- They are used as additives in cosmetic and cleaning products
- Agriculture (in fertilisers and plant protection products)
- Artificial turf pitches



Microplastics and their impacts

IMPACTS ON ECOSYSTEMS AND LIVING BEINGS

- They easily come into contact with aquatic organisms.
- They are carriers for toxic substances that can behave, once penetrated into the body, by endocrine destroyers interfering with the physiological hormonal functions.
- They have high adsorption capacity and therefore transport of the pollutants already present in the water.
- They can be colonized by microorganisms, even potentially pathogenic.



Environmental problem

The first studies on microparticles found in the sea dates back to the 1970s, but the awareness that even inland waters are not immune to this phenomenon is much more recent.

To summarise the monitoring situation for micro-, meso- and macroplastics in **European rivers and lakes:**

- data quality is ambiguous since **standards are missing for sampling, processing and analysis,**
- consistent **spatial data from representative sampling sites and temporal trends** are missing,
- monitoring is mostly directed at microplastics while **meso- and macroparticles are often ignored,**
- very little is known on **the effects of microplastics in freshwater organisms**
- scale and size distribution of **plastic riverine input** is largely unknown

The legislation establishing indicators and limits to monitor the quality of inland waters (Water Framework Directive 2000/60) does not take into account the presence and effects of microplastics on their state.



Life Blue Lakes - LIFE18 GIE/IT/000813

The Life Blue Lakes project aims to address the problem of microplastics in lakes through governance, training, scientific research, information and awareness-raising actions.

The main actions will be carried out in the lakes of Garda, Bracciano and Trasimeno in Italy and in those of Costanza and Chiemsee in Germany.

COUNTRIES INVOLVED:

Italy and Germany

START OF PROJECT:

1 October 2019

END OF PROJECT:

30 September 2023



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Arpa
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AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE,
L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE



Global
Nature
Fund



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UNIVP - Università Politecnica delle Marche

Global Nature Fund

Lake Constance Foundation



Specific objectives of LIFE Blue Lakes

- ✓ Support local administrations and strengthen the commitment of economic realities through a participatory process for the drafting of the Lake Charter: a voluntary commitment to adopt good management practices and the dissemination of circular economy models;
 - ✓ Reduce the input of microplastics due to treatment and purification plants, through the development of a technical protocol and training of operators;
 - ✓ Collaborate with the industries involved (plastic, pneumatic, cosmetic) to develop solutions that reduce and prevent additional primary loads of microplastics in lakes;
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- ✓ Sensitize, to prevent the spread of plastic waste in the environment;
 - ✓ Improve the existing regulatory framework to address microplastic pollution in lake basins, influencing the political agenda at Italian, German and European level.

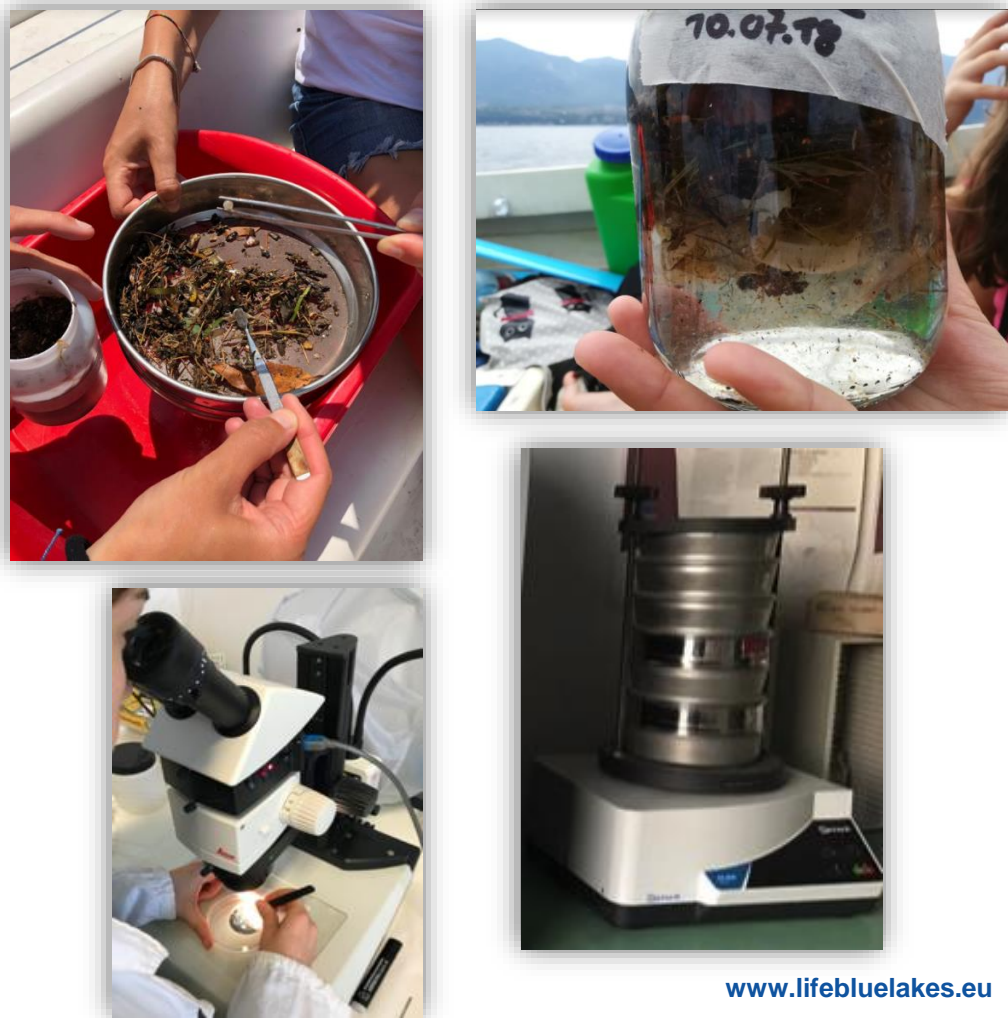


Monitoring protocol: pilot on Lake Trasimeno and Lake Bracciano

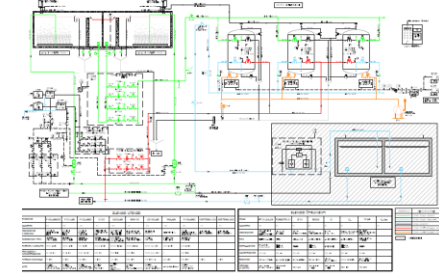
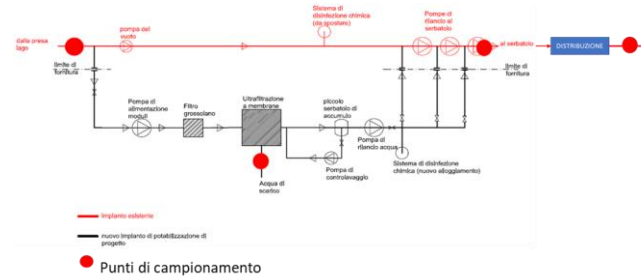
SEASONAL MONITORING



SIEVING, SORTING, COUNTING AND COMPOSITION (shape, colour and polymer)



Technical protocol for the urban water service: pilot on Lake Garda



- Castreccioni
- Influente – quote 314 m e 324 m
- Out pre-ozonazione
- Out flocculazione fanghi flocculati
- Fanghi da flocculazione
- Out filtrazione
- Riflusso
- Out post-ozonazione
- Out GAC
- Effluente
- Distribuzione 1
- Distribuzione 2



- Brenzone Castelletto
- Influente
- Riflusso
- Riflusso Ultrafiltrazione
- Effluente
- Distribuzione



- Garda Molinet
- Influente
- Out ozonazione
- Out filtrazione
- Effluente
- Distribuzione



Campaign for companies producing cosmetics/outdoor clothing/tyres

Development of information sheets for three areas of activity in German and English on the prevention of microplastics and alternative solutions for three sectors of activity.

<https://lifebluelakes.eu/en/documenti/>



Campaign for local administrations and stakeholders



PARTICIPATORY PROCESS

aimed at the production of the Paper of Lake Garda, Bracciano, Trasimeno, Costanza and Chiemsee.



The Lake Paper is a voluntary instrument for the protection of lakes from microplastics, which must be adopted by local authorities and communities living around the lake.



Campaign for local administrations and stakeholders

THE LAKE PAPER

The bodies, institutions and stakeholders involved in the process have shared the strategic areas, such as the operational cornerstones of the Charter of Lake, in which a coordinated and effective multilevel action is priority:

The strategic areas of the Lake Charter are then specified according to several specific objectives.



The specific objective is to have as many communities and administrations as possible adopt the Lake Charter to protect lakes and their ecosystems.

More generally, it is hoped that this route and this instrument will also be adopted in other lakes.

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THANKS FOR YOUR ATTENTION



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