

## **Ecotoxicological effects of Microplastics in Marine Ecosystems**



Microplastics are pieces of plastic smaller than 5mm in size.

There are two kinds: primary microplastics and secondary microplastics.

Primary microplastics are purposefully made. E.g. microbeads in facewash, polyester clothing fibres.

Secondary microplastics result from the breakdown of larger plastic items in the ocean due to wave/solar action.

They enter the oceans through rivers and streams, because of people littering, and using products that contain microplastics that then go into drainage systems.

Studies have shown that microplastics are to be found everywhere in our oceans.

Animals accidently eat plastics for a number of reasons. Usually these animals normally eat tiny organisms, like plankton, similar in size and shape to microplastics.

Smaller organisms are then eaten by larger marine species, entering the food chain.



Scientists are learning more about the impact of microplastics in the marine environment by examining animals ingesting microplastics labs, and through extensive fieldwork in multiple marine and coastal environments measuring the quantity and type of microplastics to be found and the species they are found in.

There is evidence to suggest that plastics can carry toxins like chemicals and additives. When eaten, these can enter the flesh of marine species that humans subsequently eat.

This is worrying because as yet, we do not entirely know the composition of the additives put into plastic products and how these interact with marine species. We therefore do not fully understand how they may impact on human health.







jpi-oceans.eu/ephemare

facebook.com/ephemare

twitter.com/ephemare\_





















lfremer







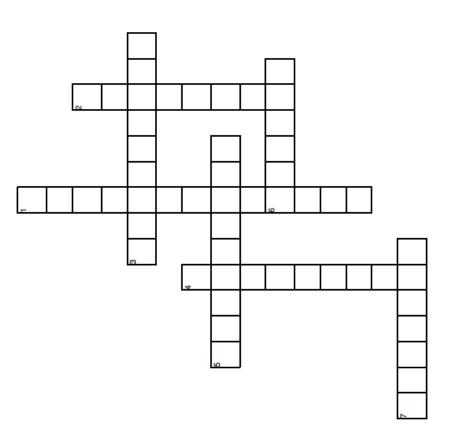


Sphere Systemic Physiologic





## Microplastics in the marine environment



## Across

- 3. When marine species ingest microplastics, they can enter the: (4,5)
- Microplastics resulting from the breakdown of larger
- pieces (9)
- 6. Plastics can potentially carry these (e.g. chemicals and
- 7. Microplastics that are purposefully made (7)

## Down

- Pieces of plastic smaller than 5mm (13)
- 2. Tiny marine organisms that lots of marine species feed on (8)
- 4. A common plastic that clothes are often made from (9)

France: The French National Research Agency (ANR); Germany: Federal Ministry of Education and Research; Ireland: Marine Institute; Italy: Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR); Norway: The Research Council of Norway (RCN); Portugal: Portuguese national funding agency for science, research and technology (FCT); Spain: Ministry of Economy and Competitiveness (MINECO) and Sweden: the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS) and the Swedish Agency for Marine and Water Management (SWaM) This JPI Project is supported by national funding agencies: Belgium: Belgian Federal Science Policy Office (BELSPO) and the Research Foundation—Flanders (FWO);