

Ma il mare non vale una cicca?

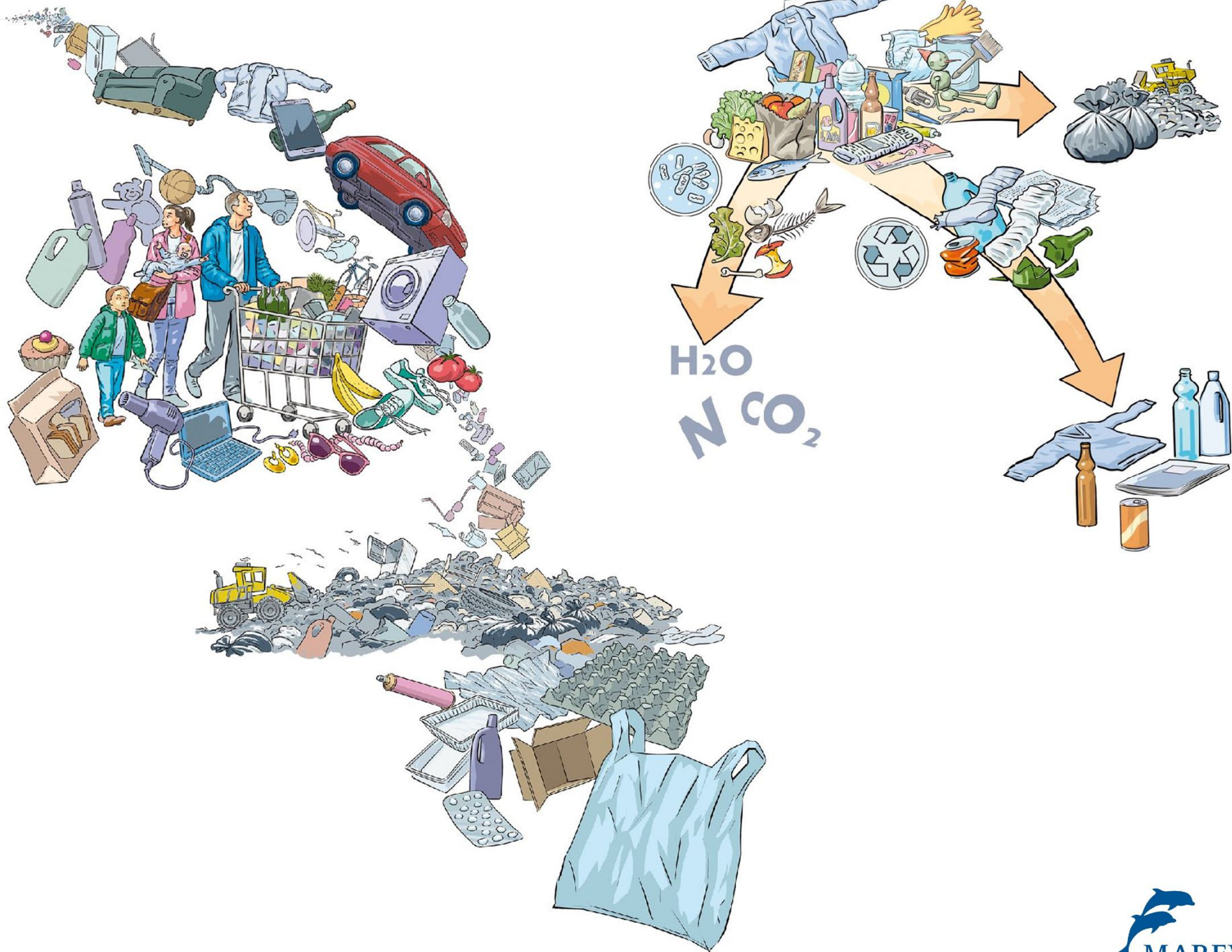
# Marine Litter hot spots

Ferdinando Boero

Marevivo

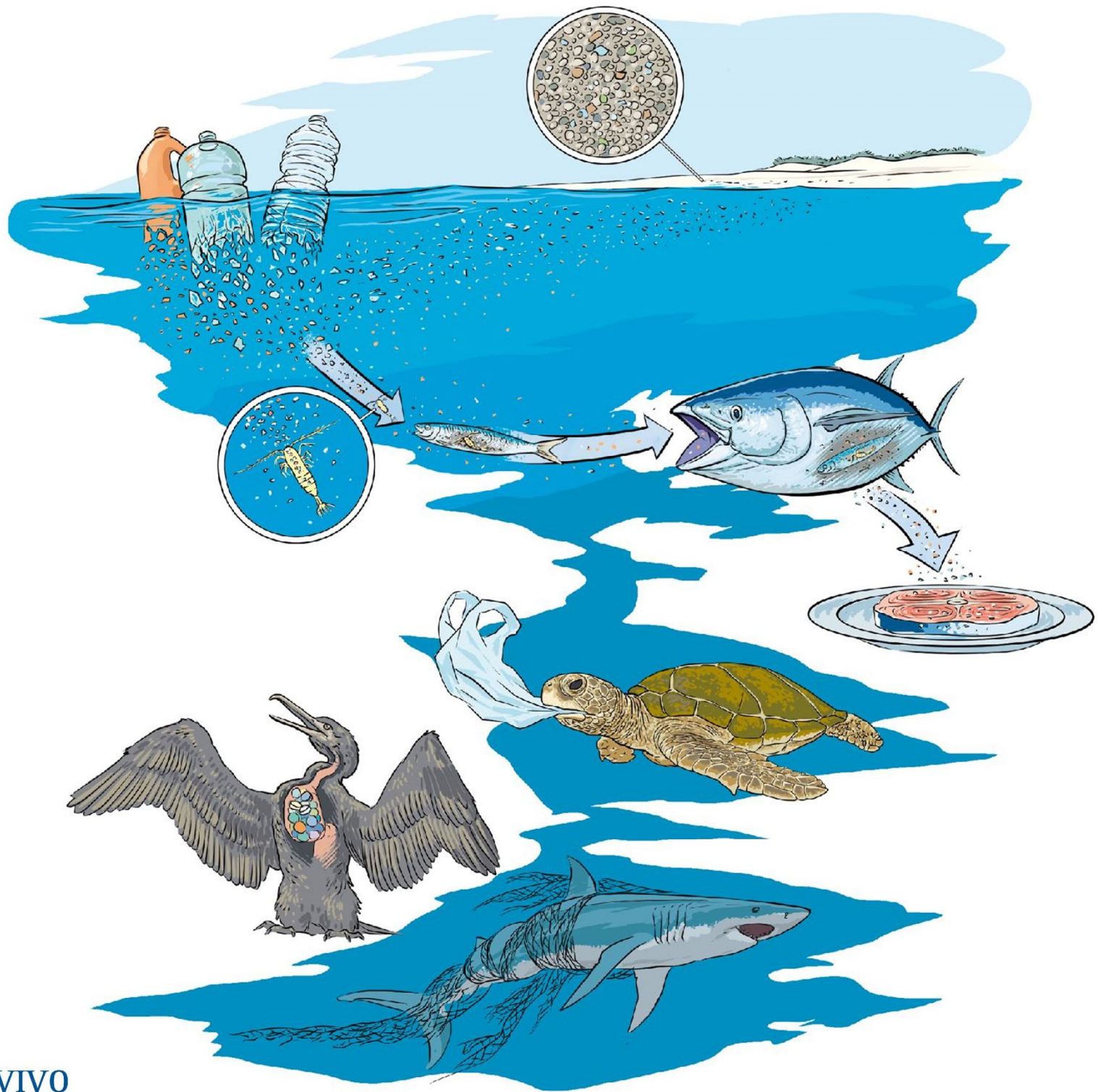
University of Salento, CNR-ISMAR, CoNISMa



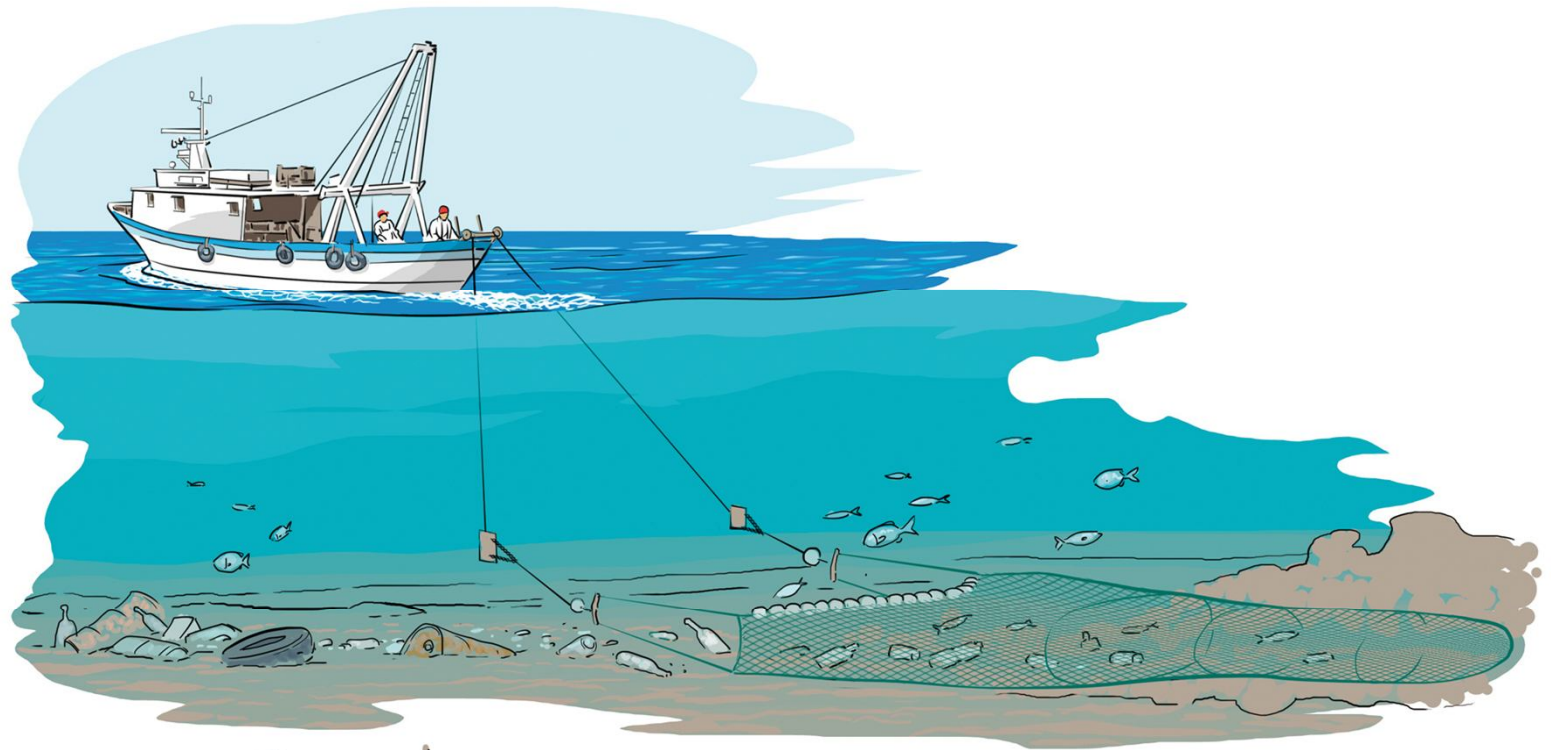












MAREVIVO



# OCCHIO ALLA MEDUSA

La Scienza dei Cittadini



- URTICANTE
- LEGGERMENTE URTICANTE
- NON URTICANTE

**?**  
SE L'ANIMALE AVISTATO NON È  
TRA QUESTI, FOTOGRAFATELO!  
POTREBBE ESSERE UNA SPECIE  
SCONOSCIUTA.



## IL VOSTRO AIUTO È PREZIOSO !



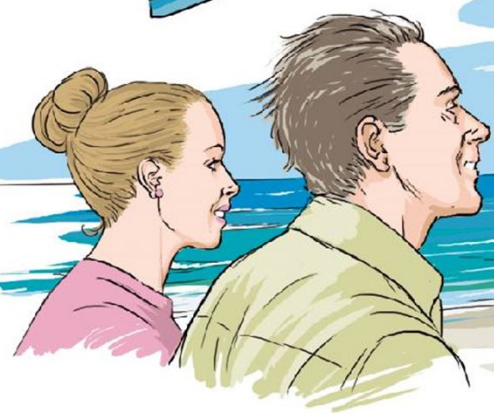
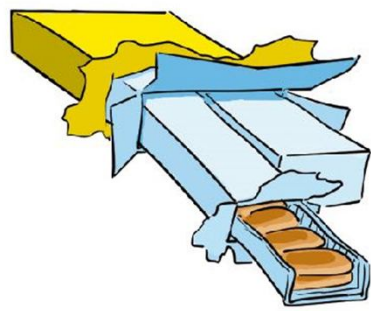
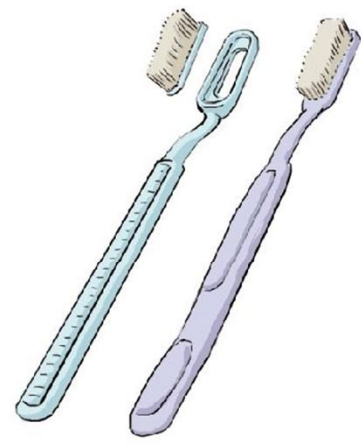
Se vedete queste specie mandate la vostra segnalazione e se potete una fotografia a <http://meteomeduse.focus.it/> oppure a [boero@unisalento.it](mailto:boero@unisalento.it) con queste informazioni:

**NOME:** se possibile con una fotografia, se non nel poster la foto è necessaria  
**ABBONDANZA:** meno di 10, 10-100, 100-500, 500-1000, più di 1000  
**LOCALITÀ:** (nome e/o coordinate geografiche) acque costiere, largo, spiagge  
**DISTANZA TRA INDIVIDUI:** 10 cm, meno di 1m, 1-5m, 5-10m, 10-20m, più di 20m  
**N° DI INDIVIDUI PER METRO QUADRATO:** meno di 10, 10-100, 100-500, più di 500  
**OSSERVAZIONE DURANTE:** navigazione, immersione, nuoto, camminando lungo costa

Caricetti: patrimonio boero. Illustrazioni: accento periani. Layout: Anna Maria Maglietta. Grafica: Fabio Costa.







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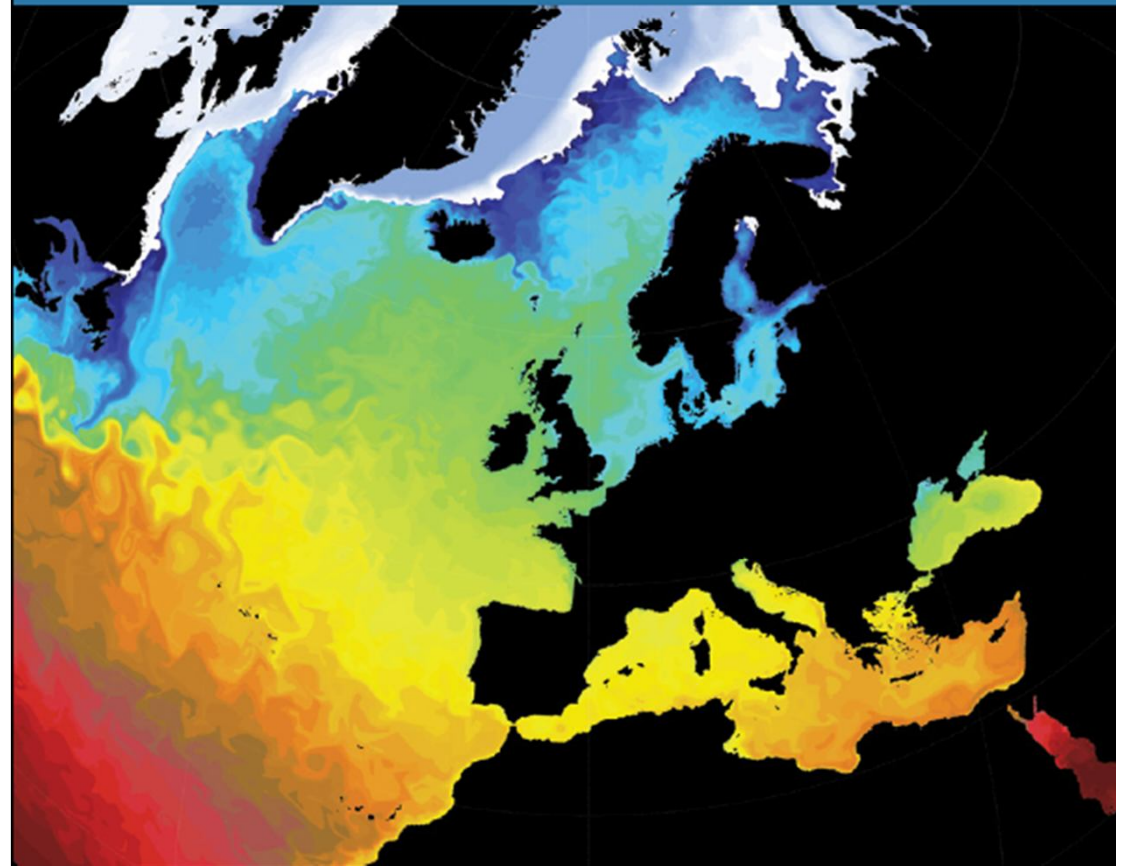




### Box 1.3: Marine litter

Marine litter is now recognised as a persistent problem affecting the seabed, the water column and coastlines. It poses risks to a wide range of marine organisms through ingestion or entanglement. Those risks threaten economic impacts for local authorities and for a number of economic sectors, for example aquaculture, tourism and fishing. OSPAR monitoring in the North Sea has shown that beaches have an average of 712 litter items per 100 m (OSPAR Commission, 2010), but areas where ocean currents converge have substantially higher concentrations. Monitoring of plastic on the seafloor has only just commenced. Some 65 % of items monitored on beaches are plastic, degrading very slowly over hundred-year time scales and prone to breaking up into small particles (microplastics). The widespread presence of microplastics (dimensions in millimetres or smaller), either from use in products (such as exfoliants or industrial abrasives) or resulting from the fragmentation of larger pieces, and their potential uptake by filter-feeding organisms is of increasing concern, given the capacity of plastic particles to absorb, transport and release pollutants. Microplastics are accessible to a wide range of organisms at least as small as zooplankton, with potential for physical and toxicological harm (Law and Thompson, 2014), such as limitations in growth and ecological efficiency. The consequences of plastic enrichment in the food web are still largely unknown and their investigation is a major research need. The main sources of litter from land include tourism, sewage, illegal dumping and open waste disposal sites. The main sea-based sources are shipping and fishing, including abandoned and lost fishing gear. Following inclusion in the list of GES descriptors in the MSFD, marine litter is now the subject of Regional Actions Plans adopted by the European regional sea conventions. EU framework research is also addressing this issue through projects such as CleanSeas, MARLISCO and NANOPLAST<sup>(3)</sup>.

# Marine sustainability in an age of changing oceans and seas



Report by the European Academies' Science Advisory Council (EASAC)  
and the Joint Research Centre (JRC) of the European Commission

EASAC policy report 28

January 2016



## 2. Plastic pollution of the marine environment

### Key messages

- Plastic items are the most numerous and ubiquitous component of marine litter in the global ocean. Plastic litter is accumulating on shorelines and at the sea surface, in the water column, on the seafloor and within organisms.
- Plastic litter in the ocean substantively damages the environment, national economies and presents concerns for human well-being within and beyond the G7 countries.
- Although some items of litter are highly visible, quantitative research on the scale of the problem is lacking. Collaborative, international research is needed to improve knowledge of distributions, pathways and impacts, particularly for microplastic particles.
- Global observing systems (both remote and *in situ*) need to be developed with standardized protocols for monitoring; these would provide a focus for remedial action and also provide information on the effectiveness of control measures.
- Solutions exist, but there is no single solution. Addressing the problem requires transdisciplinary research spanning, but not limited to, environmental and social sciences, health and business. Effective solutions require scientific advancement to underpin them and to project into the future.
- Multiple benefits (with regard to resource efficiency, waste reduction and ocean health) can be achieved by product re-design and behavioural changes to ensure less wasteful end-of-life scenarios.

**Future of the Ocean and its Seas:**  
a non-governmental scientific  
perspective on seven marine  
research issues of G7 interest

IAPSO





# Our Oceans, Seas and Coasts

## Descriptor 10: Marine Litter

### Achieve Good Environmental Status

The main goal of the [Marine Directive](#) is to achieve Good Environmental Status of EU marine waters by

**"Properties and quantities of marine litter do not cause harm to the coastal and marine environment"**  
2020. The Directive defines Good Environmental Status (GES) as:  
**"The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive"** Article 3

Marine litter is a global concern, affecting all the oceans of the world.

Every year, millions and millions of tonnes of litter end up in the ocean worldwide, posing environmental, economic, health and aesthetic problems.

Poor practices of solid waste management, waste water (including storm water) collection and treatment, lack of infrastructure and awareness of the public at large about the consequences of their actions aggravate substantially the situation.



Cleaning up the oceans is one option, it is however not the most efficient method against marine litter. You could compare it to scouring the sand in the desert and this is simply something that no county could afford. The solution is to tackle the problem at its source.

Marine litter is also one of the clearest symbols of a resource *inefficient* economy. Valuable materials are polluting our beaches and damaging our environment instead of being pumped back into our economy. Therefore, a circular economy approach which puts the emphasis on preventing waste and on recycling and reuse of materials and products in the first place, is the best solution to the marine litter problem.

The Marine Strategy Framework Directive (MSFD) sets the framework for Member States to achieve



There is not much more to say  
it is time to act at global scale

in these 5 minutes 100 tons of marine  
litter have been discharged in the  
global ocean

