

THE MARINE LITTER IN ITALY: THE ROLE OF ISPRA



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Litter impact on marine environment

15% on the coast



UNEP, 2009/CBD, 2012/EEA, 2014/GESAMP, 2016

Litter impact on marine environment

70% on sea floor



UNEP, 2009/CBD, 2012/EEA, 2014/GESAMP, 2016

Litter impact on marine environment

15% floating



UNEP, 2009/CBD, 2012/EEA, 2014/GESAMP, 2016

Litter impact on marine environment

80% plastic from land-based sources

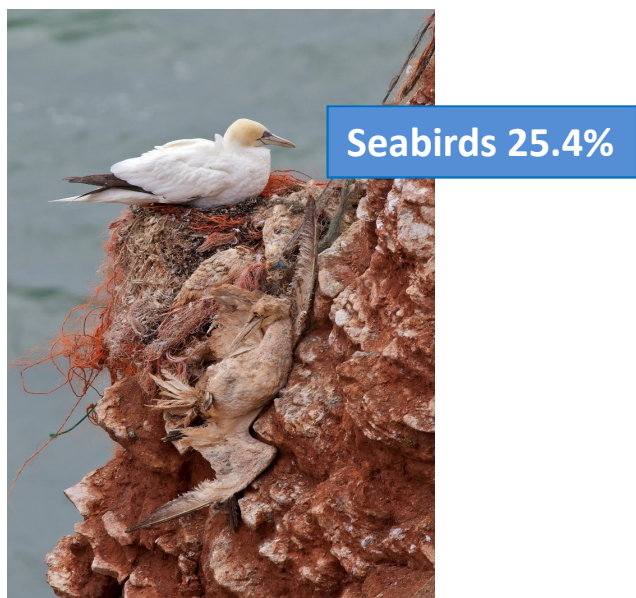


Litter impact on marine environment

Entanglement



Marine mammals 41.5%



Marine turtles 100%



Kühn et al., 2015

Litter impact on marine environment

Ingestion



95% of the individuals of the species *Fulmar glacialis* in the North Sea contains plastic in the stomach (Van Franeker & Law 2015)



85% of presence of occurrence of plastic found in 120 specimens in the Mediterranean Sea (Matiddi et al., 2017)



Between 18.2 and 24.8% of plastic ingested by fish (Romeo et al., 2015; Battaglia et al., 2016)

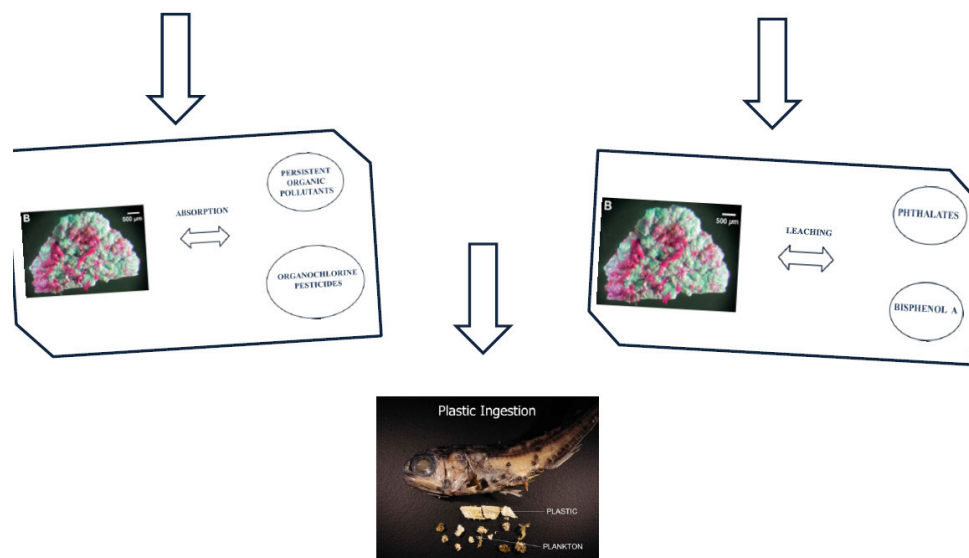
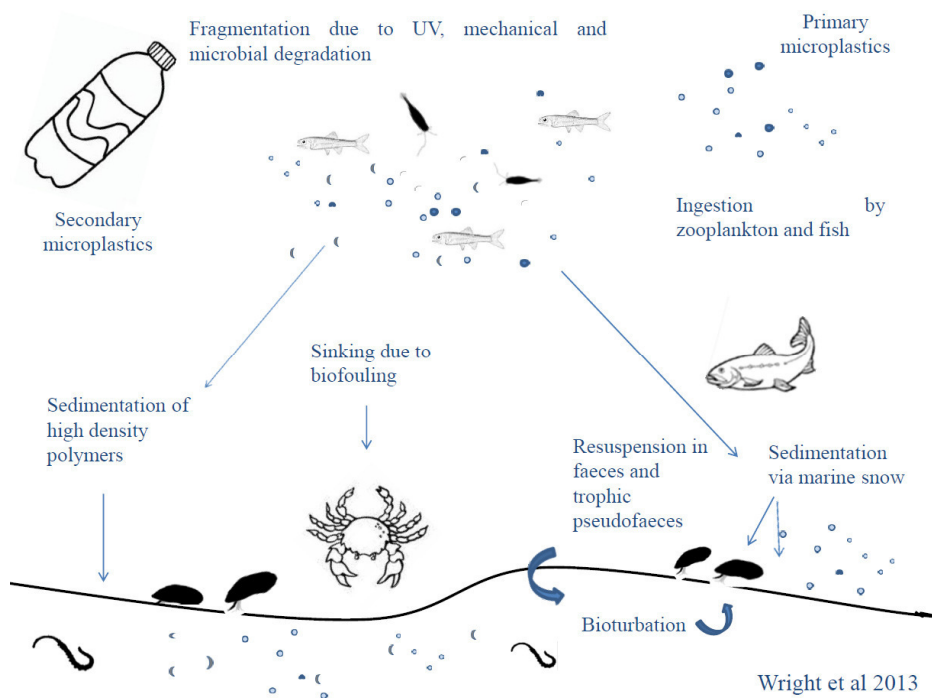
Litter impact on marine environment

Microplastic

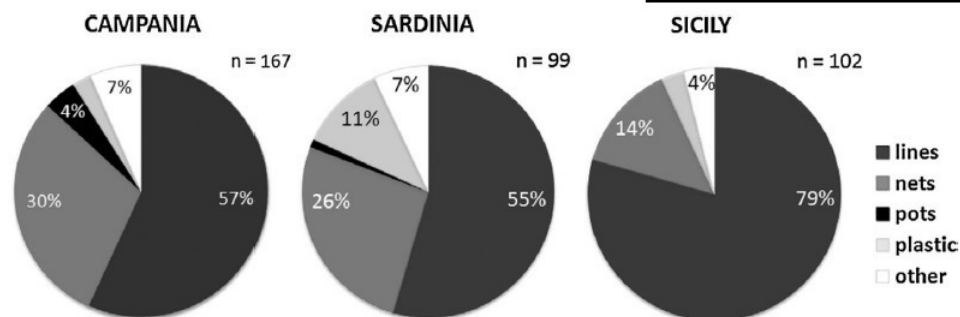
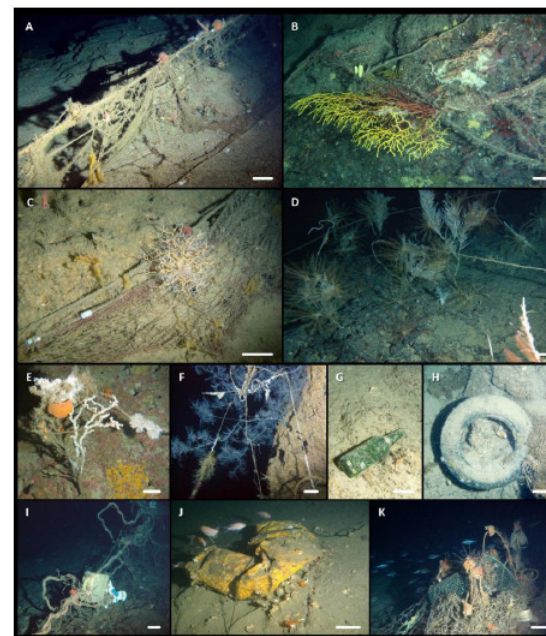
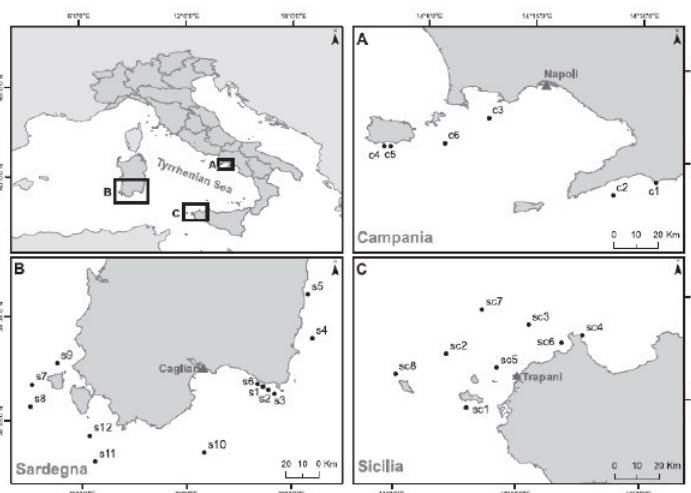
It has been estimated that about 245 tonnes of microplastics are produced each year which end up in water bodies where they become ingested and incorporated into the bodies and tissues of marine organisms (Auta et al., 2017).

IMPATTO AMBIENTALE DELLE MICROPLASTICHE

L'impatto ambientale delle microplastiche è complesso e si manifesta attraverso meccanismi differenti influenzando sia gli ecosistemi e la loro biodiversità sia la catena trofica.



Abandoned, lost or otherwise discarded fishing gear



Angiolillo et al., 2015 -ISPRA

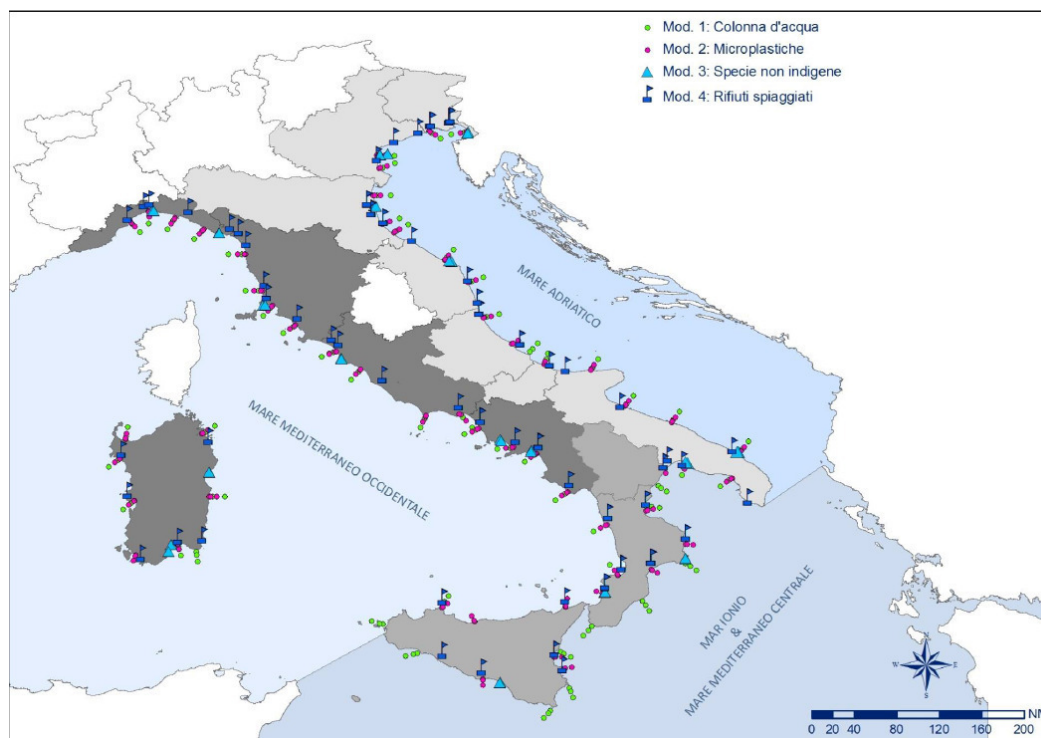
ISPRA and the marine litter

At national level

Supporting the Ministry of Environment in the coordination of the implementation of Monitoring Programs on "Microplastics" and beach litter " according to the MSFD:

- ✓ development of methodological standards
- ✓ development of database
- ✓ training for stakeholders
- ✓ data elaboration and assessment of marine environment

Supporting the Ministry of Environment in the implementation of the Marine Strategy Directive (Descriptor 10) (Marine litter)

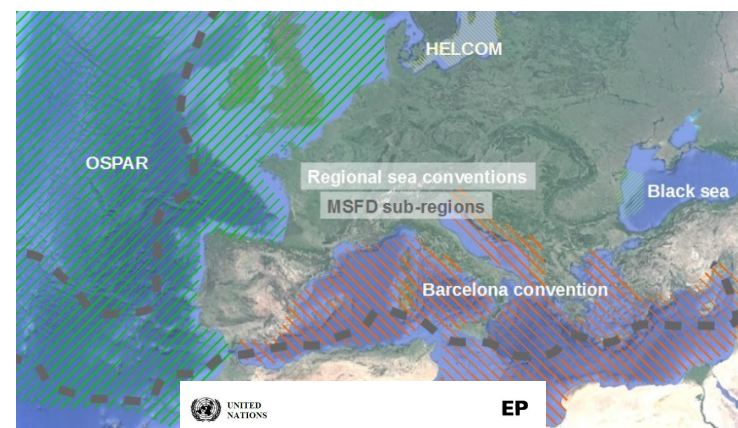


ISPRA and the marine litter



Participation at european and
regional level in technical
Working groups
(Task Group Litter) and
(ECAP/CORMON) production of
Reports

At international level



ISPRA and the marine litter

Participation in European projects



<http://www.defishgear.net/>



Activities:

- data collection on marine litter (whether floating in the open sea, present on the bottom or accumulated on the beaches) to evaluate sources, distribution, quantity and type;
- study of the presence, type, quantity and toxicological effects of the microplastics present both in the water column and in the marine organisms;
- awareness of all the parties involved in the problem (fishermen, authorities, population, etc.) to prevent the production of marine litter;
- implementation of practical actions to reduce marine litter, in particular through the activity known as fishing-for-litter;
- experimentation and implementation of new methods of management and recycling of waste produced by fishing (in particular abandoned networks and equipment);

ISPRA and the marine litter

Participation in European projects



2017-2019

<https://indicit-europa.eu/>



The INDICIT project aims to develop the methodology to make operational the indicator of the amount of debris ingested by the sea turtle *Caretta caretta* and other marine animals, such as fish.

ISPRA and the marine litter

Participation in European projects



MEDSEALITTER addresses the issue of marine litter, a global threat for living marine organisms. The problem particularly affects fishes, cetaceans and marine turtles, animals in whose digestive tracts commonly appear accidentally-swallowed micro and macro plastic debris. Although many Mediterranean organisations are working on this issue, there are no widely-

accepted protocols to assess pollution by marine litter. For this reason, the project proposes to network representative MPAs, scientific organisations and environmental NGOs for developing, testing and delivering efficient, easy to apply and cost-effective protocols to monitor and manage litter impact on biodiversity.

Project partners

Parco Nazionale delle 5 Terre (Italy)	ISPRA (Italy)	University of Barcelona (Spain)	University of Valencia (Spain)	Mediterranean Centre for Marine Research (Greece)	Italian Centre for Marine Research (Italy)	MPA Capo Carbonara (Italy)	Ecole Pratique des Hautes Etudes (France)	EcoOcean (France)	Legambiente Onlus (Italy)
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<https://www.interreg-med.eu/>

2017-2019

The **MEDSEALITTER** project aims to create a network between marine protected areas, scientific organizations and non-governmental organizations to develop, test and implement effective protocols to monitor and manage the impact of plastic waste on biodiversity.



Activities:

- ✓ Addressing information gaps and needs with regards to marine litter, in complementing existing assessments carried out in the region as well as the further development and practical implementation of harmonized monitoring methods based on the work of UNEP/MAP monitoring guidance;
- ✓ Developing and coordinating the implementation of demonstration projects showcasing actions to prevent, reduce and remove marine litter at the Mediterranean Sea based on the measures provided by the UNEP/MAP Regional Plan on Marine Litter Management in the Mediterranean (Articles 9 and 10);
- ✓ Assessing the status of the implementation of the above mentioned Regional Plan on Marine Litter at national, sub-regional and regional level, and prioritize as appropriate additional prevention and mitigation measures to tackle marine litter;
- ✓ Designing and coordinating the implementation of awareness raising campaigns tailor-made to the needs of the marine litter stakeholders and Education for Sustainable Development programmes targeted to the educational community.

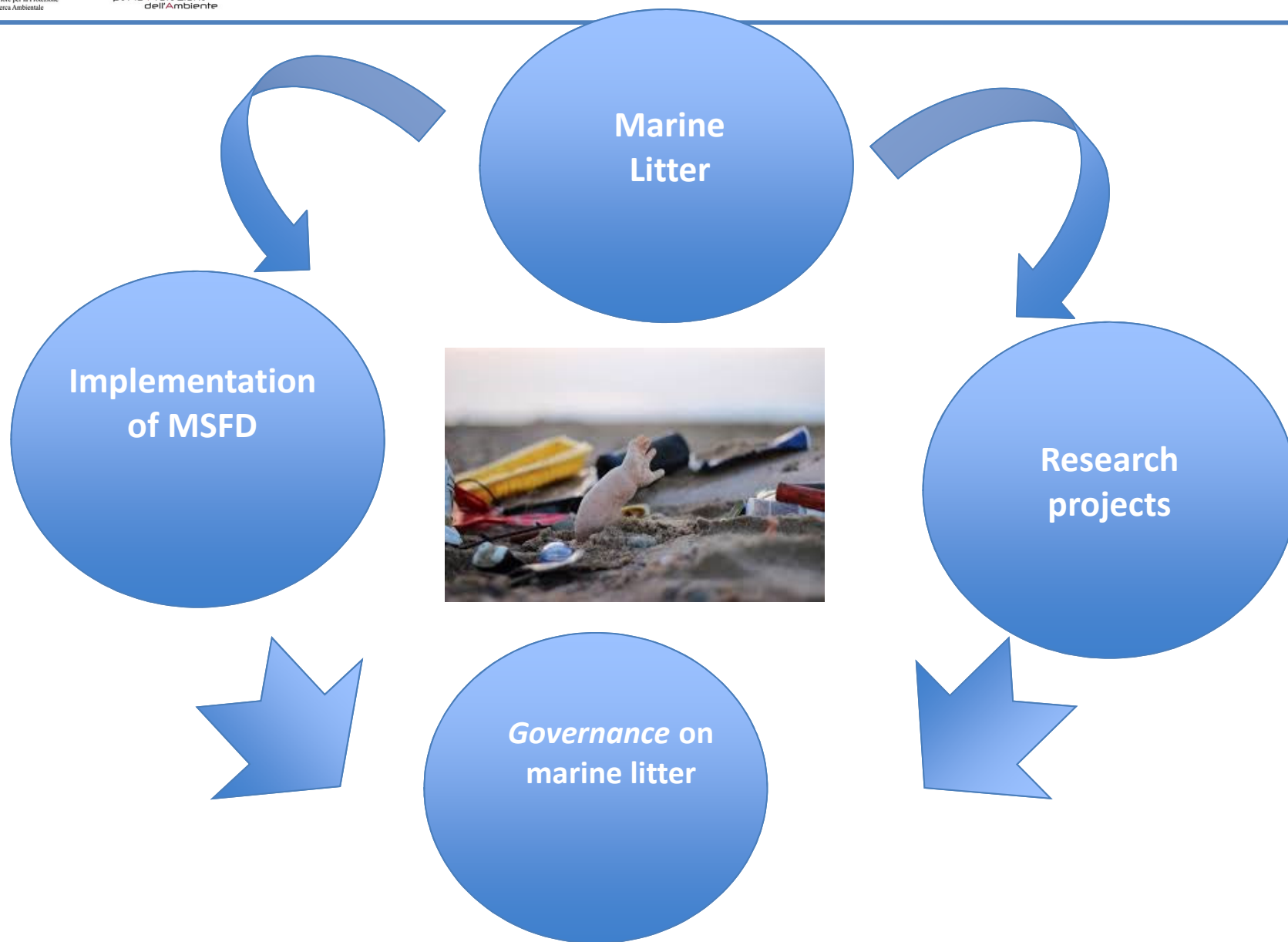


<http://plasticbusters.unisi.it/>

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Scientific production ISPRA researchers





Special Thanks to:
Cecilia Silvestri (ISPRA)

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THANKS FOR YOUR ATTENTION!