

# Tackling marine litter in the Mediterranean, from research to action



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*Legambiente*

Siena, Italy – 29 June 2017

# Legambiente and the *Marine Strategy*

**Legambiente** is one of the largest environmental organization in Italy, created in 1980 for the safeguard of the environment, for the promotion of sustainable.

**Goletta Verde** is the widest campaign of analysis and information about sea pollution even promoted and conducted by an environmental organization. Every Summer, since 1986, it monitored the quality of Italian seas.

With this activity Legambiente want to contribute to the **Marine Strategy Directive** (2008/56), which requires Member States to monitor the state of seas and take the measures needed to reach or maintain its 'good environmental status' by 2020.





# floating macro litter in italian seas

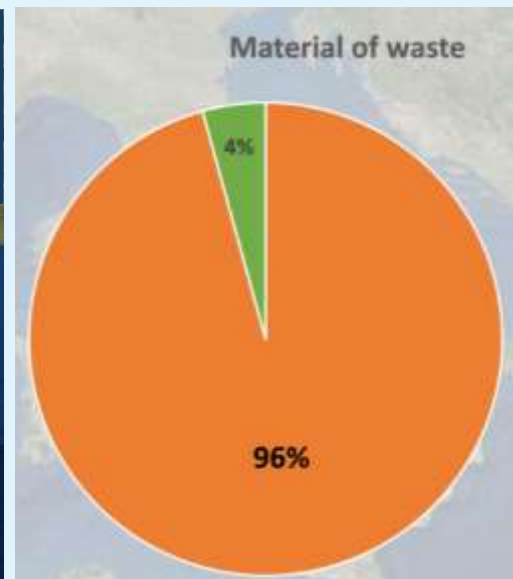
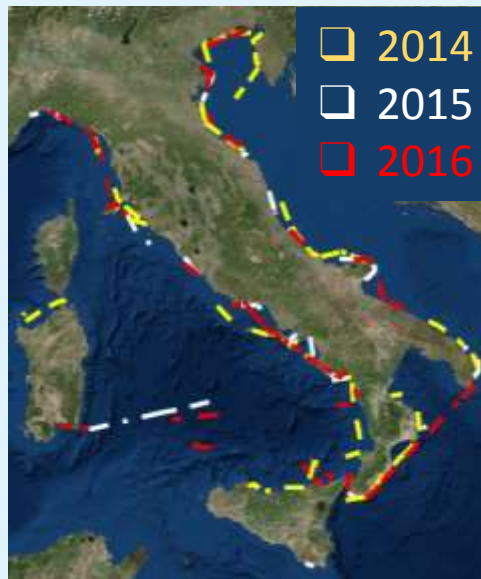
in conjunction with ISPRA NAT-BIO and Accademia del Leviatano ONLUS

In 2016:

The average concentration of wastes in the investigated area is **57,6 items of waste / sq km of the sea**

The **95.7%** of the waste monitored consists of **plastic**.

Most common waste	%
Bags	16,2%
Sheets	9,6%
Net/Lines	3,6%
Polystyrene other	3,1%
Bottles	2,5%
Caps/Lids	2,5%
Tableware	2,2%
Sanitary towels	1,8%
Polystyrene box	1,6%
Other Plastic	49,2%



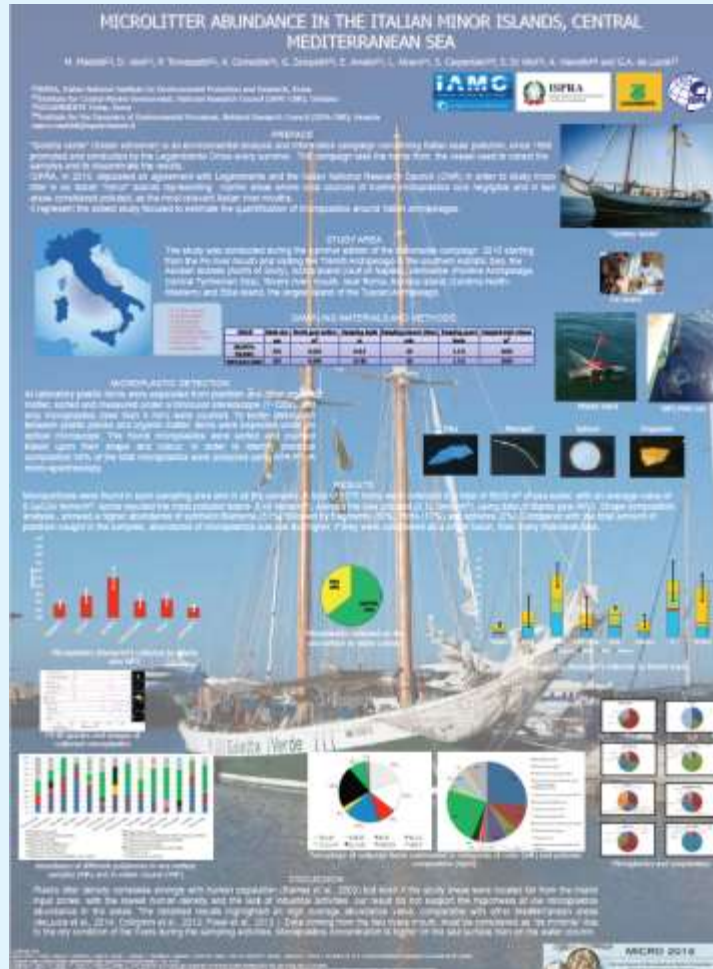
Among the **most common objects** there are single-use plastics, in particular **plastic bags**, and other object that could be linked to **fishing activities** (as net and lines, or polystyrene box for example).



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# floating micro litter in italian seas

in conjunction with ISPRA NAT-BIO



Microplastic particles were found in each sampling area and in all the samples.

The more important aspect of this study is that we found high values of plastic litter density even in the areas located far from the inland input zones, with the lowest human density and the lack of industrial activities as islands are.

# floating micro litter in italian lakes

in conjunction with ENEA, Ca' Foscari University of Venice and Arpa Umbria



There is a growing awareness that even freshwaters are not immune to this problem, a new and dangerous menace for these fragile semi closed systems, which might be more sensitive to the presence of waste, and in particular to the micro particles, which originate.

**Micro plastic particles were found in every single sample, in every lake considered.**





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Basic Information

<https://oceanconference.un.org/commitments/?id=20169>

# Monitoring beach litter in mediterranean shores




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**From Marine Strategy to the citizen science**

**Plastic bag I'm watching you!!!**

This year let us keep under watch the plastic bags, indeed this is the most common item found during the last "Clean up the MED". In Mediterranean Sea an estimated 25 million plastic bags pollute every 1.000 km of coast and this material can trap or suffocate sea turtles, birds and marine mammals. Moreover the economic cost associated to impacts on marine ecosystems could be estimated at least 8 billion dollars per year considering the revenue loss to fisheries and the marine tourism industries, plus the cost of cleaning up beaches. This are the reasons why Legambiente promotes the use of traditional plastic bags connecting the tourism to sustainable marine life.

6. Guide for identification of litter on the beach		
Litter items (OSPAR Name)	Plastics • Polystyrene	
4/6-pack yokes		
Bags (e.g. shopping)	1	112
Small plastic bags, e.g. freezer bags		
Plastic bag ends		
Drinks (bottles, containers and drums)		
Cleaner (bottles, containers and drums)		
Food containers incl. fast food containers		
Cosmetics (bottles & containers e.g. sun lotion, shampoo, shower gel, deodorant)		
Engine oil containers and drums > 50 cm		
Engine oil containers and drums > 50 cm		
Wavy cans (square plastic containers with handles)		
Injection gun container		
Other bottles, containers and drums		
Grates		



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# Beaches 2017



## Marine and Lake litter in Italy

The Legambiente's surveys on the presence of waste in marine, lacustrine and coastal environment



The monitored beaches in the Mediterranean basin are 105 in 8 countries:  
**Algeria, Croatia, France, Greece, Italy, Spain, Tunisia, Turkey.**



# Results

**105** monitored beaches

**58.886** items

Over **320 thousand**  
square meters sampled

Average: **561 items**  
**every 100 meters** of beach



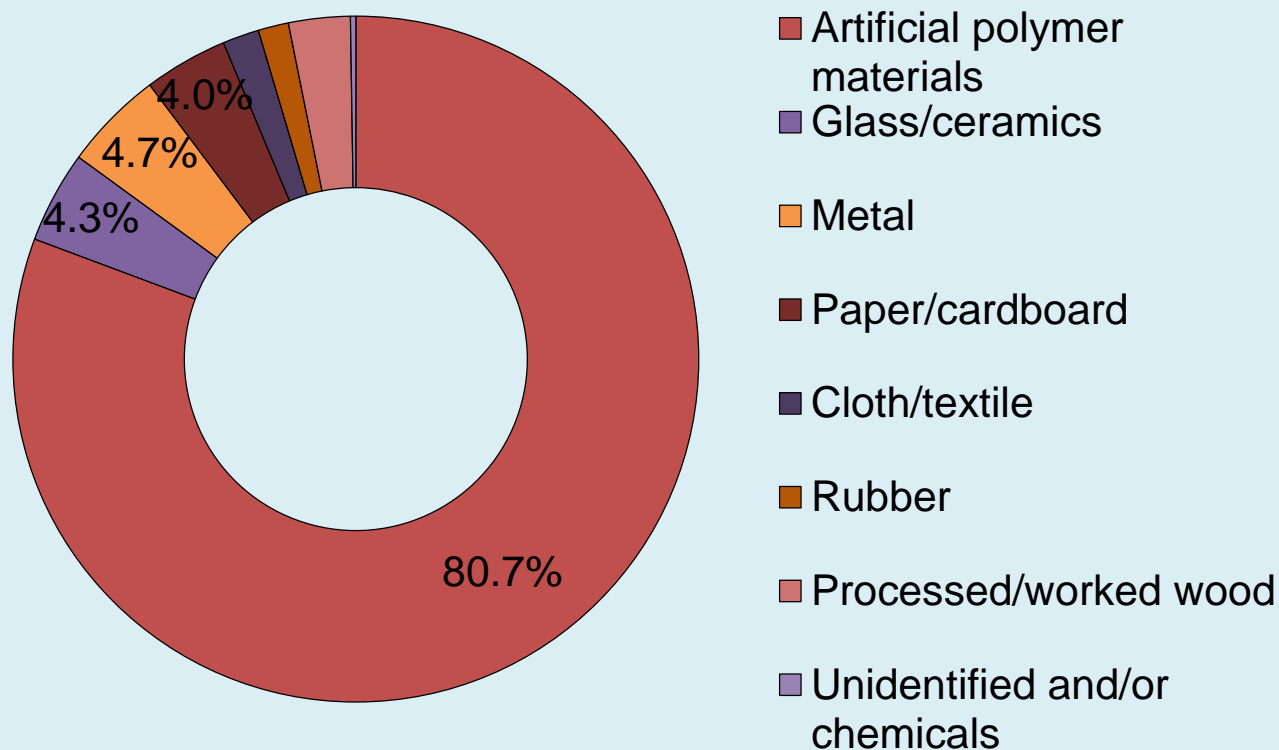
The data was gathered in several editions of the campaign, in April and May, from 2014 and 2017.

On 105 monitored beaches, over 320,000 square meters, the volunteers found over 58.000 waste, an average of 561 waste per 100 linear meters of beach.

# Materials



Plastic has the highest rate (81% of the collected items). Following metal waste (4,7%), glass/ceramic (4,3%) and paper/cardboard (4%). Processed and worked wood items are the 3%. Cloth and textile (including shoes and sandals) are the 1,7% and rubber is 1,4%.





# TOP TEN list of waste



The 63% of the waste found on the beaches can be sorted in 10 specific categories.

First of all the **cigarette butts** (12%). Second place for **caps and lids** (9,9%) from drink bottles or cleanser container, which are very small objects easy to scatter. In this category plastic drinks caps have the highest percentage (64%).

Third place for **plastic drink bottles** (8,2%) and fourth place for **mussel and oyster nets** (7,6%, all found on Italian beaches).

The fifth place is for **plastic fragments** (7,4%); it's a very alarming fact, because it means this items have been floating and crumbling since long time.

In sixth place there are **cotton bud sticks** (4,5%); this is a marker of bad water treatment considering these sticks are too often dropped in the WC.

Then **disposable cups, cutlery/trays, straws, dishes; plastic bags, polystyrene pieces and other identified plastic/polystyrene items** (not in list) close out this particular merit ranking.

12,0%	Cigarette butts and filters
9,9%	Caps/lids (all material type)
8,2%	Plastic drink bottles
7,6%	Mussel nets, Oyster nets
7,4%	Plastic pieces (2,5 cm >< 50 cm)
4,5%	Cotton bud sticks
4,0%	Disposable cups, cutlery /trays, straws, dishes
3,5%	Plastic bags
3,1%	Polystyrene pieces (2,5 cm >< 50 cm)
2,9%	Other plastic/polystyrene items



# TopTen: plastic bags



One of the largest waste in our oceans and seas are plastic bags. Around 100 billion plastic bags are produced per year and are placed in the market only in the European Union. In Mediterranean Sea an estimated 25 million plastic bags pollute every 1,000 kilometers of coast, more than 1 trillion for 46000 kilometers of the Mediterranean Sea per year.





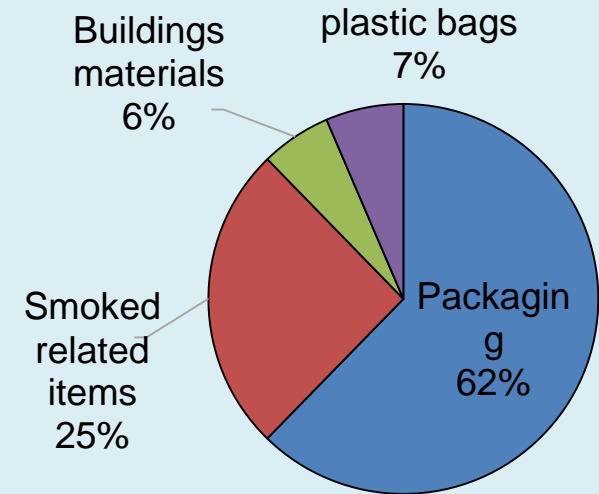
# Valuation of the sources:

## Mismanaged urban waste



The 62% of items from this source are packaging and plastic is the predominant material. There is also wood, paper, glass and textile packaging. Four on five they are food packaging.

Just three items (cigarettes packs, lighters and butts) proof enough the effects of a bad urban waste mismanagement. The habit to drop on the ground or bury under the sand the cigarette butts doesn't stop and it's common everywhere. Over 7000 butts found, equal to over 350 cigarettes packs.



## Sanitary & sewage related litter



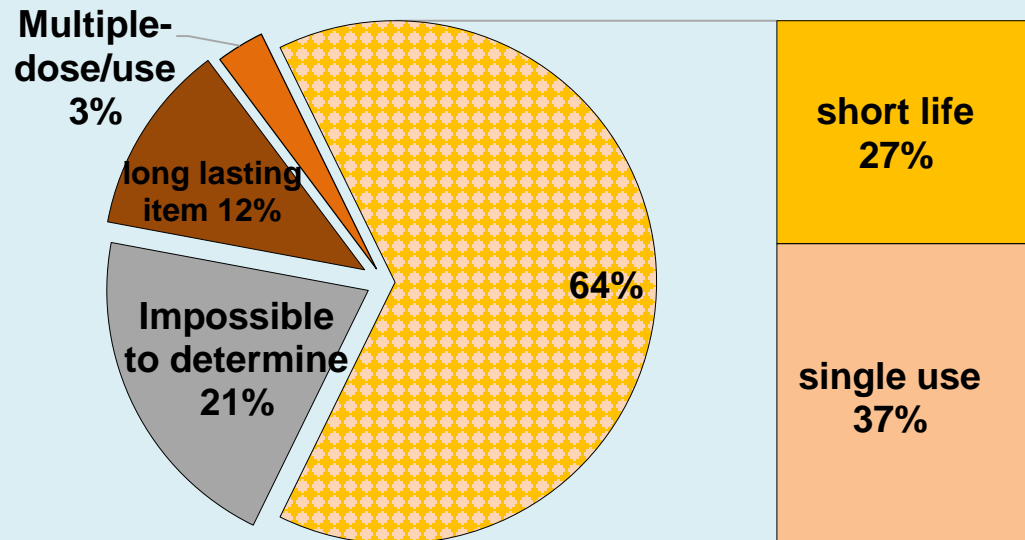
The inefficiency of water treatment systems, but sometimes also the lack of connection to the sewerage network, is only partially responsible for the presence of cotton bud sticks, but also blisters of medicines, contact lens containers, small insulin needles, napkins or applicators and other objects of this type that we find on the beaches (6% of the waste). The main responsibility lies in the bad habit of throwing standard urban waste in the toilet.

# A too short life



A very interesting analysis concerns how long have been living the items found on the beaches before to become waste. The surprising data is 64% of the stranded waste are items thought and produced to be disposable or shortly used.

The 27% are materials or packaging with a very short life and 37% are disposable items.

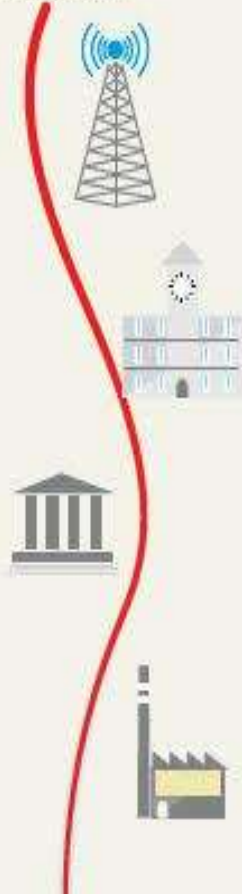




# Common commitments and policies in all Med countries

## Preventing is better than cleaning up

### PREVENTION



Awareness raising activities among distributors/retailers and consumers can help avoid the generation of marine litter

Research to improve product design and efficiency of processes can prevent waste, and improve recycling and resource efficiency

Research to improve knowledge on sources, pathways and fate to improve existing measures and regulations and enable awareness and attitude change.

Better implementation of existing legislation on the release of litter, on land and at sea, helps to reduce marine litter at source

Behavioural and system changes leading towards more sustainable production and consumption patterns

The application of extended producer responsibility (EPR) can help to avoid certain types of marine litter



Economic incentives, such as deposit refund schemes and plastic bag charges, can influence consumer choice and/or encourage different habits

Bans (e.g. on plastic bags, smoking on beaches, plastic blasting in shipyards or plastic microbeads in cosmetics) can provide a cost-effective solution to avoiding marine litter

Investment in waste management infrastructure and wastewater treatment facilities can avoid dispersion of litter in the marine environment

Marine litter clean-ups are costly but necessary downstream actions

Fishing for litter can be a useful final option, but can only address certain types of marine litter



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# Common commitments and policies in all Med countries



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## Stop plastic bags in the Mediterranean Area

### A BAN ON PLASTIC CARRIER BAGS IN MEDITERRANEAN AREA

#### CONSIDERING,

**Unep states that** "marine litter in the Mediterranean is a confirmed critical issue. The problem is exacerbated by the basin's limited exchanges with other oceans, its densely populated coasts, highly developed tourism, 30% of the world's maritime traffic passing through and various additional inputs of litter from rivers and very urbanized areas."

**Plastic bags emergency.** In the European Union, around 100 billion plastic bags are put on the market each year (equivalent to 190 million tons of oil consumption). Many end up in the seas or on the coast. In Mediterranean Sea an estimated 25 million plastic bags pollute every 1,000 kilometres of coast, more than 1,1 trillion for 46000 kilometres of the Mediterranean Sea per year. Total consumption of PE (HD and LD, high and low density) estimate more than 25 millions of tons in EMEA countries and low price of NAFTA pushed production and consumption in the last six months.

**Plastic bags in Mediterranean coast and sea.** In 2015, from April to May, was conducted a BEACH LITTER survey within "Clean-up the Med 2015", with the contribute of many associations: 54 Mediterranean beaches (Algeria, Croatia, Greece, Italy, Portugal, Spain, Turkey,

#### ASK TO IMPLEMENT ASAP

- Coordinate a ban on plastic carrier bags below 100 microns except bags for primary transport (i.e. fisheries) and biodegradable and compostable certified EN 13432 or ISO 14855
- A ban on microbeads used in cosmetics and cleaning products
- A ban on cotton buds non biodegradable and compostable certified EN 13432 or ISO 14855
- Define a plan for reduction and recycling of plastic in all sector, from primary sector to retail with mandatory goals
- An international campaign to improve separate collection of urban waste with a specific focus on domestic and commercial food waste
- Funding for biodigesters and composting plant as a infrastructure for climate adaption



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# Best practices and lesson learnt

## the strength of taking care

During 2016 monitoring activities our group of Bagheria (Sicily) found a massive presence of waste and the bay was also surrounded by unstable cement artifacts. The area was immediately **reported to the authority** and closed.



In 2016 Legambiente Campania **join forces** and carried out monitoring on 16 beaches. This effort permit to read better data and relate them to the regional policies.

involving students in monitoring activities



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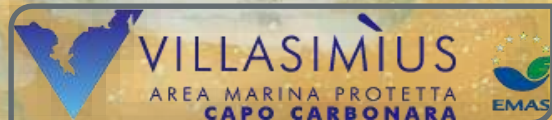
synthetic fibres and polymers



THE  
OCEAN  
CONFERENCE  
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017



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BEYOND  
PLASTIC  
MED

Parco Nazionale  
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Area Marina Protetta



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# Actions and policies

Legambiente's campaign Goletta Verde and Clean up the Med in the 1000 Our Ocean actions recorded in 2016 by US State Dep.



The Our Ocean commitment map is now live.  
[Click here to see it now](#)

## Share Your Ocean Action and Inspire the World

The U.S. State Department and Paul Allen's Vulcan Inc. are partnering to show how together, our global community is working hard to save our oceans. With your help, we will create a public visualization of the most successful solutions, inspirational stories and significant innovations powering positive change in our seas. We will feature the greatest local achievements from NGOs, schools, local governments and individuals in a compelling visual guide that will drive the next wave of significant actions.

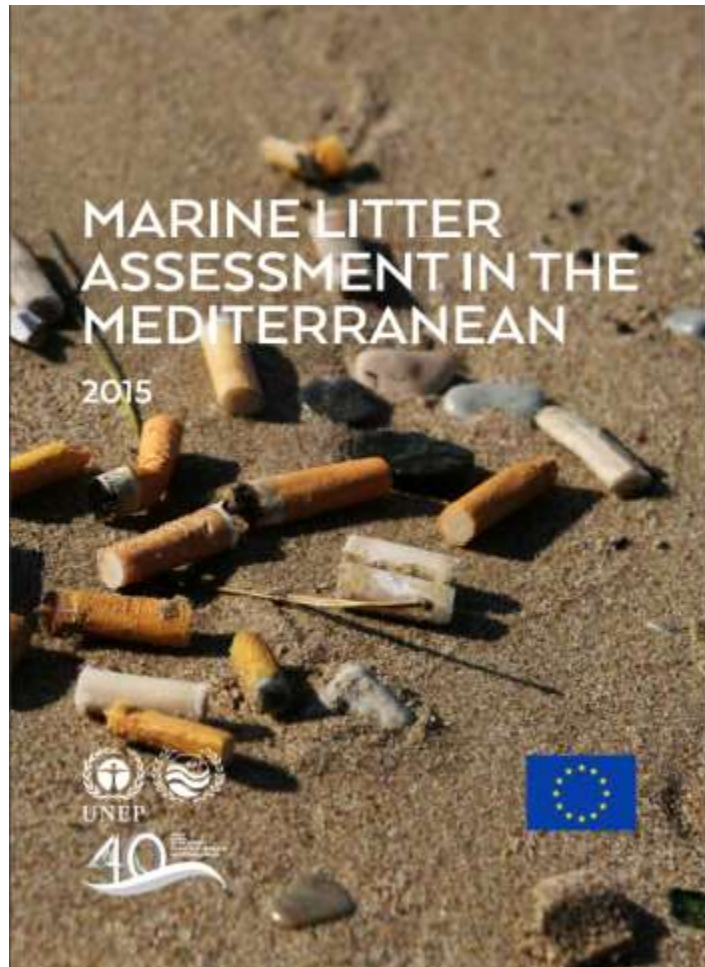
Has your school helped clean a local beach? Does your organization combat illegal fishing? Is your company developing a technology that





# The Clean Up the Med

and beach litter survey in Mediterranean shores



*“ [...] The most significant of these initiatives at the regional level are the following:  
[...] - the Italian environmental organization legambiente coordinates every spring-summer beach clean ups in the Mediterranean. ”*  
(UNEP, 2015)





## Actions and policies

Legambiente and KyotoClub, in cooperation with MEP Simona Bonafè (rapporteur on the Circular Economy package), organized a meeting dedicated to marine litter in the European Parliament on February 2017.

Parliamentarians, the European Commission, environmentalists and industry together to define prevention policies and actions starting with the circular economy package.



# Tackling marine litter in the Mediterranean from research to action



**LEGAMBIENTE** **Kyoto Club**

**Wednesday February, 1 2017 | 4:30 - 6:30 pm**  
 European Parliament, Brussels | PHS [Paul Henri Spaak Building] | room Q1 C047

**PROGRAM**

**Coordinator**  
**Francesco Ferrante**  
 Kyoto Club vice-president

**Introductions**  
**Simona Bonafè**  
 MEP - ENVI Committee, Rapporteur on the Circular Economy package

**Stefano Ciafani**  
 Legambiente's general manager

**Technical reports**  
**Giorgio Zampetti**  
 Legambiente's scientific manager

**Loris Pietralli**  
 Enea

**Nicolas Kalogersakis**  
 Technical University of Crete

**Prevention measures & solutions**  
**Marco Affronte**  
 MEP - Fisheries Committee

**Matjaz Malgaj**  
 Head of Unit of Marine Environment and Water Industry

**Francesco Degli Innocenti**  
 Environmental Affair Novamont

**Michel Loubry**  
 Regional Director, West Region, Plastic@Europe

**Gaëlle Haut \***  
 EU Affairs Officer of Surfrider Foundation Europe and Seas at Risk's member

\*speaking for confirmation

**LATINA FILMS**

Registration free. Seating is free. | [info@legambiente.it](mailto:info@legambiente.it) | 02 58 40 40 40  
 \*speaking for confirmation. Seating is free. | [info@legambiente.it](mailto:info@legambiente.it) | 02 58 40 40 40  
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## LEGAMBIENTE

# Actions and policies



We've participated to the UN Ocean Conference of June 2017 to talk about Mediterranean sea, with special focus on marine litter



We also promoted (with a voluntary commitment) actions and policies for preventions, as PLASTIC CARRIER BAGS BAN in all the Mediterranean areas, based on the Italian ban, launched during the COP22 in Marrakech (Morocco) in collaboration with other environmental organizations.



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# MED-SEALITTER

Developing Mediterranean-specific protocols to protect biodiversity from litter impact at basin and local MPAs scales

## THE PROJECT

The project aims at accomplishing and validating, within the Mediterranean basin, systematic protocols for monitoring marine litter and its potential effect on key biodiversity species. This will allow to strengthening effective management within MPAs and by coordinating conservation measures across MPAs.



## PARTNERS

- Cinque Terre National Park and Marine Protected area, ITALY
- Legambiente Onlus, ITALY
- Italian National Institute for Environmental Protection and Research (ISPRA), ITALY
- University of Barcelona, SPAIN
- MEDASSET - Mediterranean Association to Save the Sea Turtles – GREECE
- University of Valencia, SPAIN
- Municipality of Villasimius - Capo Carbonara Marine Protected Area, ITALY
- Ecole Pratique des Hautes Etudes, FRANCE
- Hellenic Centre for Marine Research, GREECE
- EcoOcean Institute, FRANCE
- Municipality of Favignana – Managing Body of Egadi Islands Marine Protected Area, ITALY



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# CLEAN SEA LIFE - LIFE15 GIE/IT/000999

[www.cleansealife.it](http://www.cleansealife.it)

## THE PROJECT

The overall aim of the Clean Sea LIFE project, **financed under the LIFE Programme**, is to support the application of the Marine Strategy Framework Directive (MSFD) and EU biodiversity policy relating to marine litter.



The specific objectives are:

- To **increase awareness** of marine litter, empowering citizens to become part of the solution;
- To **remove existing litter**, including lost fishing gear, and prevent further littering;
- To **promote "fishing for litter"** initiatives and to train fishing industry professionals in responsible practices
- To provide **guidelines for the management** of marine litter, increase exchange of knowledge and the uptake of best practices and assist authorities in achieving a Good Environmental Status of the sea, as required under the Marine Strategy Framework Directive.





<https://www.legambiente.it/marinelitter/?lang=eng>

The interactive map of Legambiente surveys on marine, beach and lake litter in Italy.