

COastal Management and MOnitoring Network

for tackling marine litter in Mediterranean sea



Beach litter monitoring for citizen science activities

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LEGAMBIENTE

Beach litter monitoring

for citizen science activities

The Beach Litter is a citizen science activity. Citizen science is the way in which people can meet science; it is aimed to involve public in science activities. The data collected by citizens are very important but, to be used in a proper way and to be scientifically reliable, they have to be taken very carefully. It is very important to follow the protocol and to be scrupulous in the counting and subdivision of the litters found in the list of items.

Beach litter's monitoring data allows to get preliminary information for the study of the beached garbage phenomenon, and particularly focusing on quantity, trend and possible sources, **in relation with the European Directive about Marine Strategy (2008/56/CE)**.

The information that we will obtain through these samples, will be useful to survey the amount of trash thrown into the marine environment but also its source and act finding specific solutions and changing behaviours.

The protocol is the same as the one proposed by the **European Environment Agency** and used by other NGOs and research institutes.

Make sure that the survey will not pose any threat to endangered or protected species and their habitats, such as sea turtles, seabirds or shore birds, marine mammals or sensitive beach vegetation; in many cases, this would exclude protected areas but it depends on local management arrangements.

Reminder

1. Investigation area has got to be a **“free” beach**, therefore not subject to periodic garbage collection; furthermore the beach must not have been cleaned close to the monitoring day; however, if the beach has been cleaned recently, please specify it in the note.

2. The investigation area's **length** must be **100 meters**, the same for all the beaches analysed, and cover the entire beach width, from the shoreline to the end of the beach identified with: beginning of vegetation, dunes, base of the cliff, road or other anthropic structures.

3. Walk through the sampling area, taking note on the form of all the founded objects. It could be simpler also clean up the beach, then take note about the trash, and count them after, in a second time.



4. All the solid trashes standing on the beach surface, visible on the strand, even partially covered by the sand, must be counted, without digging.
5. For the trashes recording, use the sampling categories following the sampling sheet. You can follow the photo guide attached at the end of this document.
6. Before monitoring remember to fill in the form of the beach in all its parts.
7. It is good practice to remove waste during or after monitoring.

NB

- There are no upper size limits to litter recorded on beaches. A **lower limit of 2,5 cm** in the longest dimension is recommended for litter items monitored during beach surveys. This would ensure the inclusion of caps & lids and cigarette butts in any counts.
- Fragments or pieces that can be connected to specific objects must be considered as such (ex. Piece or bottoms of a glass bottles must be catalogue like Glass bottle).
- In case of unusual or unknown objects, take a picture.
- **Note that the list is a bit changed, to equalize it to the one proposed by MSFD Technical Group of Marine Litter. Please read it carefully before starting the monitoring.**
- From this year, we'd like to take note also about the compostable and biodegradable bags: please try to identify them and specify the number in the note (ex. 7 bags out of 10 are compostable).

The personal safety is the most important thing!



WARNING! Please do carefully the waste count in particular for little items, avoiding estimations or approximation. This, in particular, for small items (e.g. cigarette butts, cotton buds...): if they are many try to count them all – if possible! -, without making excess estimates.

To send the data go to the section “Beach litter” at this link <https://volontaripernatura.greenproject.info/common/site/activities/>, and report what you wrote in your paper card on the beach. For info and to send your pictures write to scientifico@legambiente.it.

MATERIALS AND EQUIPMENTS

- Digital camera
- Hand-held GPS (or corresponding)
- Meter (at least 100 mt)
- Flags
- Tape for delimiting the area
- Gloves
- Recording sheets
- Rubbish bags to collect the monitored waste



Beach Litter monitoring 2020 is supported by COMMON (COastal Management and MOnitoring Network for tackling marine litter in Mediterranean sea) project, founded in the framework of ENI CBC Med Programme.



Print and use the following tables during monitoring activities.

Beach identity sheet			
Country	Event date		
Region	Contact person		
Province	Telephone		
Municipality	Mail		
Name of the beach	N° people involved		
Investigation area's coordinates (ex: 41.501298, 12.581110)			
START		END	
Latitude	Longitude	Latitude	Longitude
Effective width of the investigation area: 100 mt X mt			
Description of the beach			
Type of sediment: sand – pebbles – other (mixed)			
Characteristics1: urban area, rural area, near river mouth, protected area, industrial area, other...			
Beach of bathing use?			
Characteristics2: other (for example the presence of landfills, jetties, docks or flange barriers)			
NOTES:			

When was the beach last cleaned? Weather conditions at the time of sampling? Are there any particularities that influence the presence of waste on the beach (offshore mussel farms, particular currents ... etc.)?

WASTE RECORD SHEET

Item	Total number of objects
Artificial polymer materials	
4/6-pack yokes & six-pack rings	
Plastic Shopping/carrier/grocery bags	
Small plastic bags	
The part that remains from tear-off plastic bags	
Plastic Drink bottles ≤0.5l	
Plastic Drink bottles >0.5l	
Plastic bottles and containers of cleaning products	
Food containers	
Plastic beach use related body care and cosmetic bottles and containers	
Plastic Non-beach use related body care and cosmetic bottles and containers	
Other plastic bottles & containers (drums)	
Plastic Engine oil bottles & containers <50 cm	
Plastic Engine oil bottles & containers >50 cm	
Plastic jerry cans	
Plastic injection gun containers/cartridges	
Plastic Crates, boxes, baskets	
Vehicle parts	
Plastic caps/lids drinks	
Plastic caps/lids chemicals, detergents (non-food)	
Plastic caps/lids unidentified	
Plastic rings from bottle caps/lids	
Tobacco pouches/plastic cigarette box packaging	
Cigarette lighters	
Tobacco products with filters (cigarette butts with filters)	
Pens and pen lids	
Combs/hair brushes/sunglasses	
Plastic Crisps packets/sweets wrappers	
Plastic lolly & icecream sticks	
Toys and party poppers	
Cups and cup lids	
Cutlery, plates and trays	
Straws and stirrers	
Plastic heavy-duty sacks	
Mesh bags	
Gloves (household/dishwashing, gardening)	
Gloves (industrial/professional applications)	
Plastic Crab/lobster traps (pots) and tops	
Tags (fishing and industry)	
Plastic Octopus pots	
Plastic Mussels/oyster mesh bags, net sack, socks	
Plastic Oyster trays	

Plastic sheeting from mussel culture (Tahitians)	
Rope (diameter more than 1 cm)	
String and cord (diameter less than 1cm)	
Nets and pieces of net < 50 cm	
Nets and pieces of net > 50 cm	
Tangled nets/cord	
Fish boxes - plastic	
Fish boxes - foamed polystyrene	
Fishing line	
Plastic Fishing light sticks / fishing glow sticks incl. packaging	
Other fishing related litter items (e.g. other than fishing line)	
Plastic Floats for fishing nets	
Plastic Buoys	
Fenders	
Buckets	
Plastic strapping bands	
Sheets, industrial packaging, plastic sheeting	
Fibreglass items	
Headwear	
Shotgun cartridges	
Shoes and sandals made of artificial polymer materials	
Traffic cones	
Foamed plastic items and fragments not made of foamed polystyrene	
Foamed plastic used for packaging and/or insulation	
Plastic pieces (between 2,5 cm and 50 cm)	
Plastic pieces > 50 cm	
Polystyrene pieces (between 2,5 cm and 50 cm)	
Polystyrene pieces > 50 cm	
CDs & DVDs	
Commercial plastic salt packaging	
Fin trees (from fins for scuba diving)	
Masking/duct/packing tape	
Telephone (incl. parts)	
Plastic construction waste	
Plastic containers for plants	
Biomass holder from sewage treatment plants and aquaculture	
Bait containers/packaging	
Cable ties	
Plastic cotton bud sticks	
Sanitary towels/panty liners/backing strips	
Toilet fresheners	
Plastic Diapers/nappies	

Syringes/needles	
Plastic Medical/pharmaceuticals containers/tubes/packaging	
Plastic Dog/pet faeces bag	
Flip-flops	
Other plastic/foamed polystyrene items (identifiable)	
Tampons and tampon applicators	
Wet wipes	
Plastic remains of fireworks	
Rubber	
Balloons	
Balls	
Footwear	
Tyres and belts	
Inner-tubes and rubber sheet	
Rubber band (small, for kitchen/household/post use)	
Condoms (incl. packaging)	
Other rubber pieces (identifiable)	
Cloth/textile	
Clothing	
Footwear	
Backpacks & textile bags	
Hessian sacks/packaging	
Carpet & Furnishing	
Sails, canvas	
Other textiles	
Paper/Cardboard	
Paper bags	
Cardboard boxes	
Paper packaging	
Cartons/tetrapack Milk	
Cartons/tetrapack (non-milk)	
Cigarette packets	
Cups, food trays, food wrappers, drink containers	
Newspapers & magazines	
Tubes and other pieces of fireworks	
Paper fragments	
Cotton bud sticks	
Other paper items (identifiable)	
Processed/worked wood	
Corks	
Pallets	
Crates, boxes, baskets	
Crab/lobster pots	
Fish boxes	
Ice-cream sticks, chip forks, chopsticks, toothpicks	

Fire matches & fireworks	
Other wood < 50 cm	
Other wood > 50 cm	
Other wood (identifiable)	
Metal	
Aerosol/spray cans	
Cans (beverage)	
Cans (food)	
Foil wrappers, aluminium foil	
Bottle caps, lids & pull tabs from cans	
Disposable BBQs	
Appliances (refrigerators, washers, etc.)	
Tableware (e.g. plates, cups & cutlery)	
Fishing related weights/sinkers, and lures	
Lobster/crab pots	
Industrial scrap	
Drums & barrels	
Other cans	
Paint tins	
Wire, wire mesh, barbed wire	
Vehicle parts/batteries	
Cables	
Household batteries	
Other metal objects (identifiable)	
Other metal pieces < 50 cm	
Other metal pieces > 50 cm	
Glass/ceramics	
Bottles	
Jars	
Light bulbs	
Tableware (plates/cups/glasses)	
Construction materials (bricks, tiles, cement)	
Fluorescent light tube	
Octopus pots	
Pieces of glass	
Other glass items (identifiable)	
Other ceramic/pottery items	
Chemicals	
Wax/paraffin and candles	
Mixed	
Tyres, belts, inner tubes, wheels	
Paint brushes	
Other medical items (swabs, bandaging, adhesive plasters etc.)	
Other personal hygiene and care items	
Food waste	
Food waste	