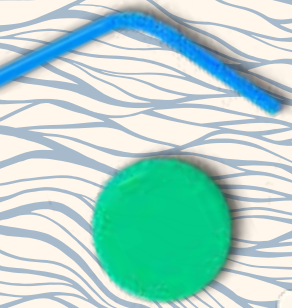
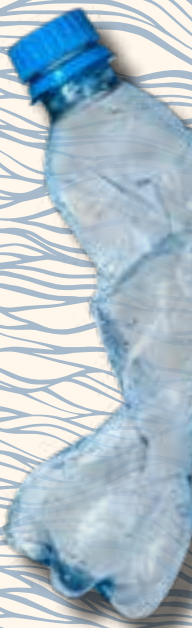
LITTER-BOOK

Small handbook on marine litter

(with data sheets and eco-tips)





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LITTER BOOK

How much litter is in the sea? How did it get there? What effects does it have on biodiversity?

And what can you do to contribute to the health of the seas and oceans?

The answers to these questions are contained in this small handbook dedicated to the problem of marine litter.

A handbook that is also a field notebook: thanks to some monitoring sheets, you will be able to try your hand at cleaning up a transect of beach, recording your **OBSERVATIONS** and realising what and how much litter the sea returns to us every day.

Finally, you will find a valuable **SET OF RULES** to make your life more and more "plastic free" and reduce your ecological footprint on the sea.

THE IMPORTANCE OF OCEANS

Do you have any idea how important our oceans are?

They cover more than two thirds of the Earth's surface, they are home to a rich **BIODIVERSITY**, they are a source of **FOOD**, they produce **OXYGEN** and they regulate the **CLIMATE** by absorbing heat and carbon dioxide from the atmosphere.

The lives of so many species (80% of those known) and our own survival on this planet depend on the health of the sea.

Yet the oceans are **UNDER SERIOUS THREAT**: noise and environmental pollution, overfishing and illegal fishing, warming and acidification of waters are putting them under severe strain.

Studying and understanding the origin and causes of these phenomena is the first step towards finding solutions and reducing our impact on the sea.

Like so many other threats, **MARINE LITTER** has a name, surname, place of origin and destination: it is time to get to know it, to prevent pollution and fight it.

MARINE LITTER Born with Man

In nature, litter does not exist: everything is transformed and put back into the **CYCLE**, the waste of one becomes a resource for someone else.

Human society, on the other hand, is based on a **LINEAR SYSTEM** in which one produces, consumes, and what is no longer needed is discarded.

If not properly managed and disposed of, waste is **DISPERSED** into the environment, generating irreversible damage.

The sea is almost always its last destination: no matter whether it is paper, plastic, metal, glass, rubber, wood, textiles, it is estimated that around **10 MILLION TONNES OF WASTE** end up in the sea every year. It is like a truck dumping its rubbish into the sea every minute.

By the time you finish reading the Litter-book, some 20 trucks of rubbish will have poured into the world's oceans.

DID YOU KNOW THAT ...
... every minute as much waste as a truckload is dumped into the sea?

MARINE LITTER Pleased to meet you, it's Plastic

Researchers calculate that **BETWEEN 80% AND 95%** of marine litter is made up of plastics.

How come? What is so special about plastic that it is so widespread, not only in everyday objects but also among waste?

The answer is simple: this extraordinary material - invented more than 150 years ago - is not only **VERSATILE**, **MOULDABLE**, **INEXPENSIVE**, **WASHABLE** and **COLOURABLE**, **RESISTANT** to water, traction and corrosion: it is practically **INDESTRUCTIBLE**.

DID YOU KNOW THAT ...

... the first semi-synthetic plastics was invented in the 1860s to make handles, boxes, shirt cuffs and collars, and even snooker balls? Just think that until then, ivory from elephant tusks was used to make them!

PLASTIC MATERIALS Seven for one

More than plastics, we should actually talk about '**PLASTIC MATERIALS**'.

Among the objects around you, there are seven different types:

01 - **PET** polyethylene terephthalate

02 - **HDPE** high density polyethylene

03 - **PVC** polyvinyl chloride

04 - **LDPE** low density polyethylene

05 - **PP** polypropylene

06 - **PS** polystyrene or Styrofoam

07 - **O** other plastic materials

MARINE LITTER Plastic is forever

Plastic is too recent an invention to know exactly how long it will take for a cap, a bottle or a candy wrapper to degrade completely, assuming this can happen without leaving traces in the natural environment.

The **DEGRADATION TIMES** estimated by some studies are therefore approximate but highlight the huge extent of the problem.

FONTE: ARPAFVG

MARINE LITTER More plastic than fish

For 150 years we have been producing a material that, when it becomes waste and is not recycled or disposed of properly, is bound to remain in the environment practically **FOREVER**.

Recent studies calculate that between 80 and 150 million tonnes of plastic have accumulated in the sea. In short, we have turned the oceans into a huge **UNIVERSAL RUBBISH DUMP**, and in a few years' time - experts assume by 2050 - the **BIOMASS** of plastic waste in the sea will have surpassed that of fish.

It is not hard to believe: just think that already today the weight of all plastics in the world is twice that of marine and terrestrial animals combined. Incredible, isn't it?

MARINE LITTER Microplastics

When plastic waste ends up in the sea, the action of wave motion, underwater currents and sunlight degrades and fragments it into MICROPLASTICS, tiny particles **LESS THAN 5 MILLIMETRES** in size.

In addition to these microplastics, so-called of **SECONDARY ORIGIN**, there are those of **PRIMARY ORIGIN**, i.e. intentionally manufactured as such and added to certain products for their exfoliating or abrasive action: this is the case, for example, of the microgranules contained in cosmetics or paint.

These also include the so-called '**MERMAID TEARS**' ('pellets' or 'nurdles'), tiny balls with a diameter of 1-5 mm, which are the raw material for the production of almost all plastic items.

DID YOU KNOW THAT ...

... even if you don't see them, 'mermaid tears' are present everywhere? MPA staff find them daily even on protected beaches: transparent, almost invisible, half-hidden in the sand, but pervasive. And removing them is almost impossible.

WHERE DOES IT COME FROM? The sea problem? Upstream!

But how does all this litter end up in the sea?

Most of the marine litter - about **80 PER CENT** - comes from the **LAND**: from industrial and agricultural facilities, coastal activities, road traffic, failed or improper disposal of municipal waste, domestic sewage and the sewerage system.

It reaches the sea through **RIVERS**, drainage channels or sewerage systems, or is carried by the wind.

Only the residual part (about 20%) is produced directly at sea and comes from fishing and aquaculture activities, shipping, transport and offshore platforms: waste abandoned deliberately or, more often, accidentally.

DID YOU KNOW THAT ...

... among the microplastics found in the sea, most come from tyre wear on the road (53%)? This is followed by microfibres from synthetic fabrics (33%) and microbeads from cosmetics (12%).
(info IUCN, The Mediterranean: Mare plasticum, 2020)

WHERE DOES IT COME FROM? Even from your home!

You may not be aware of it, but the vast majority of microplastics in the oceans comes from microfibres released during the washing machine cycle of **SYNTHETIC CLOTHES**, from **COSMETIC PRODUCTS** or all those small items we unknowingly, and regrettably, flush down the toilet.

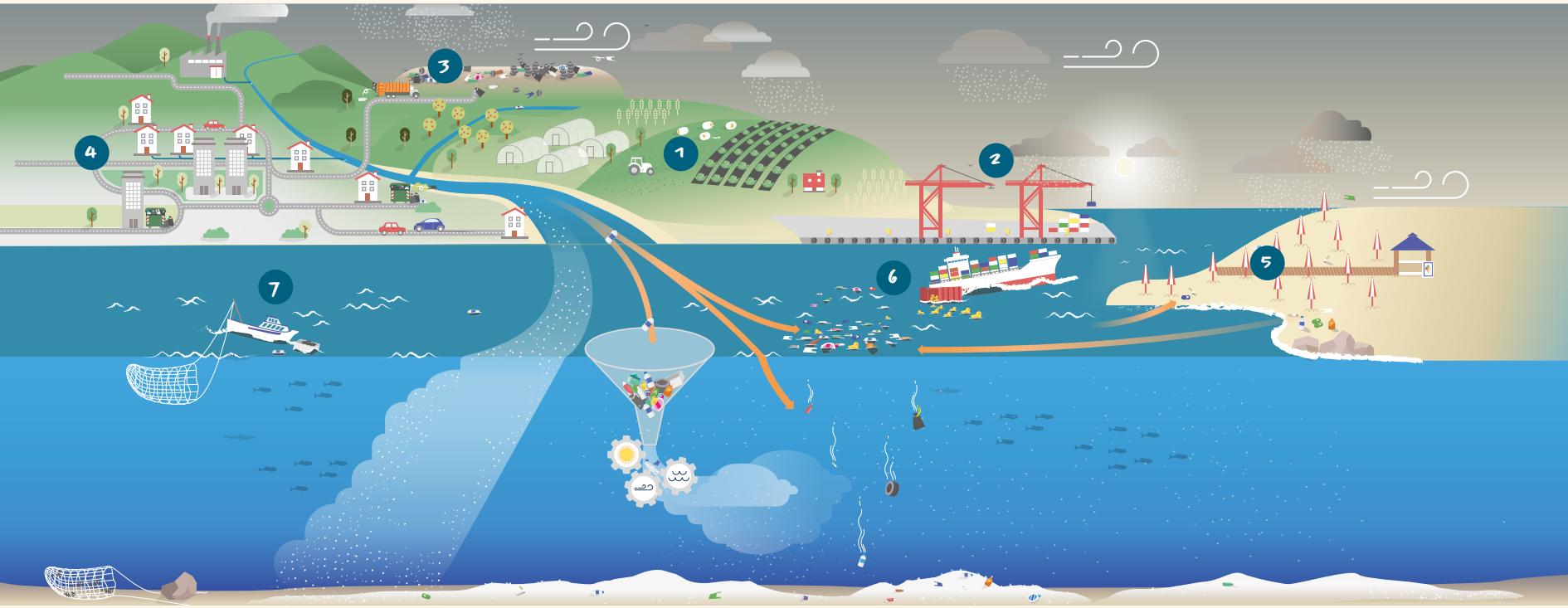
All these fragments and fibres are so small that they are not trapped by the filters of sewage treatment plants and inevitably end up in the sea.

Each of us, therefore, can do his/her part to reduce our **FOOTPRINT ON THE SEA**.

DID YOU KNOW THAT ...

... between 640,000 and 1.5 million microfibres are released with every washing machine cycle of synthetic garments!

WHERE DOES IT COME FROM? The journey of plastics and microplastics

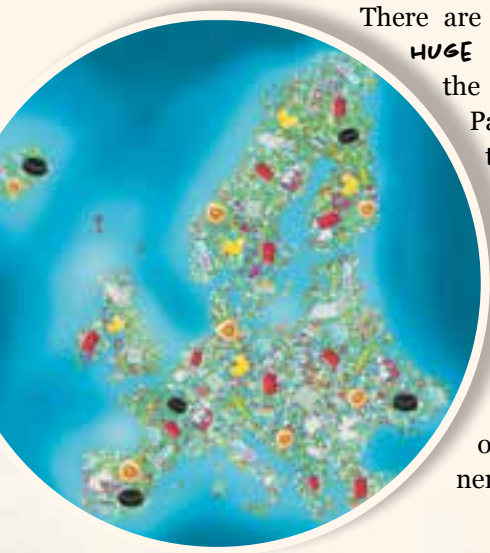


1. **AGRICULTURAL ACTIVITIES:** mulching sheets and plastic films, sewage sludge, compost with microplastics
2. **INDUSTRIAL AND PORT ACTIVITIES:** dispersion of packaging, pellets, use of microplastics in sandblasting, paints
3. **LANDFILLS:** dispersion of domestic and industrial waste
4. **URBAN SETTLEMENTS:** release of microplastics from wastewater, incomplete filtration of sewage treatment plants, leakage from waste collection
5. **COASTAL ACTIVITIES:** dispersion of waste and its break-down, deterioration of beach equipment
6. **MARITIME TRANSPORT:** ship accidents with container leakage, paint chipping, illegal discharges, dispersion of microplastics through sewage
7. **FISHING AND WATERFRING ACTIVITIES:** wear and tear on nets, abrasion of paints and varnishes, accidental or illegal dispersion of polystyrene boxes and fishing gear

WHERE DOES IT END UP? Plastic islands

When it reaches the sea, litter takes several routes. Most of it disperses along the water column or settles on the seabed. Only a small part floats on the surface or washes ashore.

Driven by winds and sea currents, **FLOATING RUBBISH** tends to accumulate in certain areas of the ocean, forming gigantic 'garbage patches'.



There are at least **SIX** of these **HUGE AGGLOMERATIONS** in the world: two are in the Pacific Ocean, two in the Atlantic and one in the Indian Ocean, but more are forming.

Altogether, the 'Garbage Patches' occupy such a large area of sea surface that they have earned the name of the 'seventh continent'.

DID YOU KNOW THAT...

... the world's largest plastic island is the 'Great Pacific Garbage Patch', whose size, according to scientists, ranges from 700,000 square kilometres (more than twice the size of Italy) to 10 million square kilometres, i.e. the size of the entire surface area of Europe?

WHERE DOES IT END UP? Mediterranean soup

Although they are not as large and permanent as those in the Pacific, 'plastic islands' can also be found in the **MEDITERRANEAN**.

Around 230,000 tonnes of plastic waste end up in its waters every year and among the top 3 polluters, together with Egypt and Turkey, is **ITALY**.

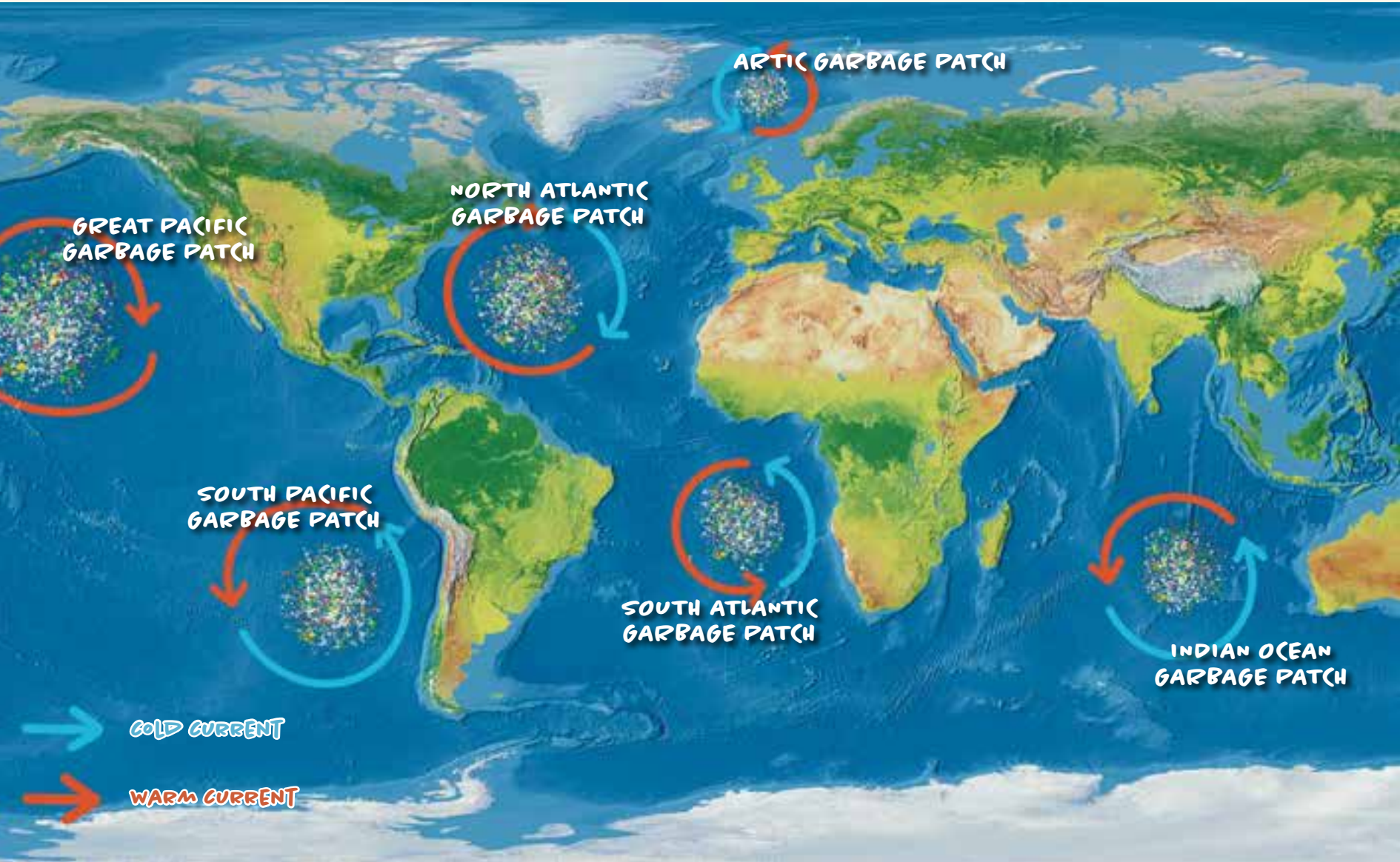
While the vast majority of waste in the Mare Nostrum is represented by macroplastics, the concentration of microplastics here is truly record-breaking, higher even than in the North Pacific.

In the depths of the Tyrrhenian Sea, as many as 1.9 million fragments per square metre have been measured.

DID YOU KNOW THAT ...

... every minute an amount of plastic waste equal to 34,000 water bottles ends up in the Mediterranean?

WHERE DOES IT END UP? Plastic islands



WHERE DOES IT END UP? Seabed as landfill

But if the floating rubbish that forms plastic islands is just the tip of the iceberg, can you imagine what might lie beneath? Most of the waste either disperses into the **WATER COLUMN** or ends up on the **SEABED**, which is turning into a true sea dump.

Surveys in the Mediterranean have shown that at great depths (over 1,000 metres), the **BIOMASS** caught in trawl nets (fish, crustaceans, molluscs) is often equal to or less than the waste.

But it is enough to see what comes up when cleaning the seabed: every time, divers re-emerge with loads of tyres, bottles, cans, fishing nets and plastic waste of all kinds.

WHAT EFFECTS DOES IT HAVE? Impacts on marine species

Plastic in all its shapes and sizes has devastating effects on **MARINE WILDLIFE**. More than 90% of the damage caused by marine litter to marine wildlife is due to plastic.

There are more than 2,000 marine species in which plastic waste has been found: among them, 90% of all seabirds and 50% of all turtles. But how does plastic waste harm marine fauna? What are the **NEGATIVE EFFECTS** on marine organisms?

ENTRAPMENT

Abandoned fishing nets, lines, ropes, bags, packaging often constitute deadly threats to the inhabitants of the sea. They can trap, restrict movement, cause injuries or even irreversibly deform body parts.

INGESTION

Marine organisms may ingest plastic intentionally, mistaking it for food, accidentally or indirectly, by feeding on prey that have themselves eaten plastic residues. Ingestion can cause digestive blockages, internal injuries or a sense of satiety that induces the animal not to feed.

THE RANKING OF STRANDED LITTER IN THE MEDITERRANEAN

A small part of the marine litter, pushed by currents and winds, eventually returns to land, **WASHED ASHORE**: it is here that researchers count it and classify it by material and type. Every year, many **STUDIES** are carried out and the percentages of stranded materials change from study to study and from sea to sea, yet in every classification macro- and **MICROPLASTICS** outperform every competitor.

The coasts of the Mediterranean Sea have a quantity of stranded litter of 274 objects per 100 m, a much higher concentration than in other European seas.

PLASTICS **80%**

PAPER AND CARDBOARD **6%**

GLASS AND POTTERY **3%**

RUBBER **1,5%**

FABRICS **1%**

SANITARY WASTE **4,5%**

WOOD **1,5%**

METAL **5 %**

FONTE: ISPRA 2020

WHAT EFFECTS DOES IT HAVE? Impacts on marine species

SUFFOCATION

Plastic pollution can deprive corals, sponges and other benthic organisms of oxygen, light and food, also making them more vulnerable to attack by pathogens.

INVASION

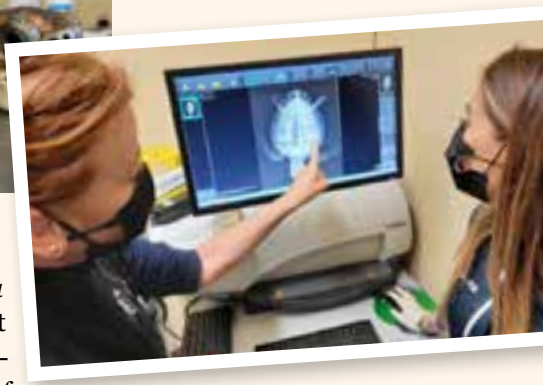
Plastic fragments, floating or deposited on the seabed, are colonised by marine micro-organisms, pathogens and even chemical contaminants. They can also act as a means of transport for alien species, coming from other seas and potentially damaging the ecological balance of local ecosystems.

TOXICITY AND BIOACCUMULATION

Plastics and the various toxic substances they contain can accumulate along the food chain and, passing from organism to organism, cause damage and intoxication at various trophic levels, right down to the last link: man. Additives such as phthalates are capable of altering many vital functions of living organisms, including us.

THE TURTLE HOSPITAL

Fishing nets that turn into traps, fishing lines that get wrapped around the neck or limbs, accidentally swallowed hooks that get stuck in the oesophagus or stomach, plastic fragments that are ingested causing intestinal constipation and consequent malnutrition of the animal: marine litter is one of the main causes of the injuries and **WOUNDS** suffered by **SEA TURTLES** treated at the CRAMA - Centro di Recupero degli Animali Marini dell'Asinara (Centre for the Recovery of Marine Animals of Asinara).



Every year, between 10 and 20 specimens of *Caretta Caretta* (the species most commonly found in the Mediterranean) are taken care of at the **TURTLE HOSPITAL** on the island of Asinara, rescued by fishermen, yachtsmen or swimmers who spot them struggling.

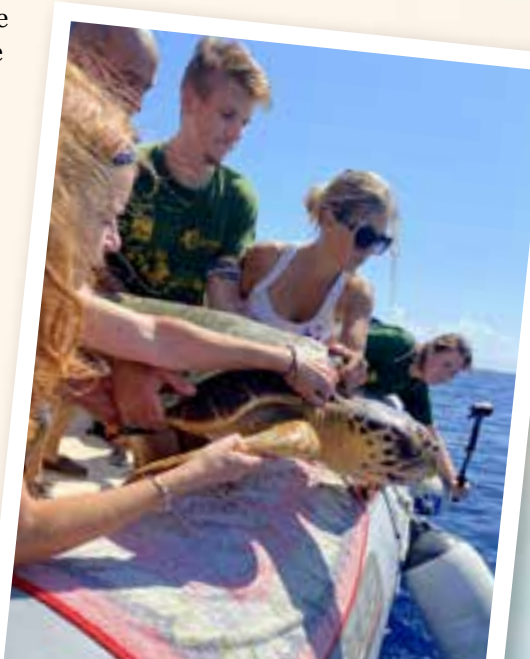
The centre is equipped with a **VETERINARY CLINIC** and all the diagnostic and surgical equipment needed to work on the animals, as well as tanks for wounded animals or those in need of treatment.

THE TURTLE HOSPITAL

Among the most frequent injuries are those caused by fishing gear: **ABANDONED NETS**, **FISHING LINES** or **HOOKS**. The latter, if swallowed, end up getting stuck in the oral cavity or even going down into the intestine, and often surgery is necessary to remove them.

In this jar, the CRAMA operators store the waste expelled naturally by the turtles in the **RECOVERY CENTRE**, thanks to a targeted diet that encourages intestinal peristalsis. As you can see, plastic is predominant: fishing lines, balloons, pieces of polystyrene and other fragments, which are mistaken for food by the turtles and therefore ingested.

Once the turtles have been **CARED** for and **REHABILITATED**, they are **MARKED** with metal tags in the front flipper that allow them to be recognised in the event of sighting or future recovery, and released into the sea.



Info: www.cramasinara.org

NOW IT'S YOUR TURN Cleaner, collector or researcher?

Are you going to collect litter from a stretch of beach? First of all, decide what your goal is:

CLEANING

If your goal is to make a small contribution to making the world a cleaner place, then you are undoubtedly a '**BEACH CLEANER**'.

COLLECTING

Are you attracted by the objects that are washed ashore every day, do you want to unearth 'treasures' that come from who knows where, discover how the sea has transformed them over time and what stories they hide? Then you are a 'beach comber', a **COLLECTOR**.

STUDYING

If, on the other hand, you are interested in doing an analytical, quantitative and qualitative investigation of marine litter, to identify the causes and extent of the problem, yours is the **RESEARCHER'S APPROACH**.

Whichever category you fall into, **LITTER PICKING** is not a game and there are important steps to take.

NOW IT'S YOUR TURN How to prepare a field trip

EQUIP YOURSELF WITH:

- Appropriate clothing for the season
- Non-slip waterproof shoes
- heavy-duty bags or sacks (possibly reusable)
- gardening gloves

ARE YOU A RESEARCHER?

Then scissors, sieves, tweezers, dustpan, magnifying glass, notebook and camera are a must!

PAY ATTENTION TO THE LOCATION:

! slippery surface

! dangerous and unstable rocks

! high tide, strong waves

PAY ATTENTION TO THE WASTE YOU ARE PICKING:

! sharp objects (glass, cans)

! stinging objects (needles, syringes)

! liquids, excrements, hazardous substances

MACRO WASTE Data sheet

In order to sample stranded litter, researchers use two other fundamental tools: a sampler and a sampling data sheet. Use this checklist to record all your findings.

Write down the number and weight of objects for each category.

	CATEGORY NAME		NO. ITEMS	GRAMS
PLASTICS AND ARTIFICIAL MATERIALS	Polystyrene (e.g. fish crates)			
	Shopping bags			
	Soft drink bottles and caps			
	Detergent bottles, cosmetics, medicines			
	Food containers			
	Cigarette/tobacco packets			
	Cigarette butts/filters			
	Lighters			

	CATEGORY NAME		NO. ITEMS	GRAMS
PLASTICS AND ARTIFICIAL MATERIALS	Ropes			
	Polyurethane foam			
	Mussel farming socks			
	Snack and candy wrappers			
	Lolly sticks, cotton swabs			
	Toys, puppets			
	Cups, glasses, plastic pots, dishes and cutlery			
	Fishing net floats			
	Tissues, sanitary pads			
	Plastic packaging (can nets, fruit nets, etc.)			
	Other (shoes, slippers, etc.)			

MACRO WASTE Data sheet

	CATEGORY NAME		NO. ITEMS	GRAMS
PAPER	Tetrapack			
	Cigarette packet			
	Cups, food containers			
	Newspapers, magazines			
	Other (bags, boxes, etc.)			
METAL	Sprays			
	Cans (drinks, food ...)			
	Bottle caps			
	Batteries			
	Other (electric cables, etc.)			

MACRO WASTE Data sheet

	CATEGORY NAME		NO. ITEMS	GRAMS
CLOTHES	Clothes, underwear, hats			
	Shoes, sandals			
	Backpacks, bags			
	Other (rags, sacks, etc.)			
WOOD	Cork, crates, ice cream sticks ...			
GLASS	Bottles, fragments ...			
POTTERY	Plates, cups, vases ...			
RUBBER	Balls, tyres, belts ...			
OTHER	Other			

Now write down the most abundant waste ..... nº pieces ..... weight .....

MICROPLASTICS Sampling technique

Are you ready to keep your eyes peeled and look for the smallest bits of waste?
Here is the method used by researchers to sample microplastics, i.e. fragments smaller than 5 mm:

- with a folding metre, draw a 1m x 1m search **TRANSECT** on the dry sand
- arrange the **SIEVES** in order, from the one with the smallest mesh (below) to the one with the largest mesh (above)
- **COLLECT** an initial small amount of surface sand and sieve it within the study area. Repeat the operation for the entire area
- using tweezers, **PICK UP** the microplastics trapped in each sieve and store them in collection capsules
- **REPEAT** for the analysis of several transects

SMALL MESH SIEVE

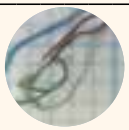
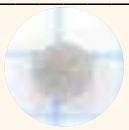
TWEEZERS

LARGE MESH SIEVE

MAGNIFYING GLASS

MICROPLASTICS Data sheet

Fragment or fibre? Filament or sheet? For the identification of your 'booty' help yourself with this **SAMPLING SHEET**. Mark with an X the type of microplastics observed.

MICROPLASTICS SAMPLING SHEET					
Name of the group				Date	
Sampling station				Time	
Size of the area				N° of transects	
FRAGMENT	SHEET	FILAMENT	GRANULE	FOAM	PELLETS
					
TOT	TOT	TOT	TOT	TOT	TOT

How can we identify it?

FRAGMENT: broken portion of hard plastic with irregular contours

SHEET: broken portion of soft plastic, often angular or subangular in shape

FILAMENT: elongated, flexible, thin, cylindrical-shaped element

GRANULE: an irregular spherical or even smooth element of hard consistency

FOAM: spheroidal or irregular shaped element, soft consistency (polystyrene and foams)

PELLETS: elements with cylindrical, ovoid, discoidal, spheroidal, or flat shape (mermaid's tears)

MICROPLASTICS Sea sampling

Microplastics are not only studied and sampled when they accumulate on the shore. Researchers also monitor them at sea. This is also what the Marine Protected Areas of Miramare and Asinara do, thanks to a boat called '**SPAZZAMARE**' and a special 'Manta' net that allows them to collect waste from the sea surface.

WHAT IS THE MANTA NET AND HOW DOES IT WORK?

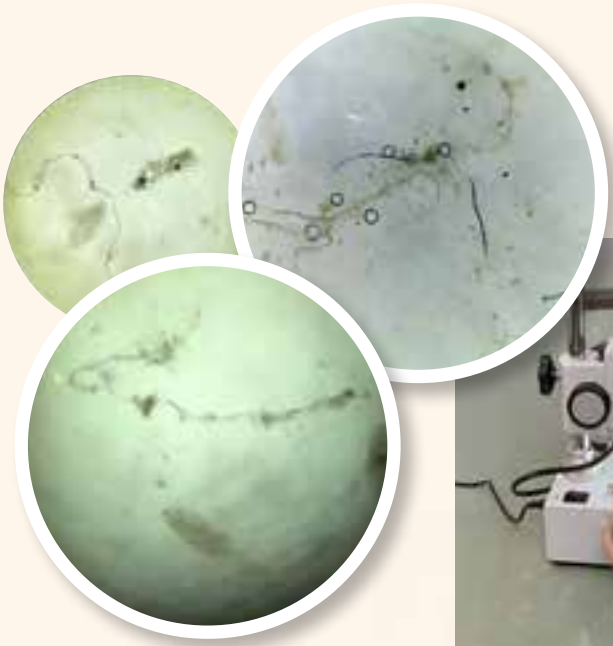
Its appearance recalls exactly that of the well-known rhomboid-shaped fish. It is actually an tool designed to extract not only floating macro waste from the sea but also smaller particles such as microplastics (330 microns and up). It is towed by the boat at a minimum speed of about 2 knots for a transect established by the project. The microplastic sample collected is trapped in the container at the bottom of the net, which is then removed and sent to laboratories.

MICROPLASTICS Microscope analysis

In the laboratories, the samples are examined (sorting, measuring and identification) using professional stereomicroscopes to detect microplastics. The data obtained provide us with information on:

- NUMBER OF PLASTIC ELEMENTS
- FORM
- COLOUR
- DIMENSION
- TYPE OF PLASTIC MATERIAL

Here are some photos of sea water samples with planktonic organisms and microplastics. Can you recognise them?



BEACH COMBING Litter that tells stories

While strolling along the beach, have you ever come across something really special that tickled your curiosity to the point of picking it up and maybe keeping it?

Well, you are not alone. Like you, there are plenty of '**BEACH COMBERS**' around the world who use the web and social media to exchange information in order to identify the objects they find.

Reconstructing the **HISTORY** of these objects that travel through time and space helps to better understand the movement and degradation of marine litter, particularly plastic litter.

We, too, have found and collected several of them during clean-up and census activities on our beaches.

These are some of their stories.

A dry cleaner at sea

The name on the plastic packaging leaves no room for doubt: this object washed up in Miramare undoubtedly contained a dry-cleaning liquid. The inscription 'Istrana' suggests that the chemical plant where it was produced is in the town in the province of Treviso. However, dating it is difficult due to the wear and tear caused by its long stay at sea.

BEACH COMBING Litter that tells stories

A cream is forever

Do you recognise the logo? Although slightly different from the current one, it is indeed the same: one of the world's most popular cosmetics brands. This tin dates back to more or less the 1960s and was returned from the sea after a heavy autumn swell, along with a lot of other rubbish.

The energiser of yesteryear

This plastic cap with its vintage graphics takes us back to a time when tired and listless children were not prescribed multivitamins and supplements but a drink that could restore their 'healthy vitality, a smile and even the desire to play'. We are talking about Ovaltine, the Swiss drink made from barley malt, skimmed milk, cocoa, eggs and yeast that was all the rage in the 1960s and 1970s but is still on the shelves today.

BEACH COMBING Litter that tells stories

From stomach ...

'Effervescente Brioschi sottovuoto': although almost worn off by the long time at sea, the writing on the aluminium cap is still readable and the identikit is soon traced: this is the well-known digestive, which until the 1960s was sold in aluminium tins.

... to gut

Another vintage gem washed up in Miramare in 2018: a small tin box of 'Pillole di Brera', small globules with laxative action produced from 1699 until the 1970s by the 'Antica Farmacia di Brera', founded in 1591 by the Jesuit Fathers. In 1812, the pharmacy moved to Via Fiori Oscuri 13, the address given on the lid. The cost? 60 lire!

BEACH COMBING Litter that tells stories

War cutlery

First came the spoon and a few weeks later the fork followed. Both landed on Miramare beach in the summer of 2020, the two pieces of cutlery bear a date - 1942 - and the Bros engraving (from the British company Roger Bros) that probably belong to the British or American garrison that was based in Miramare Castle after the end of World War II.

The Island of Asinara was for over a century the site of a prison colony, which hosted, depending on the historical period, common prisoners or criminals, prisoners of war, up to the mafiosi and terrorists who were imprisoned in the 1970s and 1980s. Walking along the paths or along the beaches of Asinara, it is not uncommon to find some objects that tell of this troubled history, such as the innumerable pieces of cutlery that are collected and jealously guarded.

If you find something special, you can send it to us at:
INFO@AMPMIRAMARE.IT or PARCO@ASINARA.ORG or post it on social media:
in this case, remember to use the hashtag #SPIAGGIATI
and tag MPA Miramare or Asinara National Park.

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ECO-TIPS

PERSONAL CARE

Toothbrush - use those made of bamboo or other sustainable materials.
Dental floss - NEVER flush your floss down the toilet after use and also try those made from natural fibres.
Detergents - for washing your hands, body and hair prefer solid soaps instead of liquid ones. They last longer and pollute less.

Razor - instead of disposable razors, use a metal one: it will cost a little more but will last much longer.
Comb and brush - buy wooden ones: the environment will be grateful and your hair will be less static.

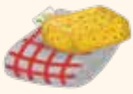
Cosmetics - choose organic or with compostable ingredients. Eliminate those with exfoliating action that contain plastic microbeads.
Hair removal - to avoid plastic, choose cotton strips and organic wax.
Sun creams - read the labels well and buy those with natural filters: they are healthier for you but also for the environment.
Wet wipes - remember they are made of plastic fibres: only use them when you don't have soap and water available.

FOOD&DRINK

Food - buy it as fresh and loose as possible; reduce products with plastic packaging, especially when there is an alternative. It is greener but also healthier: remember that every time you handle plastic packaging you generate microplastics that can end up in your food.
Water - drink tap water: it is healthy and safe. Give up plastic bottles. Always take a steel water bottle with you when you go out.
Milk and drinks - favour glass bottles over plastic and tetrapak packaging. Every time you open and close the cap you contribute to the release of microplastics inside the bottle.
Tea and coffee - choose loose blends or use compostable pods and sachets.
Straws - do without if you can. Otherwise, use compostable ones or reusable ones made of bamboo or steel.
Ladles - instead of plastic ladles, which tend to melt and release microparticles in food, use wooden, bamboo or steel utensils.

Containers - prefer glass or metal ones: they are healthier, hygienic and washable.
Wrappers - instead of disposable film, use reusable cotton and beeswax wrappers or adaptable silicone caps.

CLEANING



Sponges - use natural sponges and washable cotton cloths as an alternative to microfibre cloths.
Detergents and cleaners - to reduce plastic packaging waste, buy them in bulk at shops with refills.

BEDROOM

Clothing and textiles - for your clothing and household linen (sheets, curtains, carpets and towels) choose natural fabrics such as organic cotton, linen and wool as much as possible. Try to avoid those made of synthetic fibres such as polyester, nylon, acrylic, which release millions of microfibres with every wash.

Toys and stationery - favour items made of wood, metal, natural rubber, cotton, paper and, why not, recycled plastic. Instead of pens and markers, choose pencils and crayons: besides being more sustainable, they encourage shading and creativity.

SPORT

Clothing - choose t-shirts, vests, socks, tracksuits, bathrobes and towels in natural fabrics: you will avoid the release of synthetic microfibres when washing them.
Water - remember to always carry a water bottle with you during training, avoiding plastic bottles.

4-LEGGED FRIENDS

Bowls - make your pets 'eco' too. Steel bowls are the best choice: they are easily washable, do not absorb odours or alter flavours and are very durable.
Toys - prefer those made of rope and other natural materials.
Walks - always carry a reusable water bottle and bioplastic bags for droppings.
Relaxation - choose a nice wooden kennel or wicker basket; a cushion made of natural fibres.

FREETIME

Parties - need to organise a party? Use reusable plates, cutlery and glasses and above all, avoid balloons and flying lanterns: remember that they are lost in the environment and can harm birds, fish, sea turtles and many other animals. Instead, use do-it-yourself decorations, made from paper, cardboard or fabric.
Ice cream - between the cone and the cup, prefer the former: it tastes better, for you and the environment!

Chewing gum - yep, they're made of plastic too: don't throw them into the environment. And maybe try the 100% plant-based ones!
Cigarettes - can't stop smoking? At least stop throwing them on the floor. Remember that the filter is made of plastic and takes years to degrade and that, in numerical terms, cigarette butts are the most abundant waste on Earth and in the oceans.
Transport - tyre rubbing on the road is the largest source of microplastics in the world. When you can, avoid using your car: move around on foot, by bicycle or public transport.

LIVE PLASTIC-FREE
FOR A HEALTHY SEA!

ECO-TIPS

The time has come to do something! With a few small, concrete actions you too can help fight the plastic problem, protect the sea but also your health. Are you ready to get involved? Here are some eco-tips to make your life plastic-free!