# ENVIRONMENTAL REPORT
## OF THE OCEAN INITIATIVES 2017

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*The Ocean Initiatives team wishes to thank Philippe Maison for his support and technical expertise in data analysis.*

# # EDITORIAL

***Surfrider has been fighting against marine litter through the Ocean Initiatives program for more than 23 years. The Ocean Initiatives consist in awareness-raising collections combined with litter clean-ups. They only exist thanks to the mobilization of thousands of people involved on a local level, all motivated around a common objective: to protect the oceans! For this fight, every minute spent picking up and quantifying litter or educating children and adults, counts.***

*In 2017, 18 698 bags filled with litter were removed from beaches, seabeds, lake shores and river banks, thanks to your hard work, in rain or shine and always with a smile and plenty of determination.*

*5401 people across the world gave their time to help identify and quantify litter collected a few hours earlier. Your efforts are never in vain, every piece of data collected from the field and fed back is valuable for drawing up the environmental report.*

*As an assessment of the marine pollution caused by litter, this document presents the health status of aquatic environments on all continents. The data contained in this report, that you gathered, serve to support our message to politicians and to ensure that your commitment plays a major role in shaping their strategies for a more sustainable future. This commitment is reaping its rewards. More and more countries are adopting legislations to fight against the proliferation of marine litter, but also, after years of lobbying the European Commission, in January 2018 the institution finally adopted a European strategy on plastic in order to ground a common approach to plastic production and pollution for the years ahead. When launching its plastic strategy, the Commission also announced the adoption of specific legislations on single-use plastic, a move requested and anticipated by Surfrider. To back up its decision, the European Commission asked us to provide data from the field in order to be able to present the facts and sound arguments to manufacturers who do not want to slow down the pace of production.*

*Because your commitment inspires and motivates us,*
*Because the protection of marine environments would not progress without your involvement,*
*And because past, present and future victories are above all your victories,*

*We want to say a big THANK YOU! Thank you for being the real heroes in the fight against litter!*

4.

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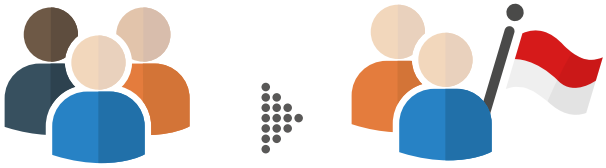
# 2017

## OCEAN INITIATIVES 2017 INCLUDED:



**37 795**
PARTICIPANTS

POPULATION
OF MONACO

**1 119,5**
KM OF LENGHT

**28**
MARATHONS

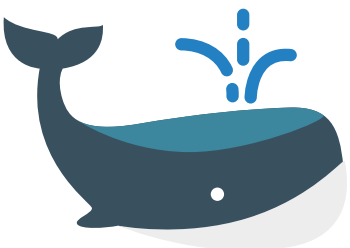
**42 286**
KM COVERED
BY PARTICIPANTS

THE CIRCONFERENCE
OF THE EARTH

**1 332 m³**
OF RUBBISH

**8 871**
BATHTUBS FILLED
WITH RUBBISH

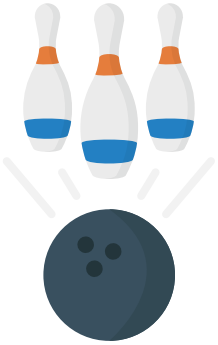
**160 601**
PLASTIC
BOTTLES



**1 569**
BLUE WHALES
PLACED END TO END

#OCEAN INITIATIVES 2017, INCLUDED:

**44 031**
COTTON BUDS
PUT END-TO-END



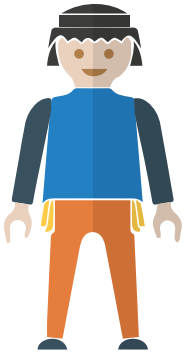
**181**
BOWLING
LANES

**312 102**
CIGARETTE BUTTS

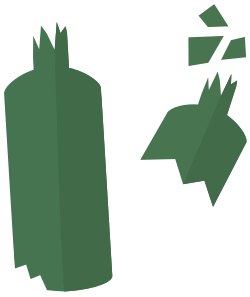
**21 222 904€**
UNPAID FINES



**90 316**
PLASTIC BAGS
OR PIECES



**29 768**
PLAYMOBILS ©



**18 774**

If we had recycled
the 18 774 glass bottles
found during the Ocean
Initiatives, we could have:

**13 245**
Manufactured 13 245 bottles

**8,5**
Saved 8,5 tons of sand.

# 01
# GENERAL REPORT

## THREE TYPES OF REPORT FORMS IN 2017

**In 2017, we gave the organizers the possibility of filling in several types of reports, after completion of their Ocean Initiatives. They could base their choice on the time taken, their expertise, and their degree of engagement in participative science.**

### SIMPLIFIED VERSION

The organizer fills in information about the action, but also information on the “star “ item of waste in 2017, the plastic bottle.

### INTERMEDIARY VERSION

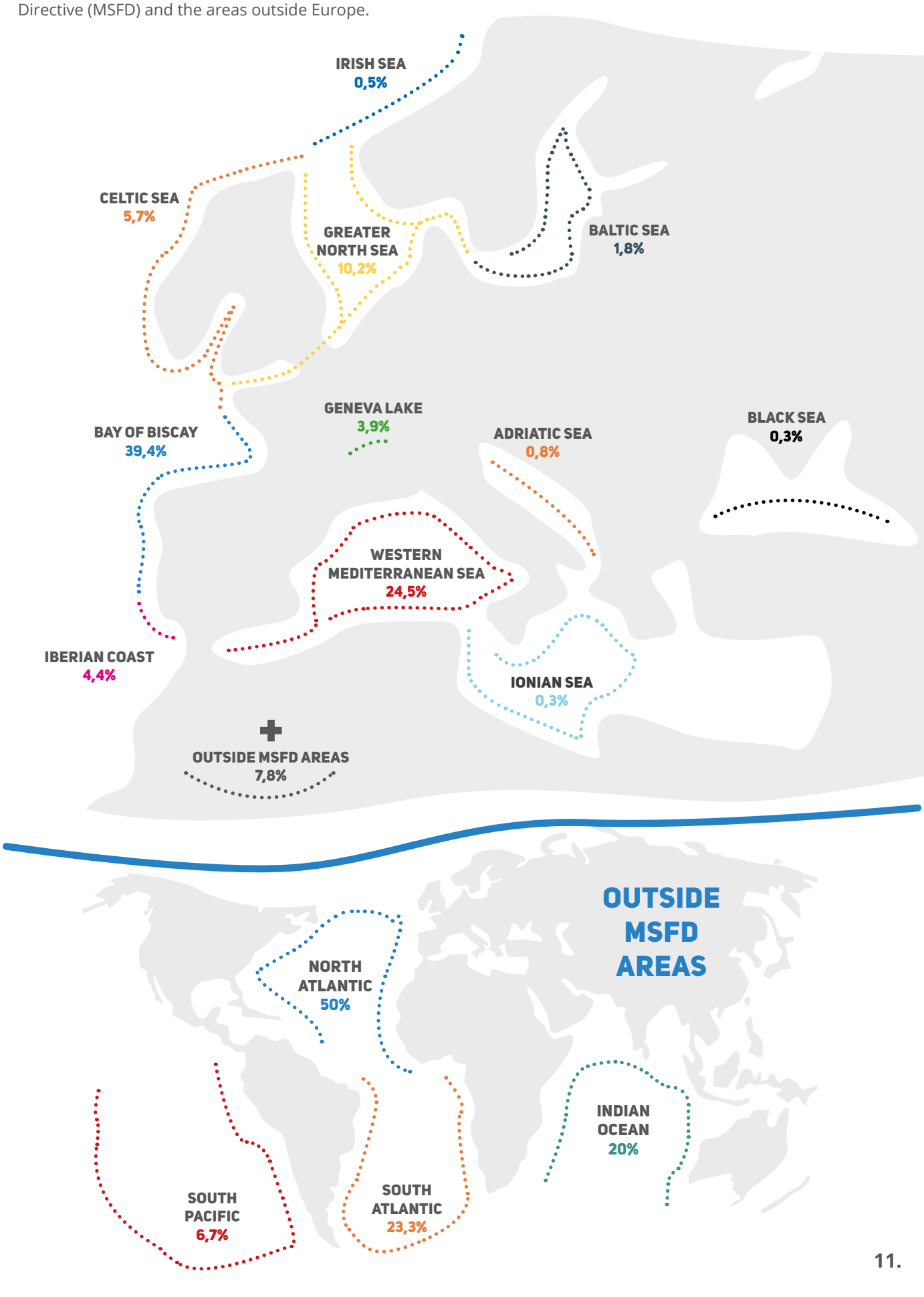
The organizer sends us general information about the action and the site chosen for the collection and quantifies 33 types of litter, broken down by material and uses.

### THE MARINE LITTER WATCH APPLICATION

Surfrider teamed up with the European Environment Agency to share the data from the Ocean Initiatives organized and enter them into a European data base. Thus giving the most engaged and motivated the opportunity to take part in a complete quantification action, in line with the standard European procedure, using the Marine Litter Watch application.

## WHERE HAVE COLLECTIONS TAKEN PLACE?

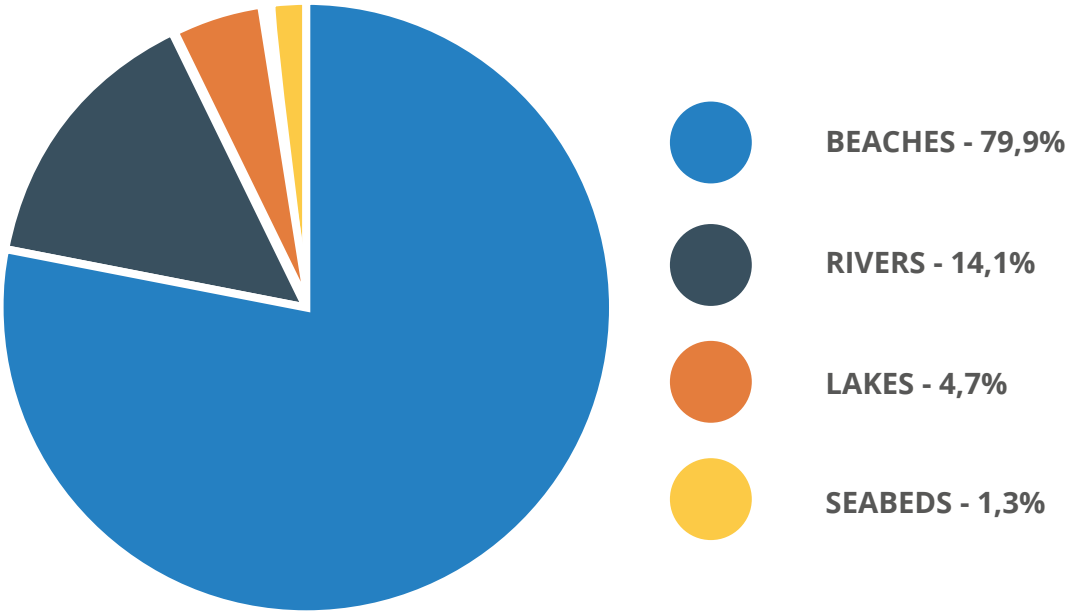
Two groups have been formed to present the areas where Ocean Initiatives have taken place: the large marine spaces in Europe such as those defined by the Marine Strategy Framework Directive (MSFD) and the areas outside Europe.



## SOME DATA

**The figures with an asterisk are based on a total of 382 report forms completed (203 simplified and 179 intermediary reports).**

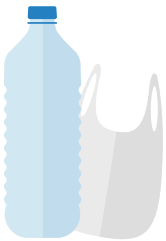
### TYPES OF COLLECTION






**6 336,5***

Bags of litter were collected by the participants.



**454,853 m³***

Total volume of litter collected.

**12 534***

People reached, **38,3%* of them are schoolchildren.**

**377,35 km***

of coastline length covered by participants.

## TOTAL LITTER COLLECTED BY ORGANIZERS WHO HAVE COMPLETED THEIR QUANTIFICATION

In 2017, we asked the participants of the Ocean Initiatives to take part in a citizen science action by filling in a complete report form, to improve knowledge of the state of European and world coastlines with regard to marine litter pollution. In order to do this, we asked them to answer questions on the place where their Ocean Initiatives took place and to quantify **33 types of litter, categorized according to materials and uses**. This simplified quantification is based on the master list of the European harmonized protocol.

**179 organizers, accompanied by 5 401 people, got involved in this exercise.**
**The total number of items of litter collected is 235 840 which translates into a volume of 197,673 m³.**

## TOP 10 OF COLLECTED LITTER

**1.**
**CIGARETTE BUTTS**

**2.**
**PLASTIC PIECES 2,5-50 C**

**3.**
**PLASTIC DRINK BOTTLES**

**4.**
**POLYSTYRENE PIECES 2,5-50 CM**



**5**
**PLASTIC BAGS AND PIECES**

**6.**
**PIECES OF GLASS**

**7.**
**BOTTLE CAPS**

**8.**
**FOOD CONTAINERS**

**9.**
**CRISPS PACKETS SWEET WRAPPERS**

**10.**
**FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)**

**78,2%**

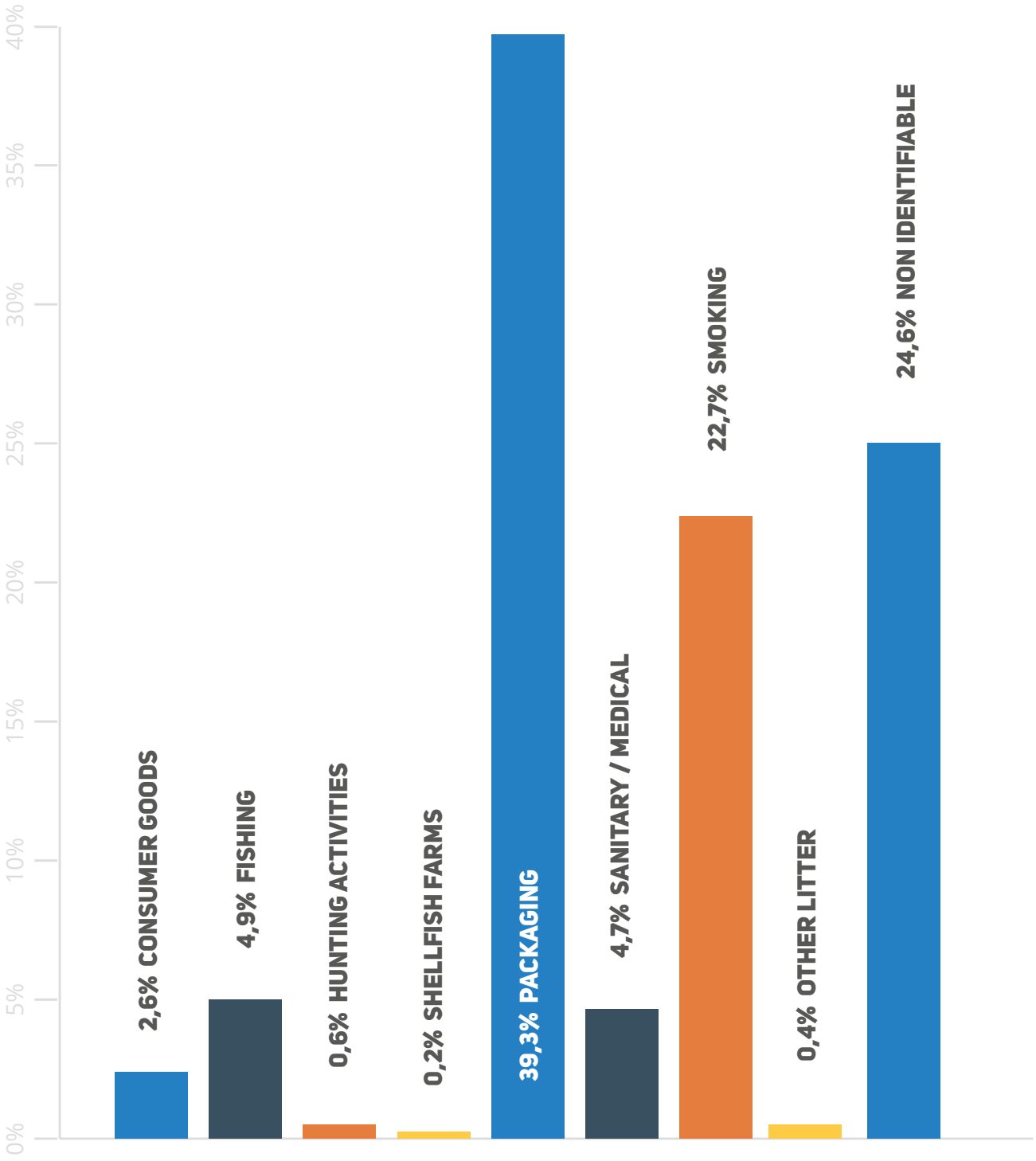
**78,2% of the waste collected were single-use plastic products.**

"Single-use plastic items" are products destined to be used once only (such as a plastic bag or a straw).

## BREAKDOWN OF COLLECTED LITTER BY USE

We grouped the different types of aquatic litter by broad usage category. The eight categories are as follows:

- **Litter from common consumer goods** (e.g. plastic bags, toys, shoes and clothes),
- **Litter from professional and amateur fishing** (e.g. cords and fishing lines),
- **Litter from hunting activities** (shotgun cartridges)
- **Litter from shellfish farms**
- **Packaging and food packaging litter** (e.g. food packaging, plastic cups and cutlery)
- **Sanitary and medical litter** (e.g. medicine packaging, tampons and applicators).
- **Litter from smoking habits** (e.g. cigarette packets and cigarette butts),
- **Other litter** (identifiable litter that does not fit into the categories, e.g. car parts or biomedias),
- **Non-identifiable litter** (plastic and polystyrene pieces)**.**



## TOTAL OF COLLECTED ITEMS

**Total number of items collected in 179 collections : 235 840 quantified items.**

### *PLASTIC*

**52 456**
CIGARETTE BUTTS



**5 782**
BOTTLES ≤ 0,5 L



**19 986**
BOTTLES > 0,5 L

**10 764**
BOTTLE CAPS

**921**
OTHER BOTTLES OR CONTAINERS

**10 429**
FOOD CONTAINERS



**14 545**
PLASTIC BAGS AND PIECES

**7 680**
CRISPS PACKETS SWEET WRAPPERS

**5 751**
LOLLIPOP STICKS

**2 381**
MEDICAL WASTE: PACKAGING, CONTAINERS

**7 264**
SANITARY WASTES: COTTON SWAB

**1 416**
TAMPON APPLICATORS SANITARY TOWELS

**15 599**
POLYSTYRENE PIECES 2,5-50 CM

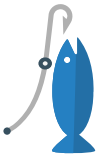
**28 085**
PLASTIC PIECES 2,5-50 CM

**4 795**
PLASTIC CUPS

**1 675**
CUTLERY TRAYS

**3 711**
STRAWS STIR-STICKS

**6 533**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**2 147**
FISHING LINES, (ANGLING)

**2 965**
TANGLED NETS/CORDS

**1 379**
SHOTGUN CARTRIDGES

**148**
TYRES WHEELS

**1 463**
TOYS AND PARTY POPPERS

**1 218**
LIGHTERS

**561**
BALLOONS INCL. VALVES

**881**
SHOES SANDALS

**430**
SHELLFISH AQUACULTURE

**981**
BIOMEDIAS

### *GLASS*

**2 937**
GLASS BOTTLES

**12 074**
PIECES OF GLASS

### *METAL*

**4 212**
CANS

**2 326**
METAL PIECES

### *CLOTH*

**2 345**
CLOTHING OTHER TEXTILES

# FOCUS ON MARINE ENVIRONMENT: BEACHES AND SEABED

## TOP 10 OF COLLECTED LITTER

1. CIGARETTE BUTTS

2. PLASTIC PIECES 2,5-50 CM

3. PLASTIC DRINK BOTTLES

4. POLYSTYRENE PIECES 2,5-50 CM



5 PLASTIC BAGS AND PIECES

6. PIECES OF GLASS

7. BOTTLE CAPS

8. FOOD CONTAINERS

9. SANITARY WASTES: COTTON SWAB

10. FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

*« **78%** of the litter collected were single use products. »*

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**Total number of items collected in 151 collections : 214 396 quantified items.**

### *PLASTIC*

**45 619**
CIGARETTE BUTTS



**5 041**
BOTTLES ≤ 0,5 L



**19 290**
BOTTLES > 0,5 L

**10 043**
BOTTLE CAPS

**828**
OTHER BOTTLES OR CONTAINERS

**9 294**
FOOD CONTAINERS



**13 463**
PLASTIC BAGS AND PIECES

**6 022**
CRISPS PACKETS SWEET WRAPPERS

**5 441**
LOLLIPOP STICKS

**2 301**
MEDICAL WASTE: PACKAGING, CONTAINERS

**7 181**
SANITARY WASTES: COTTON SWAB

**1 128**
TAMPON APPLICATORS SANITARY TOWELS

**13 861**
POLYSTYRENE PIECES 2,5-50 CM

**26 341**
PLASTIC PIECES 2,5-50 CM

**4 541**
PLASTIC CUPS

**1 570**
CUTLERY TRAYS

**3 624**
STRAWS STIR-STICKS

**6 480**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**2 126**
FISHING LINES, (ANGLING)

**2 942**
TANGLED NETS/CORDS

**1 282**
SHOTGUN CARTRIDGES

**91**
TYRES WHEELS

**1 421**
TOYS AND PARTY POPPERS

**1 189**
LIGHTERS

**489**
BALLOONS INCL. VALVES

**814**
SHOES SANDALS

**401**
SHELLFISH AQUACULTURE

**964**
BIOMEDIAS

### *GLASS*

**2 121**
GLASS BOTTLES

**11 420**
PIECES OF GLASS

### *METAL*

**3 252**
CANS

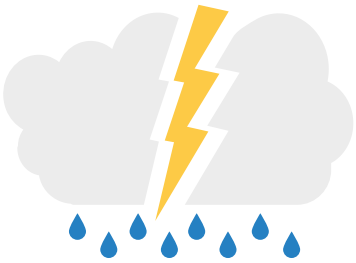
**1 931**
METAL PIECES

### *CLOTH*

**1 879**
CLOTHING OTHER TEXTILES

## EVENTS TAKING PLACE IN COLLECTING AREAS

**22% of the organizers identified one or several events that might have influenced the quantity of waste found.**



**70%**

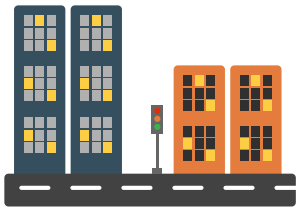
reported exceptional weather conditions before their action: storms, high tides, or watercourse flooding.

**39%**

identified events related to festivities: sporting events (surfing championship), firework displays, regular meeting place (evenings on the beach on weekends).

## TYPES OF ACTIVITIES

These are the main activities carried out on the area where the Ocean Initiatives took place, according to the organizers. Several types of activities can take place on the same area. The percentages are given for information purposes only.



**82%**

of beaches where the Ocean Initiatives took place are located near a town.

**83%**

of beaches where the Ocean Initiatives took place are tourist beaches.

**55%**

of beaches were near the mouth of a river / water courses.

« ***8 000 000*** *of tons*
*of plastic waste are dumped*
*in our oceans every year* »

# FOCUS ON WATERCOURSES: RIVERS AND LAKES

## TOP 10 OF COLLECTED LITTER

**1.**
CIGARETTE BUTTS

**2.**
PLASTIC DRINK BOTTLES

**3.**
PLASTIC PIECES 2,5-50 CM

**4.**
POLYSTYRENE PIECES 2,5-50 cm

**5**
CRISPS PACKETS SWEET WRAPPERS

**6.**
FOOD CONTAINERS



**7.**
PLASTIC BAGS AND PIECES

**8.**
CANS

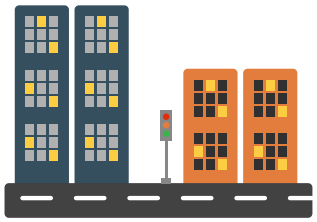
**9.**
GLASS BOTTLES

**10.**
BOTTLE CAPS

## FACT & FIGURES

**88%**

of the litter collected on the river banks were single-use plastics



**93%**

of watercourses where the Ocean Initiatives took place are located near a town.

## TOTAL OF COLLECTED LITTER IN WATERCOURSES

**Total number of items collected in 28 collections: 21 444 quantified items.**

### PLASTIC

**6 837**
CIGARETTE BUTTS



**741**
BOTTLES ≤ 0,5 L



**696**
BOTTLES > 0,5 L

**721**
BOTTLE CAPS

**93**
OTHER BOTTLES OR CONTAINERS

**1 135**
FOOD CONTAINERS



**1 082**
PLASTIC BAGS AND PIECES

**1 658**
CRISPS PACKETS SWEET WRAPPERS

**310**
LOLLIPOP STICKS

**80**
MEDICAL WASTE: PACKAGING, CONTAINERS

**77**
SANITARY WASTES: COTTON SWAB

**288**
TAMPON APPLICATORS SANITARY TOWELS

**1 738**
POLYSTYRENE PIECES 2,5-50 CM

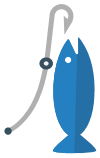
**1 744**
PLASTIC PIECES 2,5-50 CM

**254**
PLASTIC CUPS

**105**
CUTLERY TRAYS

**87**
STRAWS STIR-STICKS

**53**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**21**
FISHING LINES, (ANGLING)

**23**
TANGLED NETS/CORDS

**97**
SHOTGUN CARTRIDGES

**57**
TYRES WHEELS

**42**
TOYS AND PARTY POPPERS

**29**
LIGHTERS

**72**
BALLOONS INCL. VALVES

**67**
SHOES SANDALS

**29**
SHELLFISH AQUACULTURE

**17**
BIOMEDIAS

### GLASS

**816**
GLASS BOTTLES

**654**
PIECES OF GLASS

### METAL

**960**
CANS

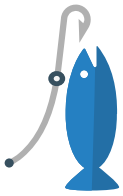
**395**
METAL PIECES

### CLOTH

**466**
CLOTHING OTHER TEXTILES

## TYPES OF ACTIVITIES

These are the main activities carried out the area on where the Ocean Initiatives took place, according to the organizers. Several types of activities can take place on the same area. The percentages are given for information purposes only.



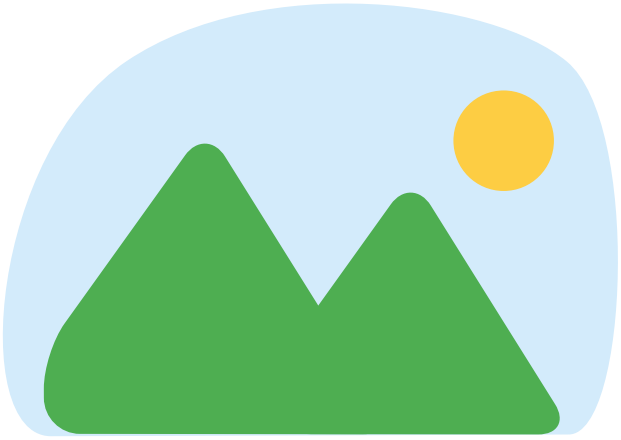
**61%**
of sites are in important fishing areas.

**25%**
of sites are located near hunting areas.

**25%**
are downstream from agricultural areas.

**21%**
are downstream from industrial areas.

**36%**
are in areas where water sports take place.



**Other activities mentioned by the organizers in the catchment area of the watercourse or near the lakeside: picnic, tourism, walking, shops, bars, bird watching.**

## PERCEPTION OF THE ORIGIN OF THE LITTER

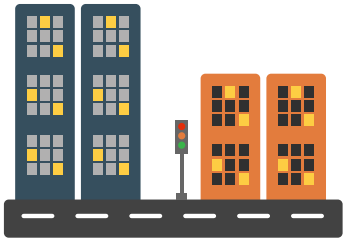
We have asked participants to tell us what, according to them, is the origin of the litter found on their actions. Here are their answers:

**62%**

For 62% of the organizers, the litter found was related to anti-social behavior: leaving litter behind after a picnic, sport activities.

**12%**

For 12%, litter comes from anti-social behavior of car drivers who throw litter out of their car windows on roads not far from the collection site.



**38%**

For 38% of the organizers, the litter recovered resulted from poor waste management in towns located upstream. It is thrown out in an urban area and moved by the wind or run-off water and wastewater networks.

**12%**

For 12% the litter found can be explained by the presence of farm areas upstream.

## OTHER ITEMS COLLECTED IN LARGE NUMBERS

**41% of the organizers reported to have found large quantities of other item types during their quantification (items not included in the item list).**

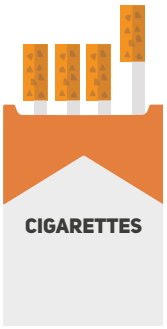
### CLEANING WIPES

Many people are still disposing of these new single-use synthetic products into toilets which causes damage to water treatment systems costing between 500 and 1000 million euros a year across EU. 2 whole buckets of wipes were collected on a river clean-up in Belgium and more than 40 were picked up on a beach in Marseille.



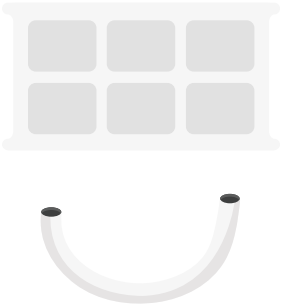
### NUMEROUS SYRINGES

were found in different clean ups in Italy.
Lots of medical waste have also been found.



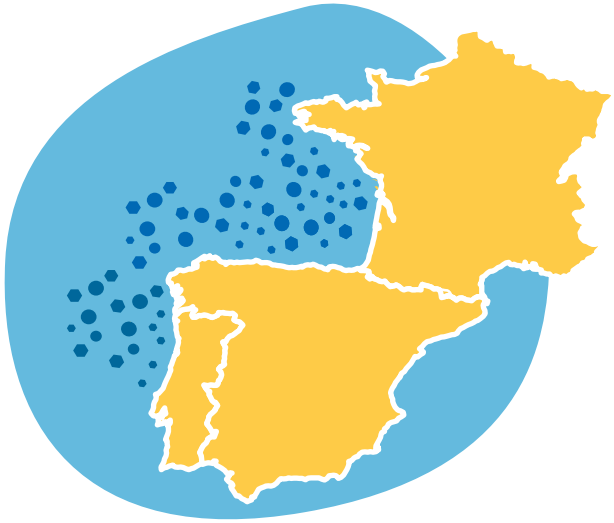

### CIGARETTE PACKETS

In addition to cigarette butts, organizers picked up numerous other types of smoking-related litter such as cigarette packets or plastic wrappers. During a clean-up in Tunisia, organizers found a large amount of contraband cigarettes packets.



### CONSTRUCTION WASTES

Breeze blocks, pipes, rubble, PVC, among other construction wastes, have been found by our organizers along all maritime coasts. They often result from public and/or private building activities. Volunteers found more than 61 roof tiles in a single cleanup in Spain.



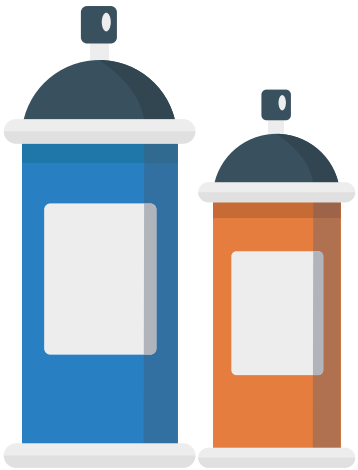
### POLYSTYRENE IN ALL SHAPES AND SIZES

Many 2017 Ocean Initiatives organizers reported the presence of polystyrene waste, on all coastlines. 118 pieces of polystyrene measuring more than 50 cm were picked up on a beach in the Bay of Biscay in Spain while organizers on the North Sea Channel and Bay of Biscay reported the presence of large quantities of polystyrene beads (more than 903 beads in one operation) and 3 bags filled with small pieces during a clean-up in Spain (Bay of Biscay).

## AND ALSO...

**24**

plastic flowers found on a lakeshore in Spain.



**4 364**

spray paint cans found by Ocean Initiatives participants on the borders of a river in Spain.

# UNUSUAL FINDS

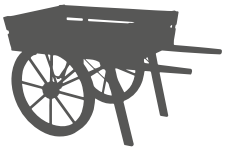
## STREAMS AND OCEANS: THE LARGEST DUMP OF HUMAN ACTIVITY

55 unusual objects were listed by participants during Ocean Initiatives in 2017.

A PLASTIC FATHER CHRISTMAS HEAD

A VOLKSWAGEN CAMPERVAN

A BELL



3 CARTS

A PETANQUE BALL

A HARPOON

SYNTHETIC HAIR

## ELECTRIC APPLIANCE

5 FRIDGES

2 VACUUM CLEANERS

3 TELEVISION PARTS
(AERIAL, CATHODE RAY TUBE, SCREEN)

2 WASHING MACHINE DRUMS

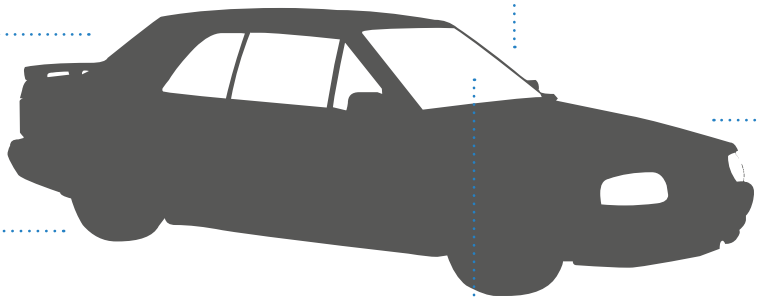
2 MICRO-WAVES

1 BARBECUE

1 TOASTER

SPEAKERS

## CARS DEPARTMENT:



**2** ENTIRE CAR WRECKS

**1** STEERING WHEELS

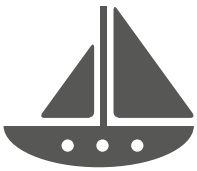
**8** CAR BATTERIES

**+ 100** AND HUNDREDS OF WHEELS, TYRES, ETC.!

**2** WINDSCREEN WIPERS

**5** BUMPERS

## NOT FORGETTING THE USUAL SUSPECTS



11 BOAT PARTS

2 ANCHORS

3 MOBILE PHONES

2 SHOPPING TROLLEYS

3 PIECES OF SURFBOARD

2 DUST BINS

4 BICYCLES

# 02
# REPORT BY SEA AREAS

# BAY OF BISCAY

*FROM PENMARCH IN FRANCE TO ORTEGAL CAPE IN SPAIN.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 459 Ocean Initiatives which took place in this sea area.

**16 884***
people reached,
**7 824* were children.**

**6 336***
bags of litter collected
by participants.

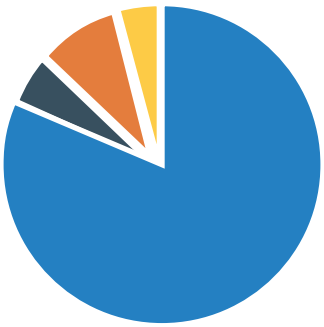
**404 549 m***
of coastline length covered
by participants

**430 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

The 76 quantification took place in Spain (40 Ocean Initiatives) and France (36 Ocean Initiatives).
**62 579 items were picked up and quantified, in 76 operations (of all types) over a distance of 65 550 meters. This represents a volume of 47,268 m³.**

### *TYPES OF COLLECTIONS*



- BEACHES - 81,58%
- LAKES - 9,21%
- RIVERS - 5,26%
- SEABEDS - 3,95%

### *TOP 5 OF COLLECTED ITEMS*

PLASTIC PIECES 2,5-50 CM

CIGARETTE BUTTS

PIECES OF GLASS

FOOD CONTAINERS

POLYSTYRENE PIECES 2,5-50 CM

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT ET LES COURS D'EAU

### PLASTIC

**10 793**
CIGARETTE BUTTS



**791**
BOTTLES ≤ 0,5 L



**887**
BOTTLES > 0,5 L

**2 650**
BOTTLE CAPS

**194**
OTHER BOTTLES OR CONTAINERS

**5 085**
FOOD CONTAINERS



**4 738**
PLASTIC BAGS AND PIECES

**1 738**
CRISPS PACKETS SWEET WRAPPERS

**1 077**
LOLLIPOP STICKS

**379**
MEDICAL WASTE: PACKAGING, CONTAINERS

**896**
SANITARY WASTES: COTTON SWAB

**473**
TAMPON APPLICATORS SANITARY TOWELS

**4 668**
POLYSTYRENE PIECES 2,5-50 CM

**12 433**
PLASTIC PIECES 2,5-50 CM

**1 141**
PLASTIC CUPS

**270**
CUTLERY TRAYS

**272**
STRAWS STIR-STICKS

**2 747**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**553**
FISHING LINES, (ANGLING)

**982**
TANGLED NETS/CORDS

**98**
SHOTGUN CARTRIDGES

**34**
TYRES WHEELS

**325**
TOYS AND PARTY POPPERS

**154**
LIGHTERS

**130**
BALLOONS INCL. VALVES

**164**
SHOES SANDALS

**123**
SHELLFISH AQUACULTURE

**200**
BIOMEDIAS

### GLASS

**537**
GLASS BOTTLES

**6 252**
PIECES OF GLASS

### METAL

**749**
CANS

**541**
METAL PIECES

### CLOTH

**505**
CLOTHING OTHER TEXTILES

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**58 739 items were picked up and quantified throughout 65 quantifications** carried out on the beaches and seabeds of this area, **over a distance of 46 350 meters. This represents a volume of 42,353 m³.** 762 bags were picked up throughout 65 Ocean Initiatives (36 in Spain and 29 in France).

### PLASTIC

**9 838**
CIGARETTE BUTTS



**676**
BOTTLES ≤ 0,5 L



**744**
BOTTLES > 0,5 L

**2 474**
BOTTLE CAPS

**119**
OTHER BOTTLES OR CONTAINERS

**4 962**
FOOD CONTAINERS



**4 492**
PLASTIC BAGS AND PIECES

**1 453**
CRISPS PACKETS SWEET WRAPPERS

**1 046**
LOLLIPOP STICKS

**376**
MEDICAL WASTE: PACKAGING, CONTAINERS

**892**
SANITARY WASTES: COTTON SWAB

**298**
TAMPON APPLICATORS SANITARY TOWELS

**4 471**
POLYSTYRENE PIECES 2,5-50 CM

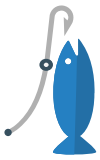
**12 292**
PLASTIC PIECES 2,5-50 CM

**1 010**
PLASTIC CUPS

**255**
CUTLERY TRAYS

**245**
STRAWS STIR-STICKS

**2 702**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**547**
FISHING LINES, (ANGLING)

**971**
TANGLED NETS/CORDS

**53**
SHOTGUN CARTRIDGES

**22**
TYRES WHEELS

**322**
TOYS AND PARTY POPPERS

**147**
LIGHTERS

**98**
BALLOONS INCL. VALVES

**154**
SHOES SANDALS

**122**
SHELLFISH AQUACULTURE

**198**
BIOMEDIAS

### GLASS

**253**
GLASS BOTTLES

**6 100**
PIECES OF GLASS

### METAL

**513**
CANS

**425**
METAL PIECES

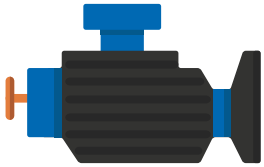
### CLOTH

**469**
CLOTHING OTHER TEXTILES

## FACT & FIGURES

**19,73%**
of the litter collected are pieces of plastic of indeterminate origin, between 2.5 and 50 cm.

**16,87%**
of the litter collected are cigarette butts.

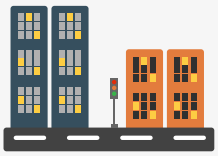


**4**
engines were retrieved during an underwater clean-up in Bermeo in Spain.

**40**
pieces of rubber used in shellfish farming were collected on a beach in the department of Vendée (France).

**With regard to beaches where the participative science actions took place:**

**77%**
of beaches and seabeds are tourist beaches.

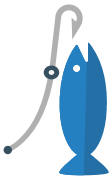


**85%**
of beaches are located near a town.

## TYPES OF ACTIVITIES

These are the main activities carried out on the area where the Ocean Initiatives took place, according to the Ocean Initiatives organizers. Several types of activities can take place on the same area. The percentages are given for information purposes only.

**66,2%**
of beaches are nautical activities areas (swimming, kite surfing, surfing, sailing, paddle boarding, diving...).



**63,1%**
of beaches are located near shellfish aquaculture.

**35,4%**
of beaches are located near port activity areas.

## TOTAL OF COLLECTED LITTER IN WATERCOURSES

**3 840 items were picked up and quantified throughout 11 quantifications** carried out on the watercourses of this area, **over a distance of 19 200 meters. This represents a volume of 4,915 m³.** 90 bags were picked up throughout 11 operations (4 in Spain and 7 in France).

### PLASTIC

**955**
CIGARETTE BUTTS



**115**
BOTTLES ≤ 0,5 L



**143**
BOTTLES > 0,5 L

**176**
BOTTLE CAPS

**75**
OTHER BOTTLES OR CONTAINERS

**123**
FOOD CONTAINERS



**246**
PLASTIC BAGS AND PIECES

**285**
CRISPS PACKETS SWEET WRAPPERS

**31**
LOLLIPOP STICKS

**3**
MEDICAL WASTE: PACKAGING, CONTAINERS

**4**
SANITARY WASTES: COTTON SWAB

**175**
TAMPON APPLICATORS SANITARY TOWELS

**197**
POLYSTYRENE PIECES 2,5-50 CM

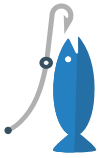
**141**
PLASTIC PIECES 2,5-50 CM

**131**
PLASTIC CUPS

**25**
CUTLERY TRAYS

**17**
STRAWS STIR-STICKS

**45**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**6**
FISHING LINES, (ANGLING)

**11**
TANGLED NETS/CORDS

**45**
SHOTGUN CARTRIDGES

**12**
TYRES WHEELS

**3**
TOYS AND PARTY POPPERS

**7**
LIGHTERS

**32**
BALLOONS INCL. VALVES

**10**
SHOES SANDALS

**1**
SHELLFISH AQUACULTURE

**2**
BIOMEDIAS

### GLASS

**284**
GLASS BOTTLES

**152**
PIECES OF GLASS

### METAL

**236**
CANS

**116**
METAL PIECES

### CLOTH

**36**
CLOTHING OTHER TEXTILES

## FACT & FIGURES

**24,87%**
of collected litter
are cigarette butts.

**7,42%**
of collected litter are
crisps packets/sweet wrappers.

**2**
Twice less litter was collected on the shores
of lakes and rivers in the Bay of Biscay
compared to 2016.

**40**
Shotgun cartridge were
picked up on the shores of a lake
in the Department of Gironde (France).

## PERCEPTION OF THE ORIGIN OF THE LITTER

We have asked participants to tell us what, according to them, is the origin of the litter found on their actions. Here are their answers:

**91%**
of rivers and lakes monitored by our
organizers are situated next to a town.

**82%**
of the people questioned think that the litter
came from daily anti-social behavior, leaving litter
directly on the banks of watercourses (from fishing,
parties, picnics or walks).

## TESTIMONIAL

### OH LA LA EAUX VIVES

**WHITEWATER ACTIVITIES AT THE FOOT OF THE PYRENEES,**

CLEAN-UPS CARRIED OUT FROM 19 MARCH 2017 TO 5 NOVEMBER 2017.

*« 50 volunteers equipped with rubber boots and a smile despite the weather. In one morning two 660 liters containers were filled. Workshops were held to learn how to sort the micro waste and quantify it. Participants worked with artists and discovered and talked about Zero Waste principles. They all left with a Kinder capsule filled with homemade toothpaste made from white clay, whiting and essential oil.*

*We found a significant rise in the number of small toys, cotton buds and lollipop sticks. Therefore at the Ohlala reception from March there will be stainless steel Oriculis ear picks for sale. We also organised a macro and micro waste collection in partnership with the University of Pau and Pays de l'Adour.*

*A clean-up was carried out over two areas of around 450 m in total, and we collected:*

- *321 micro waste items measuring less than 1 cm*
- *691 macro waste items between 1 cm and 8 cm*
- *158 non-fragmented (whole) waste items. »*

initiatives.org

# GREATER NORTH SEA

*UNITED KINGDOM, NORTHERN AREA OF FRANCE, BELGIUM, NETHERLANDS, DENMARK, WESTERN AREA OF GERMANY, NORWAY AND SWEDEN.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 171 Ocean Initiatives which took place in this sea area.

**4 524***
people reached
**1 172* were children.**

**2 298***
bags of litter collected
by participants.

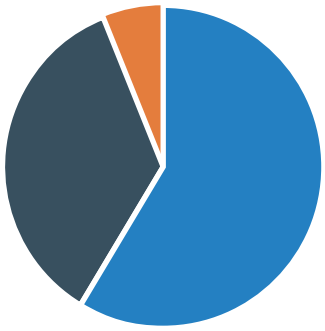
**198 011 m***
of coastline length covered
by participants.

**140 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

The 17 quantifications took place in France (16 operations) and Belgium (1 operation).
**17 369 items were picked up and quantified, in 17 Ocean Initiatives (of all types) over a distance of 14 550 meters. The volume picked up represents 14,42 m³.**

### TYPES OF COLLECTIONS



- BEACHES - 58,82%
- LAKES - 5,88%
- RIVERS - 35,29%

### TOP 5 OF COLLECTED ITEMS

CIGARETTE BUTTS

PLASTIC PIECES 2,5-50 CM

CRISPS PACKETS SWEET WRAPPERS

POLYSTYRENE PIECES 2,5-50 CM



PLASTIC BAGS AND PIECES

# TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT AND WATERCOURSES

## PLASTIC

**7 401**
CIGARETTE BUTTS



**269**
BOTTLES ≤ 0,5 L



**255**
BOTTLES > 0,5 L

**649**
BOTTLE CAPS

**87**
OTHER BOTTLES OR CONTAINERS

**722**
FOOD CONTAINERS



**983**
PLASTIC BAGS AND PIECES

**1 292**
CRISPS PACKETS SWEET WRAPPERS

**248**
LOLLIPOP STICKS

**56**
MEDICAL WASTE: PACKAGING, CONTAINERS

**61**
SANITARY WASTES: COTTON SWAB

**21**
TAMPON APPLICATORS SANITARY TOWELS

**976**
POLYSTYRENE PIECES 2,5-50 CM

**1 314**
PLASTIC PIECES 2,5-50 CM

**166**
PLASTIC CUPS

**92**
CUTLERY TRAYS

**74**
STRAWS STIR-STICKS

**229**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**127**
FISHING LINES, (ANGLING)

**167**
TANGLED NETS/CORDS

**175**
SHOTGUN CARTRIDGES

**23**
TYRES WHEELS

**48**
TOYS AND PARTY POPPERS

**52**
LIGHTERS

**25**
BALLOONS INCL. VALVES

**62**
SHOES SANDALS

**15**
SHELLFISH AQUACULTURE

**21**
BIOMEDIAS

## GLASS

**296**
GLASS BOTTLES

**671**
PIECES OF GLASS

## METAL

**394**
CANS

**245**
METAL PIECES

## CLOTH

**153**
CLOTHING OTHER TEXTILES

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**10478 items were picked up and quantified throughout 10 collections** carried out on the beaches and seabeds of this area, **over a distance of 7850 meters. This represents a volume of 5,8 m³.** 92 bags were picked up throughout 10 Ocean Initiatives in France.

### PLASTIC

**3 841**
CIGARETTE BUTTS



**126**
BOTTLES ≤ 0,5 L



**111**
BOTTLES > 0,5 L

**544**
BOTTLE CAPS

**77**
OTHER BOTTLES OR CONTAINERS

**406**
FOOD CONTAINERS



**730**
PLASTIC BAGS AND PIECES

**416**
CRISPS PACKETS SWEET WRAPPERS

**144**
LOLLIPOP STICKS

**35**
MEDICAL WASTE: PACKAGING, CONTAINERS

**20**
SANITARY WASTES: COTTON SWAB

**8**
TAMPON APPLICATORS SANITARY TOWELS

**878**
POLYSTYRENE PIECES 2,5-50 CM

**1 243**
PLASTIC PIECES 2,5-50 CM

**87**
PLASTIC CUPS

**43**
CUTLERY TRAYS

**51**
STRAWS STIR-STICKS

**225**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**118**
FISHING LINES, (ANGLING)

**161**
TANGLED NETS/CORDS

**161**
SHOTGUN CARTRIDGES

**2**
TYRES WHEELS

**36**
TOYS AND PARTY POPPERS

**42**
LIGHTERS

**10**
BALLOONS INCL. VALVES

**38**
SHOES SANDALS

**15**
SHELLFISH AQUACULTURE

**1**
BIOMEDIAS

### GLASS

**55**
GLASS BOTTLES

**431**
PIECES OF GLASS

### METAL

**151**
CANS

**156**
METAL PIECES

### CLOTH

**116**
CLOTHING OTHER TEXTILES

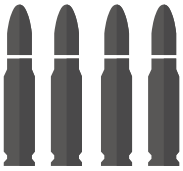
## FACT & FIGURES

**36,7%**

Of the litter collected are cigarette butts.

**5,19%**

Of the litter collected are bottle caps.



**125**

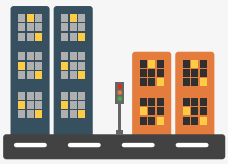
were collected in a single clean-up along this sea shore.

**80%**

of participants think the North sea and the Channel are an important sea route.

**90%**

of beaches where quantification action took place are tourist beaches.



**90%**

of beaches where quantification action took place are located near a town.

## TYPES OF ACTIVITIES

These are the main activities carried out on the area where the Ocean Initiatives took place, according to the organizers. Several types of activities can take place on the same area. The percentages are given for information purpose only.

**80%**

Of beaches carry nautical activities such as: swimming, kite surfing, surfing, sailing, paddle boarding, diving...

**40%**

Of beaches are located near port activity areas. The organizers reported this Channel Coast area to experience intense shipping activity between France and the United Kingdom.

## TOTAL OF COLLECTED LITTER IN WATERCOURSES

**6 891 items were picked up and quantified** on the rivers and lakes bank, **over a distance of 6 700 meters. This represents a volume of 8,62 m³.** 105 bags were picked up throughout 7 operations (1 in Belgium, 6 in France).

### PLASTIC

**3 560**
CIGARETTE BUTTS



**143**
BOTTLES ≤ 0,5 L



**144**
BOTTLES > 0,5 L

**105**
BOTTLE CAPS

**10**
OTHER BOTTLES OR CONTAINERS

**316**
FOOD CONTAINERS



**253**
PLASTIC BAGS AND PIECES

**876**
CRISPS PACKETS SWEET WRAPPERS

**104**
LOLLIPOP STICKS

**21**
MEDICAL WASTE: PACKAGING, CONTAINERS

**41**
SANITARY WASTES: COTTON SWAB

**13**
TAMPON APPLICATORS SANITARY TOWELS

**98**
POLYSTYRENE PIECES 2,5-50 CM

**71**
PLASTIC PIECES 2,5-50 CM

**79**
PLASTIC CUPS

**49**
CUTLERY TRAYS

**23**
STRAWS STIR-STICKS

**4**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**9**
FISHING LINES, (ANGLING)

**6**
TANGLED NETS/CORDS

**14**
SHOTGUN CARTRIDGES

**21**
TYRES WHEELS

**12**
TOYS AND PARTY POPPERS

**10**
LIGHTERS

**15**
BALLOONS INCL. VALVES

**24**
SHOES SANDALS

**0**
SHELLFISH AQUACULTURE

**20**
BIOMEDIAS

### GLASS

**241**
GLASS BOTTLES

**240**
PIECES OF GLASS

### METAL

**243**
CANS

**89**
METAL PIECES

### CLOTH

**37**
CLOTHING OTHER TEXTILES

## SOME DATA

**Here are some of the most frequently founded items on the riverbanks of this area:**

**51,66%**
**CIGARETTE BUTTS**

**12,71%**
**CRISPS PACKETS SWEET WRAPPERS**

**14**
**14 tyres were collected along 2.5 km of banks of the Seille and the Servonne, 2 rivers of the administrative area of Saône et Loire. (France)**

**100%**
of Ocean Initiatives took place in watercourses close to agricultural areas.

## PERCEPTION OF THE ORIGIN OF THE LITTER

We have asked participants to tell us what, according to them, is the origin of the litter found on their operations. Here are the answers:

The organizers highlighted anti-social behaviour (litter left by walkers, presence of a high school near the river, anglers), phenomena of high water levels and flooding which carry waste from towns and farmland as well as the presence of illegal fly-tipping sites near watercourses.

## TESTIMONIAL

### *WINTER CLEANING OF THE CLOUÈRE AND VERNEUIL LAKE*

**VIENNE (FRANCE),** 12 JANUARY 2017.

*« I joined the Gençay MFR (rural vocational training centre) 3 years ago as a cultural activity leader and my predecessor had at that time set up a program to raise awareness of youngsters on environmental issues. As I am personally very committed to the protection of nature, both animals and plants, it was obviously a program I was keen to continue and develop.*

*The idea is to link environment with the school curriculum: we have planned a whole week of awareness raising activities (debates, screening of documentaries, etc.) and a large clean-up is organised along the river bank.*

*Last year we also planned a screening-debate on the 7th continent, this 'plastic soup' which has formed due to the effect of currents in the north of the Pacific Ocean. We then organised an exhibition around the consequences of the issues raised in the report.*

*We try to raise the awareness of as many young people as possible about the fact that litter inevitably ends up in the sea. Every week, our youngsters have to perform a few tasks relating to the environment, such as making sure all the waste from the building has been properly sorted, that there is no litter outside on the grounds.*

*What we find most often in the clean-ups are plastic bottle caps, food packaging and fishing material. The lake is a place where families, friends and anglers like to gather and unfortunately far too much litter is found there.*

*One year, we found a road sign and a large piece of metal grating, certainly used as a fish screen. We also spotted a fly-tipping site for tyres upstream from the river; we try to ensure that we no longer have to remove these types of waste or any other! »*

*« What we find most often in the clean-ups are plastic bottle caps, food packaging and fishing material. »*

# WESTERN MEDITERRANEAN SEA

*FRANCE, SPAIN, ITALY, MOROCCO, TUNISIA AND ALGERIA.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 255 Ocean Initiatives which took place in this sea area.

**9 781***
people reached,
**2 332*were children.**

**6 029***
bags of litter collected
by participants.

**234 955 m***
of coastline length covered
by participants

**481 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

The 45 quantifications took place in Algeria (1 ) Spain (12), France (24), Italy (7) and Tunisia (1). **113 822 items were picked up and quantified, over a distance of 38 350 meters. The volume picked up represents 85,375 m³.**

### *TYPES OF COLLECTIONS*

### *TOP 5 OF COLLECTED ITEMS*

CIGARETTE BUTTS

PLASTIC DRINK BOTTLES

PLASTIC PIECES 2,5-50 CM



PLASTIC BAGS AND PIECES

POLYSTYRENE PIECES 2,5-50 CM

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT AND WATERCOURSES

### PLASTIC

**28 237**
CIGARETTE BUTTS



**2 273**
BOTTLES ≤ 0,5 L



**17 061**
BOTTLES > 0,5 L

**4 896**
BOTTLE CAPS

**501**
OTHER BOTTLES OR CONTAINERS

**2 947**
FOOD CONTAINERS



**5 987**
PLASTIC BAGS AND PIECES

**3 556**
CRISPS PACKETS SWEET WRAPPERS

**3 520**
LOLLIPOP STICKS

**1 426**
MEDICAL WASTE: PACKAGING, CONTAINERS

**4 041**
SANITARY WASTES: COTTON SWAB

**743**
TAMPON APPLICATORS SANITARY TOWELS

**5 887**
POLYSTYRENE PIECES 2,5-50 CM

**9 126**
PLASTIC PIECES 2,5-50 CM

**2 123**
PLASTIC CUPS

**1 092**
CUTLERY TRAYS

**2 139**
STRAWS STIR-STICKS

**1 605**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**1 059**
FISHING LINES, (ANGLING)

**1 091**
TANGLED NETS/CORDS

**1 068**
SHOTGUN CARTRIDGES

**48**
TYRES WHEELS

**953**
TOYS AND PARTY POPPERS

**818**
LIGHTERS

**340**
BALLOONS INCL. VALVES

**417**
SHOES SANDALS

**194**
SHELLFISH AQUACULTURE

**732**
BIOMEDIAS

### GLASS

**1 464**
GLASS BOTTLES

**3 881**
PIECES OF GLASS

### METAL

**2 124**
CANS

**1 138**
METAL PIECES

### CLOTH

**1 335**
CLOTHING OTHER TEXTILES

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**110 943 items were picked up and quantified during 42 Ocean Initiatives carried out on the beaches** (1 in Algeria, 12 in Spain, 21 in France 7 in Italy and 1 in Tunisia) of this area, **over a distance of 36 350 meters. 886 bags were filled and this represents a volume of 81,46 m³.**

### PLASTIC

**28 103**
CIGARETTE BUTTS



**2 199**
BOTTLES ≤ 0,5 L



**16 918**
BOTTLES > 0,5 L

**4 826**
BOTTLE CAPS

**501**
OTHER BOTTLES OR CONTAINERS

**2 827**
FOOD CONTAINERS



**5 834**
PLASTIC BAGS AND PIECES

**3 485**
CRISPS PACKETS SWEET WRAPPERS

**3 520**
LOLLIPOP STICKS

**1 414**
MEDICAL WASTE: PACKAGING, CONTAINERS

**4 033**
SANITARY WASTES: COTTON SWAB

**687**
TAMPON APPLICATORS SANITARY TOWELS

**5 390**
POLYSTYRENE PIECES 2,5-50 CM

**8 312**
PLASTIC PIECES 2,5-50 CM

**2 108**
PLASTIC CUPS

**1 066**
CUTLERY TRAYS

**2 139**
STRAWS STIR-STICKS

**1 603**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**1 058**
FISHING LINES, (ANGLING)

**1 091**
TANGLED NETS/CORDS

**1 041**
SHOTGUN CARTRIDGES

**47**
TYRES WHEELS

**947**
TOYS AND PARTY POPPERS

**817**
LIGHTERS

**340**
BALLOONS INCL. VALVES

**388**
SHOES SANDALS

**194**
SHELLFISH AQUACULTURE

**732**
BIOMEDIAS

### GLASS

**1 314**
GLASS BOTTLES

**3 848**
PIECES OF GLASS

### METAL

**1 937**
CANS

**1 104**
METAL PIECES

### CLOTH

**1 120**
CLOTHING OTHER TEXTILES

## SOME DATA

**25,33%**
of collected litter are cigarette butts.

**17,23%**
of collected litter are plastic drink bottles.

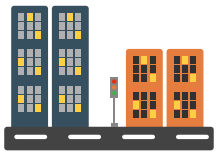
**3,64%**
of collected litter are plastic cotton buds

Many sanitary products were found on the beaches of the Western Mediterranean. On one beach in Marseille, **40 wipes were picked up** by high school pupils.

**31%**
of the organizers identified one or several events with a possible influence on the quantity of litter found on the beaches and seabeds of the Mediterranean coastline.

**58%**
of the organizers informed us about weather conditions that might explain the quantity and type of litter found during their action.

**95%**
of beaches where the quantification took place are tourist beaches.



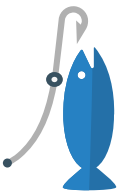
**86%**
of beaches where the quantification took place are located near a town.

**Thousands of plastic bottles were collected by our volunteers through several Ocean Initiatives in the Western Mediterranean. Almost 10 000 bottles were collected in Tunisia, near Djerba, and 4530 bottles of more than 50 cl were counted on Saint Asile beach in the Var (France).**

## TYPES OF ACTIVITIES

These are the main activities carried out on the area where the Ocean Initiatives took place, according to the organizers. Several types of activities can take place on the same area. The percentages are given for information purposes only.

**71,42%**
of beaches are nautical activities areas (swimming, kite surfing, sailing, paddle boarding, diving...).



**66,7%**
of the beaches are close to professional fishing and leisure areas.

## TOTAL OF COLLECTED LITTER IN WATERCOURSES

**2 879 items were picked up and quantified on 3 quantifications carried out on the watercourses of this area (France), over a distance of 2000 meters.** 87 bags were filled and this represents a volume of 3,915 m³.

### PLASTIC

**134**
CIGARETTE BUTTS



**74**
BOTTLES ≤ 0,5 L



**143**
BOTTLES > 0,5 L

**70**
BOTTLE CAPS

**0**
OTHER BOTTLES OR CONTAINERS

**120**
FOOD CONTAINERS



**153**
PLASTIC BAGS AND PIECES

**71**
CRISPS PACKETS SWEET WRAPPERS

**0**
LOLLIPOP STICKS

**12**
MEDICAL WASTE: PACKAGING, CONTAINERS

**8**
SANITARY WASTES: COTTON SWAB

**56**
TAMPON APPLICATORS SANITARY TOWELS

**497**
POLYSTYRENE PIECES 2,5-50 CM

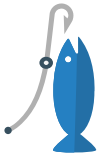
**814**
PLASTIC PIECES 2,5-50 CM

**15**
PLASTIC CUPS

**26**
CUTLERY TRAYS

**0**
STRAWS STIR-STICKS

**2**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**1**
FISHING LINES, (ANGLING)

**0**
TANGLED NETS/CORDS

**27**
SHOTGUN CARTRIDGES

**1**
TYRES WHEELS

**6**
TOYS AND PARTY POPPERS

**1**
LIGHTERS

**0**
BALLOONS INCL. VALVES

**29**
SHOES SANDALS

**0**
SHELLFISH AQUACULTURE

**0**
BIOMEDIAS

### GLASS

**150**
GLASS BOTTLES

**33**
PIECES OF GLASS

### METAL

**187**
CANS

**34**
METAL PIECES

### CLOTH

**215**
CLOTHING OTHER TEXTILES

## SOME DATA

**Here are some of the most frequently founded items on the riverbanks of this area:**

**28,27%**
PLASTIC PIECES
2,5-50 CM



**17,26%**
POLYSTYRENE
PIECES 2,5-50 CM

## 39 BAGS

of waste were collected from the banks of the river Lez. 4 were filled solely with textiles.

## CLEAN-UP ON THE BANKS OF THE EYGUES RIVER (FRANCE)

The organizer reported that the waste collected came from towns and villages upstream, from agricultural land along the river (vines and fruit trees), and from hunting. 678 out of the 764 plastic pieces come from farming activities (protective vine covers, hosepipes, bags of organic fertilisers, 1 - empty - container of Monsanto herbicide, etc.). 195 of these agricultural waste items were made up of melted plastic (found on the edge of fields of one or more farmers).

## TESTIMONIAL

### *ANDREA CAVALLERONI*, SEVERAL OPERATIONS
**PORTOFINO, ITALY.**

*« I organized an Ocean Initiative because I care about the environment, the sea and because I believe the plastic problem is one of the greatest we are facing. I am already reducing my single use plastic consumption and I am for total ban. The Ocean Initiatives are a good tool to sensitize people, especially the participants but the people reached as well via social media with the photos and infographics on the amount of waste collected. I organized three OI in 2017. Two in In June and December on the same beach in Recco. The second time was mainly because of giant waves bringing loads of driftwood and plastic on the beach. In fact more people came to help (possibly having realized the severity of the situation) and we really picked up a lot of stuff. The third OI was a kayak cleanup over a few kilometers of coast with my friends from Outdoor Portofino who got inspired to do it after the first Ocean Initiative I organized.*

*I got inspired by a Surfrider Newsletter to organise the first one in June 2017. I think I am gaining experience to organise more cleanups in the future and I am getting even more passionate (if possible) about the plastic problem. I have found that most of the participants were very active during the operations and I believe they got quite an insight of the extent of the problem by participating and with my brief explanation. I am slightly disappointed that only a few surfers from that beach came to the cleanup, but at least a few of them were there, even people 15 years younger than me, so they learned about the problem. Yes, I do believe they have a clearer vision of the marine litter problem now. »*

## MOHAMMED BELKHEIRA, « ZERO WASTE » COLLECTION, CHERCHELL, (ALGERIA)

### AQUATIC ACTIVITIES CLUB WATERMAN, MARCH 25TH, 2017

*« We spend a lot of time on the ocean shore, water sports are our main hobbies (bodyboarding, surfing, freediving). When we go to the beach, we always see a lot of plastic litter, and in particular household waste because some people in Algeria throw their waste directly into the river. Everyone spends a lot of time outside, and we find abandoned bags, bottles and many other everyday waste items. In addition to this litter carried away to the beaches, we also find waste from boats, as there is a fishing port just 1 km from the beaches we usually go to. In the end, there is so much waste we can't do the whole beach. In general, we cover between 30 and 40% of it.*

*We have been cleaning the beaches for three years, and at the beginning there were a lot of participants. We always try to get as many people as possible involved, but some participants don't come back, discouraged to see that despite their efforts the amount of litter just keeps growing.*

*But even if some are disheartened, we will continue the actions, and we are going to try to set up underwater clean-ups. »*

# IBERIAN COAST

*SPAIN (CAPE ORTEGAL) PORTUGAL.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 34 Ocean Initiatives which took place in this sea area.

**918***
people reached
**231* were children.**

**510***
bags of litter collected
by participants.

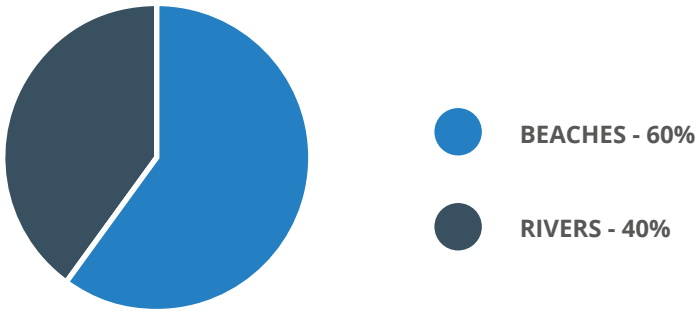
**32 710 m***
of coastline length covered
by participants.

**42 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

10 quantifications took place in Spain (5 Ocean Initiatives) and Portugal (5). **12 087 items were picked up and quantified, over a distance of 7 250 meters. The volume picked up represents 14,975 m3³.**

### *TYPES OF COLLECTIONS*




### *TOP 5 OF COLLECTED ITEMS*

PLASTIC PIECES 2,5-50 CM

POLYSTYRENE PIECES 2,5-50 CM

CIGARETTE BUTTS

SANITARY WASTES: COTTON SWAB

PLASTIC DRINK BOTTLES

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT AND WATERCOURSES

### PLASTIC

1 209
CIGARETTE BUTTS



530
BOTTLES ≤ 0,5 L



392
BOTTLES > 0,5 L

512
BOTTLE CAPS

3
OTHER BOTTLES OR CONTAINERS

593
FOOD CONTAINERS



283
PLASTIC BAGS AND PIECES

456
CRISPS PACKETS SWEET WRAPPERS

294
LOLLIPOP STICKS

45
MEDICAL WASTE: PACKAGING, CONTAINERS

1 114
SANITARY WASTES: COTTON SWAB

88
TAMPON APPLICATORS SANITARY TOWELS

1 903
POLYSTYRENE PIECES 2,5-50 CM

2 121
PLASTIC PIECES 2,5-50 CM

583
PLASTIC CUPS

21
CUTLERY TRAYS

201
STRAWS STIR-STICKS

277
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

239
FISHING LINES, (ANGLING)

47
TANGLED NETS/CORDS

2
SHOTGUN CARTRIDGES

3
TYRES WHEELS

18
TOYS AND PARTY POPPERS

22
LIGHTERS

11
BALLOONS INCL. VALVES

16
SHOES SANDALS

12
SHELLFISH AQUACULTURE

6
BIOMEDIAS

### GLASS

152
GLASS BOTTLES

322
PIECES OF GLASS

### METAL

304
CANS

161
METAL PIECES

### CLOTH

147
CLOTHING OTHER TEXTILES

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**7 917 items were picked up and quantified during 5 Ocean Initiatives** carried out on the beaches of this area, over a distance of 2 700 meters. 113,5 bags were picked up on these 5 operations (4 in Portugal, 1 in Spain)**.**
**This represents a volume of 11,85 m³.**

### PLASTIC

**1 021**
CIGARETTE BUTTS



**247**
BOTTLES ≤ 0,5 L



**137**
BOTTLES > 0,5 L

**320**
BOTTLE CAPS

**3**
OTHER BOTTLES OR CONTAINERS

**192**
FOOD CONTAINERS



**160**
PLASTIC BAGS AND PIECES

**70**
CRISPS PACKETS SWEET WRAPPERS

**150**
LOLLIPOP STICKS

**13**
MEDICAL WASTE: PACKAGING, CONTAINERS

**1 100**
SANITARY WASTES: COTTON SWAB

**60**
TAMPON APPLICATORS SANITARY TOWELS

**1 190**
POLYSTYRENE PIECES 2,5-50 CM

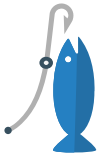
**1 600**
PLASTIC PIECES 2,5-50 CM

**560**
PLASTIC CUPS

**20**
CUTLERY TRAYS

**175**
STRAWS STIR-STICKS

**275**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**234**
FISHING LINES, (ANGLING)

**41**
TANGLED NETS/CORDS

**2**
SHOTGUN CARTRIDGES

**1**
TYRES WHEELS

**0**
TOYS AND PARTY POPPERS

**16**
LIGHTERS

**0**
BALLOONS INCL. VALVES

**14**
SHOES SANDALS

**12**
SHELLFISH AQUACULTURE

**6**
BIOMEDIAS

### GLASS

**54**
GLASS BOTTLES

**171**
PIECES OF GLASS

### METAL

**40**
CANS

**26**
METAL PIECES

### CLOTH

**7**
CLOTHING OTHER TEXTILES

## SOME DATA

**20,2%**

of the litter collected are pieces of plastic of indeterminate origin between 2.5 et 50 cm.

**13,9%**

of the litter collected are cotton buds.

**150**

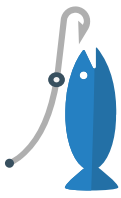
150 cigarette butts were collected by two people in 5 minutes (on a Portuguese beach in Valadares).

## TYPES OF ACTIVITIES

These are the main activities carried out on the area where the Ocean Initiatives took place, according to the organizers. Several types of activities can take place on the same area. The percentages are given for information purpose only.

**100%**

of beaches are nautical activity areas (swimming, kite surfing, sailing, paddle boarding, diving...).



**80%**

of the beaches are close to professional fishing and leisure areas.

## TOTAL OF COLLECTED LITTER IN WATERCOURSES

**4 170 items were picked up and quantified during 4 Ocean Initiatives (Spain)** carried out on the river banks of this area, **over a distance of 4 550 meters.** 34 bags were picked up during these 4 operations. **This represents a volume of 3,125 m³.**

### PLASTIC

**188**
CIGARETTE BUTTS



**283**
BOTTLES ≤ 0,5 L



**255**
BOTTLES > 0,5 L

**192**
BOTTLE CAPS

**0**
OTHER BOTTLES OR CONTAINERS

**401**
FOOD CONTAINERS



**123**
PLASTIC BAGS AND PIECES

**386**
CRISPS PACKETS SWEET WRAPPERS

**144**
LOLLIPOP STICKS

**32**
MEDICAL WASTE: PACKAGING, CONTAINERS

**14**
SANITARY WASTES: COTTON SWAB

**28**
TAMPON APPLICATORS SANITARY TOWELS

**713**
POLYSTYRENE PIECES 2,5-50 CM

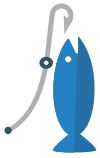
**521**
PLASTIC PIECES 2,5-50 CM

**23**
PLASTIC CUPS

**1**
CUTLERY TRAYS

**26**
STRAWS STIR-STICKS

**2**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**5**
FISHING LINES, (ANGLING)

**6**
TANGLED NETS/CORDS

**0**
SHOTGUN CARTRIDGES

**2**
TYRES WHEELS

**18**
TOYS AND PARTY POPPERS

**6**
LIGHTERS

**11**
BALLOONS INCL. VALVES

**2**
SHOES SANDALS

**0**
SHELLFISH AQUACULTURE

**0**
BIOMEDIAS

### GLASS

**98**
GLASS BOTTLES

**151**
PIECES OF GLASS

### METAL

**264**
CANS

**135**
METAL PIECES

### CLOTH

**140**
CLOTHING OTHER TEXTILES

## SOME DATA

**Here are some of the most frequently founded items on the riverbanks of this area**

**12,90%**
PLASTIC BOTTLES

**9,62%**
PLASTIC FOOD CONTAINERS

**463**
POLYSTYRÈNE PIECES 2,5-50 CM WERE FOUND DURING A SINGLE RIVER CLEAN UP

## TESTIMONIAL

### *VIRGINIE COPPIN (LICEO FRANCES DE MADRID), MULTIPLE RIVER CLEAN-UPS*

**MADRID (SPAIN).**

*« I am a teacher at the French Lycée in Madrid and I organise Ocean Initiatives with my pupils to raise young people awareness on environmental issues. We are in a city and the clean-ups are organised along the river: this action is all the more important as the children don't realise that the debris found in oceans come from inland towns and cities.*

*Contrary to what we might think, the waste found in the sea does not just come from people living on the coasts. Before each collection we take time to teach the children so that they understand that the litter that casually gets thrown on the ground here in the city, ends up in the river and then the ocean, destroying the animals and plants. Children are very receptive and always motivated for the clean-ups, we hope to continue this action with the 6 and 7 years-old.*

*We also ensure that older pupils understand environmental issues. Every year some of the high school classes go surfing on different sites on the coast and take part in clean-ups, on the ocean shores this time.*

*The most common type of waste we find is, of course, plastic in all its forms: food packaging, bottles, and especially a lot of bags. There are no laws in Spain banning plastic bags in supermarkets. In some you have to pay for them, like in French supermarkets, but most of the time they are given out free of charge and we find them on the river banks. That is why we are trying to raise pupils' awareness, as they are the future generations who will gradually introduce the change needed to ensure we move towards a more sustainable lifestyle. »*

# CELTIC SEA

*IRELAND, GREAT BRITAIN FRANCE.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 60 Ocean Initiatives which took place in this sea area.

**1 365***
people reached
**457* were children.**

**654***
bags of litter collected
by participants.

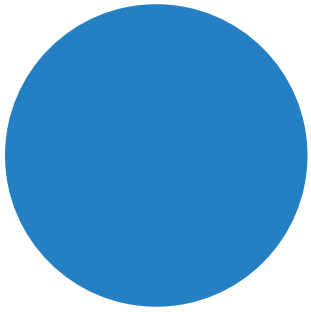
**69 572 m***
Of coastline length covered
by participants.

**28 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

11 quantifications took place in France (Bretagne). **4 647 items were picked up and quantified, over a distance of 12 300 meters. The volume picked up represents 3,73 m³.**

### TYPES OF COLLECTIONS



BEACHES - 100%

### TOP 5 OF COLLECTED ITEMS

CIGARETTE BUTTS

PLASTIC PIECES 2,5-50 CM

FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

PIECES OF GLASS

POLYSTYRENE PIECES 2,5-50 CM

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**4 299 items were picked up and quantified during 11 Ocean Initiatives** carried out on the beaches of this area, **over a distance of 12 300 meters. 110 bags were picked up and this represents a volume of 3,73 m³.**

### PLASTIC

**798**
CIGARETTE BUTTS



**44**
BOTTLES ≤ 0,5 L



**92**
BOTTLES > 0,5 L

**167**
BOTTLE CAPS

**52**
OTHER BOTTLES OR CONTAINERS

**141**
FOOD CONTAINERS



**131**
PLASTIC BAGS AND PIECES

**200**
CRISPS PACKETS SWEET WRAPPERS

**144**
LOLLIPOP STICKS

**10**
MEDICAL WASTE: PACKAGING, CONTAINERS

**36**
SANITARY WASTES: COTTON SWAB

**32**
TAMPON APPLICATORS SANITARY TOWELS

**328**
POLYSTYRENE PIECES 2,5-50 CM

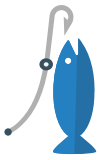
**606**
PLASTIC PIECES 2,5-50 CM

**21**
PLASTIC CUPS

**87**
CUTLERY TRAYS

**43**
STRAWS STIR-STICKS

**520**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)



**47**
FISHING LINES, (ANGLING)

**146**
TANGLED NETS/CORDS

**11**
SHOTGUN CARTRIDGES

**4**
TYRES WHEELS

**5**
TOYS AND PARTY POPPERS

**17**
LIGHTERS

**9**
BALLOONS INCL. VALVES

**16**
SHOES SANDALS

**38**
SHELLFISH AQUACULTURE

**4**
BIOMEDIAS

### GLASS

**97**
GLASS BOTTLES

**352**
PIECES OF GLASS

### METAL

**48**
CANS

**32**
METAL PIECES

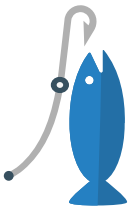
### CLOTH

**21**
CLOTHING OTHER TEXTILES

## SOME DATE

**18,56%**

of the litter collected
are cigarette butts.

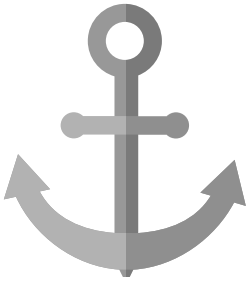


**16,59%**

of collected litter are
linked to fishing activities.

**82%**

of the Ocean Initiatives organizers feel
the Celtic sea area is an important navigation zone.



**73%**

of beaches are located
near port activity areas.

**82%**

of beaches are nautical activity areas
(swimming, lite surfing, sailing, paddle surfing etc.)

# BALTIC SEA

*GERMANY, DENMARK, ESTONIA, LATVIA, LITHUANIA, FINLAND, POLAND AND SWEDEN.*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 12 Ocean Initiatives which took place in this sea area.

**468***
people reached
**223* were children.**

**103***
bags of litter collected
by participants.

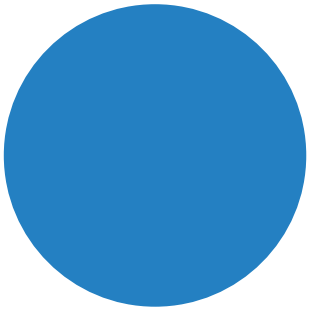
**21 600 m***
of coastline length covered
by participants

**3 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

5 quantifications took place in Germany. **2 314 items items were picked up and quantified, over a distance of 8 850 meters. The volume picked up represents 0,45 m³.**

### *TYPES OF COLLECTIONS*



BEACHES - 100%

### *TOP 5 OF COLLECTED ITEMS*

CIGARETTE BUTTS

PLASTIC PIECES 2,5-50 CM

CANS

POLYSTYRENE PIECES 2,5-50 CM

CRISPS PACKETS SWEET WRAPPERS

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT

**2314 items were picked up and quantified during 5 Ocean Initiatives** carried out on the beaches of this area, **over a distance of 8850 meters.** 10 bags were picked up on German beaches, **and this represents a volume of 11,85 m³.**

### PLASTIC

**621**
CIGARETTE BUTTS



**21**
BOTTLES ≤ 0,5 L



**66**
BOTTLES > 0,5 L

**48**
BOTTLE CAPS

**6**
OTHER BOTTLES OR CONTAINERS

**86**
FOOD CONTAINERS



**111**
PLASTIC BAGS AND PIECES

**120**
CRISPS PACKETS SWEET WRAPPERS

**58**
LOLLIPOP STICKS

**19**
MEDICAL WASTE: PACKAGING, CONTAINERS

**6**
SANITARY WASTES: COTTON SWAB

**5**
TAMPON APPLICATORS SANITARY TOWELS

**139**
POLYSTYRENE PIECES 2,5-50 CM

**585**
PLASTIC PIECES 2,5-50 CM

**28**
PLASTIC CUPS

**11**
CUTLERY TRAYS

**47**
STRAWS STIR-STICKS

**17**
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

**11**
FISHING LINES, (ANGLING)

**10**
TANGLED NETS/CORDS

**1**
SHOTGUN CARTRIDGES

**4**
TYRES WHEELS

**14**
TOYS AND PARTY POPPERS

**6**
LIGHTERS

**3**
BALLOONS INCL. VALVES

**3**
SHOES SANDALS

**8**
SHELLFISH AQUACULTURE

**0**
BIOMEDIAS

### GLASS

**55**
GLASS BOTTLES

**21**
PIECES OF GLASS

### METAL

**144**
CANS

**21**
METAL PIECES

### CLOTH

**19**
CLOTHING OTHER TEXTILES

## SOME DATA

**26,84%**

of collected litter
are cigarette butts

**6,22%**

of collected litter
are cans.

# PARAFFIN AND FIREWORKS WASTE

have been found in large quantities during 2 beach clean ups.

**60%**

Of beaches are nautical activity areas
(swimming, kite surfing, sailing, paddle surfing, diving, etc.).

## TESTIMONIAL

### *ANKE PAAP, BEACH CLEAN UP*

**GLOWE (GERMANY),** 21TH MARCH 2017.

*« I think that everyone should be playing a part in protecting the environment. I decided to participate to the Ocean Initiatives because I am a citizen and I care about doing something for my planet. I organized the operation with friends, family, and some strangers that came over to the event. Everyone took it seriously, and we collected quite a lot of stuff. We found mostly plastic, as every other collections I assume: a lot of wrappings, and small plastic fragments. Here in Germany we have good deposit and collection systems, so we didn't find too many bottles and macro waste either.*

*Every year Ocean Initiatives are quite different, because the weather impacts the amount of waste found. We already had an operation where we collected few bags, but this year we filled a lot of bags. After that we quantified what we found which was even more interesting. »*

# NORTH ATLANTIC

*BRASIL, GUADELOUPE, MOROCCO, PORTUGAL (ACORES), SPAIN (CANARY ISLAND).*

## GENERAL DATA ON THE WHOLE SEA AREA

Extrapolation based on a total of 60 Ocean Initiatives which took place in this sea area.

**2 174***
people reached
**906* were children.**

**1 306***
bags of litter collected
by participants.

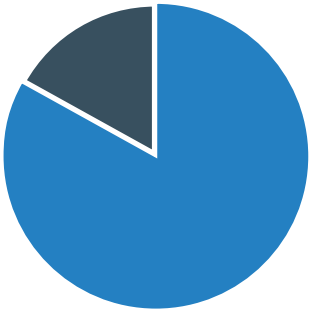
**76 608 m***
of coastline length covered
by participants.

**103 m³***
Total volume
of litter collected.

## DATA FROM MACRO LITTER QUANTIFICATION

6 quantifications took place in Brazil (1), Guadeloupe (2), Morocco (1) Canary Islands (1), and the Acores (1).
**8863 items were picked up and quantified, over a distance of 2700 meters.**
**The volume picked up represents 14,44 m³.**

### *TYPES OF COLLECTIONS*



- **BEACHES - 83,33%**
- **RIVERS - 16,67%**

### *TOP 5 OF COLLECTED ITEMS*



PLASTIC BAGS AND PIECES

CIGARETTE BUTTS

BOTTLE CAPS

PLASTIC DRINK BOTTLES

STRAWS STIR-STICKS

## TOTAL VOLUME OF COLLECTED LITTER IN MARINE ENVIRONMENT AND WATERCOURSES

### PLASTIC

1 202
CIGARETTE BUTTS



426
BOTTLES ≤ 0,5 L



371
BOTTLES > 0,5 L

1 175
BOTTLE CAPS

30
OTHER BOTTLES OR CONTAINERS

494
FOOD CONTAINERS



1 660
PLASTIC BAGS AND PIECES

232
CRISPS PACKETS SWEET WRAPPERS

322
LOLLIPOP STICKS

118
MEDICAL WASTE: PACKAGING, CONTAINERS

67
SANITARY WASTES: COTTON SWAB

30
TAMPON APPLICATORS SANITARY TOWELS

121
POLYSTYRENE PIECES 2,5-50 CM

197
PLASTIC PIECES 2,5-50 CM

453
PLASTIC CUPS

60
CUTLERY TRAYS

719
STRAWS STIR-STICKS

151
FISHING: CORDS, SMALL CORDS (DIAMETER < 1 CM)

88
FISHING LINES, (ANGLING)

66
TANGLED NETS/CORDS

10
SHOTGUN CARTRIDGES

4
TYRES WHEELS

71
TOYS AND PARTY POPPERS

84
LIGHTERS

6
BALLOONS INCL. VALVES

39
SHOES SANDALS

0
SHELLFISH AQUACULTURE

3
BIOMEDIAS

### GLASS

193
GLASS BOTTLES

185
PIECES OF GLASS

### METAL

188
CANS

57
METAL PIECES

### CLOTH

41
CLOTHING OTHER TEXTILES

## SOME DATA



**18,73%**

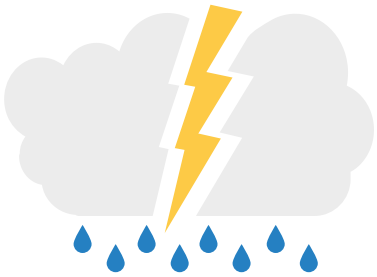
of collected litter are plastic bag pieces

**13,26%**

of collected litter are bottle caps.

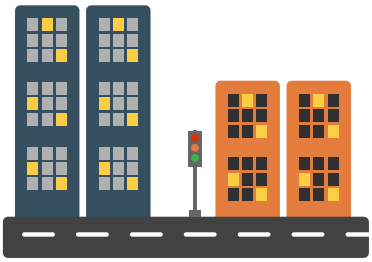
**2 MICRO-WAVES**

Were picked up during a beach cleanup in a beach at Las Palmas (Canary Islands).



**50%**

Of organizers reported on exceptional weather conditions before their action: storms, high tides, watercourse flooding.



**100%**

of beaches where the quantification took place are located near a town.

## TESTIMONIAL

### *ROCH BRZOSKO, GUIDE AT CSF CONCEPT ORGANISATION,*

**LAS PALMAS (SPAIN),** 1ST APRIL, 2017.

*« We live and work on the island of Gran Canaria, where nobody really pays much attention to sustainable development. We and the other people aware of the marine litter problem have a lot to do, and we see it as our duty to get things moving and clean the beaches, forests, and the island's other green spaces. As surfers, we want our playground to be as clean and safe as possible.*

*Our Ocean Initiatives experience was amazing! The only downside was the weather for the first clean-up, but for the next clean-up a week later, it was sunny. The participants were very happy: we had lunch on the association's terrace, and we all had a great time.*

*During the clean-up we found a wide range of waste items. They were mainly fishing nets, plastic bottles and plastic crates used by fishermen. »*

# OTHER COASTAL AREAS

We present in this report the results of the participative science project for the coastlines for which we have enough data. However, organizers were involved in quantification operations throughout Europe (Adriatic Sea, Ionian Sea) and even on the other side of the world (South Atlantic with Argentina, Indian Ocean with Madagascar and Réunion Island, etc.) and we want to thank them by inviting them to share their story.

# ADRIATIC SEA

## TESTIMONIAL

### *DOUGLAS GIORGIO RAMBUKWELLA, WE LOVE THE SEA 2017 #WELOVETHESEA 2017*

**SPIAGGIA PANE E POMODORO, ITALY,** 8TH OCTOBRE 2017.

*« I love the sea, I'm a surfer, Sailor and Sea lover. I was in Aquitaine-Pays Basque (France) for my education so I met others surfer in this spot and after contacting the local Surfrider chapter we decided to do the «Le Porge» beach clean-up. When I came back in Italy I had decided to repeat this experience and to involve also my City Rotaract Club when I was the president, right now every year we organize between September and October the clean-up of our city beach with so many other associations like Erasmus Club, University Association and citizens that like this idea of responsibility and respect for the ocean. Every year we do more than one clean up and people but also journalists are very happy and encourage us.*

*We found mostly plastic waste like plastic bottles of water and soda, cotton swab, plastic caps, absorbents or intimate pads, glass bottles, parts of fish nets, floats, part of boats, nautical ropes, can of sodas and syringes*

*We observed that the pollution was linked with nautical field, and beverage waste. This year and for the first time we found a lot of syringes.*

*Every year we receive many encouragements from the beach goers that pass by on the beach while we are cleaning it. The only difficulty in this public beach is that there are no specific bins for the materials we collect. »*

# INDIAN OCEAN

## TESTIMONIAL

### *SONIA SERRA, CLEAN-UP ON THE NORTH COAST*

**RÉUNION ISLAND (FRANCE), JULY 1ST, 2017.**

*« Living on an island, (Réunion), it is difficult not to see the sea. As well as all the litter along the shoreline. I have already taken part in several Ocean Initiatives on beaches on the west coast, but I wanted to organise a clean-up on the north coast, just as infested with litter. I wanted to get people from this area of the island involved and to witness the state of this portion of coastline which is very popular, even if there is no access to the sea. They are pebble beaches and swimming is prohibited.*

*Plastic bottles are a real plague. We collected almost 1000 in a really small area. Likewise, waste from fast food and takeaway packaging and from food in general. We also found, as usual, a lot of pieces of iron and plastic. An old bathtub, a plastic inflatable pool…*

*Around 50 people took part in the Ocean Initiatives. We were therefore able to pick up a lot of litter in a short amount of time (less than an hour) and over a small section of the coast (only about 500 metres).*

*Just as importantly, we were able to alert the people present and passersby, to the issue of litter on Réunion Island.*

*Some of the unusual items found included a large inflatable pool, which we used as a ground sheet to sort the waste, and a decapitated statue of Saint Expeditus. The problem is that it was very easy. You don't even need to go looking for it, there is litter everywhere. The volunteers came back with their bags filled to the brim just a few minutes into the operation. And we could go back to the site a few weeks later to collect more. Between the litter left behind by people, litter washed up by the sea and the waste brought down from the gullies further up, there is a constant flow.*

*And I haven't even mentioned the cigarette butts. During big clean-up operations, when we collect large items of litter, cigarette butts get overlooked, but they are also everywhere… »*

# BISCAY BAY
# IBERIAN COAST

## TESTIMONIAL

### *CHARLOTTE AND KIM, SURF & ROAD TRIP IN NORTHERN SPAIN AND PORTUGAL : ANALYSIS OF POLLUTION OF WATERWAYS AND BEACHES BY BIOCARRIERS AND PELLETS*

**FROM OCTOBRE 2017 TO JANUARY 2018.**

*« Taking the dream surftrip of our lives, we planned to travel and surf down the Atlantic coast from Bordeaux down to Tarifa. Wanting to somehow contribute positively to the areas we planned to visit we asked Surfrider in Biarritz on the way if there was anything we could do to help.*

*Cristina and Phillippe identified that we could support 2 specific issues on the collection of plastic pollution data for: 1) plastic pellets and 2) biomedias.*

*Unfortunately it didn't take long before we found plenty washed up on even the most popular surf beaches! For consistent information gathering purposes, we measured several m2 of sample areas and counted the number of pellets and biomedias found within.*

*We could not believe it, in one particular place we counted 1000 plastic pellets in just 1m2! This means that we can estimate them to be as much as 8 million just on one small beach!*

*We learned a lot from this experience as we'd never heard of either pellets or biomedias before, despite being conscious about similar issues. We were happy as well to engage with the locals about this and other beach pollutions and hope that it inspires other travelers to participate in such volunteer programmes to protect our oceans and its biodiversity. »*

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# 03
# BIOMEDIAS SEWAGE FILTER MEDIAS

## SEWAGE FILTER MEDIA AND POLLUTION OF THE AQUATIC ENVIRONMENT: FROM THE FIELD TO THE CREATION OF RECOMMENDATIONS FOR THE INDUSTRY.

**Since 2008, Surfrider has noted a growing presence of plastic wheels, called filter medias, biomedias or biocarriers, on beaches and on the banks of waterways firstly in France and then in Europe. These biomedias (or bacteriological biofilm carriers) are used as a medium for bacteria during the biological wastewater treatment phase in collective and industrial water treatment plants.**

The proliferation of these plastic objects in the sea and on the coasts, is adding to the pollution caused by marine litter. In order to fight against this specific source of plastic pollution, Surfrider carried out investigations aimed at improving understanding of the process, identifying the manufacturers and the users and tracing up the source of the waste.

Over the course of the 2017 Ocean Initiatives campaign, 981 biocarriers were found during 34 clean-up operations along beaches, lakes and rivers (all areas and shapes combined). Biocarriers were found in 18% of operations.
More than 73.4% of the biocarriers picked up by our organizers were found on beaches in the Western Mediterranean. 20.8% were found along the coastline of the Bay of Biscay.

We note a decrease in the number of biocarriers found by our organizers in 2017. This can be explained by the reduction in the number of report forms filled in compared to 2016. We did not receive any reports of loss or beaching during the first 11 months of 2017. However, two incidents of large-scale pollution were observed by volunteers: one in mid-November 2017 and the other at the beginning of 2018. In the middle of November 2017, volunteers reported the presence of large quantities of biocarriers on Nemiña beach in Muxia in Galicia (Spain). On 16 and 17 November 2017, they collected more than 900 biocarriers of the same type (K1) as well as some samples of another model. Over the following weeks, 150 to 200 biocarriers were collected on average on the beach. On 4 January 2018, 288 biocarriers were found on a 50 metres stretch of the beach. More than 698 biocarriers were counted along the whole length of the beach. At the end of February, thousands of K3 biocarriers were found on Milicias beach in the Azores (Portugal).

**It is highly likely that these models will be picked up by organizers along the Iberian coast, North Atlantic shorelines and in the Bay of Biscay in 2018.**

| SEA AREA / MODELS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Adriatic area | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 8 | 0 |
| Bay of Biscay | 5 | 11 | 3 | 1 | 55 | 24 | 0 | 31 | 49 | 9 | 1 |
| Iberian Coast | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 1 | 0 |
| Celtic Sea | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| North sea/channel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Western Mediterranean sea | 0 | 44 | 0 | 0 | 80 | 62 | 40 | 3 | 1 | 136 | 5 |
| TOTAL | 7 | 55 | 3 | 2 | 137 | 86 | 43 | 35 | 52 | 147 | 1 |

## UMBER OF BIOMEDIAS PICKED UP EACH 1000 METERS PER SEA AREAS

| SEA AREA | BIOMEDIAS / 1000M ON BEACHES |
|---|---|
| Bay of Biscay | **3** |
| Iberian Coast | **1** |
| Celtic Sea | **0,3** |
| North Sea/ Channel | **3** |
| Western Mediterranean Sea | **20** |

## TYPES OF BIOMEDIAS/SEA AREAS

It was along the Western Mediterranean coastline that most biocarriers were observed during the 2017 Ocean Initiatives campaign. Large quantities of models 2, 5 and 6 were collected on the shores of the Mediterranean, and in smaller numbers, on the beaches of the Bay of Biscay. Models 8 and 9 were mainly collected along the Bay of Biscay coastline. They are the result of pollution dating back to 2010 and are still being found nowadays, on the beaches of the Atlantic coast. Model 10 is found on all coastlines, although it is most commonly observed in the Mediterranean. Models 14, 16, 19, 20 and 24 were collected almost exclusively on the beaches of the Western Mediterranean.

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 5 | 2 | 1 | 0 |
| 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 7 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |
| 72 | 25 | 10 | 0 | 60 | 1 | 3 | 17 | 108 | 42 | 12 | 0 | 17 | 0 |
| 77 | 31 | 10 | 0 | 63 | 2 | 3 | 17 | 109 | 57 | 24 | 2 | 18 | 0 |

## REPORT ON BIOMEDIAS POLLUTION

Many recent reports indicate the presence of and pollution by biocarriers across Europe. These reports were made through Ocean Initiatives as well as by citizens concerned about the health of their beaches and waterways. Thanks to all these reports, we have been able to carry out a full investigation enabling us to compile valuable information on biocarriers and to trace up the sources of a part of this pollution. In order to prevent it, we have shared the results of our research with professionals from the water sector and just published a study now available online through the following link: https://tinyurl.com/biomedias

This study allowed us to constitute an overview of the global operation of water treatment systems and specific processes relating to biocarriers. We studied as well the use of biocarriers and the main forms of pollution observed in order to understand their origins. Using these observed cases of malfunctions within the system and thanks to the collaboration of industry professionals, we have been able to produce guidelines aimed at reducing the emission of biocarriers into the environment.

Through the publication of this report, we essentially hope to share our observations with elected leaders and environmental professionals to improve practices and mitigate pollution risks.

This study could not have been carried out without the testimonials and help of Ocean Initiatives participants and on behalf of the whole Surfrider environment team we would like to thank them for their involvement and commitment to protecting the marine environment.

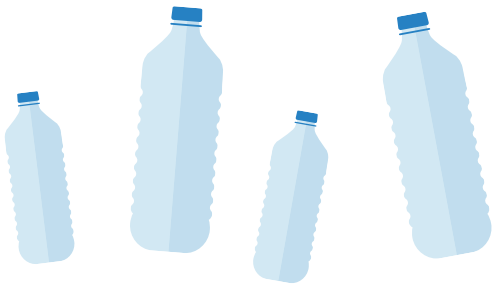
# 04
# FOCUS ON PLASTIC BOTTLES

## PLASTIC BOTTLES, IN THE TOP 10 OF MARINE LITTER

**Plastic bottles and their caps are part of the top ten items most often found on beaches and in rivers. They are single-use plastic items which, used every day and mainly outdoors, are often found in the environment, where they become real predators for aquatic animals and plants. However, alternatives exist and would help reduce this pollution at its source.**

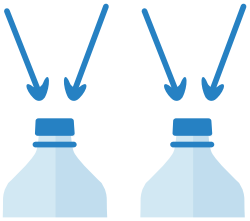
As part of the program to fight against single-use plastic marine litter, Surfrider has developed the 'Reset your habits: reusable bottles can make the difference' campaign. The global objective aims at reducing the use of plastic bottles, polluting the coastline and marine environment. Reset Your Habits is calling for a wide-sweeping change in behaviour within society, urging us to modify our consumption and production patterns to limit their impact on the environment. This involves replacing single-use plastic bottles with reusable ones, among other sustainable alternatives.

To improve our understanding of consumer habits as well as the pollution of aquatic environments by this everyday object, we asked organizers of Ocean Initiatives to count the number of plastic bottles found on beaches, in lakes, rivers and on the seabed. This helped us highlighting the reality of the pollution as well as drawing attention of manufacturers and public authorities to the faults in the system (from production to end of life).



**11,03%**

Plastic drinks bottles (all sizes) represent 11.03% of litter collected during the 2017 Ocean Initiatives operations.

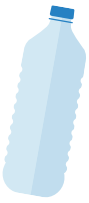


**4,55%**

Plastic bottle caps account for 4.55% of the litter found during the 2017 Ocean Initiatives operations

**51 763**

bottles of all sizes were collected during 383 clean-ups across the world



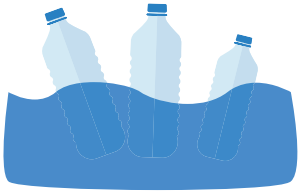
**16 935**
**BOTTLES**
of 50 cl
or less

**4 828**
**BOTTLES**
of 50 cl
or more

**Around 156 269 bottles are estimated to have been collected by organizers***

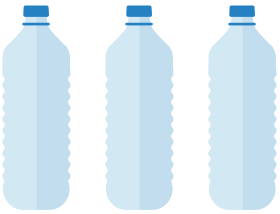
**By extrapolating to the number of total clean-up operations in 2017*

**7%**
Of bottles were picked up in rivers and lakes banks.



**93%**
Of bottles were picked up on beaches.

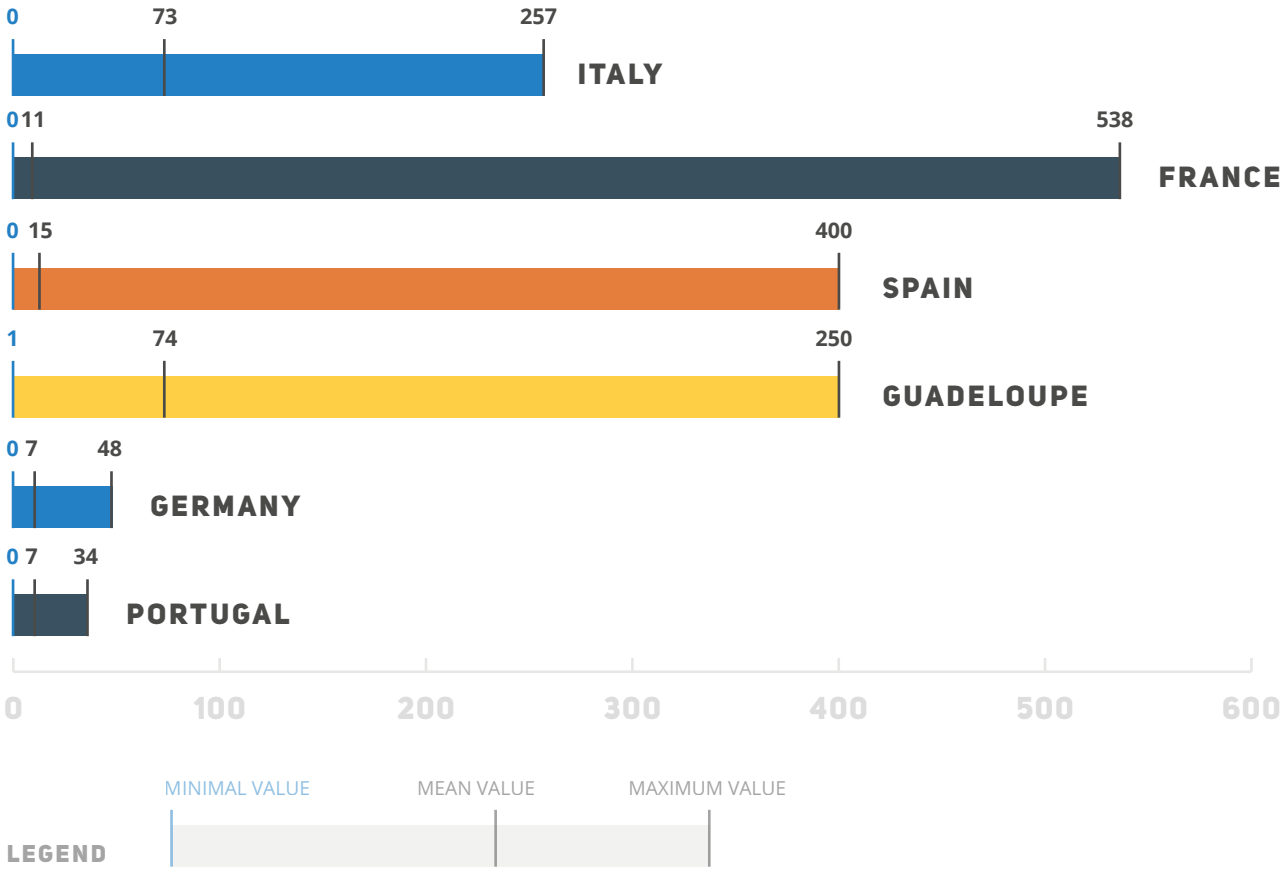
**77%**
Bottles of 50 cl or less were collected in 77% of Ocean Initiatives.



**78%**
Bottles of 50 cl or more were collected in 78% of Ocean Initiatives.

## AVERAGE NUMBER OF BOTTLES COLLECTED PER COUNTRY (EUROPE AND OVERSEAS REGIONS)

This diagram indicates the average number of plastic drinks bottles collected per country from lakes, beaches and rivers. For each country, the minimum and maximum number of bottles collected is represented.



**14**

In Argentina an average of 14 plastic bottles were collected on beaches.

**16**

In Morocco an average of 16 plastic bottles were collected on beaches.

**3 747**

bottles of more than 50 cl were removed from the water in a single underwater clean-up in Guadeloupe.

**3 130**

bottles (2856 of 50 cl or less and 274 of more than 50 cl) were found in a single clean-up in KENYA.

**13 250**

In Algeria 13 250 bottles were collected over 1250 metres (3 clean-ups).

## TYPES OF PLASTIC BOTTLES

**166 organizers identified the types of drinks bottles (from all countries).**

**59,47%** mineral water

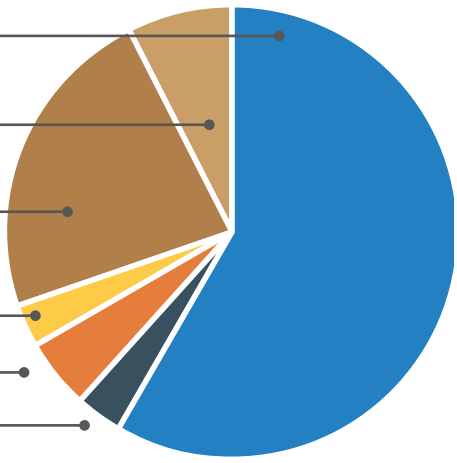
**7,51%** soda and iced tea-type bottle

**23,22%** others

**2,92%** smoothie drinking yogurts

**5,22%** fruit juice

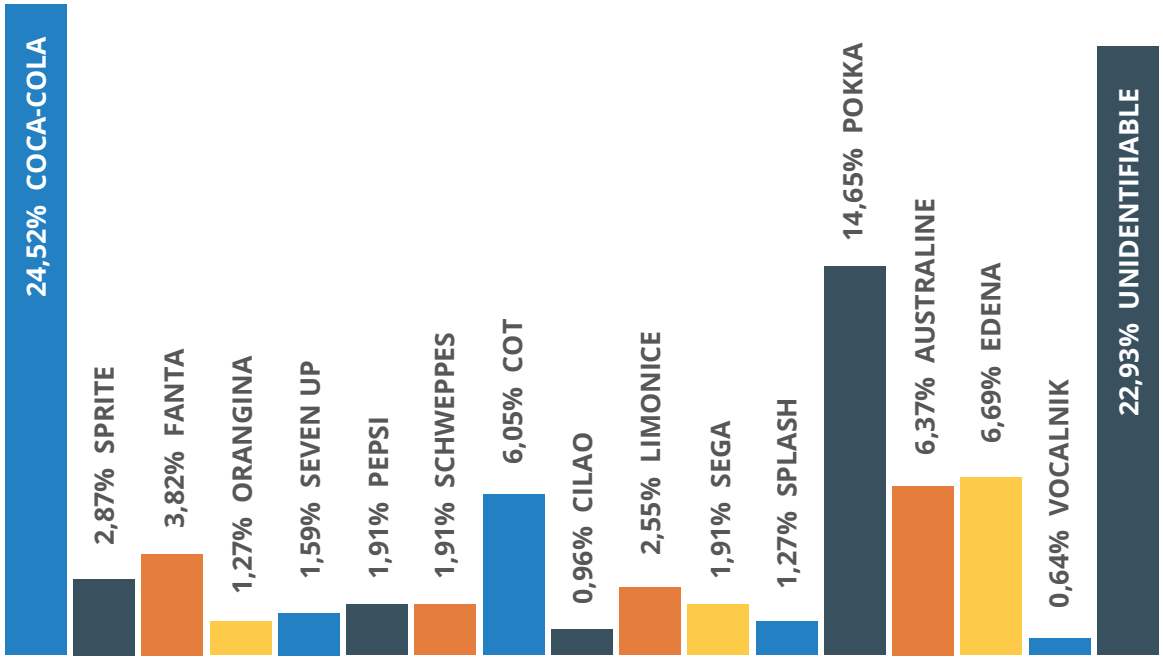
**3,36%** alcoholic drinks



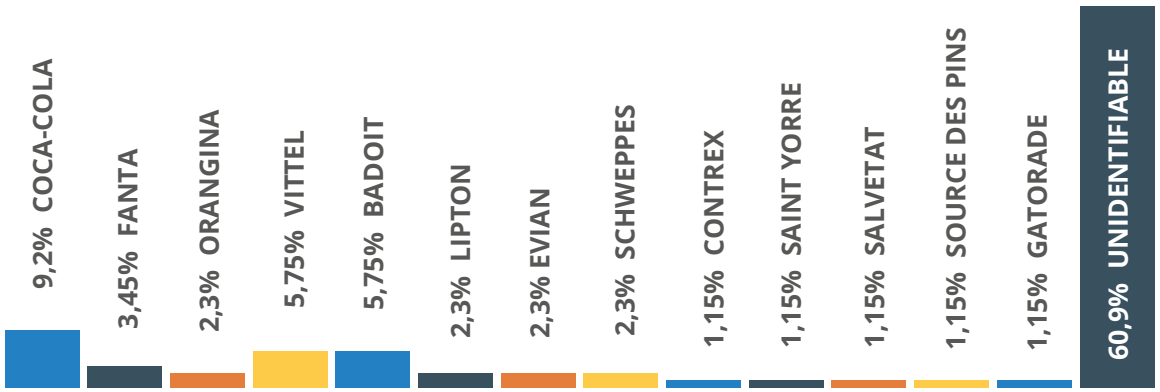
## PLASTIC DRINK BOTTLES AND BRANDS

**356 bottles** were collected in a clean-up in Italy, **56%** of them were branded **Coca Cola.**

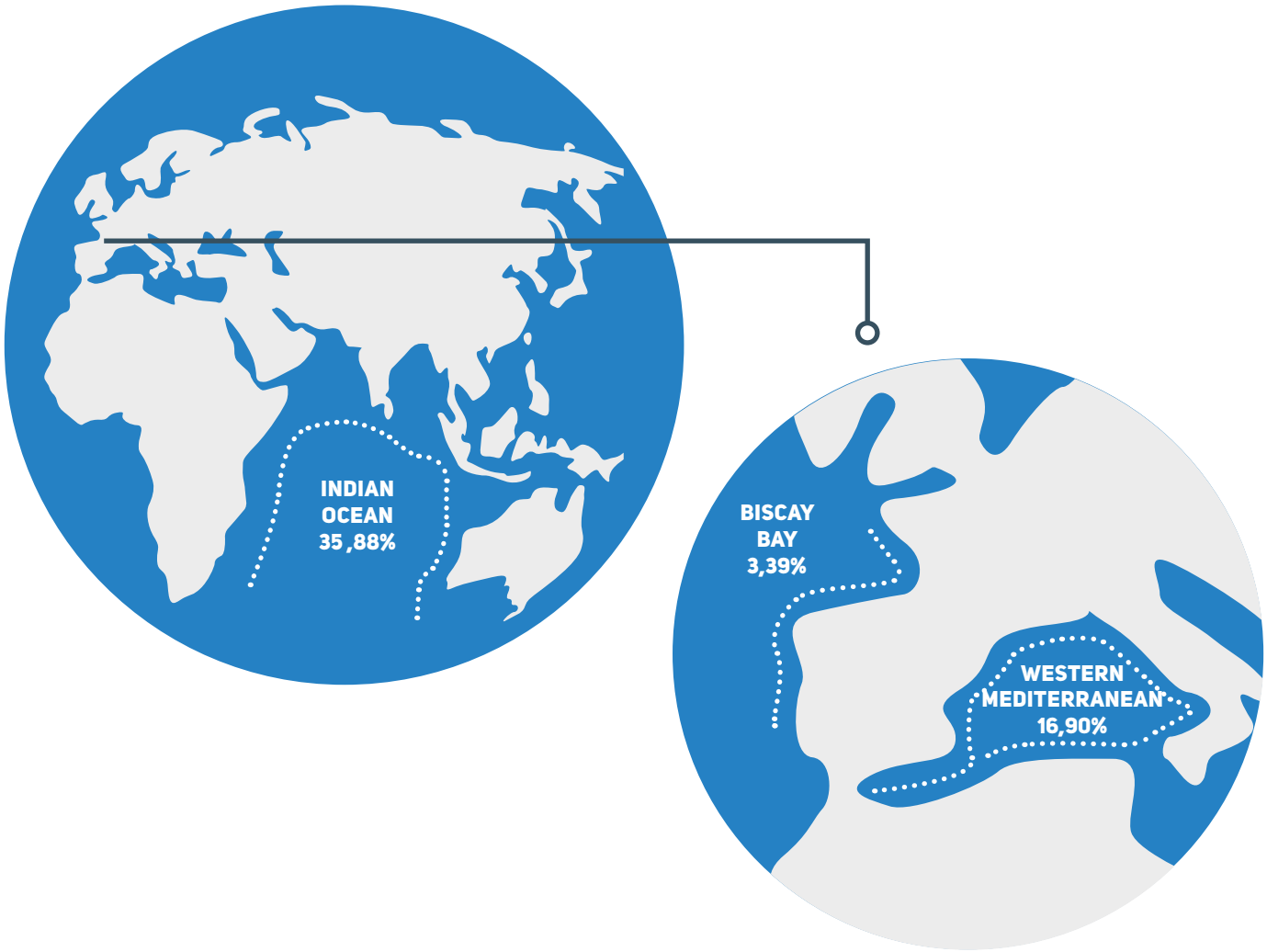
**Beach clean-up in Saint Denis (Reunion Island)**
**314 bottles collected: see below the brands picked up**




**River clean-up in Nyons (river Eygues, France)**
**87 bottles collected: see below the brands picked up**



## % OF PLASTIC DRINK BOTTLES COMPARED TO THE TOTAL OF LITTER PER SEA AREA




## WHITE PAPER FOR A PLASTIC BOTTLE-FREE OCEAN

**Citizens, industrialists and politicians, we all have a role to play in eradicating plastic bottles from our environment by refusing to use this single-use packaging, by rethinking its design, its method of production, consumption and its end of life.**

Surfrider Foundation Europe gathers its non-exhaustive recommendations to stop the arrival of plastic bottles in the environment in this « White paper for a plastic bottle-free ocean » aimed at the European Union and its member States.

The white paper was shared with the European Commission before the release of its plastics strategy, an action plan aimed at changing our use of plastic and to respond to the pollution it generates. The launch of the plastics strategy, was accompanied by an announcement regarding the adoption of specific legislation concerning single-use plastic items. This announcement is a consequence notably of the lobbying of European institutions by Surfrider over many years to fight against the pollution of our oceans by plastic.

Surfrider will continue its fight to ensure measures are taken to reduce the presence of plastic bottles in aquatic environments as well as all other single-use items.

# 05 MARINE LITTER WATCH

## 22 ORGANISERS WANTED TO TAKE PART IN THE MARINE LITTER WATCH ADVENTURE

In 2017, Surfrider continued its collaboration with the European Environment Agency in order to share the data gathered during the Ocean Initiatives and supply a European database. It is essential that the institutions/associations fighting against the proliferation of marine litter understand the situation in the field and that they base their work on the same data to put forward suitable measures to fight against this scourge.

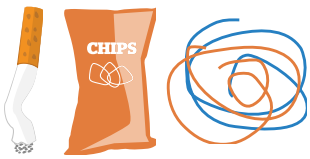
The litter monitoring on beaches in accordance with scientific protocols makes it possible for us to identify and quantify beached litter as well as determine human activities behind litter. Indeed, the source of the litter on beaches can, sometimes, be identified, which is essential in order to reduce it at its source. Litter were mainly identified as waste from fishing activities (nets, ropes, bait boxes) or aquaculture (spat collectors used in shellfish farming, thick elastic bands, fish tags) or waste coming from water treatment systems (tampons, cotton buds, etc.).

The identification of this litter helps us to improve understanding of the sources and the ways in which litter finds its way into the marine environment (waste from fishing activities thrown directly into the sea or waste such as cotton buds flush into toilets, for example), to discover new forms of pollution (biomedias) or to track down old forms of pollution (litter from the loss of containers, etc.).

**22 organizers wanted to take part in this adventure in France, Italy, Spain, Norway and Portugal. Out of these 22 people, only 5 shared their results via the application. They quantified all the litter present on their beach along a 100-metre stretch, using a list of 213 items divided into 9 categories.**

To encourage more organizers to use the Marine Litter Watch application and thereby take part in a large European participative science operation, we will contact the people who tried to use the European protocol as well as those who shared their data, to understand their motivations as well as the difficulties they encountered and therefore develop tools to support them in their initiatives.

## SOME DATA



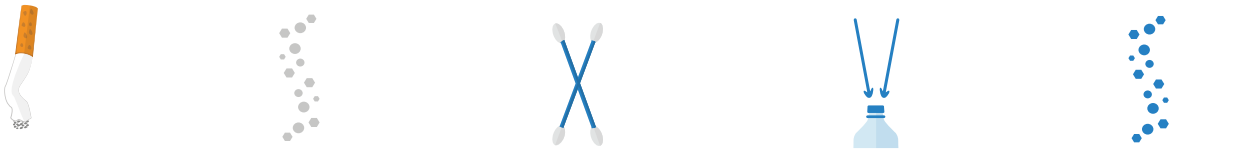

**72 053**

items of litter were collected during the quantifications carried out thanks to the application in 2017 across Europe.

**81,9%**

of the litter collected is made of plastic.

## TOP 5 OF COLLECTED ITEMS



**12,35%**
**CIGARETTE BUTTS**

**8,86%**
**PLASTIC PIECES 2,5-50 CM**

**6,38%**
**COTTON BUDS**

**4,65%**
**BOTTLE CAPS**

**4,37%**
**POLYSTYRENE PIECES 2,5-50 cm**

You can see the results of the marine litter watch participative science operations using the following link: https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/marine-litterwatch/data-and-results/marine-litterwatch-data-viewer-1

# OCEAN INITIATIVES

Ocean Initiatives is a program aimed at reducing marine litter at the source. Through local operations around rivers, lakes, oceans and sea beds, Surfrider's main objective is to support a societal change. The data collected during the Ocean Initiatives enable situational analyses, leading to an adaptation of the European regulatory framework.

**www.oceaninitiatives.org**