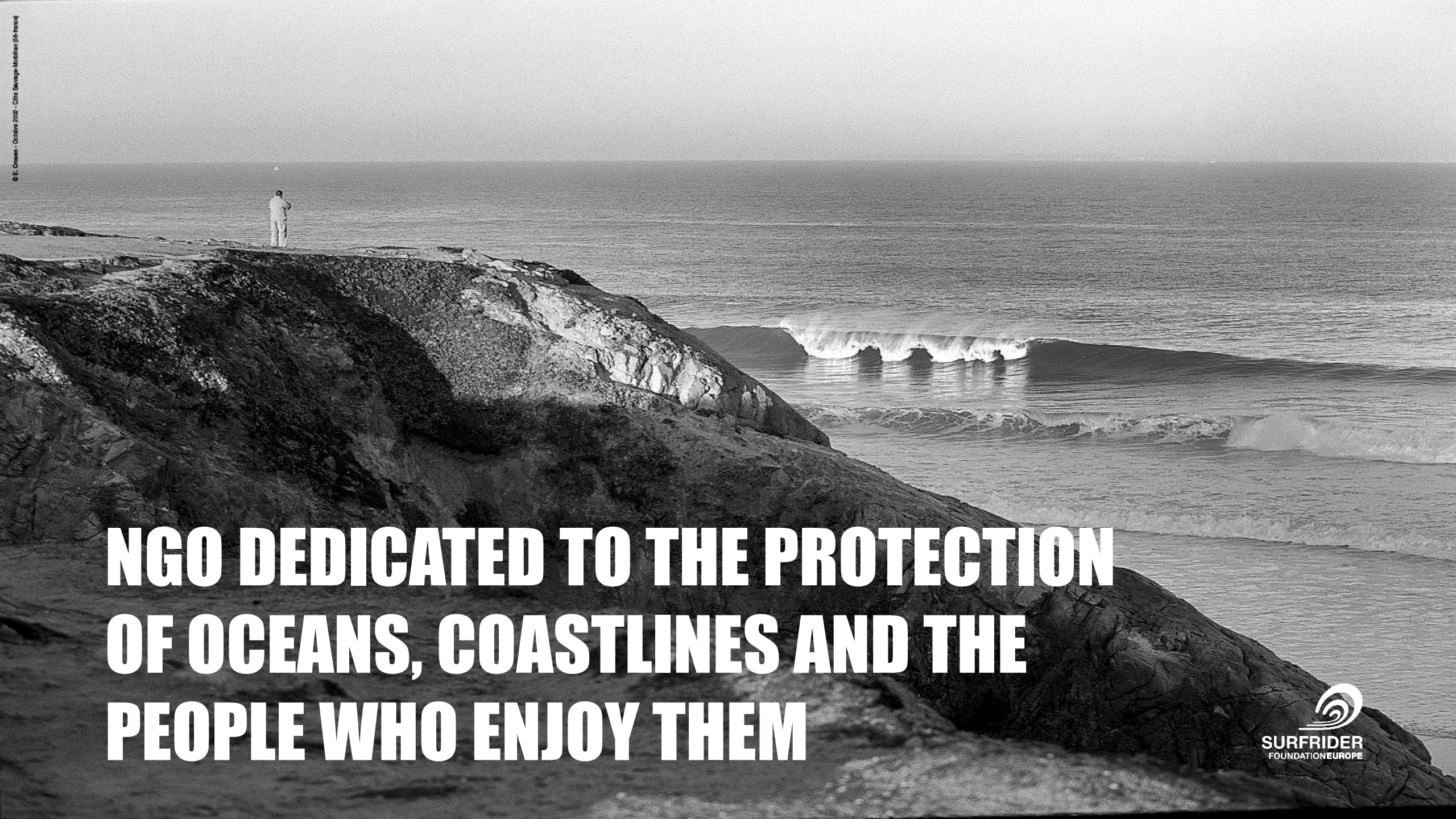
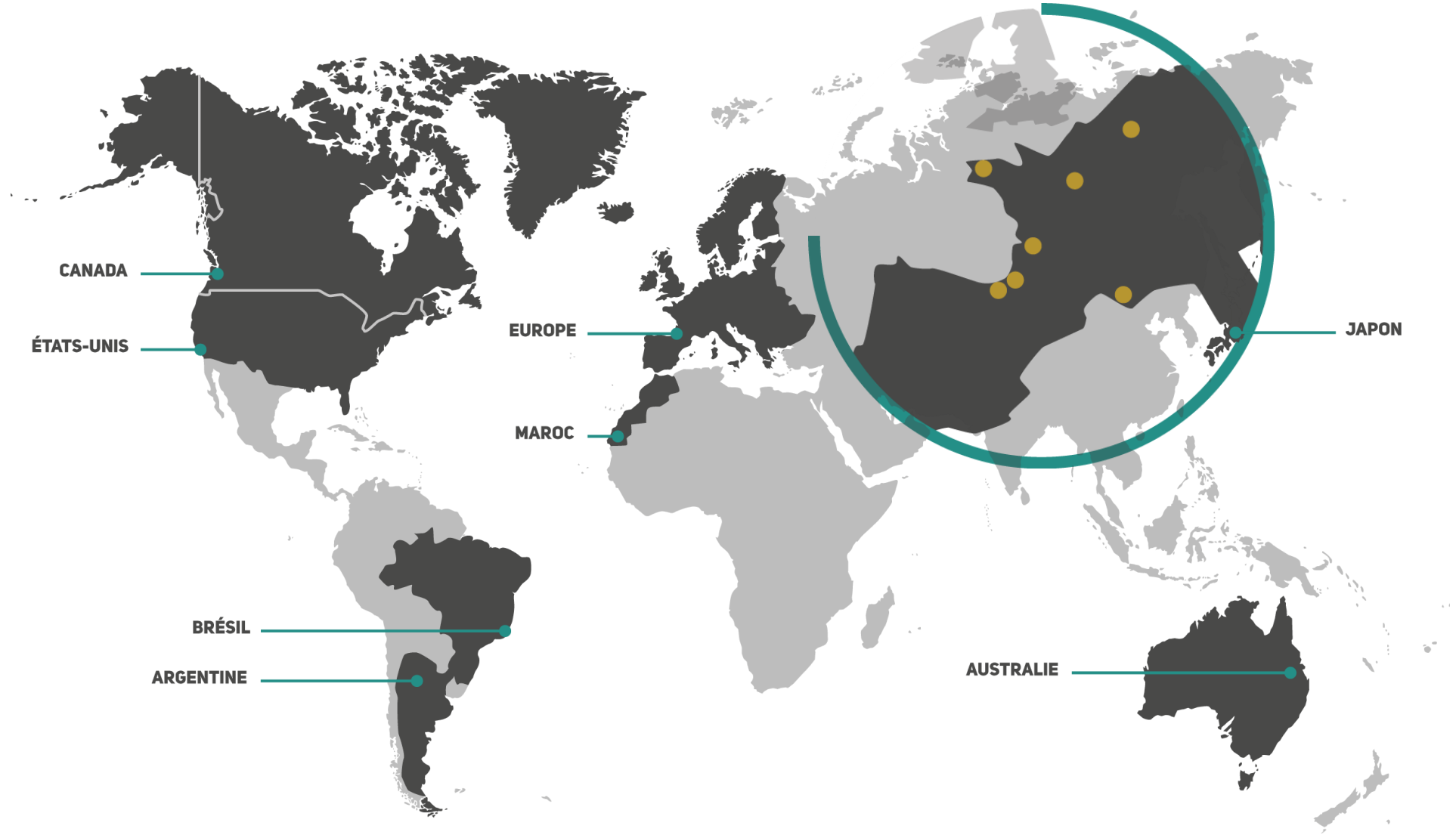
RIVERINE INPUT

SURFRIDER FOUNDATION EUROPE


© E. Crouen - Octobre 2002 - Côte Sauvage- Morbihan (56-France)
NGO DEDICATED TO THE PROTECTION OF OCEANS, COASTLINES AND THE PEOPLE WHO ENJOY THEM
SURFRIDER
FOUNDATIONEUROPE

SURFRIDER IN THE WORLD « THINK GLOBAL, ACT LOCAL »



SURFRIDER IN EUROPE

BUREAUX SALARIÉS

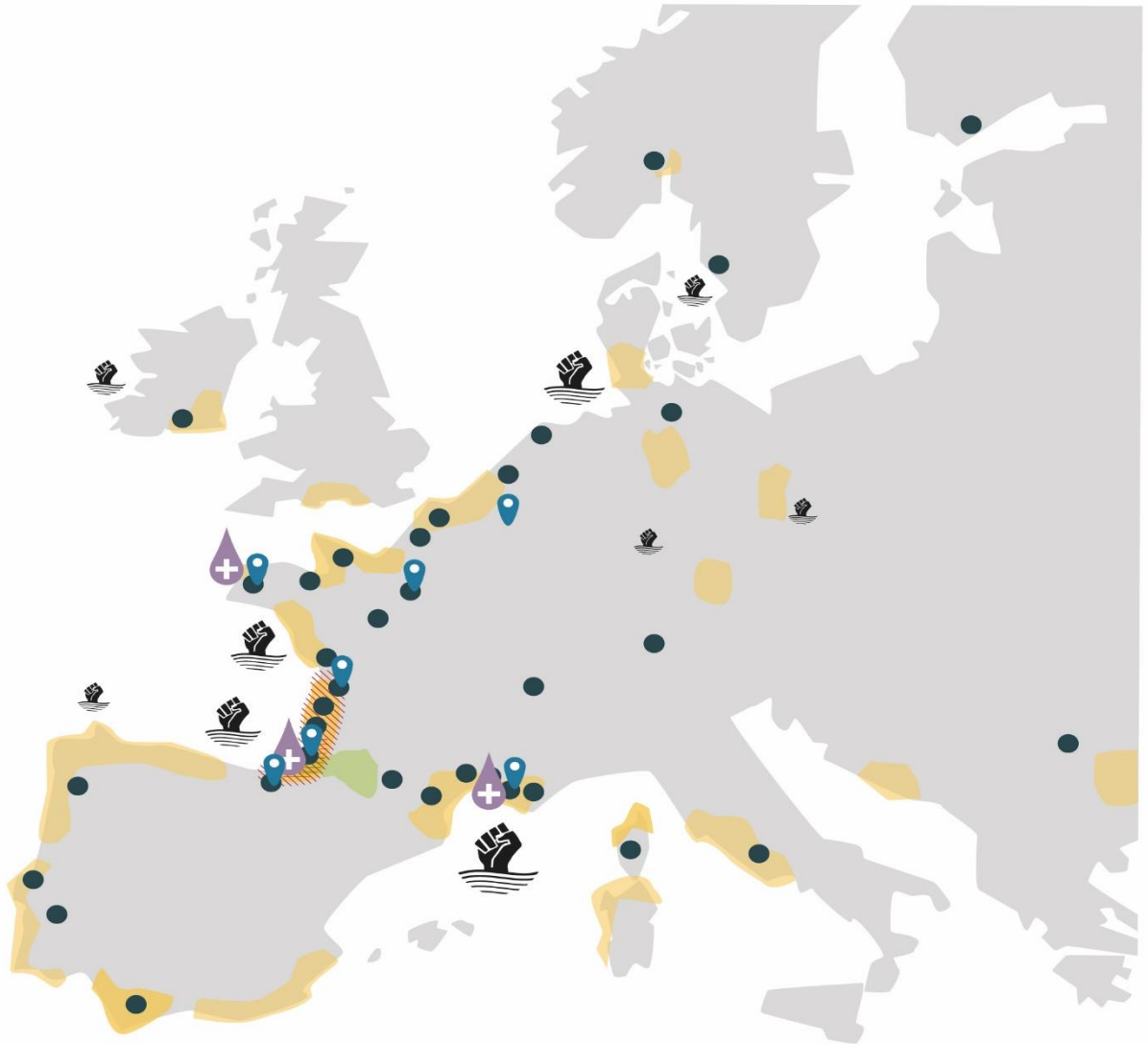
ANTENNES

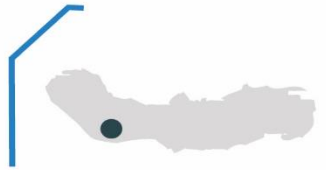
ACTIONS GARDIENS DE LA CÔTE

ACTIONS INITIATIVES OCÉANES

LABORATOIRES D'ANALYSE DE LA QUALITÉ DE L'EAU

RIVERINE INPUT





AZORES

MARTINIQUE

RÉUNION

SURFRIDER COMMUNITY

/ 120 000
SUPPORTERS

/ 10 500
MEMBERS

/ 700
VOLUNTEERS

/ 36
CHAPTERS

RIVERINE INPUT

Few studies tried to understand the phenomenon (Rech, S., et al., 2014. Lechner, A., et al., 2014)

No methodology or scientific studies to determine the exact sources of waste

Rech, S., et al. Rivers as a source of marine litter – A study from the SE Pacific. Mar. Pollut. Bull. (2014).
Lechner, A., et al., The Danube so colourful: A potpourri of plastic litter outnumbers fish larvae in Europe's second largest river, Environmental Pollution (2014).

RIVERINE INPUT

WFD – MSFD PARADOX

MARINE STRATEGY FRAMEWORK DIRECTIVE

WASTE = INDICATOR OF THE ECOLOGICAL STATUS

WATER FRAMEWORK DIRECTIVE

WASTE ≠ INDICATOR OF THE ECOLOGICAL STATUS

RIVERINE INPUT : THE PROTOCOL

RIVERINE INPUT : THE PROTOCOL

8 POINTS DE COLLECTE DE DÉCHETS

IMPLEMENTATION OF THE PROTOCOL ON THE ADOUR WATERSHED

TISSU	ACCESSOIRE
	AUTRE TEXTILE
	CHAUSSURES EN CUIR
	FLEUR EN TISSU
	HABIT
	LACET
	SAC DE TOILE
	TOILE DE JUTE
CAOUTCHOUC	BALLON, VALVE PLASTIQUE, RUBAN, FICELLE
	BOTTES
	PNEU ET CEINTURE
	AUTRE MORCEAU DE CAOUTCHOUC
PAPIER CARTON	SAC
	CARTON
	CARTON TETRAPAK LAIT
	CARTON TETRAPAK AUTRE
	PAQUET CIGARETTE
	MÉGOT CIGARETTE
	GOBELET
	JOURNAL, MAGAZINE
	AUTRE PAPIER
BOIS (MANUFACTURE)	LIÉGE
	PALETTE
	BÂTON DE GLACE
	PINCEAU DE PEINTURE
	AUTRE BOIS < 50CM
	AUTRE BOIS > 50CM
VERRE	BOUTEILLE
	AMPOULE
	AUTRE MORCEAU DE VERRE
POTERIE CERAMIQUE	CARREAU DE CONSTRUCTION
	AUTRE MORCEAU DE CÉRAMIQUE
DECHET SANITAIRE	PRÉSERVATIF
	COTTON TIGE
	SERVIETTE HYGIÉNIQUE/
	APPLICATEUR DE TAMPON
	DÉSODORISANT
	AUTRE
DECHET MEDICAL	TUBE, RÉCIPIENT
	SERINGUE
	AUTRE (TAMPON, BANDAGE)
FECES	SAC POUR ANIMAUX
POLLUANT	PARAFFINE
Autre	MÉDIAFILTRANT

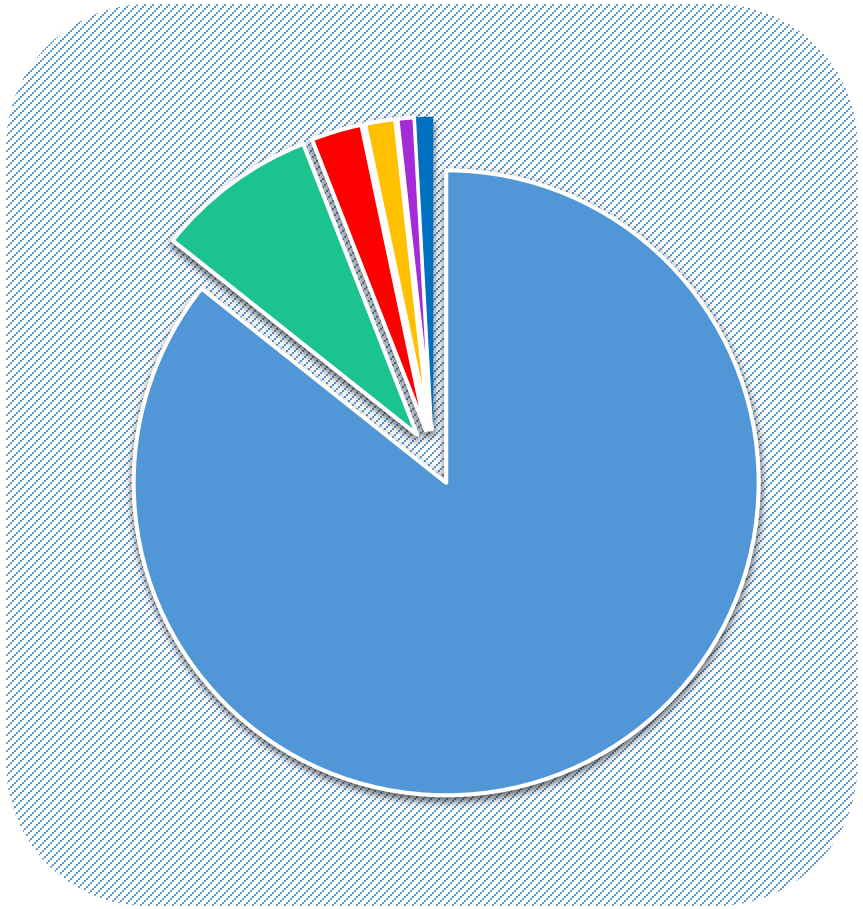
WASTES ARE SORTED WITH A GRID OF 120 CLASSES DEPENDING OF MATERIALS AND USES

RIVERINE INPUT

ANALYSE OF RESULTS

RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers



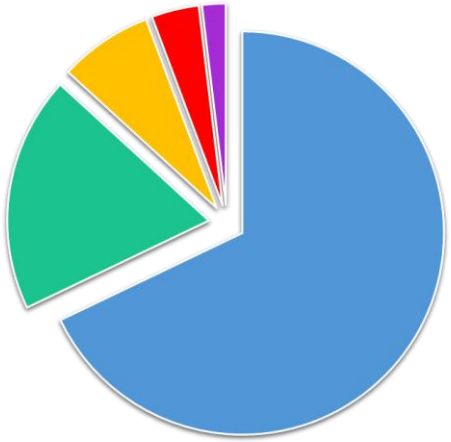
PLASTIC / PS	88,0%
OTHER	8,6%
METAL	2,7%
GLASS	1,6%
SANITARY	0,9%
MEDICAL	0,9 %

n = 39 337

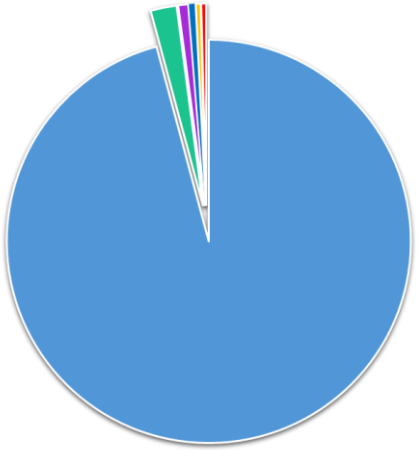
Sampled area = 1 682 m²

Average = 23,4 items / m²

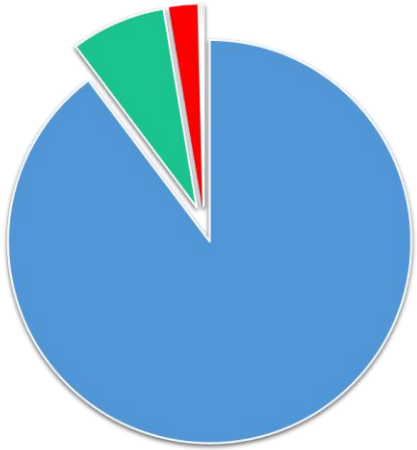
RIVERINE INPUT



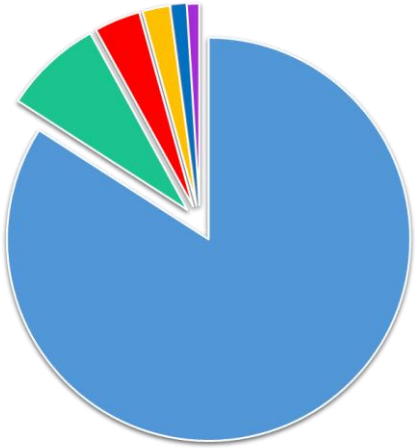
CAMPAN



BOURS-BAZET



CAZERES



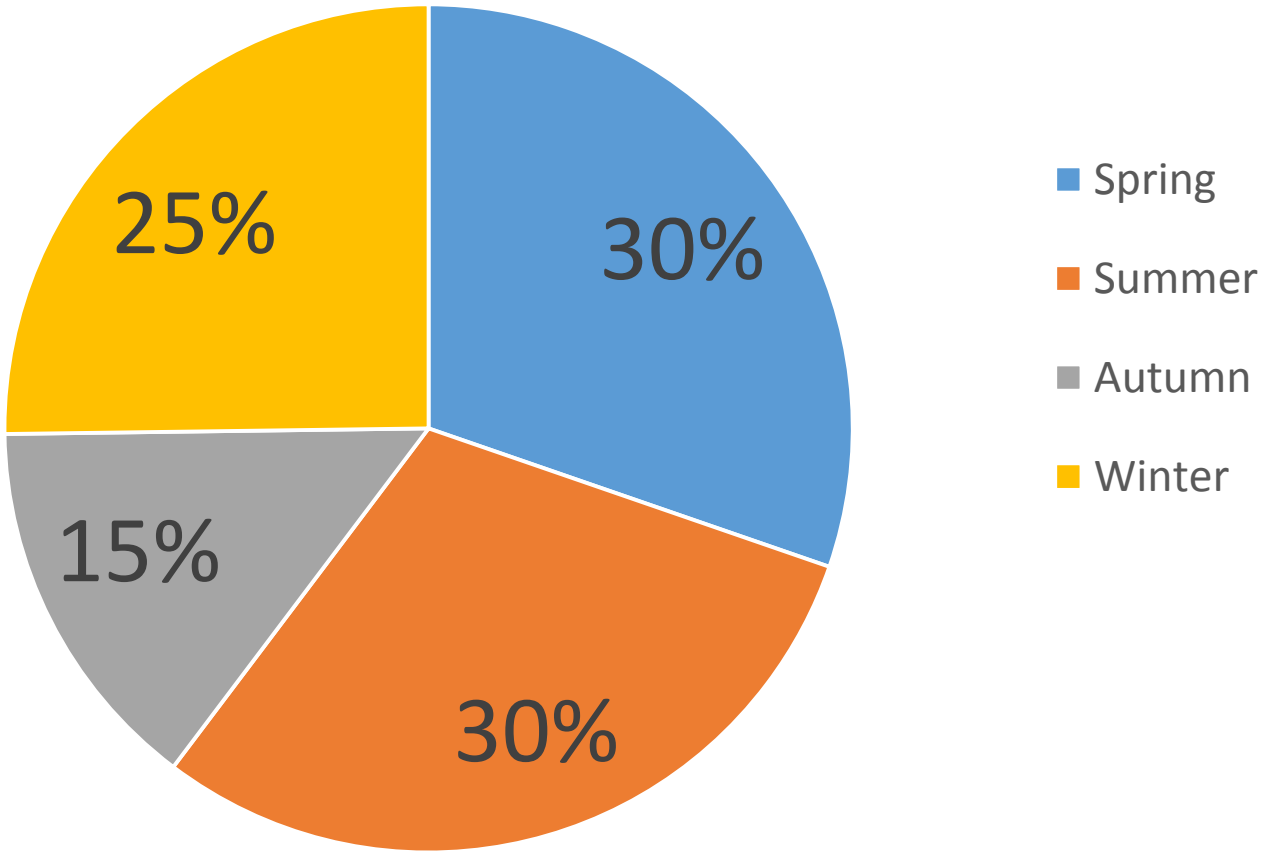
ANGLET

TYPES OF WASTE

- PLASTIC / PS
- OTHER
- METAL
- GLASS
- SANITARY
- MEDICAL

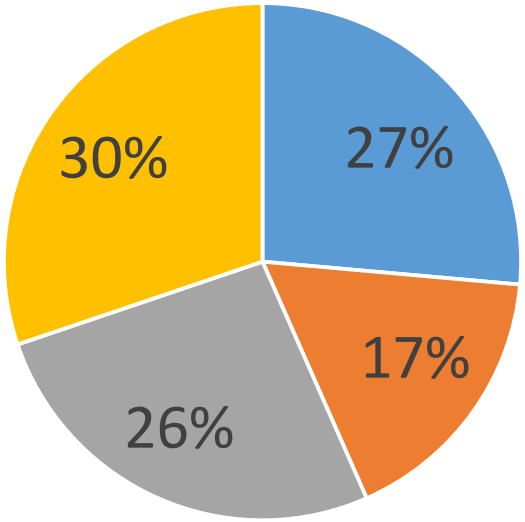
RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers

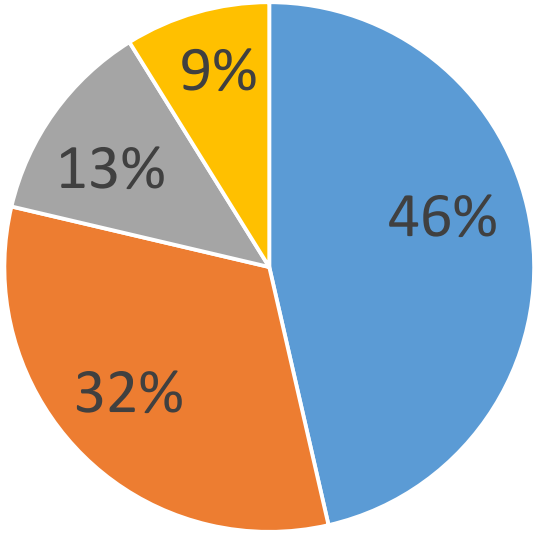


RIVERINE INPUT

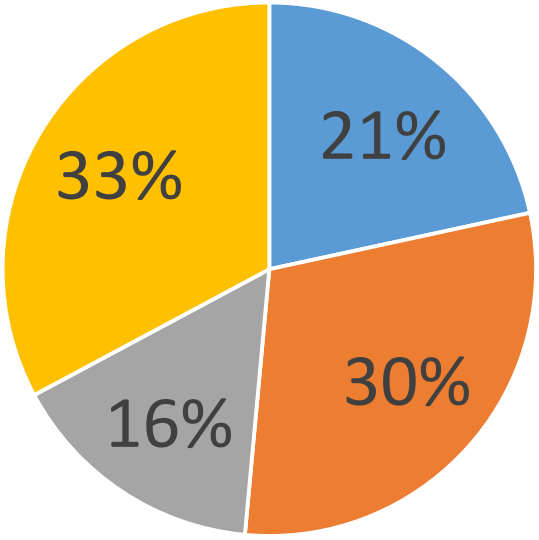
RESULTS 2 years monitoring March 2014-March 2016 Rivers



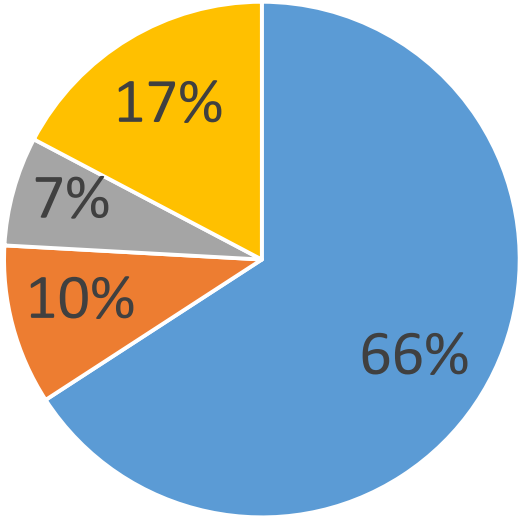
Campan (source)



Bours (urban)



Anglet (estuary)



Cazeres (agricultural)

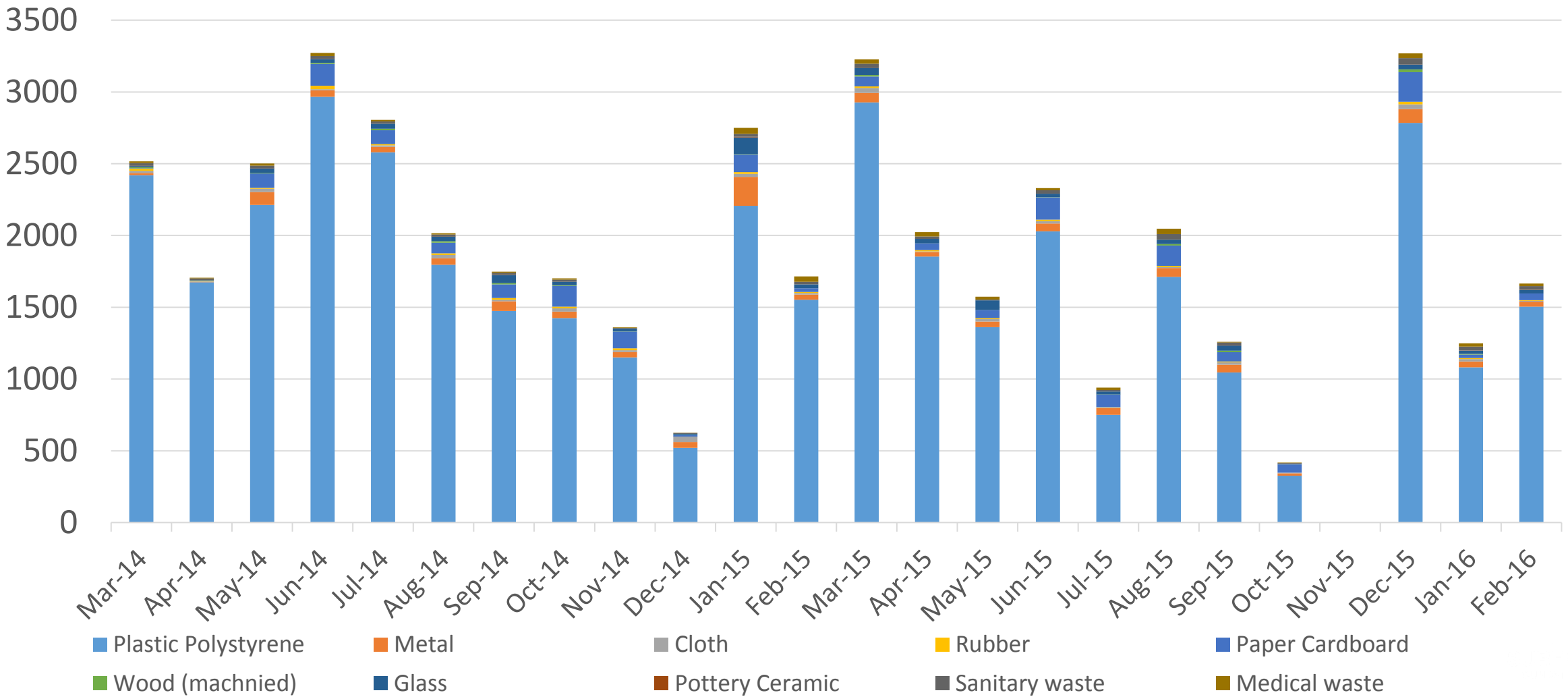
RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers

	Rivers
1	Plastic from 2,5 cm to 50 cm
2	Polystyrene pieces from 2,5 cm to 50 cm
3	Plastic up to 2,5 cm
4	Foam
5	Polystyrene up to 2,5cm

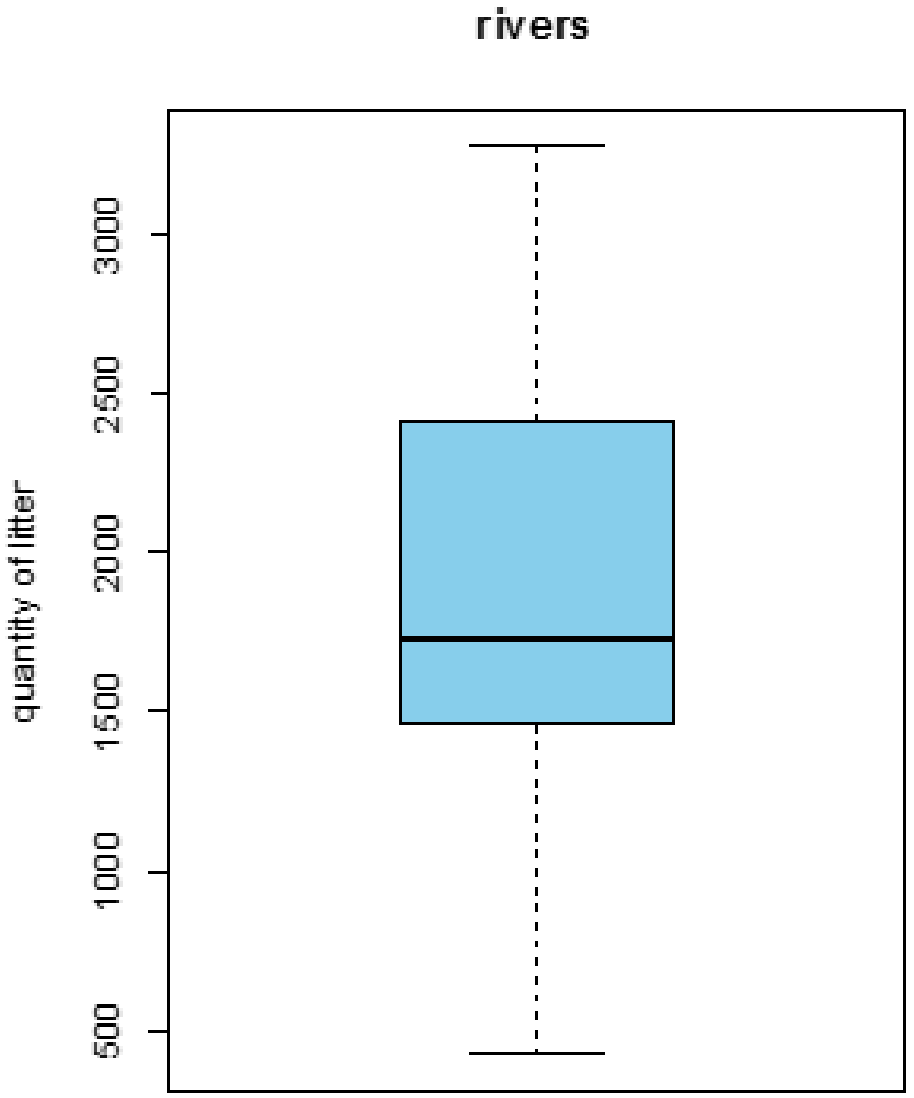
RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers



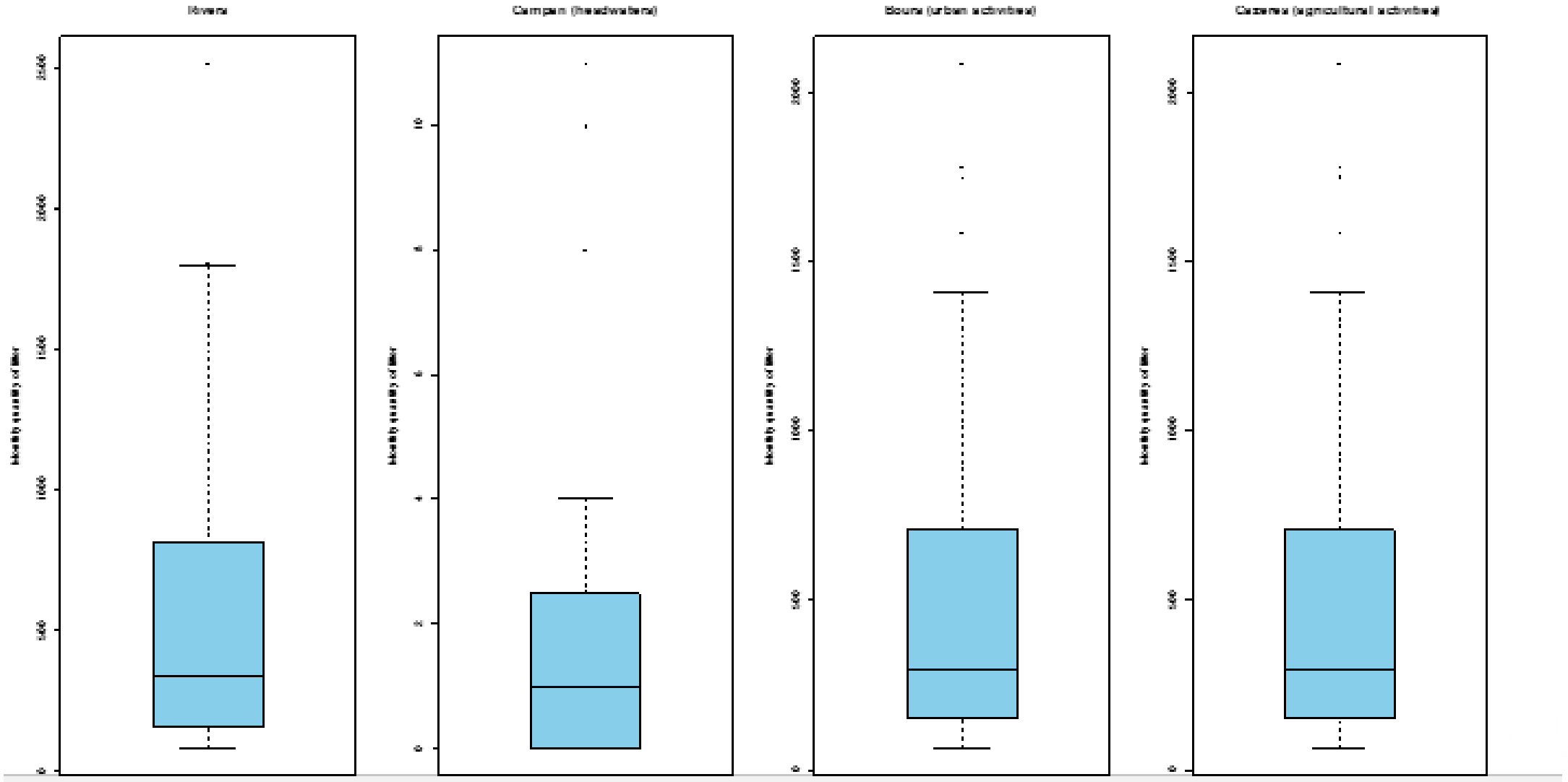
RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers



RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2016 Rivers



RIVERINE INPUT

RESULTS 1 year monitoring March 2014-March 2015 Rivers

```
#Campan/Labarre
> prop.test(c(plast_site[1],plast_site[3]),c(tous_site[1],tous_site[3]))

        2-sample test for equality of proportions with continuity correction

data:  c(plast_site[1], plast_site[3]) out of c(tous_site[1], tous_site[3])
X-squared = 24.618, df = 1, p-value = 6.991e-07
alternative hypothesis: two.sided
95 percent confidence interval:
 -0.5453521 -0.1159890
sample estimates:
   prop 1    prop 2
0.5600000 0.8906706

Warning message:
In prop.test(c(plast_site[1], plast_site[3]), c(tous_site[1], tous_site[3])) :
  l'approximation du Chi-2 est peut-être incorrecte
>
> #Campan/Anglet
> prop.test(c(plast_site[1],plast_site[4]),c(tous_site[1],tous_site[4]))

        2-sample test for equality of proportions with continuity correction

data:  c(plast_site[1], plast_site[4]) out of c(tous_site[1], tous_site[4])
X-squared = 8.8482, df = 1, p-value = 0.002934
alternative hypothesis: two.sided
95 percent confidence interval:
 -0.46734846 -0.03789196
sample estimates:
   prop 1    prop 2
0.5600000 0.8126202

Warning message:
In prop.test(c(plast_site[1], plast_site[4]), c(tous_site[1], tous_site[4])) :
  l'approximation du Chi-2 est peut-être incorrecte
>
> #Campan/Cazere
> prop.test(c(plast_site[1],plast_site[5]),c(tous_site[1],tous_site[5]))

        2-sample test for equality of proportions with continuity correction

data:  c(plast_site[1], plast_site[5]) out of c(tous_site[1], tous_site[5])
X-squared = 29.717, df = 1, p-value = 5e-08
alternative hypothesis: two.sided
95 percent confidence interval:
 -0.5799458 -0.1440654
sample estimates:
   prop 1    prop 2
```

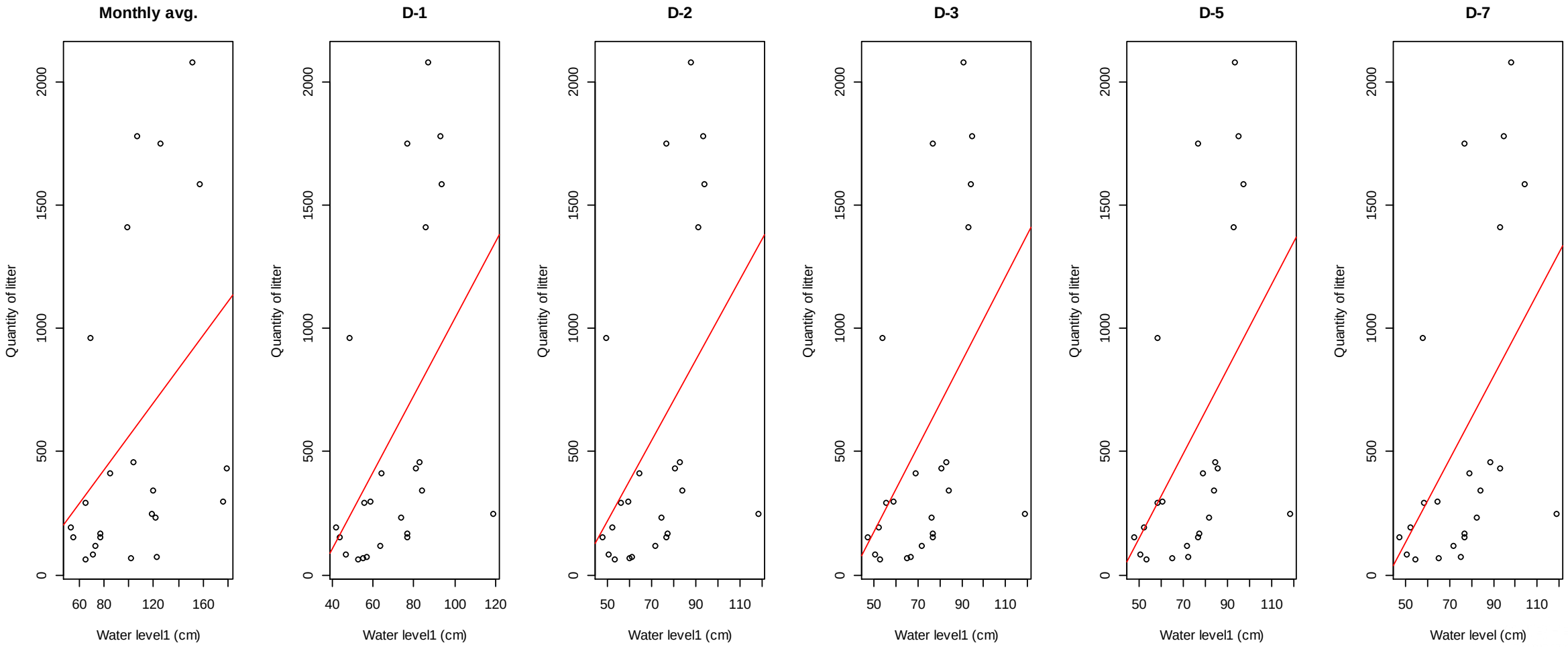
Proportion comparaison : rejected (0,05)

Proportion of plastic different between each sites

RIVERINE INPUT

RESULTS 1 year monitoring March 2014-March 2015 Rivers

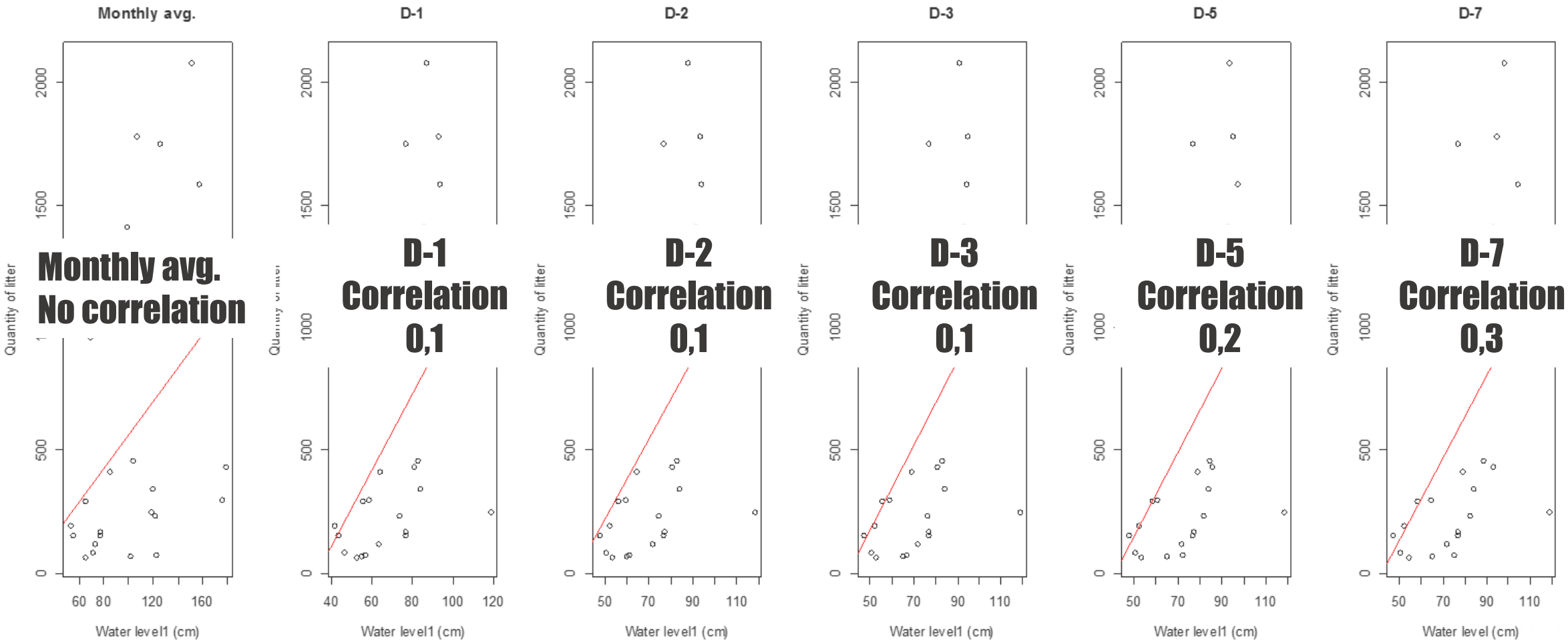
Link between water level and quantity of items (-24hours, -48 hours,-72hours, -5 days and -7 days) (0,05)
Correlation test:



RIVERINE INPUT

RESULTS 1 year monitoring March 2014-March 2015 Rivers

Link between water level and quantity of items (-24hours, -48 hours,-72hours, -5 days and -7 days) (0,05)
Correlation test:



Monthly avg.
No correlation

D-1
Correlation
0,1

D-2
Correlation
0,1

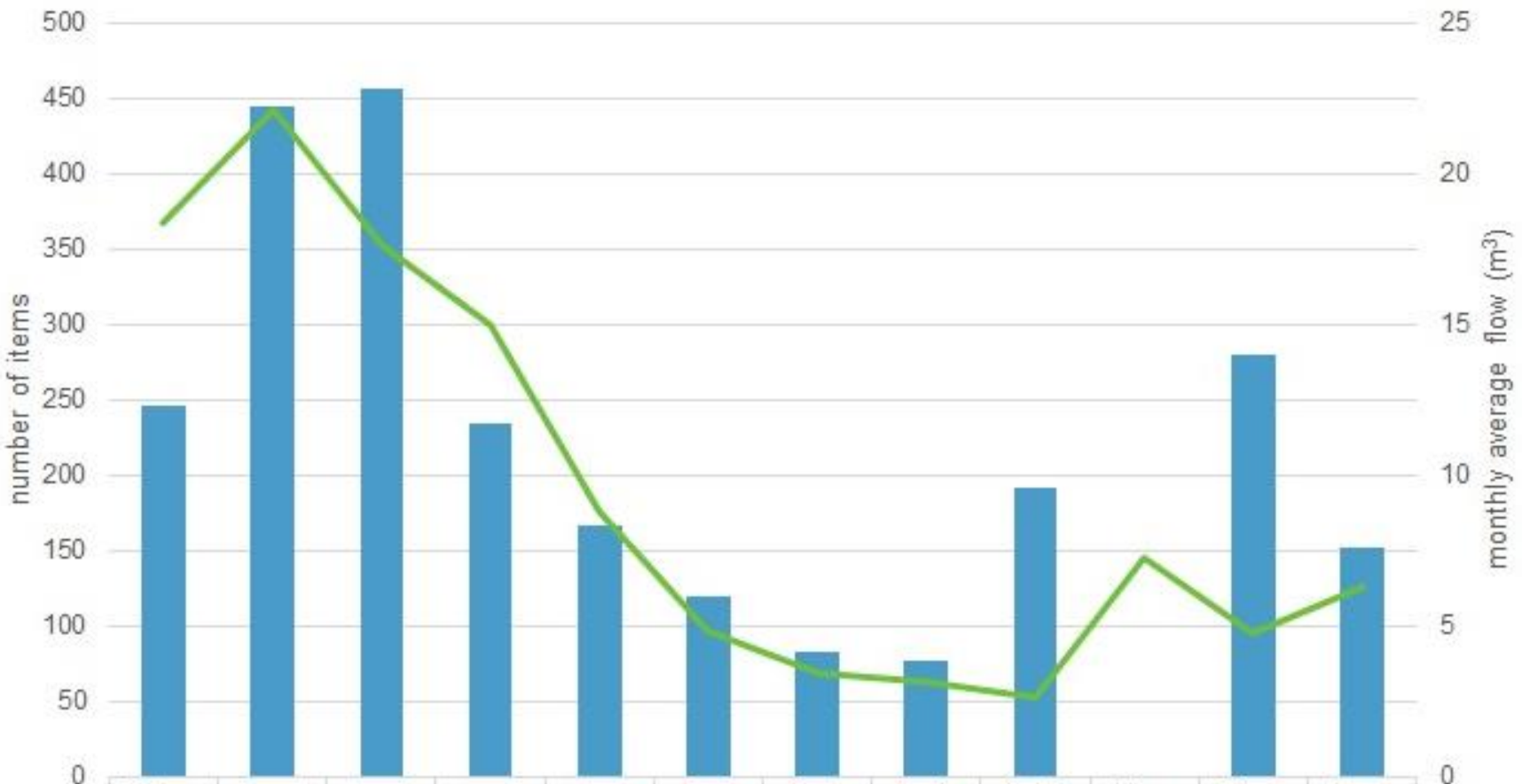
D-3
Correlation
0,1

D-5
Correlation
0,2

D-7
Correlation
0,3

RIVERINE INPUT

RESULTS 2 years monitoring March 2014-March 2015 Rivers

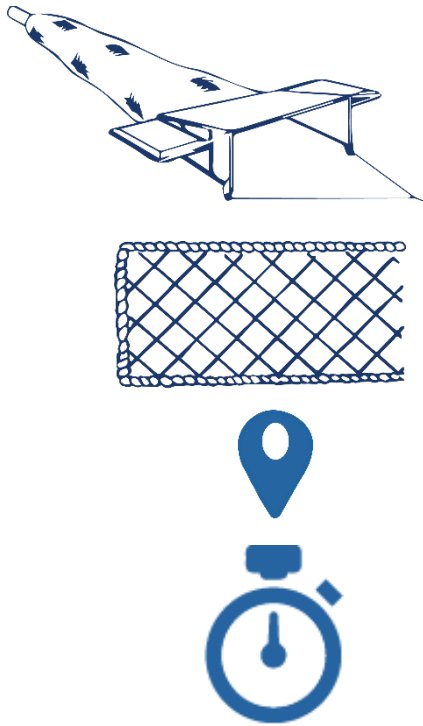


	February	Mach	April	May	June	July	August	September	October	November	December	January
number of items	246	444	457	234	166	119	82	77	191	0	279	152
monthly average flow (m3)	18,4	22,1	17,6	15	8,81	4,83	3,45	3,15	2,65	7,22	4,73	6,28

RIVERINE INPUT

MICRO AND MACRO SATE IN THE WATER COLUMN

METHOD: USE OF MANTA NET ON 4 SAMPLING SPOTS



Macrolitter
l 80 x L 30 x P 100 cm
Mesh 3 mm
4 spots
10 min

RIVERINE INPUT

Les filets

RIVERINE INPUT

Premiers résultats

5 / 70 / 1

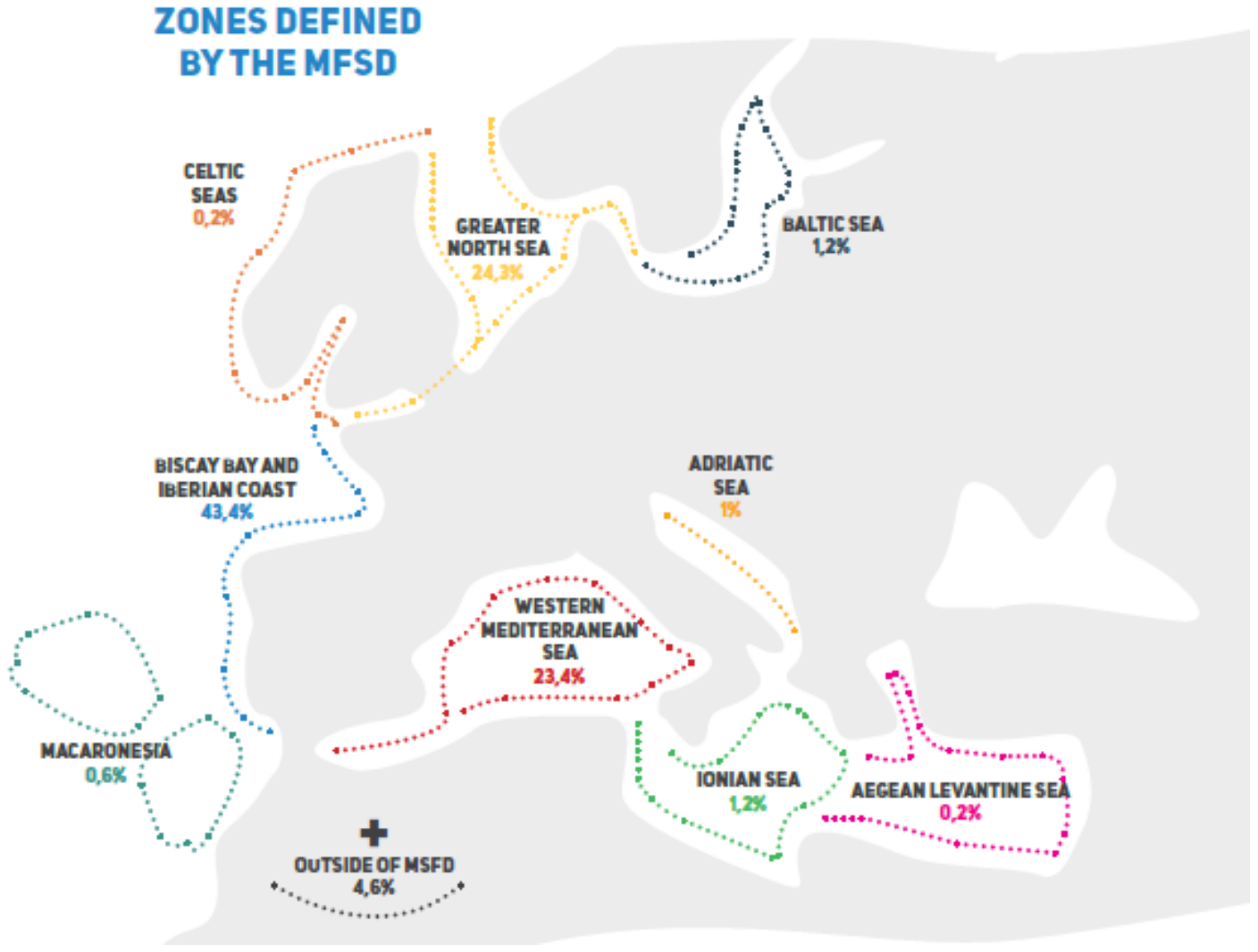
litter | m^3 | second

OCEAN INITIATIVES

50 000
VOLUNTEERS
PER YEAR

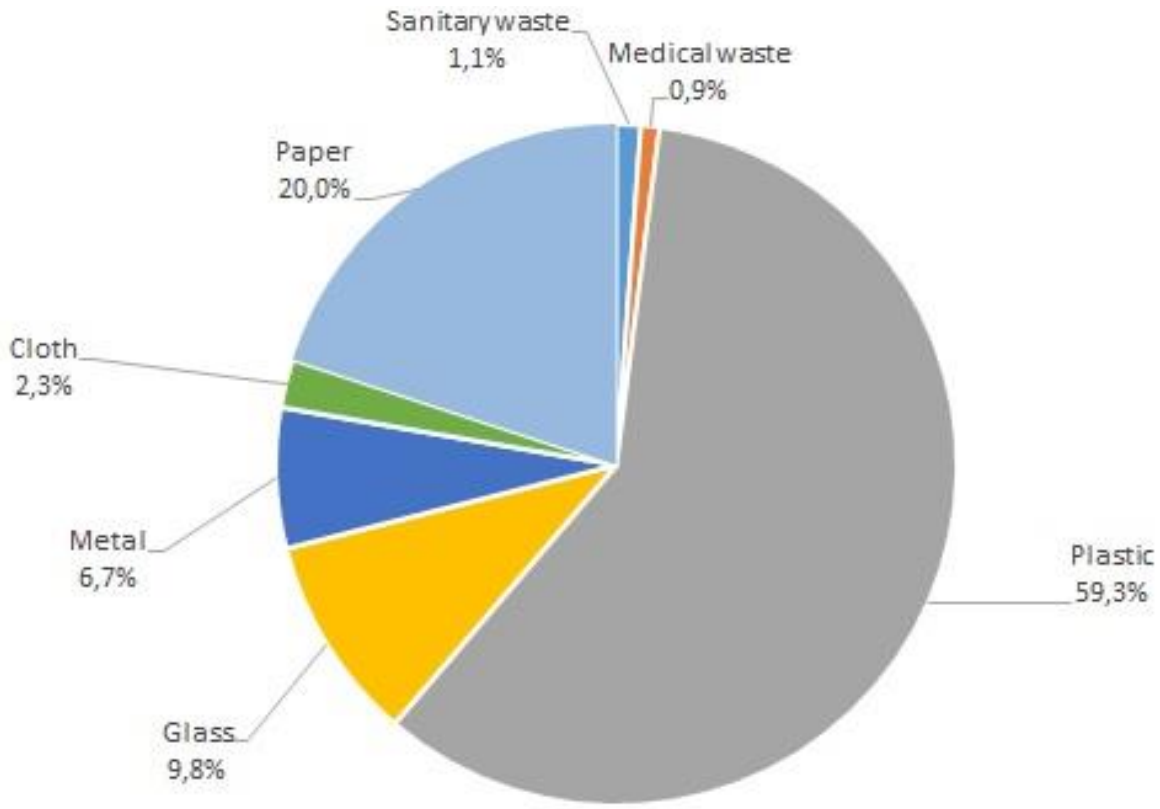
RIVERINE INPUT

RESULTS Ocean Initiatives



RIVERINE INPUT

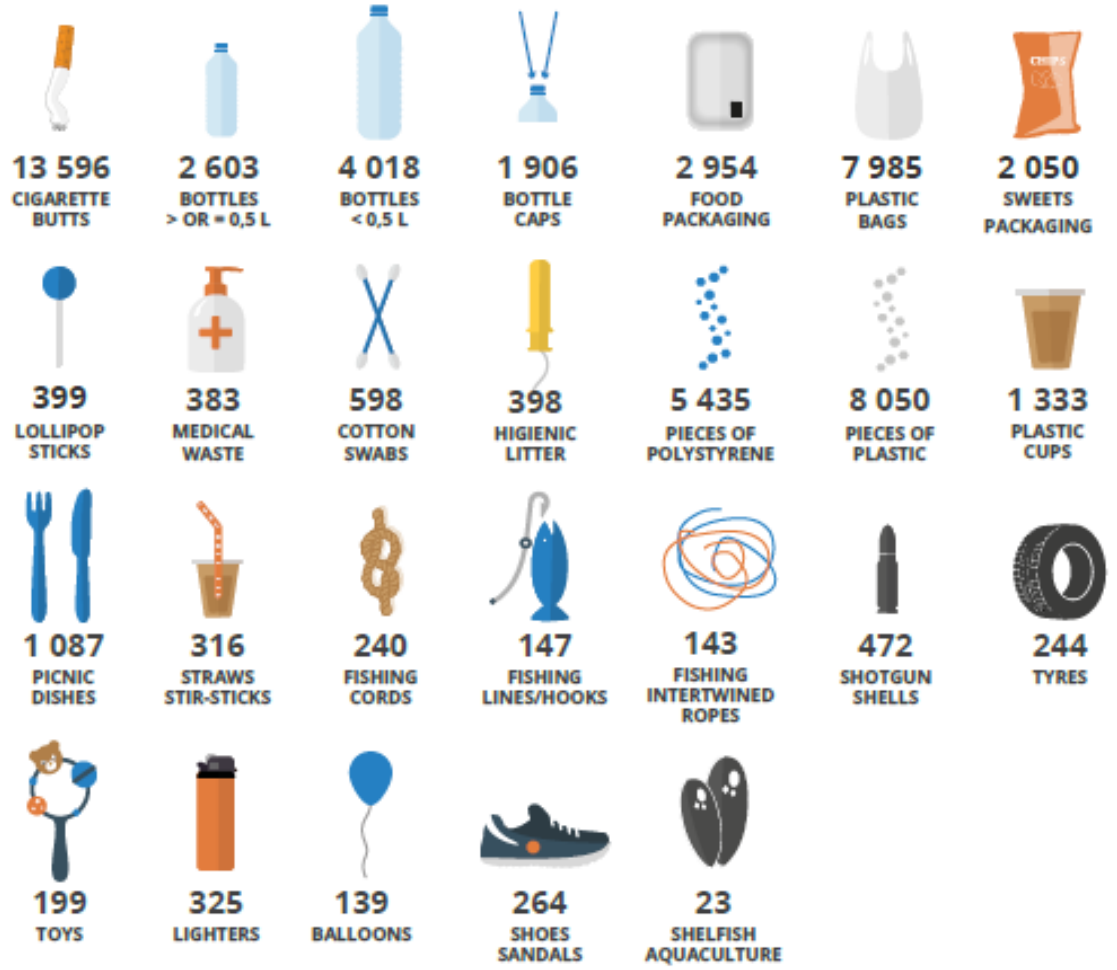
RESULTS Ocean Initiatives (Rivers)



n = 68 041 items
98 collections

RIVERINE INPUT

RESULTS Ocean Initiatives (Rivers)



n = 68 041 items
98 collections

RIVERINE INPUT

jbdussaussois@surfrider.eu

RIVERINEINPUT.SURFRIDER.EU @RIVERINEINPUT @RIVERINEINPUT