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Brest MÉTROPOLE

Caractérisation des déchets collectés sur des plages et dans des dispositifs de rétention de macrodéchets sur le territoire de Brest métropole

FICHES DE RESULTATS SYNTHETIQUES EN VERSION ANGLAISE

Source Brest métropole

Marché Brest-M-DCP-2021-0017

R.23.18.C/5731 ADE Février 2023

715 rue Alain Colas - CS 41836
F - 29218 BREST CEDEX 2

+33 (0)2 98 33 10 10

contact@cedre.fr

Cedre
715, rue Alain Colas, CS 41836
29218 BREST CEDEX 2 - FRANCE

Tél : 33 (0)2 98 33 10 10
Fax : 33 (0)2 98 44 91 38
Courriel : contact@cedre.fr
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Références du contrat :
Marché Brest-M-DCP-2021-0017, notifié en juin 2021.
Accord-cadre mono-attributaire n°2021-0276

Caractérisation des déchets collectés sur des plages et dans des dispositifs de rétention de macrodéchets sur le territoire de Brest métropole

FICHES DE RESULTATS SYNTHETIQUES EN VERSION ANGLAISE

Rédigé par :
Aurélie Delpy, ingénieure du service Surveillance et études des déchets aquatiques

Relu par :
Camille Lacroix, cheffe du service Surveillance et études des déchets aquatiques

Julie Reynaud, chargée de formations déchets économie circulaire (OiEau)

Contrôlé par :
Arnaud Guéna, adjoint au directeur, responsable de la production

Mots clefs : Déchets, plastiques, pollution, voies de transfert, réseaux urbains, eaux pluviales, littoral, techniques de lutte, filets de rétention, Brest métropole

Nombre de pages : 19
Hors page de garde / résumé / annexes

Nombre de pages annexes : /

Confidentiel ☐

Diffusion :
Brest métropole : 1 version électronique
OiEau : 1 version électronique

Classement / copies internes : Documentation, SEDA

Références Cedre, date : R.23.18.C/5731, 23/02/2023

RESUME

Les réseaux d'eaux pluviales ont été identifiés comme étant des voies de transferts de déchets vers les milieux aquatiques, que ce soient les cours d'eau ou le milieu marin. Dans ce contexte, de plus en plus de collectivités mettent en place des actions pour limiter ces transferts, via notamment l'installation de filets d'interception dans ou en sortie des réseaux d'eaux pluviales.

En 2020, la métropole de Brest a installé 7 nouveaux filets d'interception sur son périmètre dans le but de déterminer les types et les sources de déchets majoritaires et pour évaluer la capacité de rétention de ces filets. L'installation de ces nouveaux dispositifs permet aussi l'évaluation de la capacité de rétention de 6 dispositifs permanents déjà en place (dégrilleurs, siphon flottant et seaux siphoïdes). Brest métropole est une collectivité littorale de 211 156 habitants et d'une superficie de 218 km². Elle est soumise à une pluviométrie moyenne et régulière tout au long de l'année et elle possède un système d'évacuation des eaux pluviales de 530 km et 270 km de réseau unitaire (mélange des eaux pluviales et eaux usées). Le réseau pluvial compte près de 21 000 avaloirs et 520 exutoires en milieu naturel.

A la demande de Brest métropole, le Cedre a réalisé avec le soutien de l'OiEau, une caractérisation des déchets collectés dans les 13 dispositifs de rétention de macrodéchets sus mentionnés installés sur quatre bassins versants sur le territoire de la métropole. Cette étude est co-financée par l'Union Européenne, dans le cadre du projet Interreg franco-britannique PPP « Preventing Plastic Pollution », et Brest métropole. Pour chaque dispositif, les déchets interceptés sur la période 2021 - 2022 ont été transmis au Cedre pour être triés et caractérisés.

Sur la base des différents prélèvements effectués et des caractérisations réalisées, le Cedre et l'OiEau ont réalisé une analyse fine de la pollution en considérant les matériaux, les types de déchets, la taille et leur état de dégradation. Des prélèvements ont également été faits sur plusieurs sites littoraux pour comparer la composition des déchets en termes de matériaux et de typologie des déchets retrouvés.

Sur la base des résultats acquis, des fiches de résultats synthétiques ont été élaborées en français à l'échelle des dispositifs et sites étudiés et ont été compilées dans le rapport Cedre R.23.09.C. Ces fiches ont ensuite été traduites en anglais avec le soutien de Brest métropole. Le présent rapport compile les 17 fiches en version anglaise qui présentent les résultats synthétiques qui ont été obtenus à l'échelle des 13 dispositifs et des 4 sites littoraux ciblés par l'étude.

Ces résultats montrent que des quantités notables de déchets sont interceptées par les dispositifs en place, que ce soit les dispositifs permanents ou les nouveaux filets installés. En considérant l'ensemble des dispositifs, de l'ordre de 63 105 déchets/an équivalent à 93 kg/an ont été interceptés sur la période du projet. Les déchets interceptés sont principalement des plastiques, notamment liés à la consommation de tabac et à l'alimentation. On notera également la présence de déchets trop fragmentés pour être identifiés. Dans l'ensemble, les nouveaux dispositifs interceptent plus de déchets que les dispositifs permanents. Sur la période du projet, les nouveaux dispositifs ont intercepté 57 856 déchets/an (contre 5249 déchets/an

pour les dispositifs permanents) équivalent à 70 kg/an (contre 23 kg/an pour les dispositifs permanents).

Sur le littoral, on retrouve certaines similarités dans la composition des déchets collectés en termes de matériaux et de typologie des déchets retrouvés suggérant que les réseaux d'eaux pluviales contribuent au moins pour partie à la pollution retrouvée sur le littoral de la métropole.

SOMMAIRE

FACT SHEET FOR RETENTION EQUIPMENT

BAR SCREEN 2,5 cm	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY STANG-ALAR WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

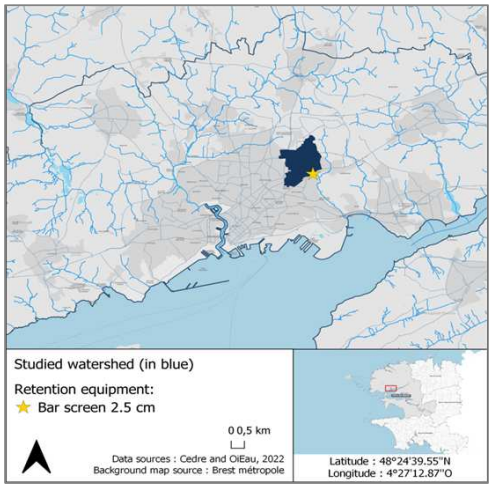
Permanent vertical bar screen, installed by Brest Metropole in a watercourse, which intercept litter transiting to the Stang-Alar brook that drains the watershed of the same name on Brest metropole territory.

Dimensions: Length of 2 m; height 1.5 m; mesh size 2.5 cm.

Maintenance: Rake for cleaning the grates; truck tray for transporting samples; 15 minutes cleaning time every 15 days.

Adaptations made during the project:

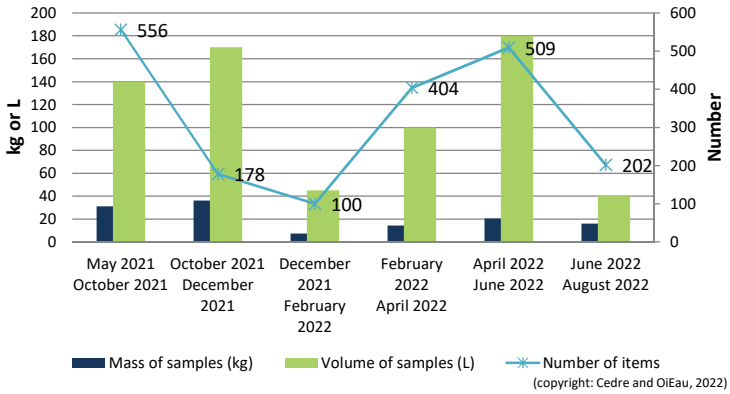
None



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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Total abundance and fluxes

Total mass collected = **126 kg**

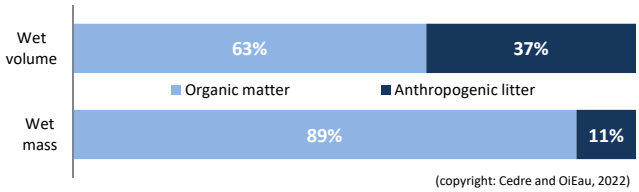
Total volume collected = **675 L**

Total number of items collected = **1,949**

Annual average flux (number) = 1,460 ± 818 **items/year**

Annual average flux (mass) = 9.4 ± 6.8 **kg/year**

Proportion of anthropogenic litter in samples



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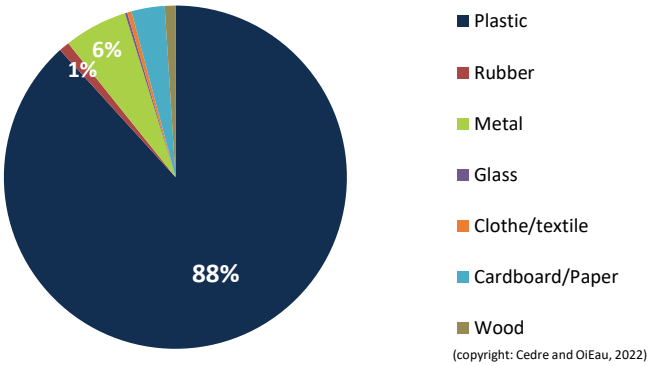
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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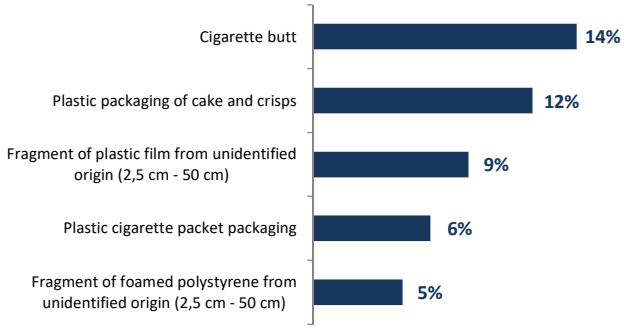
TOP 5 litter types intercepted



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Cedre and OiEau conducted a study, funded by the European Union and Brest metropole as part of the Interreg Channel project, aiming at determining types and sources of litter found on the coast and in retention equipment on the metropole territory. Litter collected from the study equipment and collected on the coast was sorted and then characterised. The analyses synthesised in this fact sheet were carried out by Cedre, with the support of OiEau, on samples collected between April 2021 and September 2022.

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BAR SCREEN 4,5 cm	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY STANG-ALAR WATERSHED	2021-2022

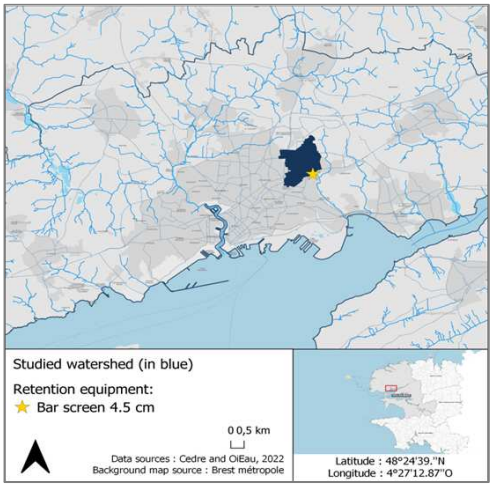
STUDY EQUIPMENT AND SAMPLING SITE

Permanent vertical bar screen, installed by Brest Metropole in a watercourse, which intercept litter transiting to the Stang-Alar brook that drains the watershed of the same name on Brest metropole territory.

Dimensions: Length of 2 m; height 1.5 m; mesh size 4.5 cm.

Maintenance: Rake for cleaning the grates; truck tray for transporting samples; 15 minutes cleaning time every 15 days.

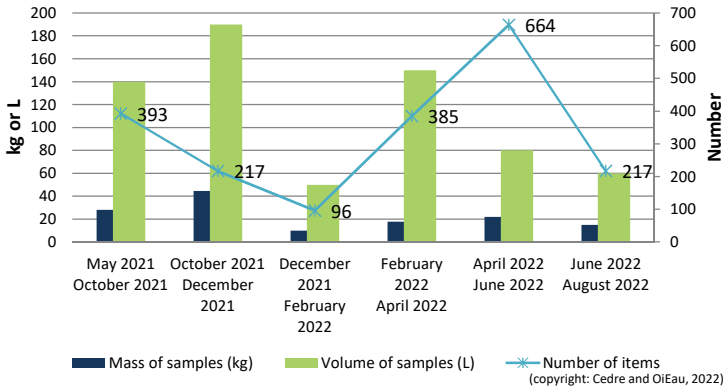
Adaptations made during the project:
None



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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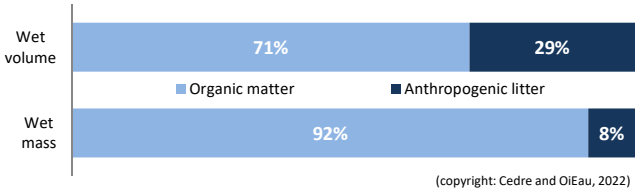
Total abundance and fluxes

Total mass collected = **137 kg**
Total volume collected = **670 L**
Total number of items collected = **1,972**

Annual average flux (number) = 1,460 ± 1,085 items/year
Annual average flux (mass) = 8.1 ± 4.9 kg/year

Proportion of anthropogenic litter in samples



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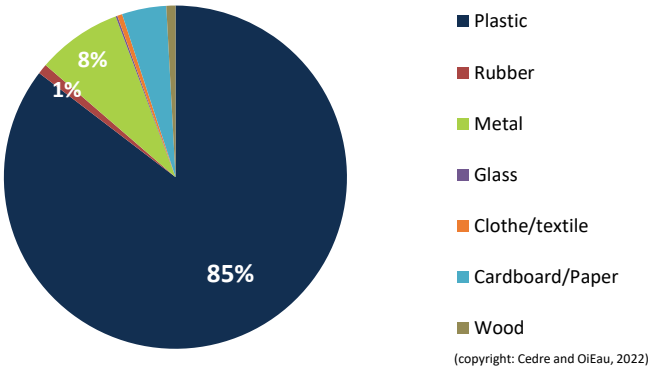
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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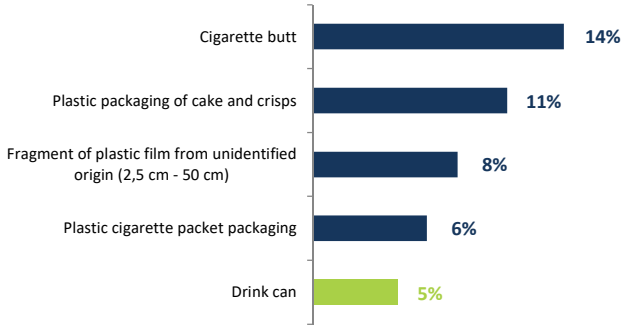
TOP 5 litter types intercepted



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RETENTION NET brook	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY STANG-ALAR WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

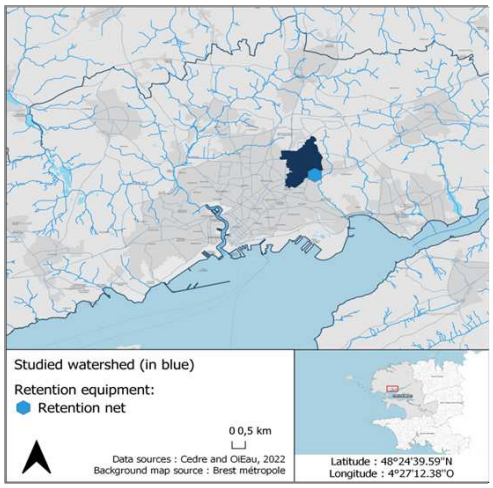
Double retention net, manufactured and installed by Pollustock in 2020, in a small watercourse. The nets intercept litter transiting to the Stang-Alar brook that drains the watershed of the same name on Brest metropole territory.

Dimensions: Length of 2 m; 2.5 cm mesh size; maximum retention capacity of 3.3 m³.

Maintenance: Crane truck for lifting; truck tray for transporting samples; lifting time of 1 hour.

Adaptations made during the project:

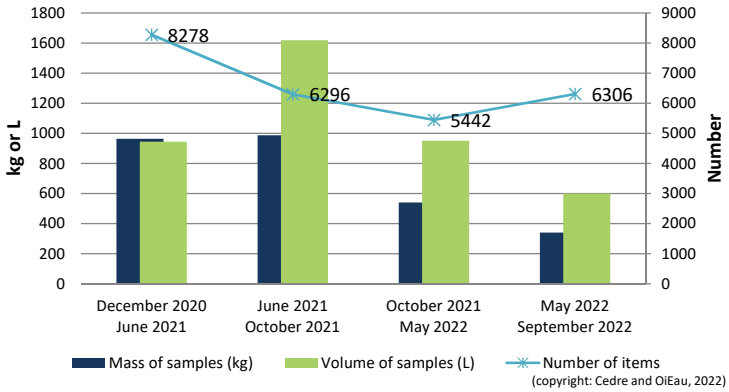
* Installation of a guillotine frame to facilitate lifting;
* Lowering of the net to avoid flooding;
* Installation of ropes to spread the nets and lower the water flow to reduce the noise generated and improve the regulation of water flow after heavy rains.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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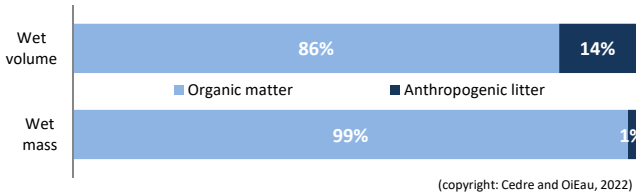
Total abundance and fluxes

Total mass collected = 2,828 kg
Total volume collected = 4,115 L
Total number of items collected = 26,322

Annual average flux (number) = 14,600 ± 2,920 items/year
Annual average flux (mass) = 22.7 ± 4.3 kg/year

Proportion of anthropogenic litter in samples



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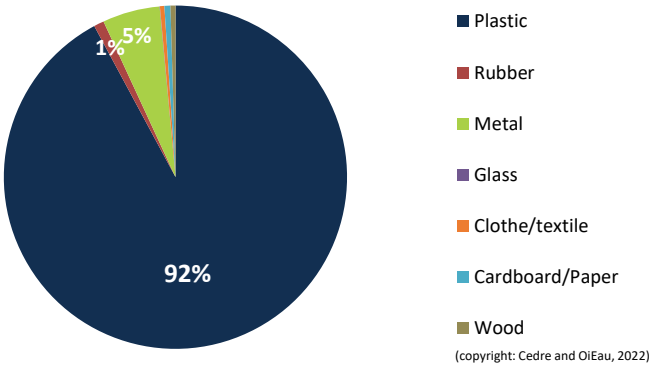
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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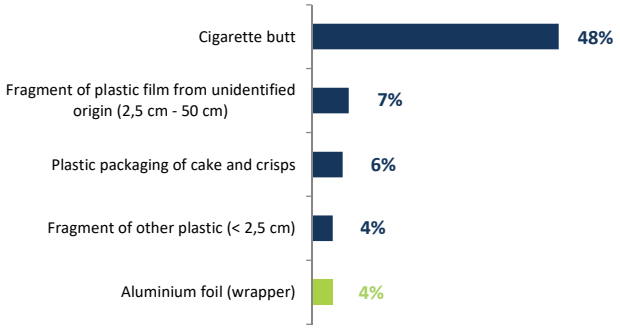
TOP 5 litter types intercepted



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FLOATING SIPHON	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY SPERNOT WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

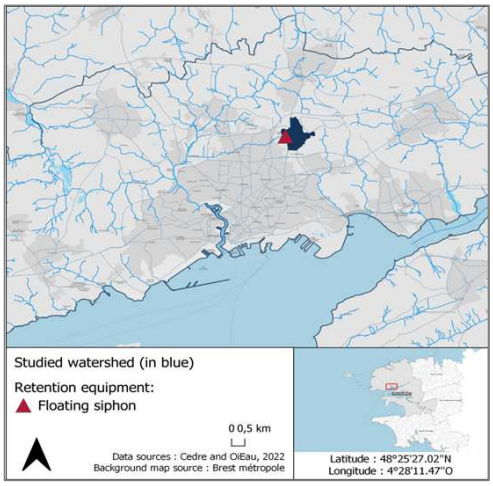
Permanent mobile floating siphon installed by Brest metropole in a watercourse. The floating siphon intercept litter transiting to the Spernot brook that crosses several districts in Brest metropole and flow into the Penfeld river.

Dimensions: Width of 2 m.

Maintenance: Fine mesh net for cleaning; gas detector; certificate to work in confined areas; cleaning time of 30 minutes every 2 months.

Adaptations made during the project:

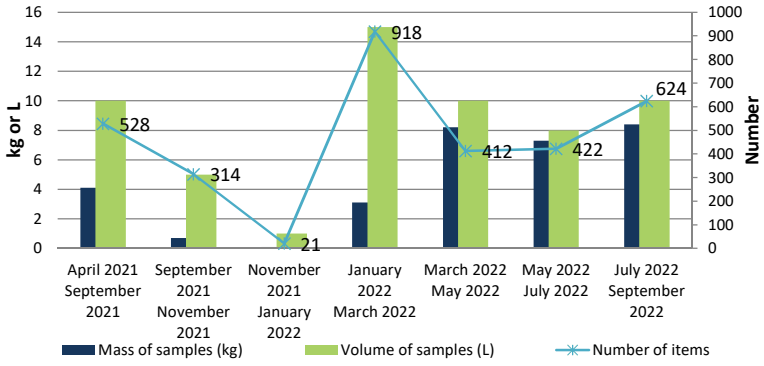
* Installation of oil sorbent boom.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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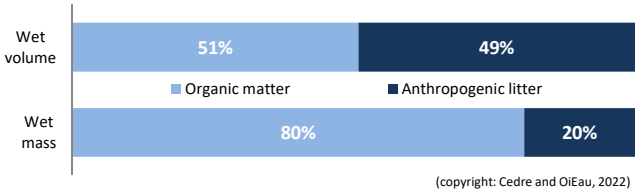
Total abundance and fluxes

Total mass collected = **31 kg**
Total volume collected = **59 L**
Total number of items collected = **3,239**

Annual average flux (number) = 2,190 ± 1,766 **items/year**
Annual average flux (mass) = 4.5 ± 2.8 **kg/year**

Proportion of anthropogenic litter in samples



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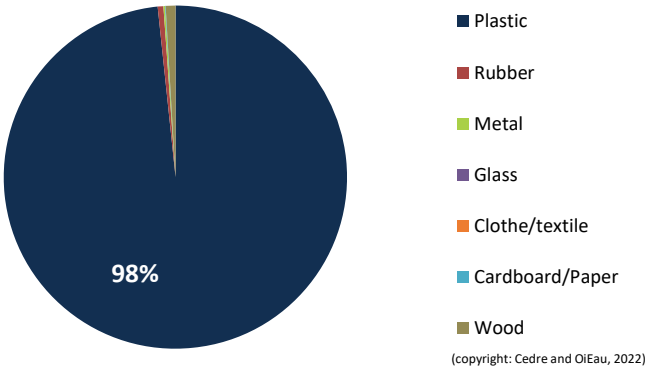
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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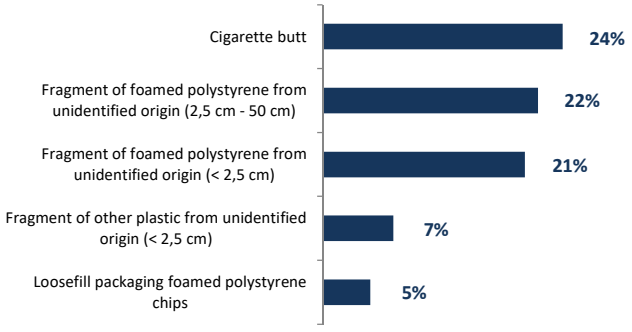
TOP 5 litter types intercepted



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RETENTION NET brook	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY SPERNOT WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

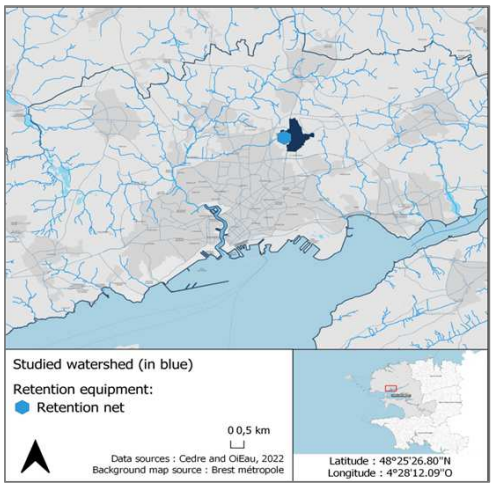
Double retention net, manufactured and installed by Pollustock in 2020, in a small watercourse. The nets intercept litter transiting to the Spernot brook that crosses several districts in Brest metropole and flow into the Penfeld river.

Dimensions: Length of 2 m; 2.5 cm mesh size; maximum retention capacity of 3.3 m³.

Maintenance: Crane truck for lifting; truck tray for transporting samples; lifting time of 1 hour.

Adaptations made during the project:

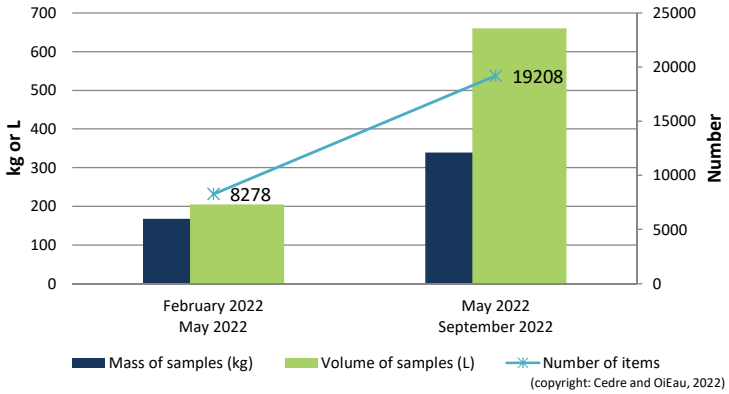
* Installation of a guillotine frame to facilitate lifting;
* Set up of an overflow system to regulate the water flow during heavy rains and avoid overloading of the upstream network.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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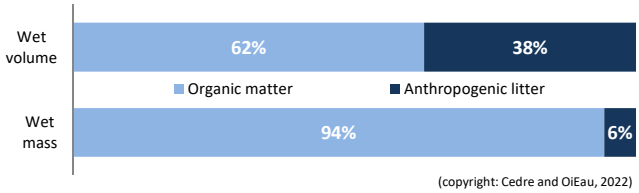
Total abundance and fluxes

Total mass collected = **507 kg**
Total volume collected = **865 L**
Total number of items collected = **27,486**

Annual average flux (number) = 42,340 ± 9,985 **items/year**
Annual average flux (mass) = 44.1 ± 32.1 **kg/year**

Proportion of anthropogenic litter in samples



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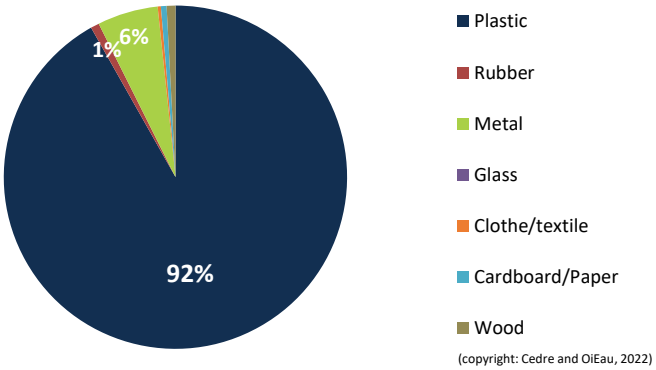
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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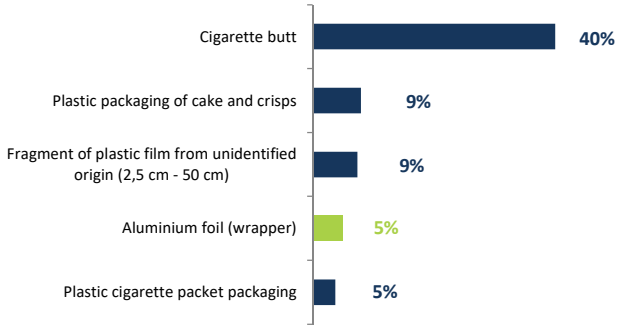
TOP 5 litter types intercepted



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RETENTION NET brook	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY KERHOURLO WATERSHED	2021-2022

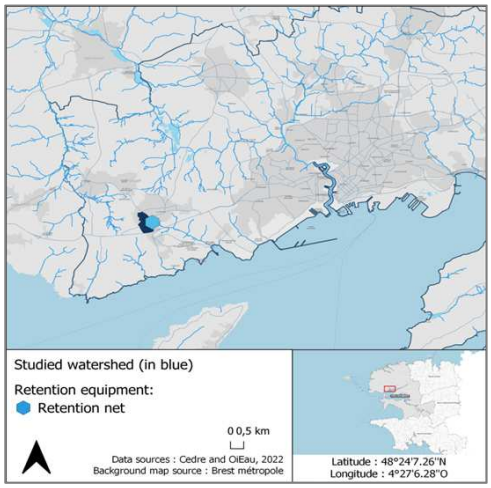
STUDY EQUIPMENT AND SAMPLING SITE

Retention net, manufactured and installed by Pollustock in 2020, exiting the rainwater network. The net intercept litter transiting to the Kerhoulo brook which flows on the beach of Sainte-Anne du Portzic in the Brest metropole territory.

Dimensions: Length of 2 m; 2.5 cm mesh size; maximum retention capacity of 3.3 m³.

Maintenance: Crane truck for lifting; truck tray for transporting samples; lifting time of 1 hour.

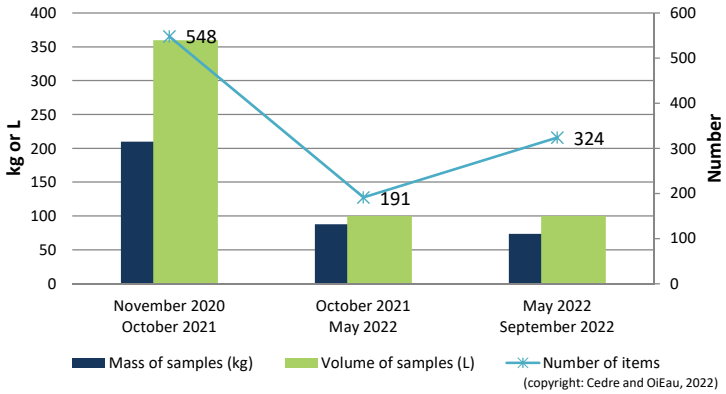
Adaptations made during the project:
None



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



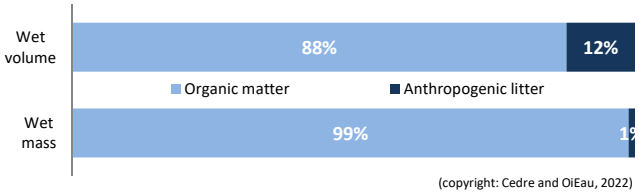
(copyright: Cedre and OiEau, 2022)

Total abundance and fluxes

Total mass collected = **384 kg**
Total volume collected = **560 L**
Total number of items collected = **1,063**

Annual average flux (number) = 730 ± 217 items/year
Annual average flux (mass) = 2.3 ± 1.1 kg/year

Proportion of anthropogenic litter in samples

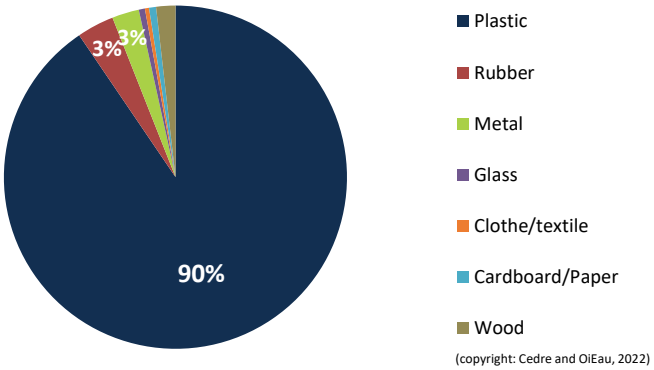


(copyright: Cedre and OiEau, 2022)

LITTER TYPES INTERCEPTED

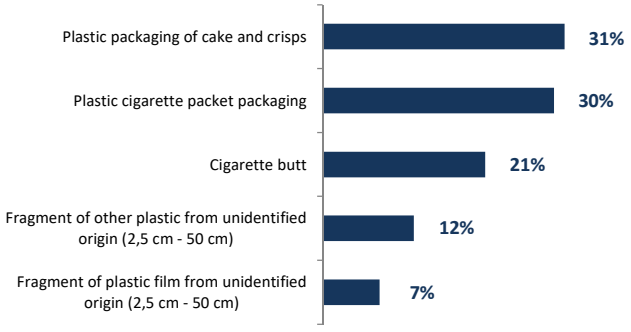
Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



(copyright: Cedre and OiEau, 2022)

TOP 5 litter types intercepted



(copyright: Cedre and OiEau, 2022)

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R.23.18.C/5731

SIPHON TRAP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

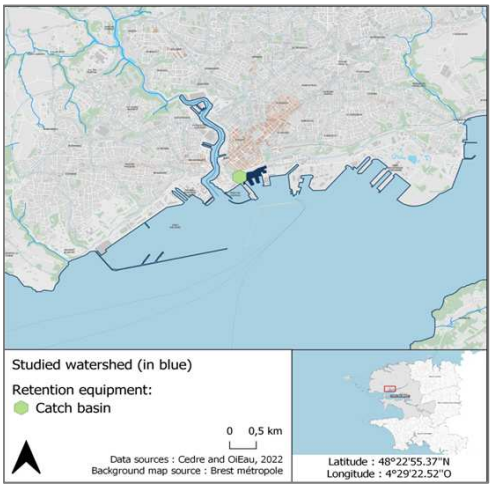
Permanent stormwater siphon trap inserted in a storm drain inlet with a specific grid (n°15357). It intercepts the waste transiting in a part of the commercial port district in the city of Brest.

Dimensions: Height 93 cm; diameter 40 cm; maximum holding capacity 80 L.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 15 minutes.

Adaptations made during the project:
None

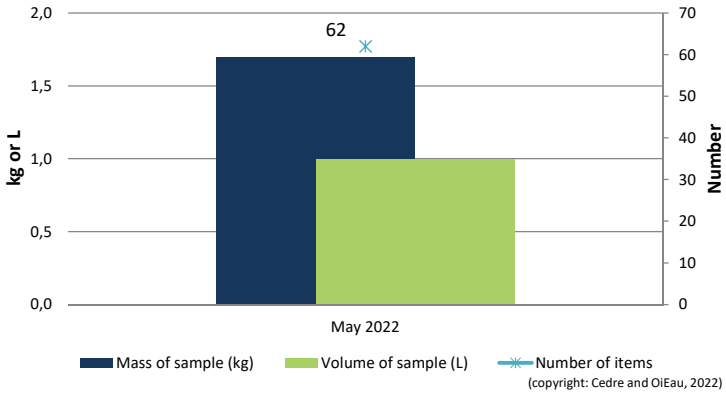
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



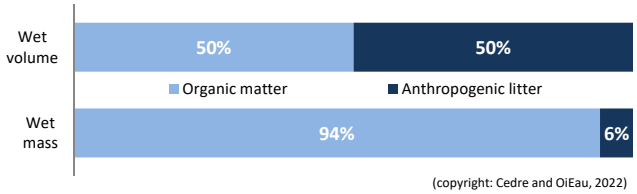
(copyright: Cedre and OiEau, 2022)

Total abundance and fluxes

Total mass collected = **2 kg**
Total volume collected = **1 L**
Total number of items collected = **62**

Annual average flux (number) = 41 items/year
Annual average flux (mass) = 0.1 kg/year

Proportion of anthropogenic litter in samples

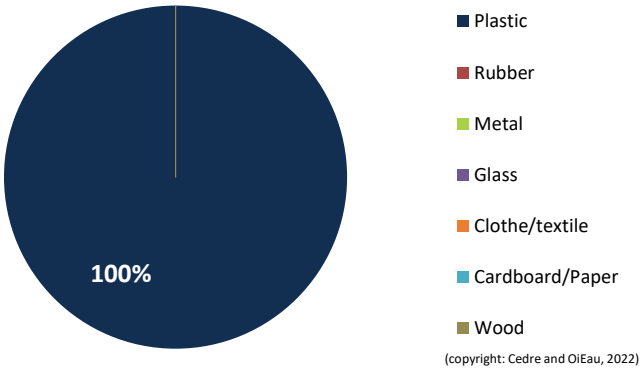


(copyright: Cedre and OiEau, 2022)

LITTER TYPES INTERCEPTED

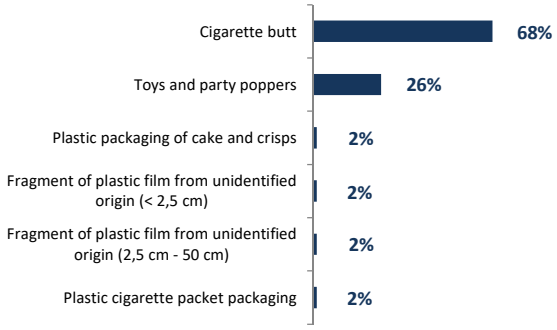
Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



(copyright: Cedre and OiEau, 2022)

TOP 5 litter types intercepted



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R.23.18.C/5731

SIPHON TRAP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

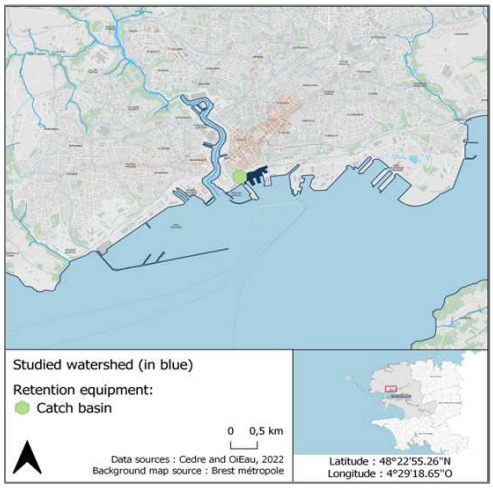
Permanent stormwater siphon trap inserted in a storm drain inlet with a specific grid (n°15293). It intercepts the waste transiting in a part of the commercial port district in the city of Brest.

Dimensions: Height 93 cm; diameter 40 cm; maximum holding capacity 80 L.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 15 minutes.

Adaptations made during the project:
None

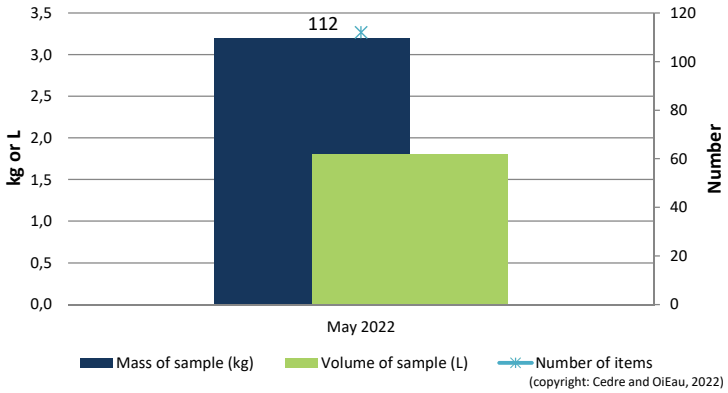
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



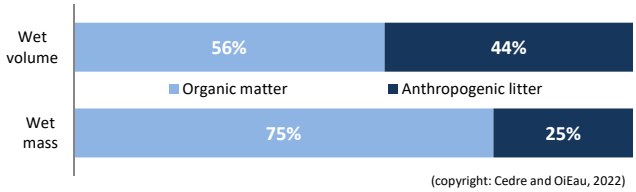
(copyright: Cedre and OiEau, 2022)

Total abundance and fluxes

Total mass collected = **3 kg**
Total volume collected = **2 L**
Total number of items collected = **112**

Annual average flux (number) = 74 items/year
Annual average flux (mass) = 0.5 kg/year

Proportion of anthropogenic litter in samples



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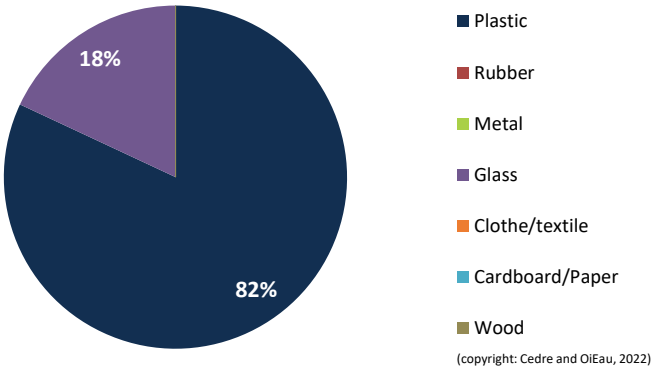
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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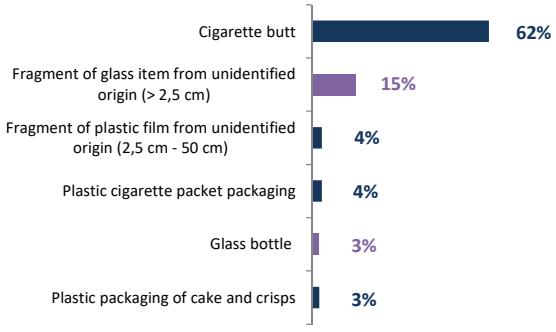
TOP 5 litter types intercepted



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R.23.18.C/5731

SIPHON TRAP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

Permanent stormwater siphon trap inserted in a storm drain inlet with a specific grid (n°18230). It intercepts the waste transiting in a part of the commercial port district in the city of Brest.

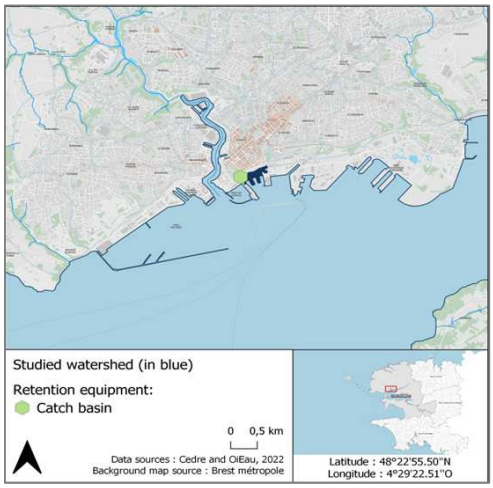
Dimensions: Height 93 cm; diameter 40 cm; maximum holding capacity 80 L.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 15 minutes.

Adaptations made during the project:

None

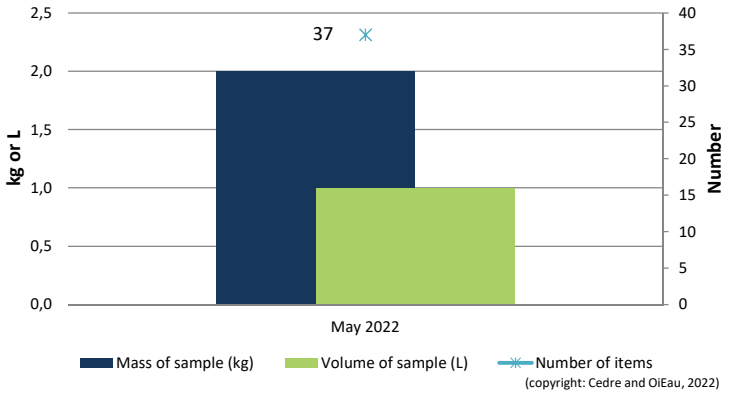
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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Total abundance and fluxes

Total mass collected = **2 kg**

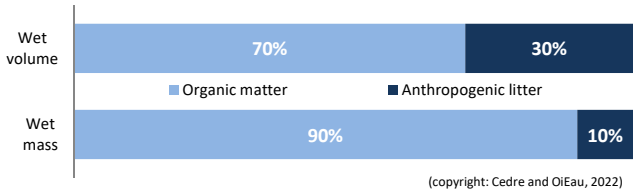
Total volume collected = **1 L**

Total number of items collected = **37**

Annual average flux (number) = 24 items/year

Annual average flux (mass) = 0.1 kg/year

Proportion of anthropogenic litter in samples



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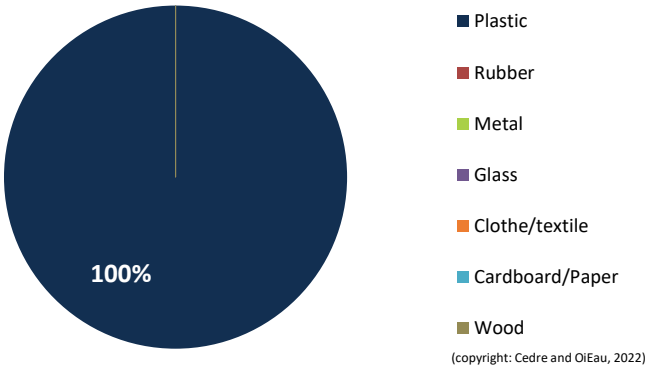
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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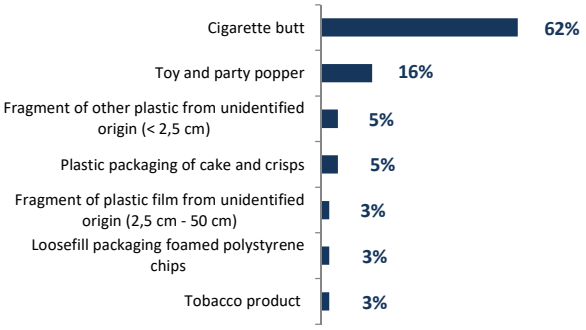
TOP 5 litter types intercepted



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R.23.18.C/5731

RETENTION NET gully	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

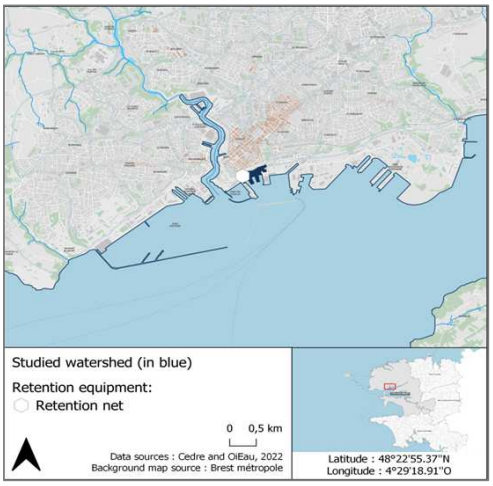
Retention net, manufactured and installed by Pollustock in 2020, in a gully (n°15357). The net intercepts waste passing through part of the commercial port district, on Brest metropole territory.

Dimensions: Length of 1 m; mesh size of 0.5 cm; maximum retention capacity of 0.8 m³.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 45 minutes.

Adaptations made during the project:
None

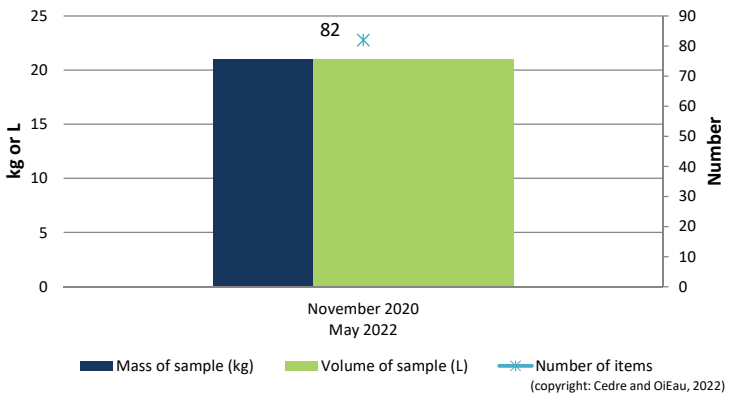
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



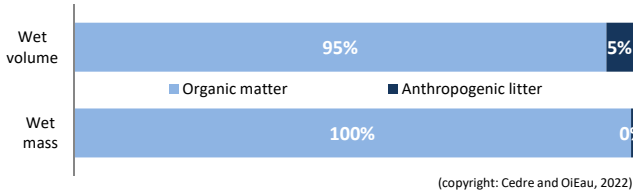
(copyright: Cedre and OiEau, 2022)

Total abundance and fluxes

Total mass collected = **21 kg**
Total volume collected = **21 L**
Total number of items collected = **82**

Annual average flux (number) = 54 items/year
Annual average flux (mass) = 0.04 kg/year

Proportion of anthropogenic litter in samples



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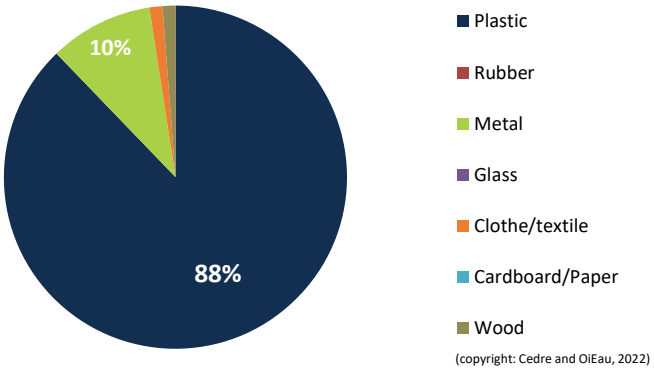
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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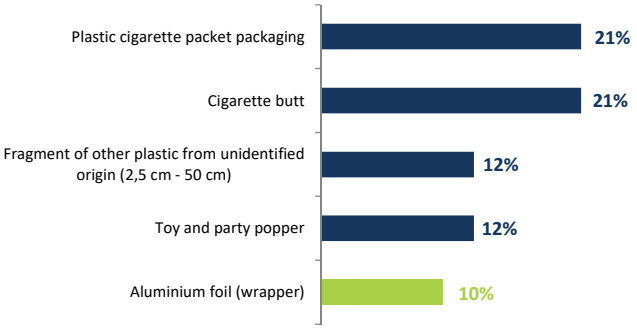
TOP 5 litter types intercepted



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R.23.18.C/5731

RETENTION NET gully	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

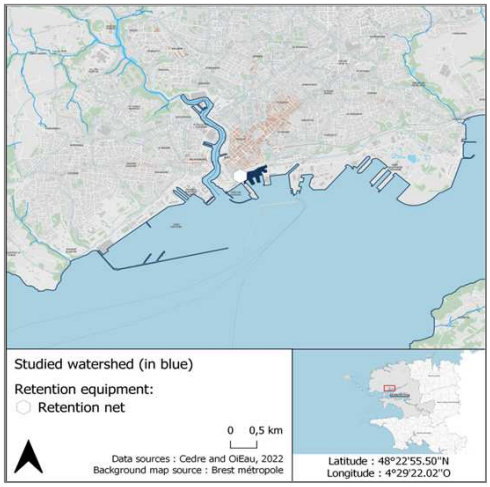
Retention net, manufactured and installed by Pollustock in 2020, in a gully (n°15293). The net intercepts waste passing through part of the commercial port district, on Brest metropole territory.

Dimensions: Length of 1 m; mesh size of 0.5 cm; maximum retention capacity of 0.8 m³.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 45 minutes.

Adaptations made during the project:
None

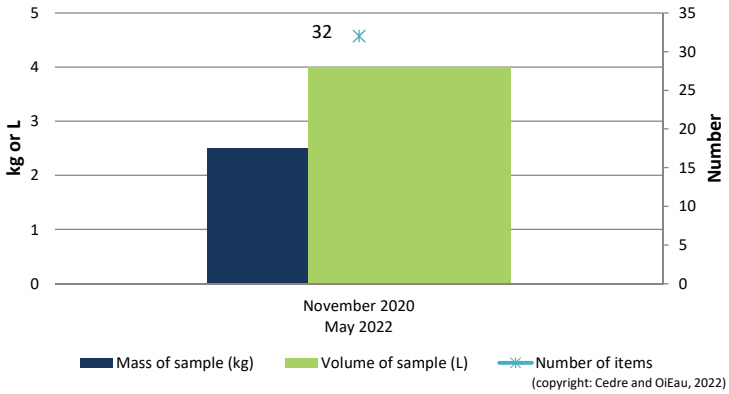
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



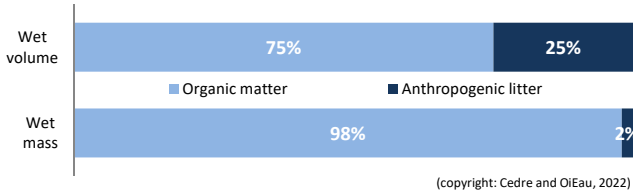
(copyright: Cedre and OiEau, 2022)

Total abundance and fluxes

Total mass collected = **3 kg**
Total volume collected = **4 L**
Total number of items collected = **32**

Annual average flux (number) = 21 items/year
Annual average flux (mass) = 0.03 kg/year

Proportion of anthropogenic litter in samples



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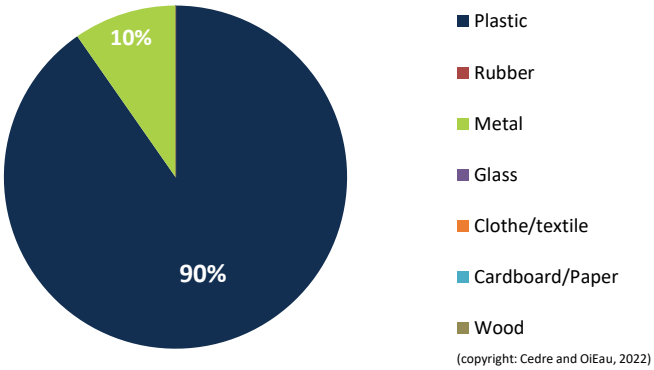
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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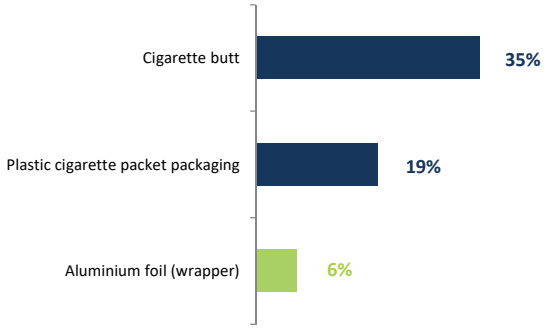
TOP 5 litter types intercepted



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R.23.18.C/5731

RETENTION NET gully	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

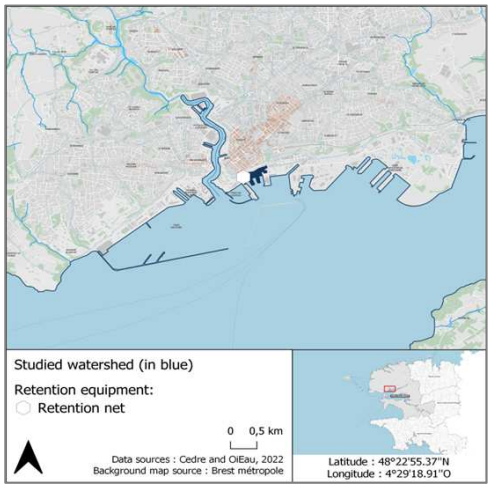
Retention net, manufactured and installed by Pollustock in 2020, in a gully (n°18230). The net intercepts waste passing through part of the commercial port district, on Brest metropole territory.

Dimensions: Length of 1 m; mesh size of 0.5 cm; maximum retention capacity of 0.8 m³.

Maintenance: Go down in a manhole; certificate to work in confined areas; gas detector; lifting time of 45 minutes.

Adaptations made during the project:
None

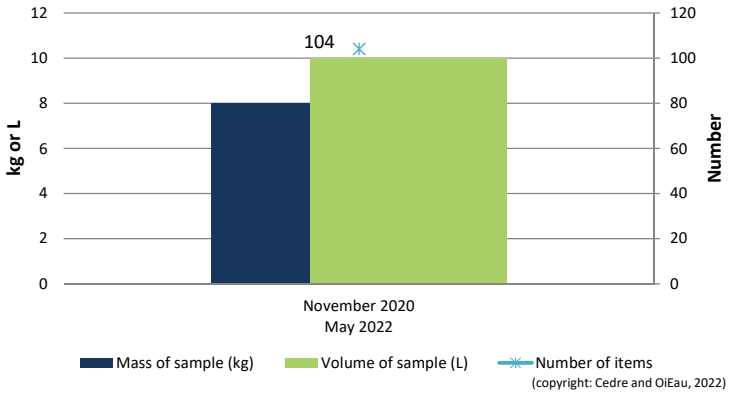
Results to be considered with caution as only one sample



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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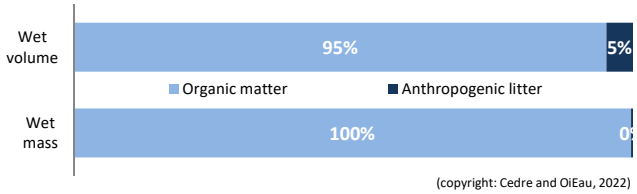
Total abundance and fluxes

Total mass collected = **8 kg**
Total volume collected = **10 L**
Total number of items collected = **104**

Annual average flux (number) = 68 items/year
Annual average flux (mass) = 0.1 kg/year

Proportion of anthropogenic litter in samples



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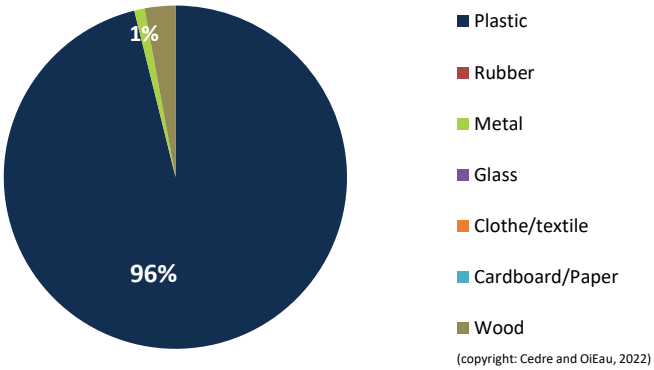
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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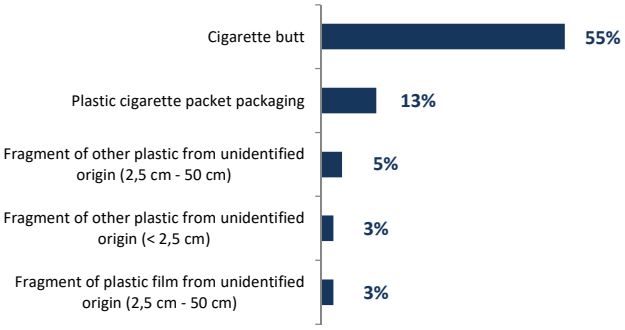
TOP 5 litter types intercepted



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R.23.18.C/5731

RETENTION NET dock	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY PORT DE COMMERCE WATERSHED	2021-2022

STUDY EQUIPMENT AND SAMPLING SITE

Retention net, manufactured and installed by Pollustock in 2020, on a dock. The net intercepts waste passing through part of the commercial port district in the Brest metropole territory.

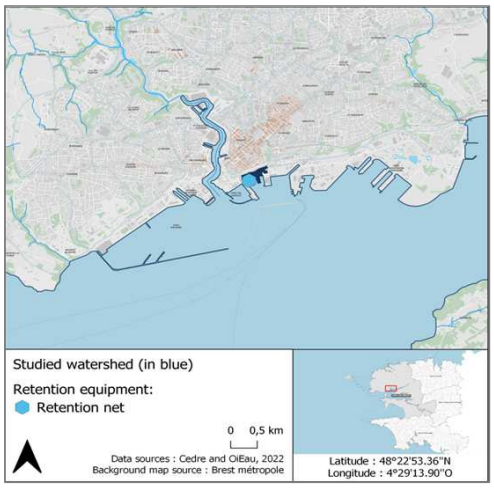
Dimensions: Length of 2 m; 2.5 cm mesh size; maximum retention capacity of 3.3 m³.

Maintenance: Crane truck for lifting; truck tray for transporting samples; lifting time of 1 hour.

Adaptations made during the project:

* Installation of a guillotine frame to facilitate lifting and increase the sealing of the device.

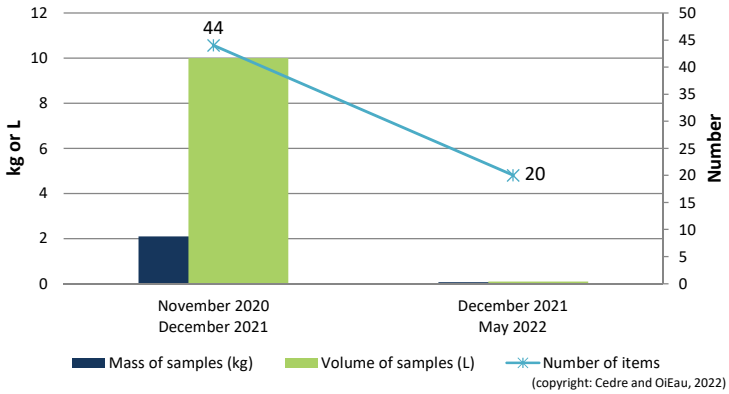
Results to be considered with caution as only 2 samples



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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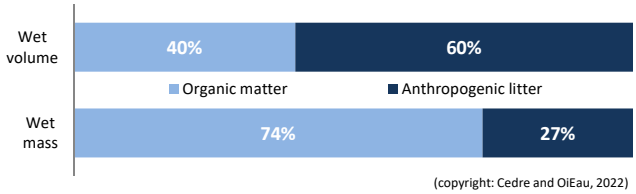
Total abundance and fluxes

Total mass collected = **2 kg**
Total volume collected = **10 L**
Total number of items collected = **64**

Annual average flux (number) = 43 ± 5 items/year
Annual average flux (mass) = 0.4 ± 0.2 kg/year

Proportion of anthropogenic litter in samples



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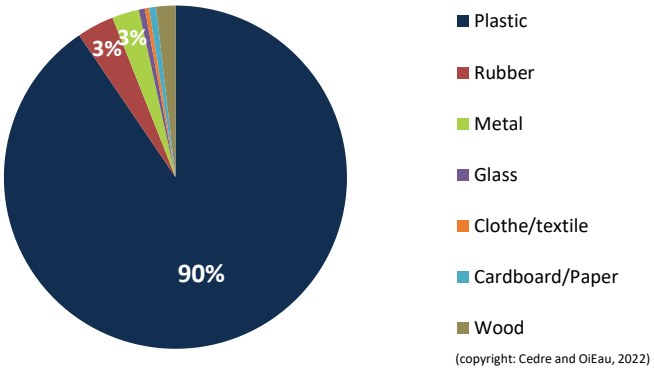
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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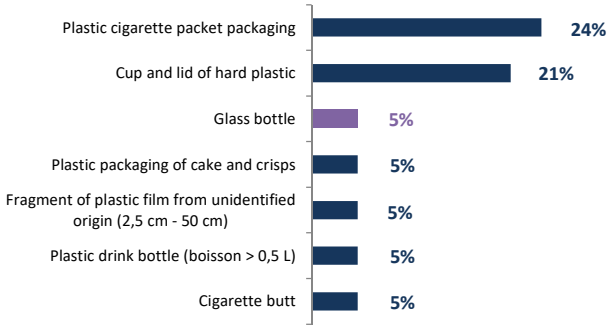
TOP 5 litter types intercepted



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FACT SHEET FOR MANUAL CLEAN-UP ON SHORELINE

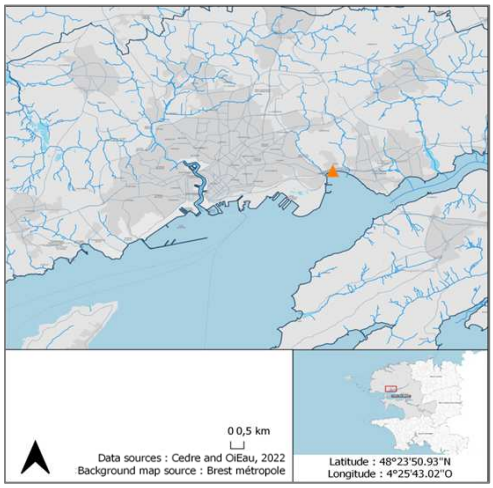
MANUAL CLEAN-UP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY MOULIN BLANC - BEACH	2021-2022

SAMPLING SITE

A sandy beach extending from the Moulin Blanc marina to the car park of the same name in Guipavas municipality. This urban beach receives litter from the Stang-Alar brook, from the Elorn estuary and from the Brest bay.

Dimensions: Length 880 m; width 30 m.

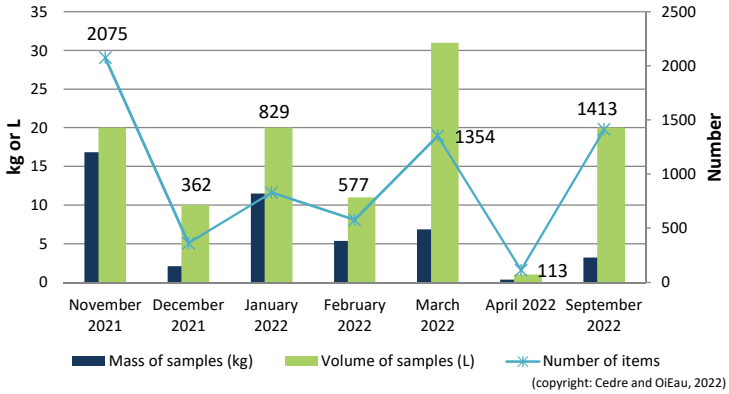
Clean-up operation: Manual clean-up; cleaning time of 30 minutes every week.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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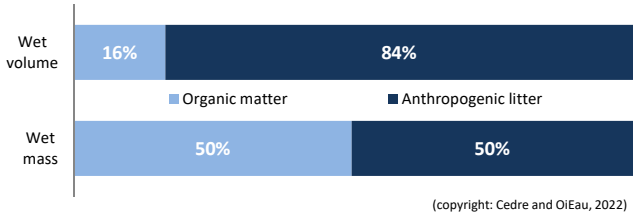
Total abundance

Total mass collected = **48 kg**
Total volume collected = **111 L**
Total number of items collected = **6,723**

Proportion of anthropogenic litter in samples

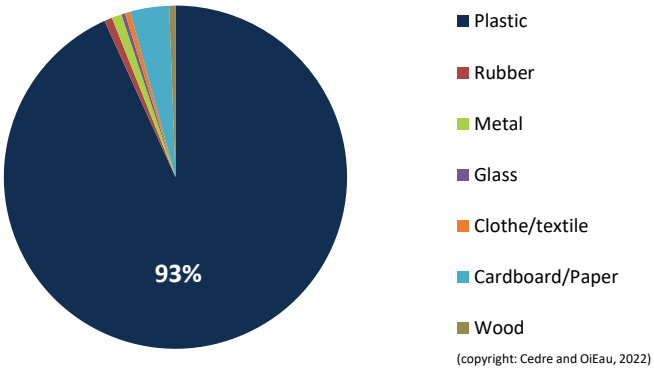


(copyright: Cedre and OiEau, 2022)

LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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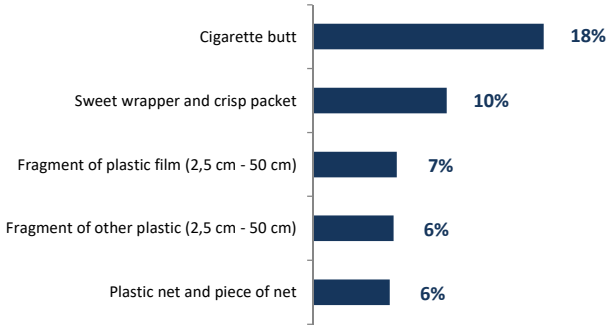
TOP 5 litter types intercepted



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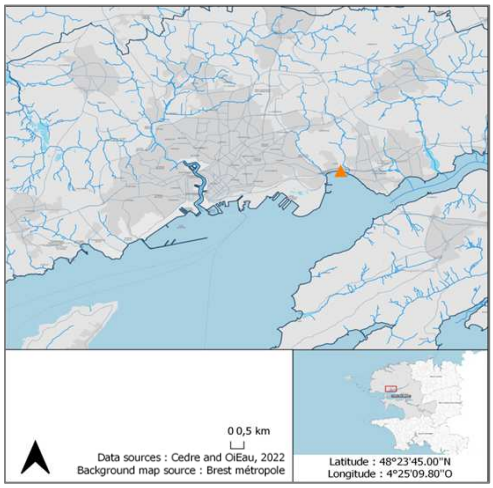
MANUAL CLEAN-UP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY MOULIN BLANC - "CANTINE"	2021-2022

SAMPLING SITE

Pebble beach extending from the Moulin Blanc car park to the Plougastel bridge on Le Relecq-Kerhuon commune. This urban beach receives litter from the stang-Alar brook, from the Elorn estuary and from the Brest bay.

Dimensions: Length 420 m; width 50 m.

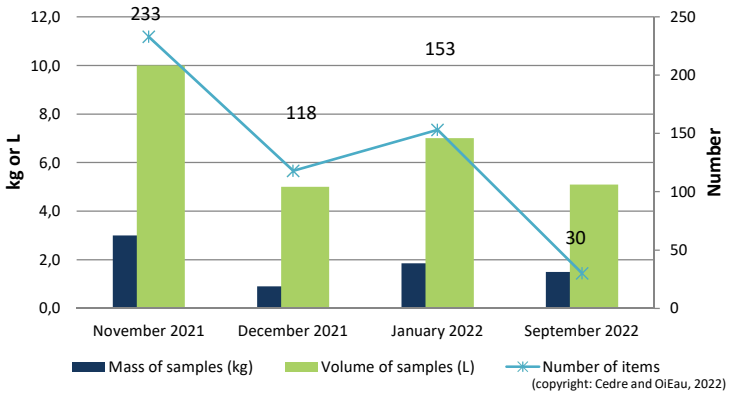
Clean-up operation: Manual clean-up; cleaning time of 30 minutes every week.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends



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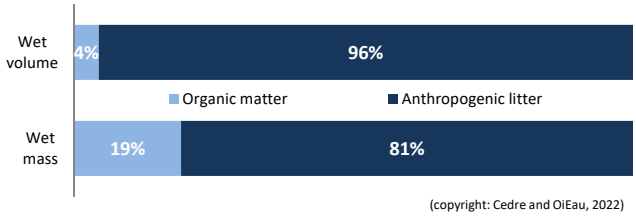
Total abundance

Total mass collected = **7 kg**
Total volume collected = **15 L**
Total number of items collected = **534**

Proportion of anthropogenic litter in samples



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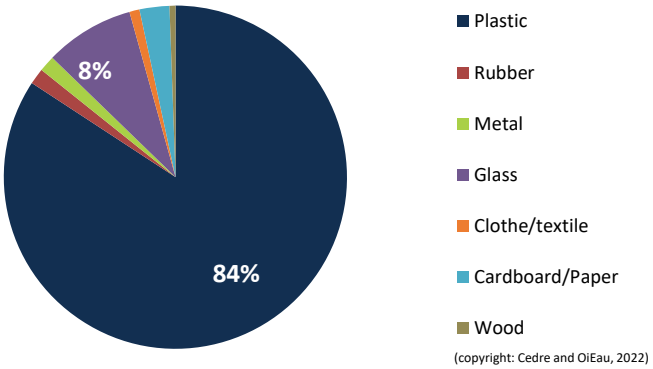
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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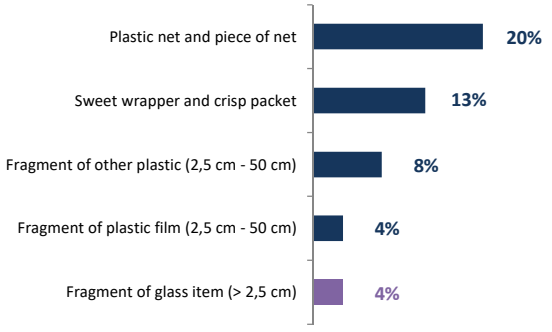
TOP 5 litter types intercepted



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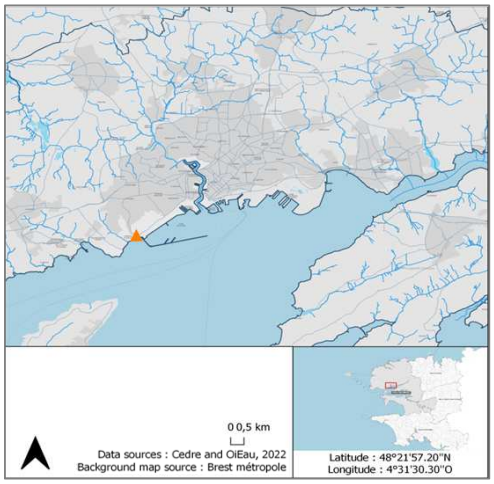
MANUAL CLEAN-UP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY QUATRE POMPES BEACH	2021-2022

SAMPLING SITE

Pebble beach extending from the Maison Blanche restaurant to the Brest Naval Base. This urban beach receives litter from the rainwater networks coming from several districts of the Brest metropole and from the Brest bay.

Dimensions: Length 350 m; width 30 m.

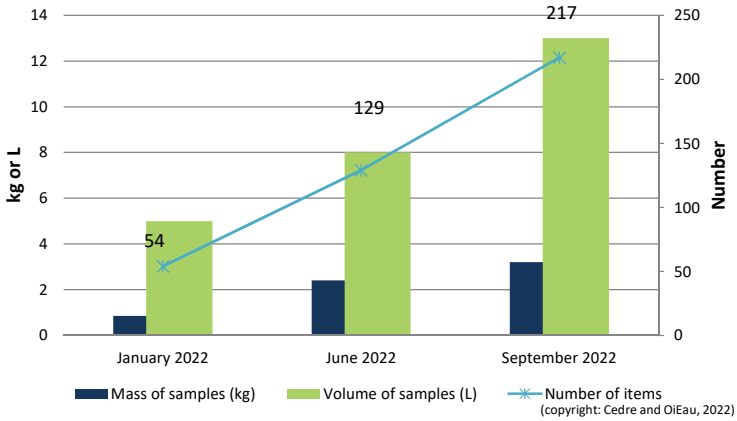
Clean-up operation: Manual clean-up; cleaning time of 1 hour every 4 months.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends

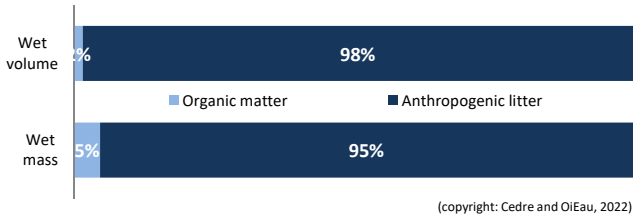


(copyright: Cedre and OiEau, 2022)

Total abundance

Total mass collected = **6 kg**
Total volume collected = **26 L**
Total number of items collected = **400**

Proportion of anthropogenic litter in samples



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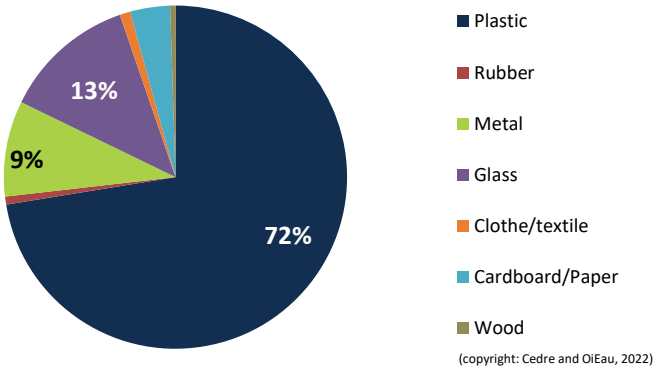
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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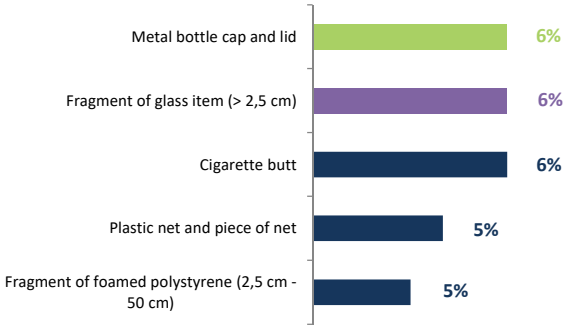
TOP 5 litter types intercepted



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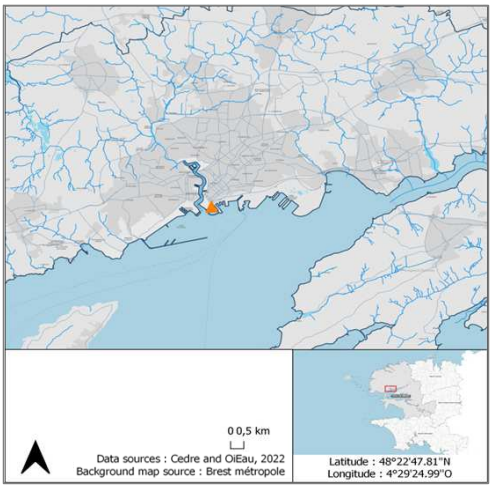
MANUAL CLEAN-UP	LITTER CHARACTERISATION ON BREST METROPOLE TERRITORY CHÂTEAU MARINA	2021-2022

SAMPLING SITE

The Château marina is a marina area located east of the inlet of the Penfeld river. It receives litter from the rainwater networks of the commercial port district, generated by the port activities and the surrounding area, and from the Brest bay.

Dimensions: Length 880 m; width 30 m.

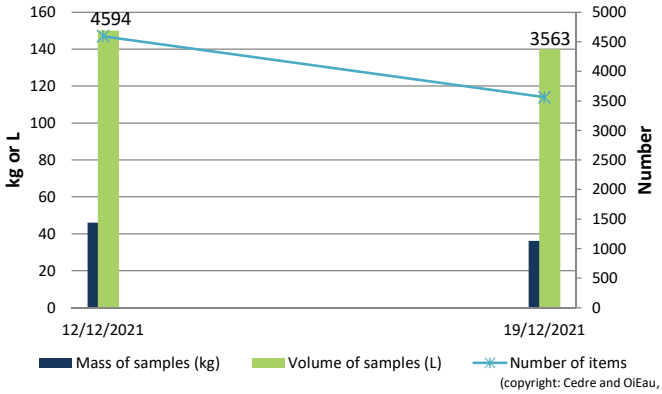
Clean-up operation: Manual clean-up; cleaning time of 45 minutes per sample.



ABUNDANCE OF LITTER INTERCEPTED

Data collected between April 2021 and September 2022

Monitored temporal abundance trends

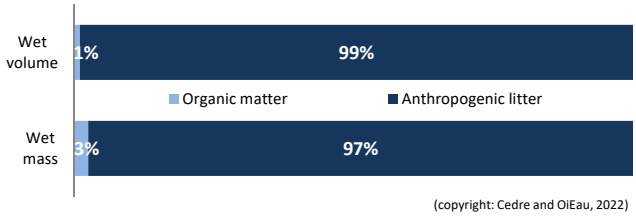


(copyright: Cedre and OiEau, 2022)

Total abundance

Total mass collected = **82 kg**
Total volume collected = **290 L**
Total number of items collected = **8,157**

Proportion of anthropogenic litter in samples



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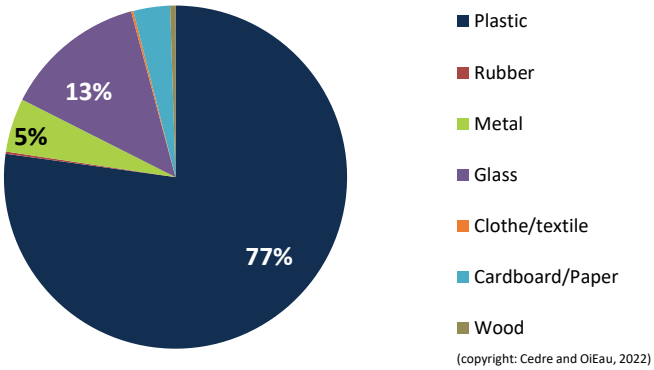
LITTER TYPES INTERCEPTED

Data provided as a percentage of the total number of litter items sampled

Distribution of litter types intercepted



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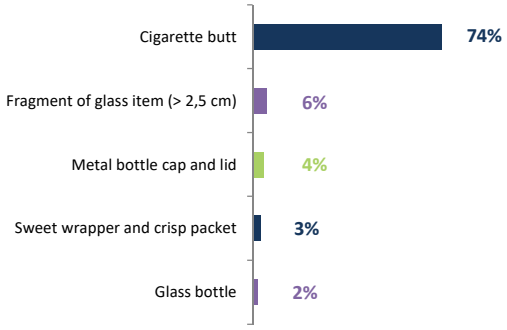
TOP 5 litter types intercepted



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