# OSPAR Region Celtic Seas
# BEACH LITTER POLLUTION STATUS (2018-2020)

*Analysis performed by Cedre (France) and validated by the OSPAR Beach Litter Expert Group*

<u>Data source:</u> OSPAR beach litter monitoring (https://beachlitter.ospar.org/)
<u>Reporting period:</u> 2018-2020 (3 years)
<u>Number of sites and surveys:</u> 32 sites, 325 surveys
<u>Calculation tools:</u> LitteR package and Excel
<u>Data format:</u> OSPAR beach litter reference list, version 2010
<u>Assessment method:</u> CEMP Guidelines (https://www.ospar.org/work-areas/cross-cutting-issues/cemp); mesoplastic fragments (plastic fragments < 2.5 cm) are excluded
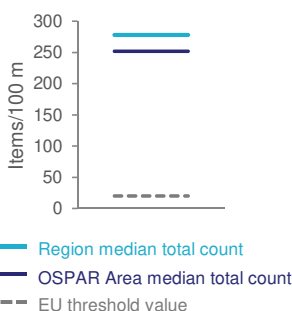
## Litter abundance

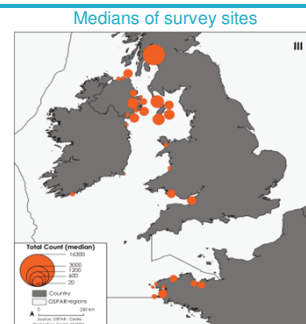### Abundance

*155364 items collected*

**Median total count: 278 items/100 m**

*A reduction of the median total count is required to achieve EU threshold value of 20 litter items/100 m.*

### Position in OSPAR Area



— Region median total count
— OSPAR Area median total count
--- EU threshold value

### Spatial distribution

*Medians of survey sites*



## Litter composition

### Material composition

*Proportion (%)* ; *Median values (items/100 m)*

| Material | Median | Proportion |
|---|---|---|
| Artificial polym. material | 145 | 92% |
| Rubber | 2 | 1% |
| Cloth/textile | 1 | 1% |
| Paper/cardboard | 0 | 0% |
| Processed/worked wood | 2 | 1% |
| Metal | 5 | 3% |
| Glass/ceramics | 3 | 2% |
| Undefined | 0 | 0% |

### Use categories

*Proportion (%)* ; *Median values (items/100 m)*

| | Single-use plastics (SUP) | Maritime-related plastic items (SEA) | Other items |
|---|---|---|---|
| Median | 37 | 29 | 93 |
| Proportion | 23% | 18% | 59% |

### Top 10 of litter types

*Proportion* ; *Median number (item/100 m)*

| Litter type | Proportion | Median |
|---|---|---|
| PLAST: Plastic/polystyrene pieces 2.5 - 50 cm [46] | 30% | 17 |
| PLAST: Strings and cords (diameter less than 1 cm) [32] | 18% | 10 |
| PLAST: Crisp/sweet packets and lolly sticks [19] | 14% | 8 |
| PLAST: Caps/lids [15] | 12% | 7 |
| PLAST: Drinks (bottles, containers and drums) [4] | 6% | 3 |
| PLAST: Ropes (diameter more than 1 cm) [31] | 4% | 3 |
| PLAST: Cutlery/trays/straws [22] | 3% | 2 |
| PLAST: Food containers incl. fast food containers [6] | 2% | |
| PLAST: Food containers incl. fast food containers [6] | | 1 |
| PLAST: Industrial packaging, plastic sheeting [40] | | 1 |

### Litter types targeted by RAP measures

| | *Medians* |
|---|---|
| **Plastic bags**<br>*887 items collected* | *0 item/100 m* |
| **Hunting cartridges**<br>*821 items collected* | *0 item/100 m* |
| **Balloons** incl. plastic valves, ribbons, strings etc.<br>*990 items collected* | *0 item/100 m* |
| **Cotton bud sticks**<br>*15375 items collected* | *1 item/100 m* |
| **Cigarette filters**<br>*1102 items collected* | *0 item/100 m* |

## Assessment of survey list adequacy and measures coverage

### Types of surveyed items

▨ Identified litter types  ▨ Non-identified litter types  ▨ Non-identifiable plastic fragments

| 0% | 77% | 8% | 14% | 100% |
|---|---|---|---|---|

| 0% | 51% | 49% | 100% |
|---|---|---|---|

■ Litter types directly targeted  ■ Litter types not directly targeted

**Part of items targeted by measures**
(ML RAP 2014-2020 and Directive EU 2019/904)

# OSPAR Region Celtic Seas
# BEACH LITTER POLLUTION TRENDS (2015-2020)

Analysis performed by Cedre (France) for the OSPAR Beach Litter Expert Group

Data source: OSPAR beach litter monitoring (https://beachlitter.ospar.org/)

Reporting period: 2015-2020 (6 years)

Number of sites and surveys: 26 sites, 530 surveys

Calculation tools: LitteR package of R and Excel

Data format: OSPAR beach litter reference list, version 2010

Assessment method: CEMP Guidelines (https://www.ospar.org/work-areas/cross-cutting-issues/cemp); mesoplastic fragments (plastic fragments < 2.5 cm) are excluded

## Trends in total count

### Region level



NB: 47 largest counts are missing because only the lower 15% of the plot is given

**2015-2020: Significant decrease**

Slope: -12 items/100 m per year
p-value: 0.000

### Site level
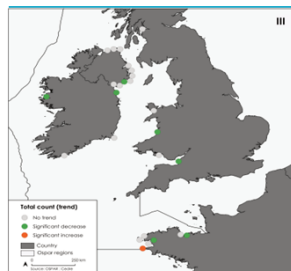


Trends over 2015-2020
- Significant decrease
- Significant increase
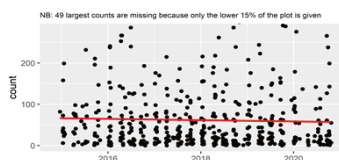- No trend

## Trends for categories of interest

### Artificial polymer materials (plastics)



NB: 38 largest counts are missing because only the lower 15% of the plot is given
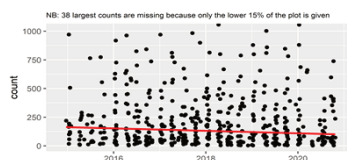
2015-2020: **Significant decrease**

Slope: -11 items/100 m per year
p-value: 0.000

### Single-use plastics



NB: 49 largest counts are missing because only the lower 15% of the plot is given
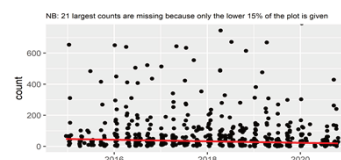
2015-2020: **Significant decrease**

Slope: -5 items/100 m per year
p-value: 0.000

### Maritime-related plastic items



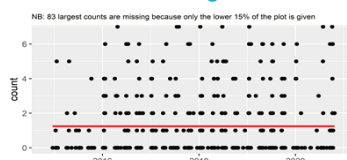NB: 21 largest counts are missing because only the lower 15% of the plot is given

2015-2020: **Significant decrease**

Slope: -2 items/100 m per year
p-value: 0.001

## Trends for litter types targeted by RAP measures

### Plastic bags



NB: 83 largest counts are missing because only the lower 15% of the plot is given

2015-2020: No trend

Slope: 0 item/100 m per year
p-value: 0.000

### Hunting cartridges



NB: 46 largest counts are missing because only the lower 15% of the plot is given

2015-2020: No trend

Slope: 0 item/100 m per year
p-value: 0.003

### Balloons incl. plastic valves, ribbons, strings etc.



NB: 39 largest counts are missing because only the lower 15% of the plot is given

2015-2020: No trend

Slope: 0 item/100 m per year
p-value: 0.009

### Cotton bud sticks



NB: 15 largest counts are missing because only the lower 15% of the plot is given

2015-2020: No trend

Slope: 0 item/100 m per year
p-value: 0.043

### Cigarette filters



NB: 12 largest counts are missing because only the lower 15% of the plot is given

2015-2020: No trend

Slope: 0 item/100 m per year
p-value: 1.000

- Count of litter items per survey
- Theil-Sen trend line

### Key message

Beach litter is abundant on survey sites in the OSPAR Region Celtic Seas, with a median total count of 278 items/100 m.

Plastic material is predominant, representing 92% of the beach litter items recorded, with a median of 145 items/100 m.

SUP and SEA use categories appear to contribute to the pollution with medians of 37 items/100 m (23%) 29 items/100 m (18%) respectively.

Plastic / polystyrene pieces (17 items/100 m; 30%), strings and cords (10 items/100 m; 18%) and crisp / sweet packets (8 items/100 m; 14%) are abundant litter types.

At least 51% of the recorded items are directly targeted by OSPAR ML RAP 2014-2020 and the SUP Directive.

Only 8% of the litter items are not identified, indicating that the OSPAR survey list adequately covers the litter items recorded.

14% of the litter items are non-identifiable plastic fragments, which cannot be used for the identification of sources of pollution.