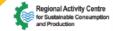


CAPITALISATION PROCESS

Session 3: Marine litter monitoring in islands: Methodologies and tools

Ignasi Mateo, SCP/RAC

imateo@scprac.org





Objectives 3rd technical session:

- To harmonize approaches for collection and identification of marine litter, to analyse data collected and organize beach clean ups and field actions;
- to **present a case study** of one BeMed modular project related to experimentation and data collection;

- to **inform on the resources and** tools available in this domain;
- to support projects in **disseminating targeted data** and information, so it can be considered by relevant authorities;
- to receive feedback and to ensure a constructive exchange between the different BeMed projects and representatives of NGO's and other Mediterranean projects currently working on this field.

COMMUNITY BUILDING

Agenda

Time	Торіс	Content	Speaker
11h	Opening of the session	Welcome and objectives of the session	Mr. Ignasi Mateo, SCP-RAC
11h10'- 11h20'	ML data collection in Mediterranean context	ML data collection as a key element for the Mediterranean policies-UNEP/MAP	Mr. Christos Ioakeimidis, MedPOL (10 min)
11h20'- 11h30'	Harmonized Marine Litter monitoring approaches and methodologies	Participants will learn about methodologies and approaches to monitor ML presence on beaches	Ms. Carme Alomar IEO-COB (10 min)
11h30' - 11h40'	The case of Albania	An example of the experience of an NGO in Clean Ups in Albanian Islands	Ms. Klea Korro "Together for zero plastic in Albanian islands (Albania)" (10 min)
11h40' - 11h50	'Ocean initiatives'	'Ocean initiatives', a Surfrider program to fight the marine litter issue through education, community science and lobbying	Ms. Clémence Baudu SURFRIDER (10 min)
11h50' -12h30'	Open discussion	Question & Answer	All participants (30 min)



THANK YOU

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Christos Ioakeimidis – MED POL Marine Litter Expert





Mediterranean Action Plan Barcelona Convention

MAP/Barcelona Convention and Marine Litter







Mediterranean Response

Regional Plan on Marine Litter Management in the Mediterranean (COP 18, Decision IG.21/7)

integration measures reduction prevention removal disposal assessment monitoring research science guidelines cooperation assistance awareness education stakeholders civil society reporting

Regional Plan on Marine Litter Management in the Mediterranean Achievements

- Development and implementation of National Monitoring Programmes
- Effect of ML on Biota: development of IMAP Cand. Indicator 24
- Assessment Criteria: ML Baseline and Threshold Values (BV-TV) for IMAP Common Indicators
- 19 National Action Plans (NAPs)/ Programmes of Measures (PoMs)
- Banning of single-use plastic bags in 17 Mediterranean Countries (Regulations/National Laws including total and partial bans, taxes/levies)
- Phase-out SUB items & ML Guidelines
- Recycling: Legislations and Policies in 8 Mediterranean Countries
- More than 20 Marine Litter Pilots in 9 (non-EU) Countries
- Regional Cooperation Platform Civil Society & NGO Involvement & Industry
- Mediterranean Node on Marine Litter

Updated Marine Litter Regional Plan (2021)

- Mandate given by COP 21 (Naples, Italy, 2-5 December 2019) to upgrade the MLRP towards submission to COP 22 (Antalya, Turkey, December 2021)
- Key principles and measures to be addressed by the Regional Plan:
 - ✓ Phase out single use plastic items;
 - ✓ Set targets for plastic recycling and other waste items;
 - ✓ Introduce environmental taxes,;
 - ✓ Promote new technologies for the removal of marine litter;
 - ✓ Strengthen sanctions in case of non-compliance;
 - ✓ Include in the SPAMIs measures to combat marine litter;
 - ✓ Reduce packaging;
 - ✓ Promote voluntary agreements with industry;
 - ✓ Strengthen measures related to SCP programmes
 - ✓ Introduce a concrete measure on microplastics reduction





Main Processes and Milestones towards the 2023 MED QSR

- ✓ Negotiation and agreement on the scales of monitoring, assessment and reporting at regional (and as appropriate sub regional) level
- ✓ Development of methodological tools and assessment criteria for integrated assessment of GES
- ✓ Full implementation of national IMAPs throughout the Mediterranean
- ✓ Operationalization of IMAP Info System
- ✓ **Development and implementation of** Monitoring Protocols and Data Quality Assurance and Quality Control for IMAP Common Indicators
- ✓ Technical assistance and support to CPs to address knowledge gaps and enhance national capacities
- ✓ Outreach and partnerships; and communication and visibility strategy
- ✓ Effective regional cooperation and coordination



Monitoring and Assessment: Issues and Solutions

Reliable assessment of the state of marine environment:

- Integrated GES assessment based on trends in long time series of quality assured data and new/updated thresholds
- The practical GES assessment method(s) to address cumulative stressors and provide their interrelation with state of marine environment
- Build knowledge to address new mandatory Priority and Emerging Contaminants

Reliable and cost-effective monitoring of the state of marine environment

- Optimal monitoring practices nationally and sub-regionally applicable
- Continuously improve capacities of national IMAP relevant counterparts

Quality Assurance and Quality Control Schemes applied on national data processing and reporting

Data Management and Information Portal





IMAP EO10 Marine Litter: Progress & Developments

- ✓ **National IMAPs in place:** IMAP Implementation 2020-2023, including joint monitoring (integrated implementation of IMAP)
- ✓ **IMAP Guidance Factsheets** for all IMAP EO10 (Marine Litter) Common Indicators
- ✓ Data Standards and Data Dictionaries
- ✓ Monitoring Protocols: floating microplastics is the latest one; under development intercalibration exercise, full set of protocols for all IMAP EO10 CIs during 2022-2023 biennium
- ✓ **IMAP InfoSystem Modules** (beach macro, seafloor macro, floating micro)
- ✓ Updated list for beach marine litter items (COVID-19)
- ✓ Updated BV and proposal for TV for IMAP EO10 Cl22 and Cl23
- ✓ **IMAP Candidate Indicator:** regional operational strategy, protocols, trainings, development and pilot testing of national monitoring programmes
- ✓ CORMON Marine Litter supplemented by OWG-ML
- ✓ Marine Litter Hotspot Areas fisheries related items on the spotlight





Thank you





Christos loakeimidis
Associate Programme Management Officer – Marine Litter Expert
UN Environment Programme / Mediterranean Action Plan
Barcelona Convention Secretariat
christos.ioakeimidis@un.org



Plastic Busters MPAs

Harmonized Marine Litter monitoring approaches and methodologies

Carme Alomar on behalf of the IMPACT@SEA research team Balearic Centre of Oceanography-IEO, CSIC

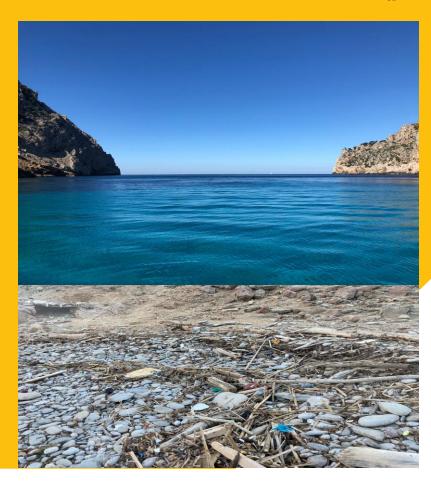


Monitoring marine litter:

Beaches

Floating

Seafloor



Beaches

Methodology for monitoring:

Site selection
Sampling period and frequency
Material and equipment
Methods-Protocols



Case study: Cabrera National Park

Small rocky beaches:

Entire beach

Standardize number of items per m² of whole beach

Site selection:

Different beaches → taking into consideration:

Orientation

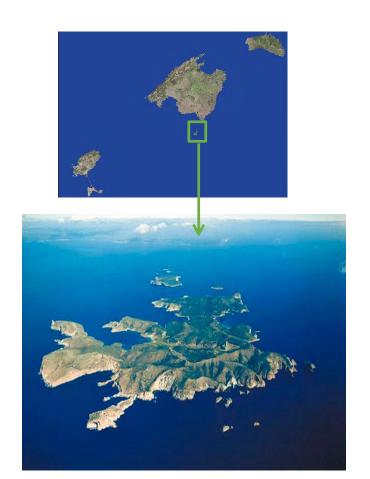
Anthropogenic impact

Natural environmental characteristics

Accessibility

Sampling period and frequency:

Every season: winter, spring, summer and winter 4 sites per season



Methodology

1 Collect marine litter in entire beach



At least 1 member of the team should be familiarized with the protocol

Toolkit for monitoring marine litter and its impacts on biodiversity in Mediterranean MPAs

Survey Sheet (100m)

	e-mail address: Name of surveyor 2: e-mail address:				
Beach ID:					
Country:					
Total number of surveyors:					
Date of survey:(d/m/y)	Start time of the survey:				
Additional	Information				
When was the beach last cleaned: Did you divert from the predetermined 10 meters:					
Did any of the following weather conditions affe box:	ect the data of the su	rvey? If so, please tick appropriat			
	☐ Wind ☐ Rair	n 🗌 Snow 🔲 Ice 🔲 Fog			
	☐ Sand storm	☐ Exceptionally high tide			
		. , ,			
Did you find stranded or dead animals:		If so, how many:			
Did you find stranded or dead animals: Please describe the animal, or note the species na		If so, how many:			
•	ame if known: Alive Dead	If so, how many:			



Project co-financed by the European Regional Development Fund

Methodology

Categorize: using Masterlist from PB Protocol



Artificial polymers materials Rubber Cloth/textile Paper/cardboard Processed/worked wood Metal Glass Ceramics Sanitary waste Medical waste



Paraffin/wax pieces

Size classification:

 $A = 25 \text{ cm}^2$

 $B = 100 \text{ cm}^2$

 $C = 400 \text{ cm}^2$

 $D = 2500 \text{ cm}^2$

Masterlist of Marine Litter Items (to be replaced by the MSFD TG ML Joint List)

ARTIFICIAL POLYMER MATERIALS				
Total				

Code	Items name	Item counts	Total
G125	Balloons and balloon sticks		
G126	Balls		
G127	Rubber boots		
G128	Tyres and belts		
G129	Inner-tubes and rubber sheets		
G130	Wheels		
G131	Rubber bands (small, for kitchen/household/post use)		
G132	Bobbins (fishing)		
G133	Condoms (incl. packaging)		
G134	Other rubber pieces		

CLOTH/TEXTILE				
Code	Items name	Item counts	Total	
G137	Clothing / rags (clothes, hats, towels)			
G138	Shoes and sandals (e.g. leather, cloth)			
G139	Backpacks & bags			
G140	Sacking (hessian)			
G141	Carpet & furnishing			
G142	Rope, string and nets			
G143	Sails, canvas			
G144	Tampons and tampon applicators			
G145	Other textiles (incl. rags)	Mediterranean		

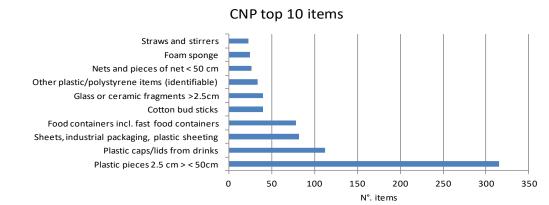


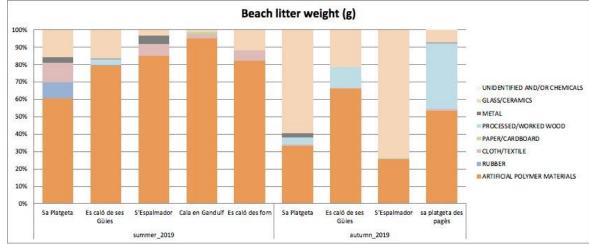


Methodology

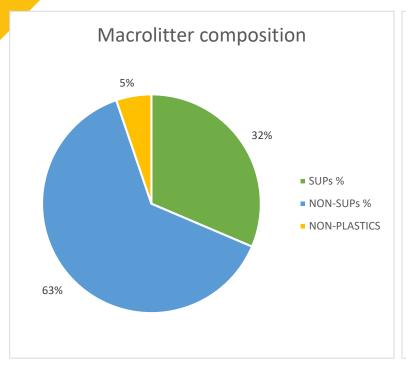
3 Count and weight each category

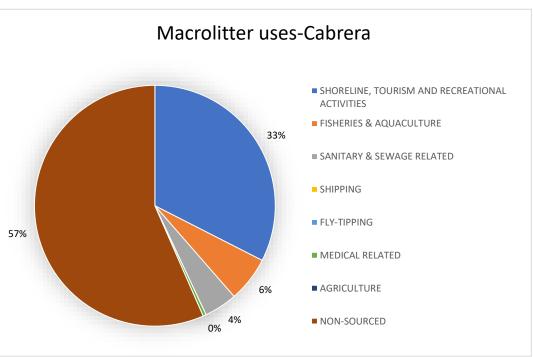






Beaches





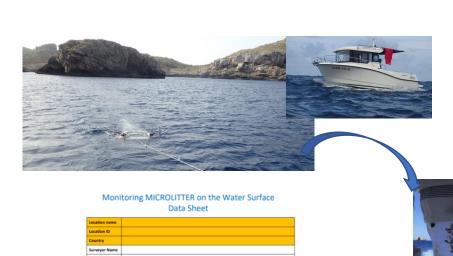
Floating

Methodology for monitoring:

Manta-net: mesh size 330-335 μm with flow meter and GPS

Trawling time: 10 minutes at an average 1,2-2 knots

Calm conditions



Date of survey	
VESSEL CHARACTERISTICS	
Vessel name	Name of the vessel
Type of vessel	Type e.g. research, fishing, hired, regular ferry etc.

Latitude/longitude start	Recorded as nnn.nnnn degrees a the start of the sample unit
Latitude/longitude end	Recorded as nnn.nnnn degrees of the end of the sample unit
Coordinates system	Datum and coordinate system employed
Vessel speed	Average ship speed in knots
Distance covered	Total distance covered by the transect (m)
Time start/end	Time over which the survey took place

ENVIRONMENTAL PARAMETER	ds - Observation Det	AILS		
Wind speed			Recorded in (Beaufort)	
Wind direction	□ n □	E□ s□ w	Tick more than one baxes e.g. for SE wind	
Sea surface salinity			Expressed in ⁰ / ₀₀ when reporting	
Viewing quality			Good/Moderate/Poor; in the latter two case state cause (e.g. fog)	
Sea state			Expressed in accordance with the Douglas Sea Scale (0-9)	

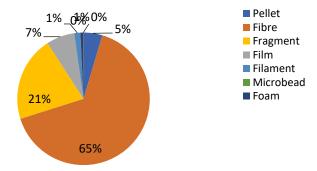


Floating

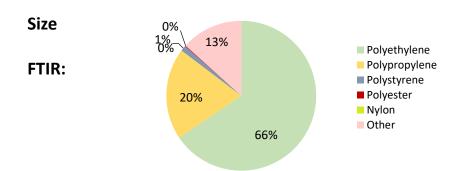
Quantification and classification at the laboratory:



Shape: fragments, films, styrofoam, filaments, pellets, other anthropogenic non-plastic



Colour: white-transparent, white-opaque, black, blue, red, Green, other colour



Seafloor

- Minimum of 2 scuba divers
- Time-transects: average of 15 minutes searching for marine litter across a maximum transect width of four meters
- ➤ Initial and final depth and GPS locations of each transect
- ➤ When an object is observed: depth and surrounding habitat characteristics are recorded
- Seafloor litter is collected for posterior classification on land









8.7. Sampling & recording sheets

Monitoring Marine Litter (Macro) on the Seafloor Data Sheet

Location ID					
Country					
Surveyor Name		SITE CHARACTERISTICS			
e-mail address		Nearest river name			Name of nearest river
Date of survey		Nearest river distance			Distance to the nearest natural input (river or stream) (kilometers)
		Nearest river position	□n□E	□s □w	Position of river mouth in relation to survey area
SITE DETAILS		Nearest major fishery			Name of the nearest major fishery (named by type)
Latitude/longitude start		Nearest major fishery distance			Distance to the nearest major fishery (kilometers)
Latitude/longitude end		Nearest major fishery position	□n□E□s□w		Pasition of the nearest major fishery in relation to survey area
Length of sampling unit		Nearest town			Name of nearest town
Width of sampling unit		Nearest town distance			Distance to the nearest town (kilometers)
Depth		Nearest town position		□s □w	Position of the nearest town in relation to survey area
Coordinates system		Population size of this town			No of inhabitants
Start time/end time		Additional features of the town	Residential Tourist Residential &	☐ Winter ☐ Spring ☐ Summer ☐ Autumn	Indicate the main characteristic of the town, residential or touristic town; in case of the later indicate the high season peak
		Name of the nearest beach			Name of the nearest beach
ENVIRONMENTAL PARAM	METERS - OBSERVATION	Distance to nearest beach			Distance to the closest coastline (kilometers)
Underwater visibility	□Low □M	Position of the nearest coast		□s □w	Position of the closest coastline in relation to survey area
Current velocity/turbidity	□Low □M	Nearest shipping lane distance			Distance to the nearest shipping lane (kilometers)
Type of substrate	Rocky☐ Sar	Estimated traffic density			Recorded in number of ships/year
Substrate complexity	□Low □N	Vessel type			Indicate the type of vessels e.g. merchant ships, etc.
Wind speed		Position of the shipping lane	□n□E	□s □w	Position of shipping lane in relation to survey area
Wind	□ n □	Name of the nearest harbor			Name of nearest harbor
Sea state		Harbor position		□s □w	Position of the nearest harbor in relation to survey area
		Type of harbor			Based on the types of vessels visiting the harbor
		Size of harbor			Record the number of ships that reach the harbor per year
		Nearest discharge of waste water distance			Name nearest location if waste water discharge
		Position of nearest discharge		□s □w	Position of nearest discharge points in relation to survey area

Seafloor

Classification and quantification on land:

Classification according to Masterlist PB

Weight and size of identified items

SIZE TYPE OF MATERIAL PROCESSED/ CLOTH/ GLASS/ RUBBER METAL ARTIFICIAL POLYMER MATERIALS WORKED CERAMICS WOOD CLASSES A. < 5cm*5cm = 25cm²</p> B. < 10cm*10cm = 100cm² C. < 20cm*20cm = 400cm D. < 50cm*50cm = 2500cm2 E. < 100cm*100cm = 10000cm² = 1m² F. > 100cm*100cm = 10000cm² = 1m²

Toolkit for monitoring marine litter and its impacts on biodiversity in Mediterranean MPAs

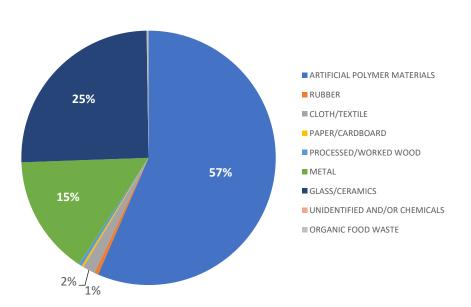




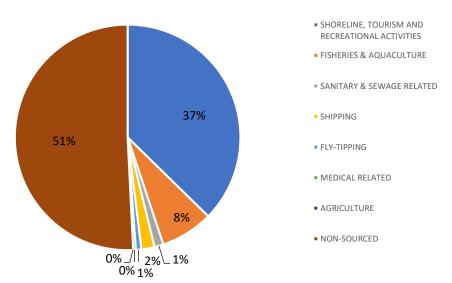
Results: number items per survey area (length x survey width (m²))

Seafloor

Macrolitter categories-Cabrera



Macrolitter uses-Cabrera





THANK YOU

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Carme Alomar, on behalf on the IMPACT@SEA research team Carmen.alomar@ieo.es

http://www.ieo.es/

http://www.ba.ieo.es/

@IEOceanografia





Project name: Together for Zero plastics in 10 Albanian Islands

Do not pollute my island

Klea Korro, Project coordinator for youth



BEYOND PLASTIC MED ISLANDS





How we monitor plastic waste in islands of Albania

- RAF is informed through focal points accorded per each island. These are youth living near islands.
- Another method is the social media.
- Electronic and Written media



Monitoring of plastic waste in islands

Other monitoring methods

- ➤ Information from captains of touristic boats sending tourists in islands.
- Owners of beach bars and restaurants in islands with which we have applied the monitoring in estimating plastic waste
- Touristic guides accompanying tourists in 10 islands of Albania are also a monitoring source of plastic waste



Monitoring of plastic waste in islands

Other monitoring methods

- Communication with RAPA (Reginal Agency for Protection Area). We keep continuous relations with RAPA and get informed continuously on plastic pollution.
- Communication with local NGOs and information for the situation of pollution in islands.
- Contact with local power and inspectors of environment by using monitoring data by them.
- Our monitoring visits each month in islands.



October 2020- October 2021 we have realized:

- ■30 youth actions in 10 islands of the state for cleanup from plastics.
- Over 4, 5 tons of plastics was collected for a year in these actions.
- •Plastics is transported via boats and motorboats in processing centers of 6 cities, administrating the islands.
- ■Youth involvement, agencies of protected areas, tourists and local power are keys to our success.



Methods of plastics collection:

Youth participation in gathering plastic waste plastikes





Islands are a treasure for future generations
Involvement of high schools and university students is a
success strategy for our project.



Motivation / Involvement of Protected Areas and their role:

- To ensure an affectivity in cleanup actions, in 10 islands we have involved Regional Agencies of Protected Areas
- All staff of 6 regional directories have become part of these actions
- Collaboration with staff and experts have made RAPA a real partner of the project. (Regional Agency of Protected Areas)
- Cooperation with RAPA has ensured more mobilization of youth and community

Method of motivating young students from different universities

- Realization of essay competition with students of Universities of Albania.
- Hundreds of students have realized local actions for plastic cleanup in islands
- Hundreds of kg of plastics gathered by youth is transported via boats and motorboats in centers of plastic processing in the cities near islands.





Cooperation with Local NGOs

☐ Cooperation with local NGO has been a method that gave much results to our project.

□Local NGOs have widen partnerity and representatives number.

☐ Involvement of local NGOs has motivated both community and local power.



Involvement of sea marine, as a method for plastics cleanup

- ✓ In Sazan island, Marines of military base of Turkey joined the actions.
- ✓ Engagement of means of transport such as boats and motorboats to transport plastic waste in processing centers of Vlora.





Tourism and plastic cleanup actions

• In our project we applied the method of tourist motivation in 10 islands and cleanup process with tourists.

oTouristic tours in caves found in Sazan island and Maligrad island to promote beauties and biodiversity of Albanian islands.





Realization of concerts with musicians of Albania and actions of plastic cleanup

• We applied the method of concerts with famous musicians in islands of Albania by motivating guests to join cleanup actions and awareness campaigns on plastic pollution.











THANK YOU

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Stay tuned! https://royalalbaniafoundation.org

https://www.facebook.com/fondacioni.royalalbania/









Surfrider Foundation Europe – Ocean Initiatives

Clémence Baudu-Descamps

<u>cbaudu@surfrider.eu</u> +33 (0) 07 53 39 79





SURFRIDER FOUNDATION EUROPE

SURFRIDER IS DEDICATED TO THE PROTECTION OF THE OCEAN AND ITS USERS

• It is one of the only NGOs that brings to the forefront ocean and coastal management issues with 3 major topics: Water quality and health, Marine litter, Coastal management and climate change.

• Gathering more than 15 000 members and 49 local chapters in Europe, the organization represents its members and its claims before European institutions.



Leveradged actions

Awareness

Raising awareness amongst consumers and citizens on marine litter issue in order to promote sustainable solutions and to foster citizen engagement.

Scientific

Collecting data (thanks to waste quantification and participatory science) to fuel scientific researches and innovation regarding marine litter.

Lobby

Lobbying campaigns (institutional and industrial) that aim to improve the legislation but also the production and consumption systems which have an impact on the issue.

Mobilization

Encouraging citizens commitment thanks to volunteers' engagement and event planning.



Marine litter observation

Every year, 8 millions tons of waste end up in the ocean.

Marine litter: 80% come from land to sea

Between 1,15 and 2,41 billion of tons of plastics spill over the Ocean by rivers.

5 000 billions of plastic

particles float in our Oceans.



Ocean Initiatives

THE OCEAN INITIATIVES ARE AWARENESS-RAISING OPERATIONS ON MARINE LITTER ISSUE USING PARTICIPATIVE SCIENCES

These operations, organized by citizens and/or by partners (<u>"the organizers"</u>), are coordinated by Surfrider Foundation Europe which provides all the equipment for the appropriation of the campaign and the sharing with the widest possible audience (<u>"the participants"</u>).

1 - Waste collection : collect waste on beaches or streets (75% of collection are on

beaches) with TO's kit .











2 - Quantification : complete a form during the IO : the form countains elementary questions like the type of collect, the number of participant, the surface of the beach / shore and allow to quantify wastes into 31 items : cigarette butts, food packaging, plastic bottles etc

Goals

Beyond merely collecting wastes, the challenge is to create a widespread public awareness on the presence, and the origin of these debris, along with acquiring data through participatory science.

1 - Raising public awareness on marine litter issues

- 3 Raisin decision makers awarness to change public policies

IO report 2019

Each year Surfrider provides an overview of marine pollution caused by waste. It reflects the state of health of aquatic environments on all continents. Data for this report is collected through the forms filled during the collections and the quantification process and they are used as a basis for many advocacy campaigns.



63%

of the litter collected were singleuse Items. By single-use, we mean Items meant to be used just once (e.g. plastic bottles or straws).

TOP 10 LITTER ITEMS







PLASTIC PIECES



POLYSTYRENE PIECES 2.5-50 CM



FISHING: NETS, TANGLED ROPES, CORDS



PLASTIC BAGS AND PIECES







07
BOTTLE
CAPS



08 PIECES OF GLASS



09 COTTON BUDS



FOOD CONTAINERS



3 742*

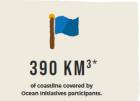
bags of litter were collected by participants.



Total volume of litter collected.



people took part in community science operations, of which 25.5%* were schoolchildren.





THANK YOU

Clémence Baudu-Descamps
Project Officer Surfrider Foundation Europe

https://surfrider.eu/en/









