

Marine litter monitoring Slovenia (Adriatic Sea)



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Event/date: Knowing and managing marine litter, SMILE project, 25.5.2016, Rome, Italy
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Process of monitoring development

MSFD implementation cycle (national)

- Beach litter (macro) – since 2009, included in initial assessment 2012

Derelict Fishing Gear project (Adriatic sea)

- Floating litter – 2014-2016
- Microplastics – water surface and beach sediments – 2014-2016
- Impacts of litter on biota - 2014-2016
- Derelict fishing gear, Fishing for litter activities



Citizen science

- EEA; Marine LitterWatch mobile app (since 2013)
- Clean up activities since 2009



Activities, pressures on the marine environment and pathways (sources) of marine (macro) litter

Fisheries



- Strings, nets, chords, fish boxes, light sticks, floats,...

Urban areas



- Needles, tampons, patches, construction waste,...

Shipping

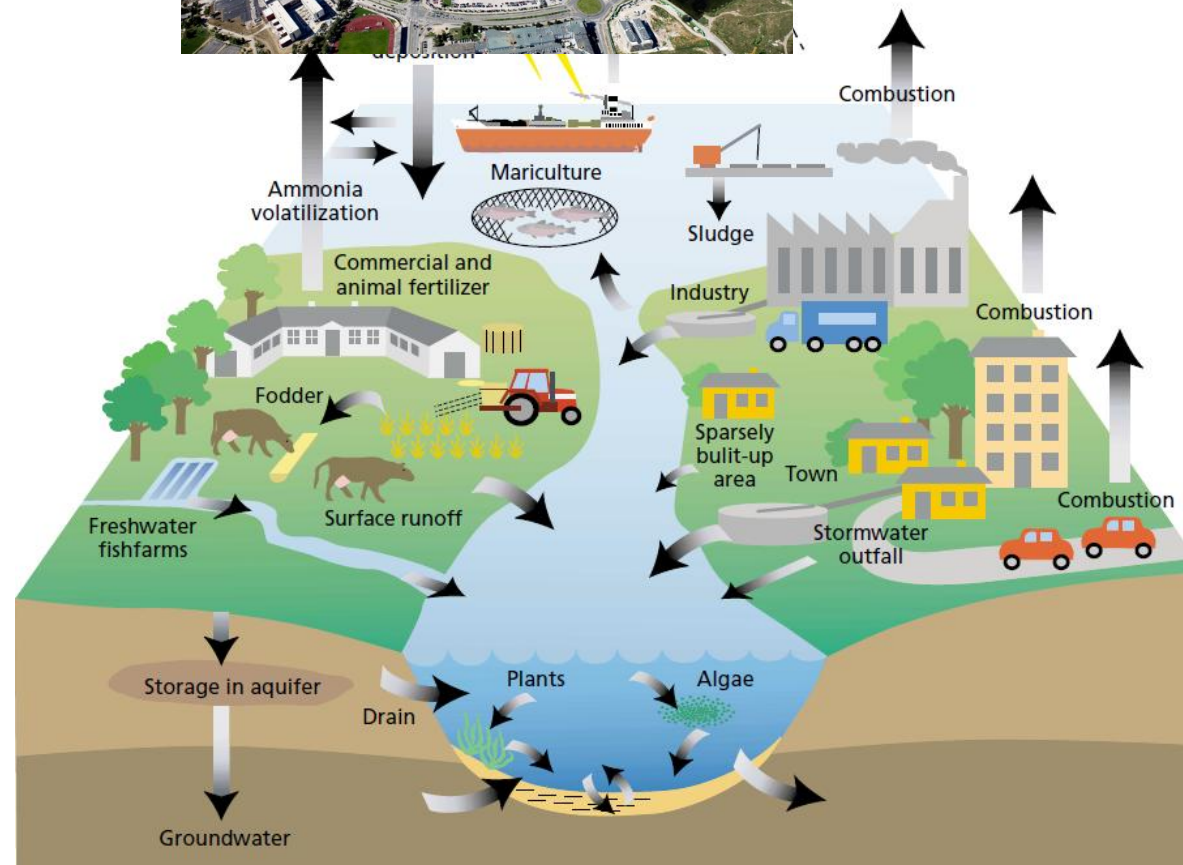


- Bouys, strapping bands, jerry cans, rubber gloves,...

Tourism and recreation



- Straws, toys, flip-flops, cosmetics, newspapers,...



Sewage

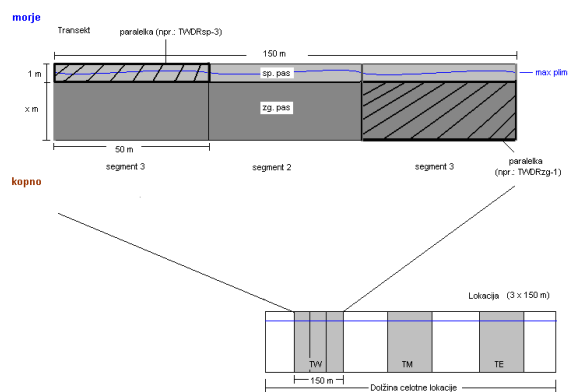


- Cotton bud sticks, biomass holder,...

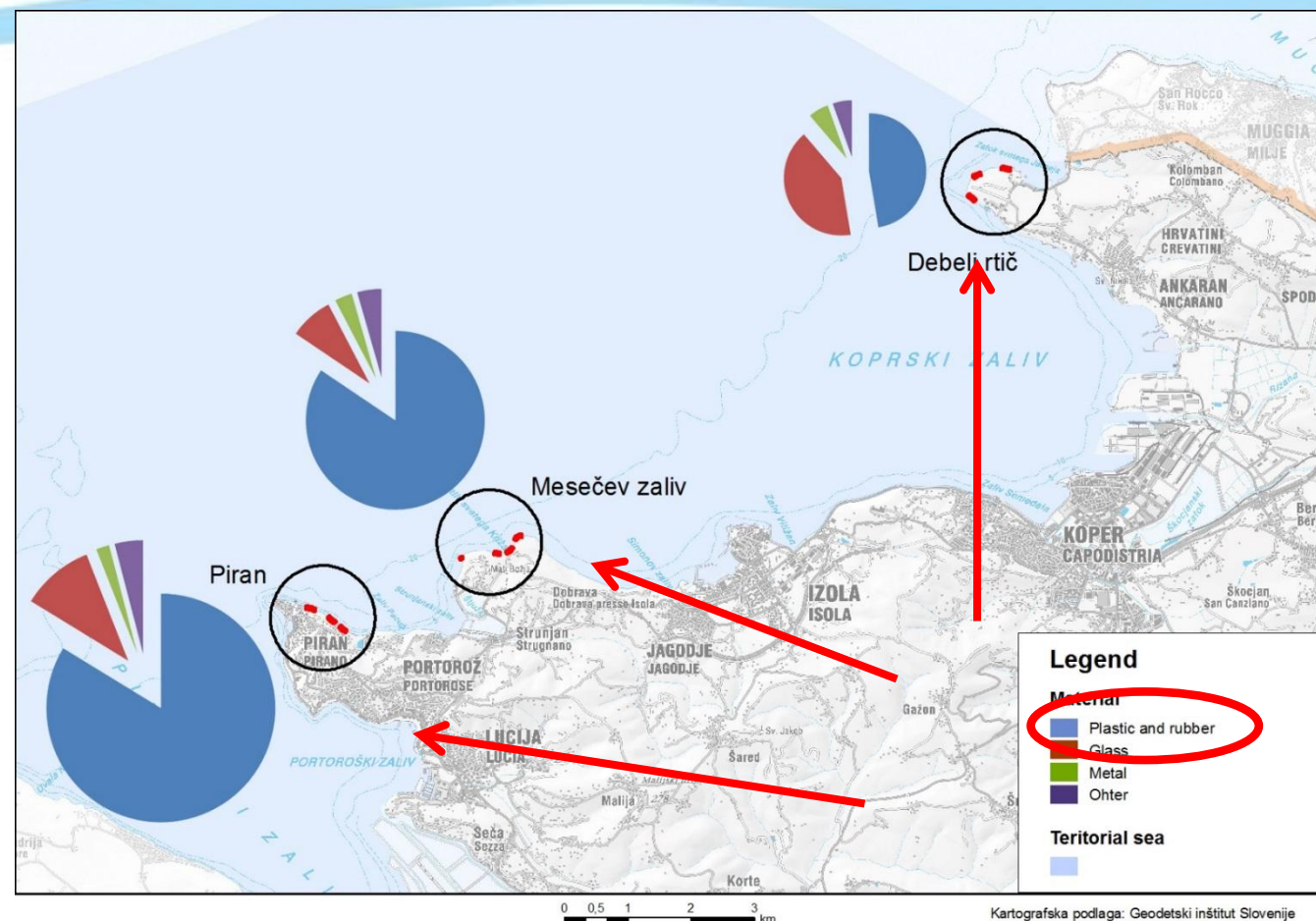
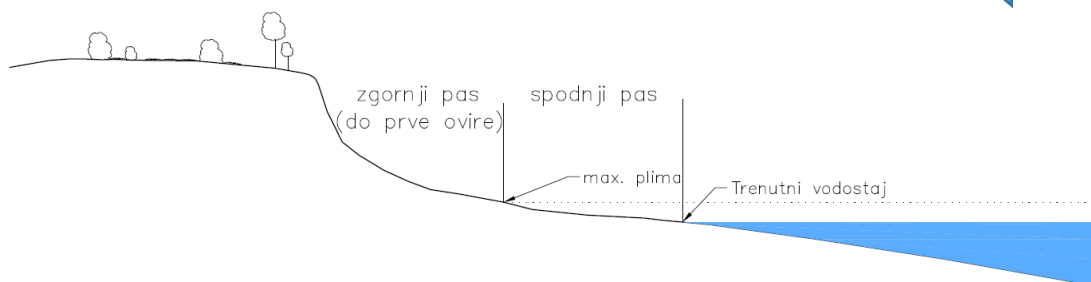
Monitoring methodologies beach macro litter

BEACH LITTER

- Clean Coast Index (Alkalay 2006)
- Adaptations to Slovene environment (2009)



- TG ML guidelines (2012)- Master list
- Site selection (criteria)

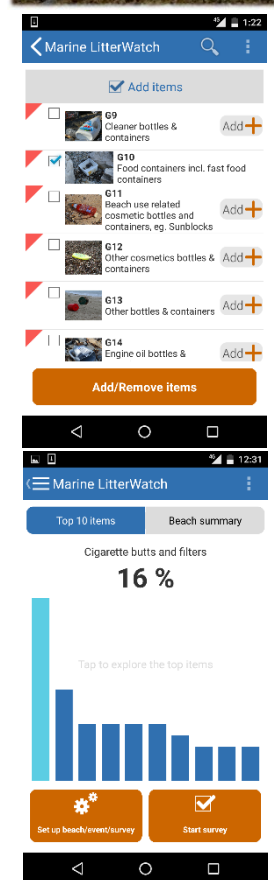
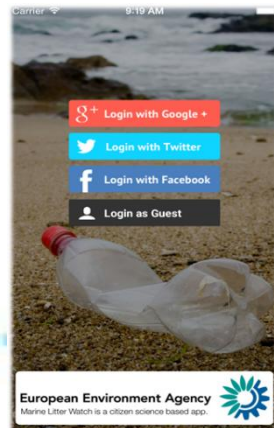
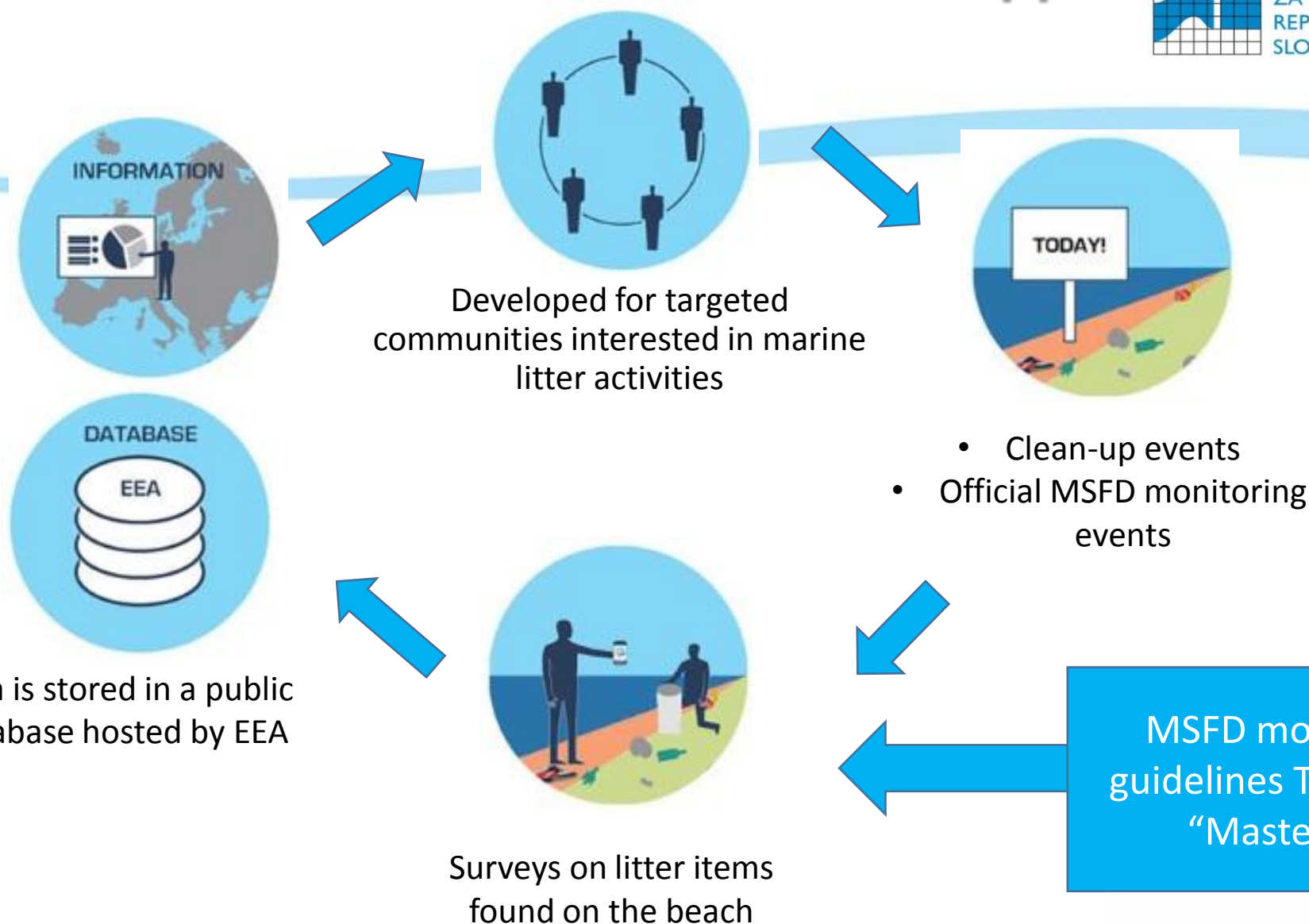


Marine LitterWatch – citizen science app



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European Topic Centre
Inland, coastal, marine waters



Marine LitterWatch – three key elements



Volunteers can use the MLW app to record litter items

MLW builds on the MSFD monitoring guidelines.



MLW help communities to organise clean-up events and to coordinate their volunteers

MSFD Master list

Overview of cleaning activities, as well as amount and type of litter items found



Data management

Coordination

QA/QC

Marine LitterWatch

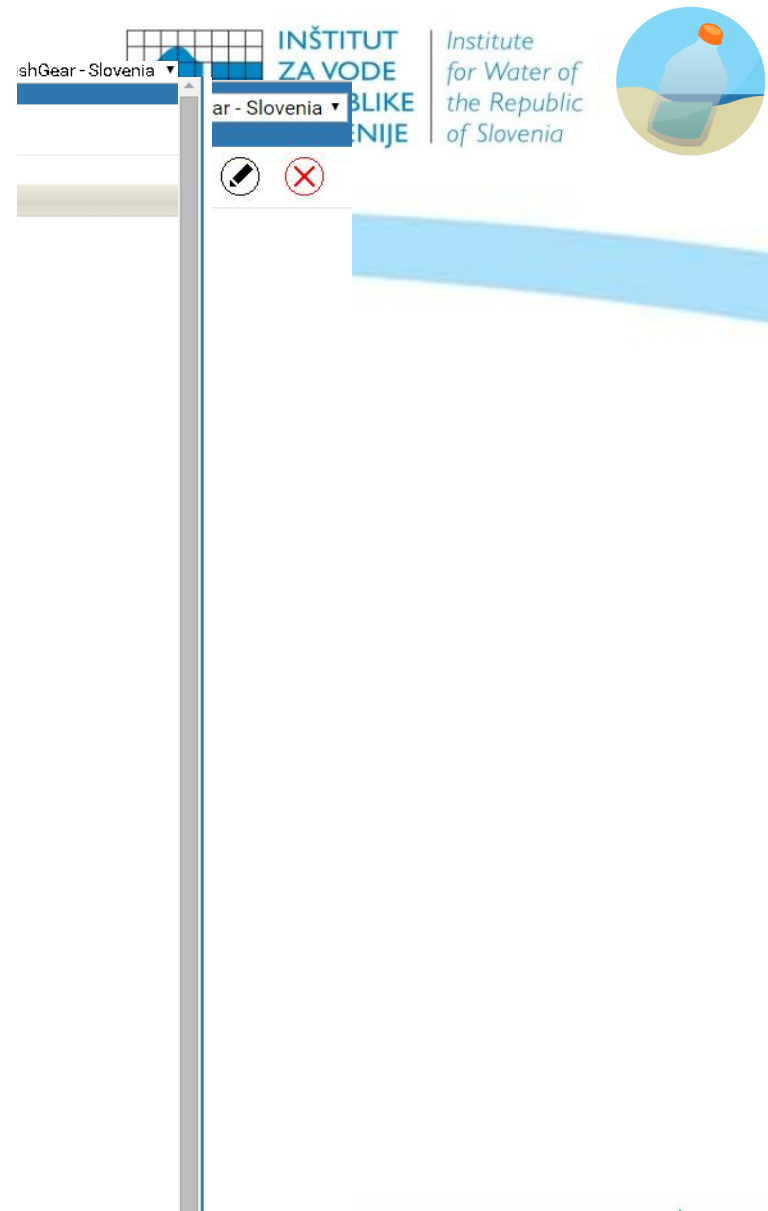
View:

- Communities
- Beaches
- Events
- Surveys
- Maps
- Reports
- Data download

Beach

Beaches

European Environment Agency




Web portal – setting up custom list



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Marine LitterWatch Web Interface


Managed communities : **DeFishGear - Slovenia** ▾

User: Stefan Trdan
User's community: DeFishGear - Slovenia [Logout](#)


View:




Communities




Beaches




Events




Data cleanup



Maps




Reports



European Environment Agency


My communities



DeFishGear


Custom list

Artificial polymer materials




G1

4/6-pack yokes, six-pack rings




G3

Shopping Bags




G4

Small plastic bags, e.g. freezer bags




G5

Plastic bags collective role




G7

Drink bottles ≤0.5l




G8

Drink bottles >0.5l




G9

Cleaner bottles & containers




G10

Food containers incl. fast food containers



G11

Beach use related cosmetic bottles and containers, eg. Sunblocks



G12

Other cosmetics bottles & containers

Accept

Save

Setup custom list

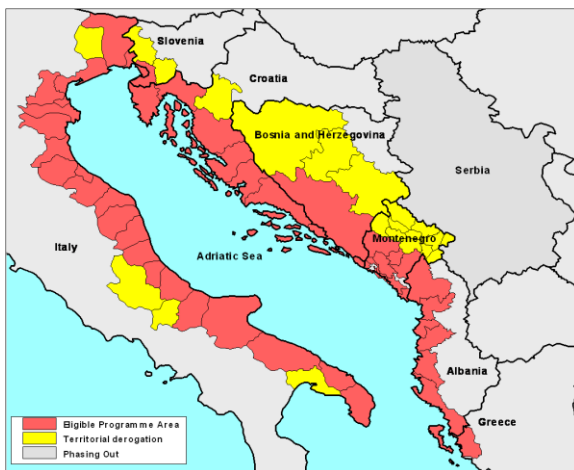
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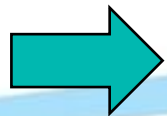
Derelict Fishing Gear management system in the Adriatic Region

PROJECT FOCUS

The **monitoring** and reduction of the quantity of marine litter in the marine environment.



- 7 countries (16 partners)



EXPECTED OUTCOMES

First assessment of marine litter pollution in the Adriatic Sea

- georeferenced data
- **Regional database** in line with **MSFD** and **INSPIRE**
- socio-economic analysis on ML and pilot projects
- strengthened involvement of regional marine litter experts
- development of the assessment methodology



DeFishGear
Derelict Fishing Gear
management system in
the Adriatic Region

DeFishGear project - Marine LitterWatch app



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DeFishGear



- 159 categories
- All categories have identical name as in MSFD Master list
- 8 types of material

**MSFD Master list
(MSFD monitoring
guidelines TG ML)**

- 165 categories
- 8 types of material

- Length of beach (100m)

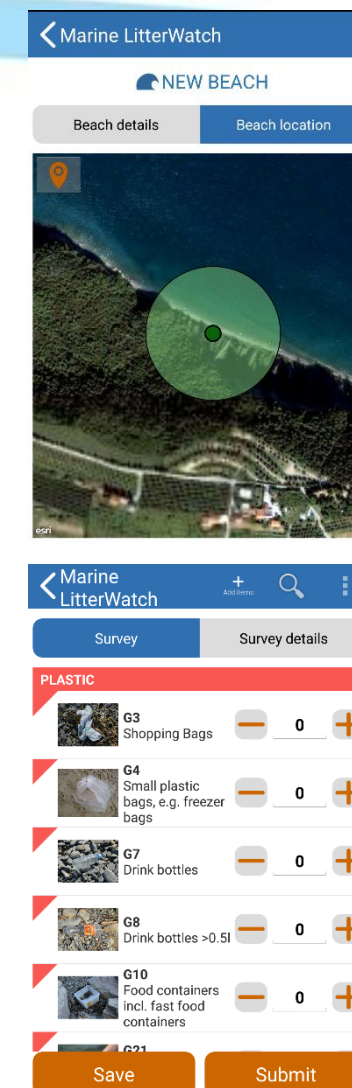
**Official MSFD
monitoring requirements**

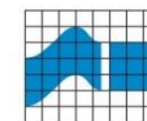
- 100 meter buffer function

- Possible integration with project database

**Exporting in different
formats**

- Exporting data in several different formats (excel, PDF, HTML, TIFF, XML, word,..)





Advantages

- Switching from paper to smart phone
- Download reported data in excel or other forms
- Use „Master list“ categorization according to MSDF (TG ML)
- Data correction (QC,QC) possible via Web portal
- Making your own top 20 items
- 100 meter buffer (visualization)
- Possible offline usage (also for submitting data)



Disadvantages

- Harmonization between EEA and other databases (e.g. OSPAR,...)
- Problems with low battery
- Weather conditions (rain, to sunny,...)
- Problems with network (remote areas) – recently solved with offline usage



Education and raising awareness





DeFishGear

Fishing for litter in Slovenia

38 fishermen involved in FFL activities

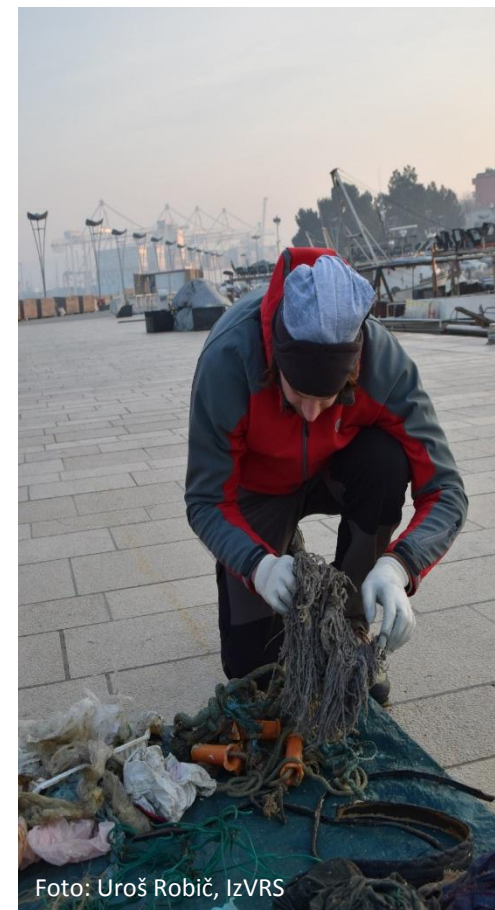


2 wooden boxes were installed in fishing ports



- **967 kg** waste collected
- **351 kg** derelict fishing gear
- **616 kg** other marine litter

Classification and categorisation of litter



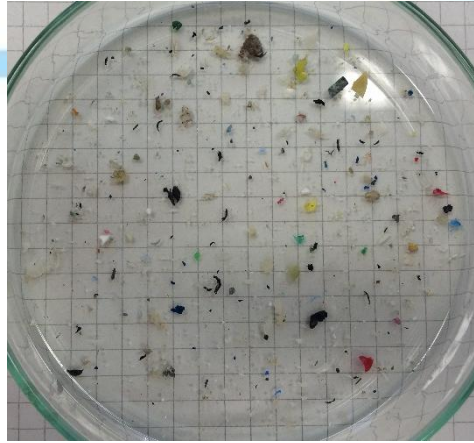


DeFishGear

Analysis of microplastics in Slovenia



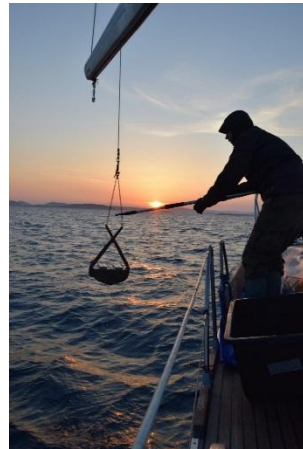
- Sea surface sampling and sample analysis



- Microplastic analysis in fishes and mussels
- IWRS prepared videoguidelines for the sea surface, sediment and biota sampling and sample analysis for microplastic (in publication)



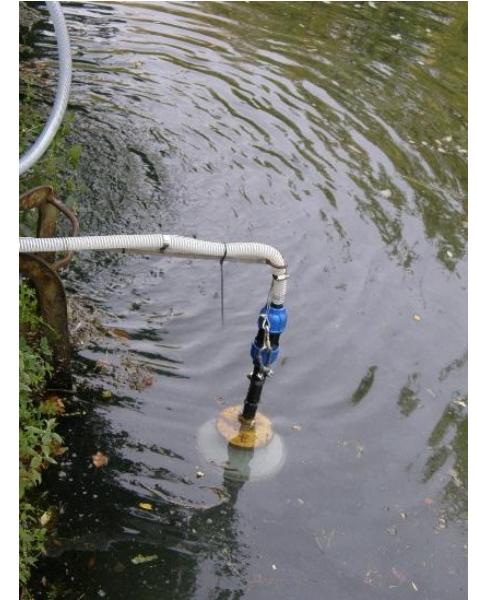
- Beach sediment and sea floor sediment sampling and sample analysis



Litter in rivers and lakes

Analysis of microplastics in freshwaters of Slovenia

- Ljubljana River (river surface and water column and sediment)
- Lake Bled (lake surface and water column and sediment)
- Emissions from waste water treatment plant







**Thank you for your
attention!**

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**[http://www.eea.europa.eu/themes/
coast_sea/marine-litterwatch](http://www.eea.europa.eu/themes/coast_sea/marine-litterwatch)
<http://www.izvrs.si>**

