OTTERS
Citizen Science for Water Stewardship

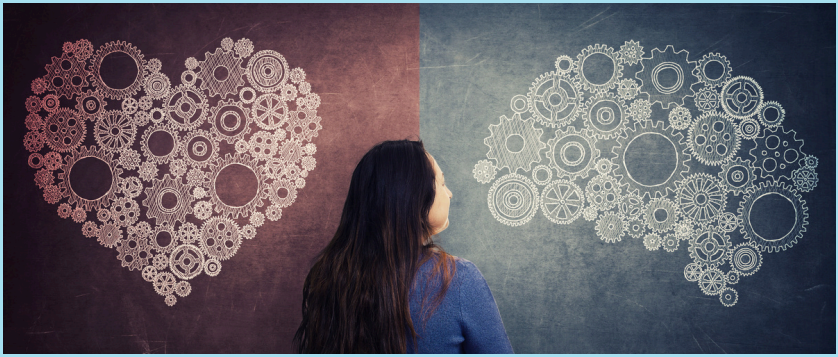
OTTERS CO-CREATION TOOLKIT

https://otters-eu.aua.am

Intro

OTTERS project aims to promote societal transformation for marine and freshwater stewardship through scaling up citizen science (CS). One of the focuses of the OTTERS project is to co-design CS campaigns that will foster a sense of agency in water stewardship.

The present OTTERS Co-Creation Toolkit is the first of two toolkits to be developed in the framework of the project. It will create an initial input to the Final OTTERS CS Toolkit, to be used as the basis of OTTERS Campaigns. Any interested stakeholders can use the co-creation toolkit to organise a co-creation session and afterward, a campaign that will change people's Hearts and Minds in terms of water stewardship.



The second and Final OTTERS CS Toolkit will be the result of all the co-creation sessions that were held and will comprise tailored messages and visuals per stakeholder group. It will aim to change hearts and minds by integrating citizen science components that engage citizens, empower younger and older generations to take action, promote the practice of social innovation, and achieve social transformation.

01 **OTTERS Co-creation Toolkit**

02 **Final OTTERS CS Toolkit**

* To be published in June 2025

Changing Hearts and Minds!

Steps to co-design a campaign

1. Read the OTTERS co-creation toolkit.
2. Run online and/or offline co-creation events with different stakeholders
3. Capture all the answers to the questions from all the co-creation sessions.
4. Send the answers to the OTTERS team.

   https://otters-eu.aua.am/contact-us/
5. OTTERS team will create the Final OTTERS CS Toolkit with messages and visuals tailored for each stakeholder group.
6. Use the marketing collateral prepared by the OTTERS team to run the Change Hearts and Minds campaign.

Tips for a successful co-creation event

1

Decide:

Decide to run a co-creation event and understand the audience. Know who the attendees are and what their interests are.

2

Objectives:

Define the objectives, identify the issues that should be solved, choose an OTTERS toolkit and clarify the outcomes of the event.

3

Prepare:

Set up the offline (i.e. room) or online environment (i.e. Zoom, etc.), and include the questions in Slido.

4

Promote:

Use online and offline marketing channels to attract attendees, create excitement, and raise awareness on the issues that will be discussed.

5

Execute:

Run the offline or online co-creation event. On the day of the event, ensure everything runs smoothly and all the tools are tested prior to the event.

6

Certificate:

Recognise participants' efforts through a certificate.

7

Feedback:

Send the answers that were captured during the co-creation session to the OTTERS team.

Co-creation Toolkit for Italy

Floating Litter

OTTERS
Citizen Science for Water Stewardship

Table of Contents

The Paradigm

AROUND WHAT CS CAMPAIGN COULD BE BUILT

- The Mediterranean Sea is considered one of the areas most **polluted by plastic** [1]. The waste that cannot be collected or properly managed eventually leaks into the environment and is carried to the seas by rivers. 80% of marine litter comes from land-based sources [2]. On average, 626 million 'floating items' are discharged into European seas every year [3].

- **Plastic pollution** is causing severe environmental damage. The abandoned, lost or discarded fishing gear entangles marine wildlife and at the same time, exposure to microplastics and chemicals found in plastics can lead to serious human health issues.

- To reverse this trend, actions are required at a societal level. Amongst these, we remind: altering consumer habits, developing new methods to decrease plastic manufacturing, and boosting recycling rates.

[1] Impact of Plastic Pollution on Marine Biodiversity in Italy, T. Bottari, B. Mghili, K Gunasekaran, M. Mancuso,
2024
[2] https://www.eea.europa.eu/publications/european-marine-litter-assessment/from-source-to-sea-the
[3] https://www.eea.europa.eu/publications/european-marine-litter-assessment/from-rivers-to-the-sea

The Italy Example

A study carried out on 12 Italian rivers highlighted that approximately 87% of the waste dispersed in Italian rivers contains macroplastics and more than 38% is single-use plastic [1] [2]. Among the factors that most influence the presence of waste in the terminal sections of river environments is the proximity of urban settlements.

The Sarno river, which flows into the Tyrrhenian Sea, presented the highest amount of waste transported to the sea, on average almost 66 objects/hour. The Tiber River, which flows into the Tyrrhenian Sea, was estimated to be 4 × 105 items/year at the main mouth, while the Po River, which flows into the Adriatic Sea, contributes about 145 tons of plastics into the Mediterranean Sea annually [1] [3] [4].

[1] Impact of Plastic Pollution on Marine Biodiversity in Italy, T. Bottari, B. Mghili, K Gunasekaran, M. Mancuso, 2024
[2] https://www.fondazionesvilupposostenibile.org/
[3] Cesarini, G.; Crosti, R.; Secco, S.; Gallitelli, L.; Scalici, M. From City to Sea: Spatiotemporal Dynamics of Floating Macrolitter in the Tiber River. Sci. Total Environ. 2023
[4] Munari, C.; Scoponi, M.; Sfriso, A.A.; Sfriso, A.; Aiello, J.; Casoni, E.; Mistri, M. Temporal Variation of Floatable Plastic Particles in the Largest Italian River, the Po. Mar. Pollut. Bull. 2021,

FLOATING LITTER

Your help is invaluable!

The Policies

To address several environmental and health concerns, the European Commission (EC) implemented a range of policies and recommendations on plastics:

- European Plastics Strategy, certain single-use plastics are banned.
- EU 2019/904, directive on the reduction of the impact of certain plastic products on the environment.
- 2008/56/EC, Marine Strategy Framework Directive. Establishes a framework for community action in the field of marine environmental policy.
- European Environmental Agency 10 Recommendations on marine litter.
- Zero Pollution Package, proposes new monitoring requirements for microplastics in wastewater.
- Circular Economy Action Plan recognises the harm caused by plastic, but also its high potential for circularity.

Policies alone won't solve the problem...
We all need to contribute!

Can Citizen Science (CS) Help?

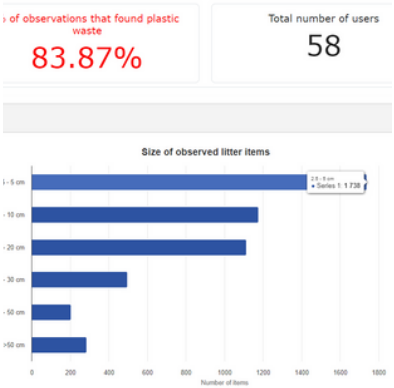
Citizen science (CS) is a collaborative effort where members of the general public voluntarily contribute to scientific research. CS can help address different problems and involve various tasks such as data collection, analysis, and reporting, often in collaboration with professional scientists.

The goal of CS is to expand scientific knowledge and engage the public in hands-on learning about the scientific process.

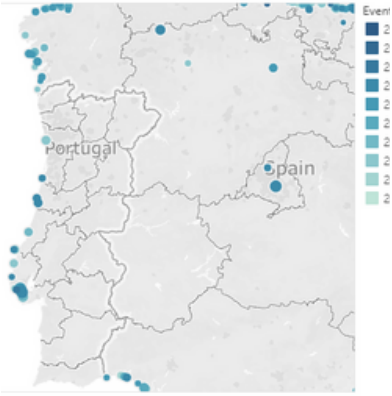
One of the aims of the OTTERS project, is to scale up citizen science and foster a sense of agency in water stewardship.

Current CS Approaches

CS projects are addressing the problems, and contribute to the solution by involving and educating citizens. Below we present some CS platforms and apps used in Italy.

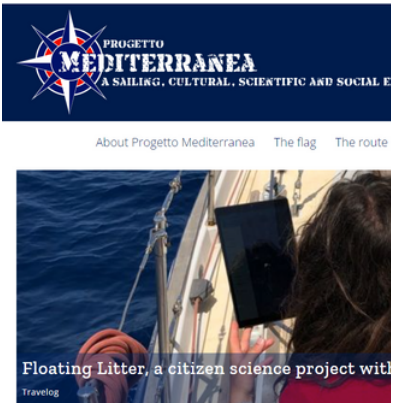


Floating Litter Monitoring is a mobile app developed over several iterations by different European projects since 2014 (PERSEUS, EMBLAS, RIMMEL) and is now maintained by the Joint Research Center.

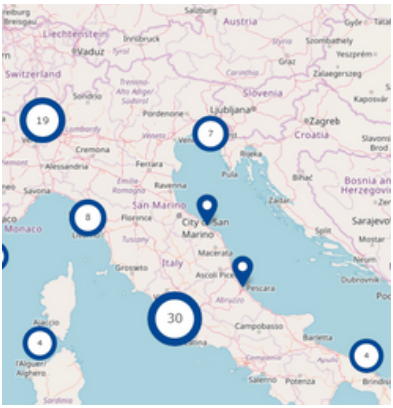


Marine LitterWatch Citizen science app for mobile devices created by the European Environment Agency. Users can create and join communities, organise and participate in beach clean-ups, document and share litter information.

FLOATING LITTER



Progetto Mediterranea, organises boat trips around the Mediterranean Sea to record every visible floating litter.



OpenLitterMap is a citizen science initiative where users can supply or process submitted data and get rewarded with Littercoins, a block-chain based crypto currency.

Next Steps

IDEAS FOR MAKING A DIFFERENCE

Purchase items such as backpacks, sunglasses, yarns etc. made from recycled waste materials like plastic.

Transitioning to a circular economy involves designing out waste from the start. The success of this economic model depends on focusing on the design stage to avoid waste creation, rather than dealing with waste post-product lifecycle.

FLOATING LITTER

Have Your Say!

FOR INDIVIDUALS

- What are the biggest water-related challenges in your area?
- How could future CS projects help solve water-related challenges?
- Did you find the current CS solutions efficient?
- What would you propose as next steps for reducing the floating litter from the rivers? (i.e. more face-to-face activities, better apps, better local promotion etc.)

**If you need help setting up a Slido to capture the answers please contact us at https://otters-eu.aua.am/contact-us/*

FLOATING LITTER

Have Your Say!

FOR PROJECTS

- What are the biggest water-related challenges that you encountered in your project?
- Which is the best way to exchange CS data?
- Do you think there is a need to standardise CS?
- Would a Resource Hub for CS in marine and freshwater domains help your work?

**If you need help setting up a Slido to capture the answers please contact us at https://otters-eu.aua.am/contact-us/*

Inspirational Message

Let's come together to cleanse the veins of our Earth. Each piece of litter removed is a step towards a pristine flow, a river reborn. Your actions are the current that can clear the path for life to thrive. Be the change that turns the tide, be the hero that the rivers need. Together, we can ensure that the only thing our rivers carry is the promise of a cleaner tomorrow.

These visuals can be used to promote participation in the co-creation sessions.

Initial Messages & Visuals

For the Citizens

This project has received funding from the European Commission's Horizon Europe Coordination and Support Actions programme under grant agreement No. 101094041.

FLOATING LITTER

Get involved!

Keep Our Waters Afloat, Not Our Trash – Say No to Litter!

OTTERS
Citizen Science for Water Stewardship

JOIN US NOW!

This project has received funding from the European Commission's Horizon Europe Coordination and Support Actions programme under grant agreement No. 101094041.

FLOATING LITTER

Initial Messages & Visuals

For the Public Authorities

This project has received funding from the European Commission's Horizon Europe Coordination and Support Actions programme under grant agreement No. 101094041.

FLOATING LITTER

Float Hopes, Not Litter - Preserve Our Liquid Gold!

OTTERS
Citizen Science for Water Stewardship

JOIN US NOW!

This project has received funding from the European Commission's Horizon Europe Coordination and Support Actions programme under grant agreement No. 101094041.

OTTERS Consortium

AUA American University of Armenia

ecsa

AGORA PARTNERS

21c consultancy

ELLINOGERMANIKI AGOGI

NUCLIO

ECOCEAN
Caring for the Marine Environment

ramani

אוניברסיטת חיפה
University of Haifa
جامعة حيفا

CSGI

OTTERS

Citizen Science for Water Stewardship

www.otters-eu.aua.am

@otters-project

@otters_project

@ottersprojecteu

This project has received funding from the European Commission's Horizon Europe Coordination and Support Actions programme under grant agreement No. 101094041.