

Safeguarding Barcelona Urban Beaches through citizen engagement in Spain

Case Study 4



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Location

Barcelona, Spain.



Local Context

Barcelona's highly urbanised coastal zone is heavily influenced by **tourism**, **transport**, and **urban infrastructure**, including the Port of Barcelona and marinas. Despite this anthropogenic pressure, **renaturalisation efforts** have enhanced underwater ecosystems, and biodiversity mapping has been advanced through citizen science initiatives like **MINKA**. However, challenges such as **marine litter**, **noise pollution**, and **water quality degradation** persist, compounded by limited integration of citizen-generated data into official monitoring frameworks.



Key Conducted Activities

Next Steps

- Establishment of **permanent working groups** by theme
- Development of a **follow-up session** schedule
- Creation of a permanent **communication system** among participants

Identified Digital Tools

- [MINKA](#)
- [MARNOBA](#)
- [EDMONet](#)



Planned Actions

The Barcelona case study highlights an innovative initiative to safeguard urban beaches through **active citizen participation**. Structured as a **Living Lab**, the project focuses on two critical environmental challenges—biodiversity and pollution—with particular attention to marine biodiversity, the presence of cigarette butts, and the impact of wet wipes on coastal ecosystems.

The CS4BCN initiative is built around three key action areas:

- **Marine biodiversity** monitoring using the MINKA platform, engaging citizens in data collection.
- **Cigarette butt** management, supported by monitoring protocols with Marnoba and EDMONet.
- **Wet wipes** control, addressing one of the most persistent forms of beach pollution.

By fostering collaboration among **citizens, organizations, and institutions**, CS4BCN seeks to establish a beach monitoring network in Barcelona.

This citizen-driven control system not only **strengthens environmental governance** but also generates **high-quality data** to support decision-making, policy implementation, and compliance with European directives such as the **Marine Strategy Framework Directive** and the **Waste Framework Directive**.



Expected Impacts

This initiative is expected to **bridge the gap** between **citizen science** and **formal environmental monitoring**, demonstrating the potential of participatory approaches to improve compliance with EU directives. Enhanced collaboration between **citizens, researchers, and local authorities** will provide higher-resolution data on marine pollution and biodiversity, supporting targeted actions for coastal ecosystem restoration.

By integrating citizen science data into official reporting processes, this case study will offer a **replicable model** for addressing similar challenges across Mediterranean urban coastlines, contributing to sustainable urban development and greater public engagement in environmental stewardship.



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The Challenge

- Challenging **local stakeholders engagement**
- Protocols for **underwater image collection**



Main Achievements

01

Establishment of a **collaborative framework** between public administration and citizen science

02

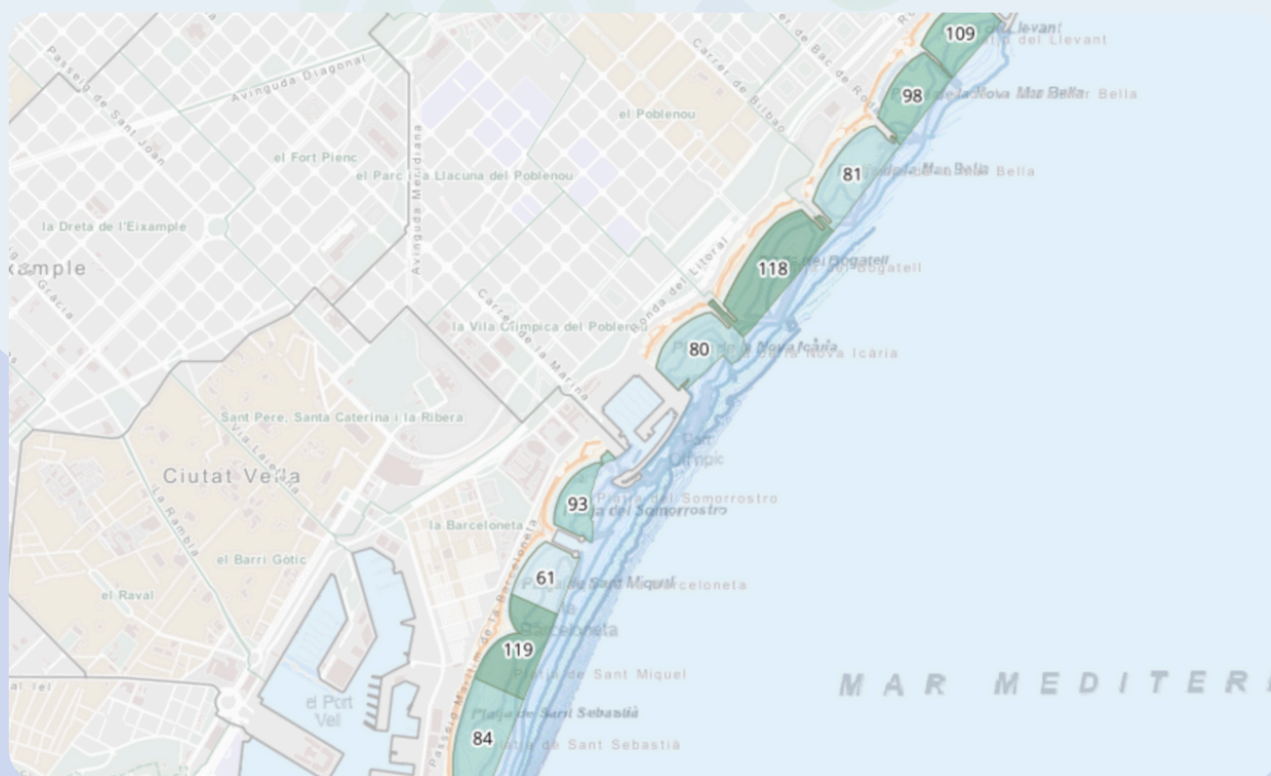
Identification of **integrative digital tools** (e.g., MINKA, MARNOBA, EDMONet)

03

Definition of **priority issues** based on a solid regulatory framework

04

Consensus on the need for **standardized protocols**



Partners Involved



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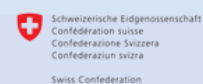


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