Noresund Citizen Science Case Study

A hypothetical classroom scenario for project design

Prepared by Love Gonzales Malundo
Chairperson and Founder, Migrants' Citizen Science Association (MCSA)
Personal email lovemalundo@mcsinternational.com
connect@mcsainternational.com | https://mcsainternational.com

Use this scenario to design a small citizen science project with a group of 3-4 people. Your task is to connect a useful question with public participation, credible evidence and a realistic way to return findings. Read the case, then use the separate group activity worksheet.

What is assumed for this exercise

This case is inspired by a rural Norwegian setting. The description below is invented for classroom discussion. It does not establish the actual population, demographics, attitudes or environmental conditions of Noresund. A real project would begin by checking local evidence and inviting people to describe their own priorities.

- Assume a small settlement where farming, small businesses and seasonal tourism share the surrounding landscape.
- Assume residents have varied interests, schedules, languages, ages and experience. Some people live locally all year; others work or visit seasonally.
- Assume a university team has been invited to explore a modest pilot. Access to equipment, staff time, transport and internet is limited and must be agreed.
- The concerns below are possible starting points, not findings of environmental decline.

Choose one main issue

Possible concern	A question the group could investigate
Pollinators and farmland	Where and when are flower-visiting insects observed at selected safe sites?
Lake environment	How do selected observations or measurements vary between agreed shoreline sites and dates?
Tourism and waste	Where and when is visible litter recorded along selected public routes?

A second issue is optional. Keep it only if the same people and resources can answer both questions well. A narrow pilot is easier to evaluate than a plan promising to solve every local problem.

Design for people and evidence

People may have different reasons to join, question or decline a project. Do not infer a person's views from their age, job, gender, migration history or length of residence. Speak with potential participants before assigning roles or claiming community support.

Design choice	What your proposal should explain
Question and scope	Choose a question, sites, dates and a manageable observation unit. Distinguish a suspected problem from evidence that it exists.
People and decisions	Identify who is affected, who could contribute and who is missing. State who chooses the question, methods, interpretation and release of results.
Participation model	Use one named framework to describe actual responsibilities. Contributory, collaborative and co-created are Shirk models; Haklay describes a different axis of participation.
Research design and methods	Explain why the design answers the question. Select 1-2 main methods, then choose practical tools such as paper logs, photographs, a map or a tested sensor.
Quality and limits	Plan shared instructions, practice observations, checks and a record of missing visits or uncertain identifications. Explain what the sample cannot establish.
Access and ethics	Offer a way to contribute without a personal smartphone. Agree safe access, voluntary participation, consent, privacy and permissions for land, images and data.
Resources and return	Name who supplies time, training and equipment. Agree how participants will see and discuss findings and who could consider a next action.

A manageable example

A group might propose repeated 10-minute counts of flower visitors at a few agreed, accessible sites over six weeks. Participants help choose feasible sites and receive the same instructions. They record observation effort, weather and uncertain identifications; a reviewer checks a subset of records or photographs. Paper recording is available. Residents and researchers discuss patterns and limitations before a short summary is shared.

This is an illustrative design, not a validated protocol or a promise of detecting change. Visitor counts alone would not prove a long-term decline, identify its cause or demonstrate that a management action worked. The protocol and permissions would need local review before any fieldwork.

Questions to bring to your group

- Whose question would the project answer, and who should help refine it?
- What could participants decide or analyse, beyond submitting records?
- What is the smallest useful dataset your group could collect with the proposed resources?
- Who might be unable or unwilling to take part, and what practical change could help?
- What would make you revise the design or postpone the pilot?

My first project idea

Before proposing a real project

Confirm the place, environmental concern and local priorities with appropriate partners. Check site access, safety, consent and data responsibilities. Agree resources and a way to return results. Classroom discussion does not provide community consent, research approval, funding, access permission or an assurance that a public authority will act.

Related reading

European Citizen Science Association (2015). Ten Principles of Citizen Science. European Citizen Science Association, Berlin.
https://ecsa.citizen-science.net/10-principles/

Shirk, J. L.; Ballard, H. L.; Wilderman, C. C.; et al. (2012). Public participation in scientific research: a framework for deliberate design. Ecology and Society, 17(2), Article 29.
https://doi.org/10.5751/ES-04705-170229

Haklay, M. (2013). Citizen Science and Volunteered Geographic Information: Overview and Typology of Participation. In D. Sui, S. Elwood and M. Goodchild (Eds.), Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice, pp. 105-122. Springer, Dordrecht.
https://doi.org/10.1007/978-94-007-4587-2_7

Freitag, A.; Meyer, R.; Whiteman, L. (2016). Strategies Employed by Citizen Science Programs to Increase the Credibility of Their Data. Citizen Science: Theory and Practice, 1(1), Article 2.
https://doi.org/10.5334/cstp.6

Authorship and permission

Copyright 2026 MCSA. Participants may download and retain these MCSA activity materials for personal learning. Reproduction, adaptation, translation, redistribution or delivery elsewhere requires prior written permission from MCSA. Permission requests: lovemalundo@mcsinternational.com. Referenced third-party works retain their own rights; participants retain their contributions.