

This document provides a general overview of participatory mapping methods. You have likely entered this document thinking about planning for or monitoring a particular outcome (e.g. recreational fishing), however the method may be relevant for additional outcomes as well (e.g. environmental education, subsistence fishing, mental health). Make sure to consider additional outcomes relevant to your project context before organizing a participatory mapping exercise so you can get as much information out of the process as possible.

You will likely benefit from partnering with community groups when using these methods. These partnerships will allow you to more effectively talk with a representative group of community members about effects of changes in outcomes of interest. This includes (actual and perceived) benefits and unintended consequences of changes in target outcomes. Be mindful of and defer to the expertise of your community partners on how to best develop and implement these methods. This can include allowing them to lead while you provide support as necessary.

## Background

Participatory mapping is a method in which community members and researchers or practitioners apply their collective knowledge to produce maps that represent areas of importance related to cultural values, recreational activities, natural resources, infrastructure, and/or community interests and priorities that may be affected by a restoration project. It offers a platform for community members to directly express their interests, expectations, perceptions, and experiences with reference to specific geographic landmarks.

### **If you are applying these methods at the planning stage of your project:**

Participatory mapping in advance of or at the outset of a project is useful for understanding how community members use and value the area that may be affected by the project, and their concerns and expectations about how the project will affect them. Project teams can use this information to adjust project location or plans to maximize benefits to the community and minimize disruption to existing uses and values. For example, if a participatory mapping exercise highlights a certain area as highly valuable for subsistence fishing, the project team may want to take steps to preserve access to that area during construction.

### **If you are applying these methods for monitoring a particular outcome:**

Participatory mapping can be used as an assessment tool after a project is implemented for understanding and reporting on how local community members experience the effects of a project through perceived spatial distribution of costs and benefits, changes to access, or changes to places of economic, social, and cultural value. It can help identify how the project has benefitted or harmed people's enjoyment of or access to an outcome that is tied to a specific location within the project site. It can also allow community members to identify specific barriers to access or places of importance for a particular outcome that could be improved by future adjustments to a project. For example, participatory mapping could help you identify areas within a restoration project site that a certain community values for increased ease of access for recreational fishing, or areas that represent a barrier for inclusion because they are not ADA accessible, which could be addressed by future adjustments to the project.

## Participatory Mapping Methods

This document provides basic guidance for participatory mapping approaches for project planning and monitoring outcomes. The other GEMS [metric measurement protocols](#) that suggest using participatory mapping recommend adjustments or additions to these general guidelines specific to the metrics of interest.

### Selecting participants for mapping exercises

When using participatory mapping, ensure that participants are representative of all relevant groups and communities that are likely to interact with the project site. This can be achieved through targeted or random strategies for participant recruitment.

- Targeted -- recruiting individuals from specific locations or demographic groups
- Random -- recruiting a randomized selection of individuals from all representative community groups

The suggested [demographic assessment](#) and [stakeholder assessment](#) methods can help you think about what a representative group would look like.

### Considerations for participatory mapping sessions

Ideally, participatory mapping exercises would occur across multiple sessions to engage specific stakeholder groups that you have identified in your [stakeholder assessment](#). This is especially important in a situation where certain community members might feel uncomfortable sharing their input in a group with varying power dynamics. If community members speak a primary language other than English, it is important to provide translation or interpretation services to facilitate their participation, or conduct a separate session in their primary language.

### Participatory mapping exercises

Participatory mapping sessions start with either an existing map of the project area that participants are able to edit, or allows participants to draw maps of the project area from scratch. [Google Maps](#) and [OpenStreetMap](#) provide simple ways to print maps of the project site and surrounding area that can be edited during the session. If you have geospatial expertise, you can create a custom map showing additional details, such as the project boundary or habitat types.

Ask participants to mark places that are of interest to them and relevant to the project or target project outcome(s), using specific prompts (see example list below). Some prompts are related to what areas are used or valued for certain activities; others refer directly to the effects that the participants anticipate or have observed due to the project. You can make prompts very specific for the outcome you are monitoring, for example by asking directly about how participants use and value the site for subsistence harvest, or keep them more open-ended so that users can define for themselves what they value or see as barriers to accessing and/or using the site. These prompts can also be used to spark discussion with the participant group after the mapping exercise to discuss areas of importance, perceptions of potential project impacts, and preferences or interests for project development. See the specific GEMS metrics measurement protocols to identify prompts that are specific to those outcomes/metrics relevant to your project.

### Example prompts:

- Circle areas that have [recreational, cultural, social, aesthetic, economic] value to you, and draw a symbol representing its importance.
- Shade in areas that you value for:
  - Beauty (color 1)
  - Recreational activities (color 2)
  - Spirituality, prayer, or meditation (color 3)
  - Work-related reasons (color 4)
- Draw boundaries around areas that you wish to see protected for [recreational, cultural, social, aesthetic, existence value] reasons.
- Draw the paths you take when:
  - fishing from shore
  - fishing from a boat
  - taking a walk or hike
  - going for a boat ride
  - going kayaking or paddling
  - fishing, hunting, or gathering food for you and your community
- Shade in areas that you enjoy recreationally for:
  - fishing (color 1)
  - boating (color 2)
  - walking or hiking (color 3)
  - birdwatching (color 4)
- Draw symbols representing the recreational activities you enjoy in areas on this map.
- Draw boundaries around areas that you are concerned will be negatively impacted by (project) and indicate what will be negatively impacted [recreation, culture, social connections, aesthetics, existence value].
- Circle areas that were important to you [for recreation, culture, social reasons, aesthetics, existence value] but you feel you have lost access to because of [project]
- Color areas that are important to you [for recreation, culture, social reasons, aesthetics, existence value] and you feel have been protected or improved because of [project]

### Useful Resources and Examples

Additional resources and guides for best practices on conducting participatory community mapping exercises are listed below. Documents include example prompts, methods, tools, and facilitation strategies:

- [Mapping For Rights: Participatory Mapping](#)
- [International Fund for Agricultural Development: Good Practices for Participatory Mapping](#)
- [Multi-stakeholder Participatory Mapping for Decision-Making guide from the Sustainable Sanitation and Water Management Toolbox](#)

- [“Participatory Mapping as a tool for empowerment”](#): methods review and report from the [International Land Coalition](#)

For more information on the GEMS project metrics and protocols, visit [this page](#).

