Measurement Protocol: Number of people with additional knowledge of project outcomes

Project: GEMS
http://bit.ly/NI-GEMS

If you are encountering GEMS protocols for the first time, please read:

- The GEMS protocols can help you develop a monitoring plan for a restoration project. They were developed based on existing published monitoring methods, but should not be considered prescriptive or the only appropriate way to monitor.
- Each protocol is written as if you are monitoring a single outcome, but it is very possible you will be measuring multiple outcomes and may be able to use the same or similar methods to do so. Think about ways to be strategic and efficient when combining methods from different protocols. For example, are there ways to ask questions about multiple outcomes using a single survey instrument? Or is there a way to host a workshop that asks community members about barriers to accessing multiple types of outcomes?
- Please be aware that the "who" methods—aimed at documenting who will be affected by social and economic changes caused by a restoration project—are quite similar across protocols. Where possible and sensible, you should consolidate community engagement methods that assess stakeholder perceptions of project outcomes to avoid stakeholder fatigue.

Background

This document provides an overview of the methods available for measuring the effects of project-associated educational outreach. Using the methods described below you can report on the number of people who gained knowledge about the habitats that may be affected by the project and other social and economic project outcomes. These methods can also be used to report on the number of people who changed their behaviors or attitudes toward the project or associated outcomes due to project-associated educational outreach.

Environmental education initiatives associated with restoration projects, including formal educational programs and informal learning opportunities such as volunteer work, can affect community awareness, knowledge, attitudes, values, behavior, environmental practices, and participation in activities related to the environment (Russ et al. 2014). Evaluating the impacts of these programs can help to improve program quality and participant learning, and demonstrate the program's impacts to funders and communities (Russ et al. 2014).

While environmental education programs are typically conducted and evaluated in person, because of COVID-19 there has been and will continue to be a transition towards virtual educational programming. Environmental education evaluation resources described here have been developed for in-person programming but may need to be adapted for evaluating virtual learning.

The methods below are divided into two sections. The "*how much*" methods measure how many people gained knowledge as the result of educational activities related to the restoration project. The "*who*" methods help you document the access to and distribution of project-related educational opportunities for communities within the project service area[1].

[1]For any given outcome, we define the project service area as the geographic boundary surrounding the individuals and communities for whom that particular project outcome is relevant.

The tables below list when methods would benefit from the expertise of social scientists trained in survey design and implementation, statistics, and economics. These experts should have experience with human subject research, following best practices and, if relevant, conducting research in a way that is accountable to their respective institution's oversight body, often called an Institutional Review Board. If you do not have such expertise in your project or program, many university programs and consulting firms should be able to assist.

Relevant Coastal Restoration Approaches

Oyster Reef Specific—subtidal, 2-dimensional, intensively harvested; subtidal, 3-dimensional, intensively harvested; subtidal, 3-dimensional, not intensively harvested; intertidal, 3-dimensional, not intensively harvested, protection or enhancement of existing reef; oyster aquaculture
Habitat—Oyster reef restoration, salt marsh restoration, seagrass restoration, mangrove restoration, living shoreline installation, beach and dune restoration
Recreation Enhancement—boat ramp installation, fishing pier installation, trails and boardwalks installation
Water Quality Improvement—agricultural best management practices, sewage system improvements, treatment wetlands, green stormwater infrastructure

"How much" methods:

Overview. This method helps the project answer: How many people gained additional knowledge of project outcomes due to educational programs run by the restoration project?

"How much" method:

Method (click on method title to see more detail)	**Method Outcomes**	**Method Description**	**Human Subject Research Expertise Needed***	**Effort Level**
Conduct an education evaluation	Number of people with additional knowledge of project outcomes due to the restoration project	Conduct a project-based evaluation assessing additional knowledge of, change in behavior towards, or change in attitude towards habitat effects and other project outcomes using surveys	Yes	High

*Refer to the NIH Definition of Human Subjects Research for more information

"How much" Metric Summary:

Social or economic outcome the metric is linked to:	Knowledge
"How much" Metric tier:	☐ 1 (easier) or ☑ **2 (harder)**
"How much" measurement interval:	Ongoing during educational programming delivery, or after a new educational program or resource is developed
Use this protocol if:	The project runs formal or informal education programs and/or engages volunteers to work on the project

"Who" methods:

Overview. These methods help the project answer: Who has access to educational programming created by the project, and are they representative of the population around the project site?

These methods can help restoration practitioners assess equity in project-related education. Some of the methods suggested here can be implemented as modifications to the "how much" protocol described above. Others would require new methods. These methods will help identify a) vulnerable groups and historically underrepresented stakeholders in the project service area; b) the accessibility and distribution of educational programming to communities in the project service area; and c) whether groups may be disproportionately not accessing or benefitting from education programs. You can use these methods to better understand if your project has accessible educational programming and how well those who are gaining knowledge represent the distribution of people in the project service area.

The table below describes a suite of methods that build off each other to provide a more holistic understanding of the communities that are and can be accessing educational programming that the project provides, and how accessible that programming is for these communities.

The methods below that involve focus groups, surveys, or participatory exercises require inclusive stakeholder engagement[2] of all relevant communities within the project service area.

"Who" methods:

Method (click on method title to see more detail)	**Method Outcomes**	**Method Description**	**Human Subject Research Expertise Needed***	**Effort Level**
Describe stakeholders	Project service area boundaries	Identify geographic boundary that encompasses all communities that could participate in project-related educational programming	No	Low
	Demographics and social vulnerability of project service area	Collate comprehensive demographic data of the communities in the project service area	No	Low
	Identity of potential project visitors	Conduct a stakeholder assessment to understand who is interested in visiting the project and participating in project-related educational programming in the project service area	No	Low
Accessibility checklist (from	Status of educational	Fill out a project checklist to identify accessibility of educational material and	No	Low

[2] There are many resources available that provide best practices and guidance for inclusive engagement. Some examples include: Five step approach to stakeholder engagement (BSR); Equitable Community Engagement Toolkit (Boston Public Health Commission); Designing equity-focused stakeholder engagement to inform state energy office programs and policies (NASEO); Inclusive community engagement (C40 Cities), and; Stakeholder engagement for inclusive water governance (OECD).

project perspective)	programming accessibility	opportunities (e.g., volunteering) created by the project		
Assessment of stakeholder perceptions on access and distribution of educational programming and material	Identification of access, barriers to access, and distribution of educational programming opportunities. Understanding whether participation in educational programs reflects the communities in the project service area/ visitor population.	Step 1. Use focus groups, workshops, or surveys *targeting people in the project service area* to ask questions about access, distribution, and barriers to accessing educational programming. Step 2. Consider information collected through step 1 in the context of the "who" information you already collected.	Yes	High

*Refer to the NIH Definition of Human Subjects Research for more information

To see all GEMS project metrics and protocols, visit this page.