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

The document provides an overview of the methods available for measuring effects of a restoration project on perceptions or awareness of the project or its outcomes.

Measuring awareness of a project and its outcomes allows a project to understand whether and the extent to which community members are aware of the project, its unique effects, and the effects of restoration more broadly simply based on proximity to the project. This differs from measuring direct educational outcomes of a project, which measure knowledge gains based on educational programming or materials created by the project. Awareness typically comes from the dissemination of information about the project through local news stories, information passed on by members of the community, or even driving by the restoration site and seeing construction or project signage.

The "how much" methods measure how many people gained awareness as the result of the restoration project. The "who" methods help you document the distribution of project related awareness among communities within the project service area.

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 Restoration types – all project types except restoration of intertidal reef
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 "how much" method helps the project answer: How many people have gained awareness of the project and its outcomes, or experienced a change in perception of the project due to the installation of the restoration project?

This method will document the number people with additional awareness of habitat effects and other project outcomes.

"How much" method:

Method (click on method title to see more detail)	Method Outcomes	Method Description	Human Subject Research Expertise Needed*	Effort Level
Awareness survey	Number of people with additional awareness of or a change in perception of project outcomes	Conduct surveys and more in depth focus groups (optional) assessing awareness project outcomes, or change in perception of the project, based on proximity to the project	Yes	High

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

"How much" Metric Summary:

Linked outcome:	Knowledge
"How much" metric tier:	☐ 1 (easier) or ☑ **2 (harder)**
"How much" measurement interval:	Once after project completion, repeat if significant additional benefits have been realized
Use this protocol if:	• There is a community in proximity to the project who could be gaining awareness of restoration project benefits • Community buy-in is a goal of your project and you want to assess their awareness of the project

"Who" methods:

Overview. These "who" methods help the project answer: Who knows about (has awareness of) the project and its benefits, who doesn't, and are those with awareness representative of the communities in the project service area?[1]

These methods can help restoration practitioners assess distribution of project-related information. Some of the methods suggested here can be integrated as modifications of 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 information about the project to communities in the project service area; and c) whether or not groups may be disproportionately gaining awareness about the project. You can use

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[1] The geographic boundary containing those stakeholders for whom a particular project outcome is relevant

these methods to better understand if awareness of your project has been distributed to a representative population across the project service area, which can potentially inform your outreach strategy moving forward.

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 gaining awareness of project outcomes, and how accessible this information is for these communities.

All of the methods below that involve focus groups, surveys, and participatory exercises, necessitate 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 would reasonably be expected to gain awareness of the project based on proximity	No	Low
	Demographics and social vulnerability of communities in project service area	Collate comprehensive demographic data of the communities in the project service area	No	Low
	Identity of stakeholders in project service area	Conduct a stakeholder assessment to understand who is in the project service area	No	Low
Distribution assessment	Assessment of distribution of project information across communities in its service area	Compare demographic data of those who have gained awareness and the project service area. Determine which communities or populations are gaining awareness and which are not.	No	Low

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

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

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[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).