Core Metrics Key

About core metrics ?

Key	Habitat Restoration (HR)	Oyster Restoration (OR)	Recreation Enhancement (RE)	Water Quality Improvement (WQ)
Core Metric				
Not Core				
N/A				

GEMS Social and Economic Metrics for Restoration in the Gulf of Mexico

Metrics for: Structurally Complex, Subtidal, Intensively Harvested Oyster Reef Restoration

Structurally Complex, Subtidal, Intensively Harvested Oyster Reef Restoration project type details

GEMS Metrics Information

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Core Metrics Key

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Key	Habitat Restoration (HR)	Oyster Restoration (OR)	Recreation Enhancement (RE)	Water Quality Improvement (WQ)
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N/A				

Education-related knowledge: number of people with additional knowledge of habitat effects and other project outcomes

Outcome: Cultural Values - Knowledge (R) Scale: Project Tier: 2

The number of people with additional knowledge of habitat effects and other project outcomes due to project-associated educational outreach, assessed using project-scale methodologies such as surveys, interviews or focus groups.

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Awareness: Number of people with additional knowledge of habitat effects and other project outcomes on broader scale

Outcome: Cultural Values - Knowledge (R) Scale: Program Tier: 2

The number of people with additional awareness of habitat effects and other project outcomes due to living or working in proximity to the project, assessed using program-scale methodologies such as surveys, interviews or focus groups.

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Knowledge: Number of people with additional knowledge of habitat effects and other project outcomes based on project site

Outcome: Cultural Values - Knowledge (R) Scale: Project Tier: 2

The number of people with additional awareness of habitat effects and other project outcomes due to proximity to the project, assessed using project-scale methodologies such as surveys, interviews or focus groups.

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Change in program identified cultural value

Outcome: Cultural Values - Other (R) Scale: Program Tier: 2

Identification and evaluation of cultural ecosystem services (CES), which vary by community, for monitoring which vary by community, for monitoring (e.g., Pascua et al. 2017). Where possible, program team can develop framework for pre-and post- restoration monitoring of CES.

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Change in project identified cultural value

Outcome: Cultural Values - Other (R) Scale: Project Tier: 2

Identification and evaluation of cultural ecosystem services (CES), which vary by community, for monitoring (e.g., Pascua et al. 2017). Where possible, project team can develop framework for pre-and post- restoration monitoring of CES.

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Change in economic activity from project associated commercial fish harvest

Outcome: Economic Activity - Finfish/Shellfish Harvest (R) Scale: Program Tier: 2

Jobs, labor income, gross state product, and total industry output modeled annually based on NOAA commercial harvest data and state data (e.g. Florida commercial fisheries) for relevant species. Change in economic activity from commercial fish harvest could be due to changes in target populations or areas closed to harvest due to water quality issues. Reporting harvest and revenue (intermediate outputs for calculating this metric) may also be useful to give a full picture on how commercial harvest patterns have changed in response to the project.

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Change in recreational activity expenditures associated with project site visitation

Outcome: Economic Activity - Recreation and Tourism (R) Scale: Project Tier: 2

Estimate of total recreational activity expenditures due to the project compared to baseline of recreational activity expenditures in surrounding area, calculated as the number of recreational trips to the project site (estimated from random sampling counts as part of structured monitoring).

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Change in economic activity from recreational fishing

Outcome: Economic Activity - Recreation and Tourism (R) Scale: Program Tier: 2

Jobs, labor income, gross state product, and total industry output modeled annually at a county to regional level. Angler surveys will account for the difference in activity associated with a restoration project, which would then be used as input into the economic impact analysis (see Texas Half Moon Reef example [PDF]).

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Number of jobs supported through recreational fishing at project site

Outcome: Economic Activity - Recreation and Tourism (R) Scale: Project Tier: 2

The number of direct, indirect, and induced jobs associated with recreational fishers visiting the restored reef, based on fishing expenditures determined through a survey of recreational fishing anglers conducted by the restoration project.

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Change in recreational fishing expenditures associated with project site visitation

Outcome: Economic Activity - Recreation and Tourism (R) Scale: Project Tier: 2

Estimate of total recreational fishing expenditures due to the project compared to baseline of recreational fishing expenditures in surrounding area, calculated as the number of recreational fishing trips to the project site (estimated from random sampling counts as part of structured monitoring) multiplied by the average trip expenditure (from NOAA FEUS 2018 Report).

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Change in economic activity from restoration spending

Outcome: Economic Activity - Restoration/Intervention (R) Scale: Program Tier: 2

Jobs, labor income, gross state product, and total industry output would be modeled based on project expenditures.

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Number of restoration jobs supported by project

Outcome: Economic Activity - Restoration/Intervention (R) Scale: Project Tier: 1

The number of jobs directly supported by the restoration project, including but not limited to project design, construction, project site maintenance, education, and monitoring, reported every year.

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Total restoration expenditures by project

Outcome: Economic Activity - Restoration/Intervention (R) Scale: Project Tier: 1

The total amount of money spent on the restoration project as reported in the project budget every year.

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Proportion of surveyed harvesters who say that food caught/harvested at the site is important for feeding their household

Outcome: Human Health - Food Security for Communities (R) Scale: Project Tier: 2

Estimate of proportion of surveyed harvesters who say that food harvested at project site is important for feeding their household and if that has changed since the installation of the project at site

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Proportion of protein or nutrition from food harvested at restoration site

Outcome: Human Health - Food Security for Communities (R) Scale: Program Tier: R & D

Relative measure of contribution of subsistence harvest from areas with restoration projects (e.g. seafood, birds, mushrooms) to household nutrition, measured by adding questions to existing national nutrition surveys.

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Change in cognitive function

Outcome: Human Health - Mental Health & Psychological Well-Being (R) Scale: Project Tier: 2

Change in performance on simple recall or other cognitive function tests pre- and post- recreation activity or time at project site.

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Change in subjective well-being

Outcome: Human Health - Mental Health & Psychological Well-Being (R) Scale: Project Tier: 2

Change in self-reported state of well being. Survey of visitors pre- and post- time at project site.

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