*Deepwater Horizon*

Open Ocean Trustee Implementation Group

# MONITORING AND ADAPTIVE MANAGEMENT ACTIVITY IMPLEMENTATION PLAN:

## GULF-WIDE STATUS OF NESTING SEA TURTLES AND BEACHES DATA INVENTORY

February 2023

# 1.0 Introduction and Purpose

The Deepwater Horizon (DWH) oil spill settlement in 2016 provides the Natural Resource Damage Assessment (NRDA) Trustees (Trustees) up to $8.8 billion, distributed over 15 years, to restore natural resources and services injured by the spill. As described in the DWH oil spill Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement (PDARP/PEIS; DWH NRDA Trustees. 2016a), the Trustees selected a comprehensive, integrated ecosystem approach to restoration. The Final PDARP/PEIS considers programmatic alternatives, composed of Restoration Types, to restore natural resources, ecological services, and recreational use services injured or lost as a result of the DWH oil spill incident. As shown in the PDARP/PEIS, the injuries caused by the DWH oil spill affected such a wide array of linked resources over such an enormous area that the effects must be described as constituting an ecosystem-level injury. The PDARP/PEIS and information on the settlement with BP Exploration and Production Inc. (called the Consent Decree) are available at the Gulf Spill Restoration website.

Given the unprecedented temporal, spatial, and funding scales associated with the DWH oil spill restoration effort, the Trustees recognized the need for robust Monitoring and Adaptive Management (MAM) to support restoration planning and implementation. As such, one of the programmatic goals established in the PDARP/PEIS is to "Provide for Monitoring, Adaptive Management, and Administrative Oversight to Support Restoration Implementation" to ensure that the portfolio of restoration projects provides long-term benefits to natural resources and services injured by the spill (Appendix 5.E of the PDARP/PEIS). This framework allows the Trustees to evaluate restoration effectiveness, address potential uncertainties related to restoration planning and implementation, and provide feedback to inform future restoration decisions.

The Trustees also established a governance structure that assigned a Trustee Implementation Group (TIG) to each of the eight designated Restoration Areas, including the Open Ocean (OO) Restoration Area. Each TIG makes restoration decisions for the funding allocated to its Restoration Area and is also responsible for identifying MAM priorities for its respective TIG. The OO TIG includes the four federal Trustee agencies: U.S. Department of Commerce, represented by the National Oceanic and Atmospheric Administration (NOAA); U.S. Department of the Interior (DOI); U.S. Department of Agriculture (USDA); and U.S. Environmental Protection Agency (EPA). The Open Ocean TIG is responsible for restoring the natural resources and services within the Open Ocean Restoration Area that were injured by the DWH oil spill and associated spill response efforts.

The DWH Trustees opened a publicly available Administrative Record for the NRDA of the DWH oil spill, including restoration planning activities, concurrently with publication of the 2010 Notice of Intent (pursuant to 15 CFR § 990.45). DOI is the lead federal Trustee for maintaining the Administrative Record, which can be found at http://www.doi.gov/deepwaterhorizon/adminrecord. This administrative record is used by the OO TIG to provide the public with information about DWH restoration planning, including MAM activities. Additional information is also provided at http://www.gulfspillrestoration.noaa.gov. Information about restoration projects and MAM activities, including any data and/or analyses produced and annual reports, are made publicly available via the Data Integration Visualization Exploration and Reporting portal (DIVER), available at https://www.diver.orr.noaa.gov/web/guest/deepwater-horizon-nrda-data.

To articulate its approach to MAM, the OO TIG released its MAM strategy in April 2019 and updated it in June 2020. The strategy describes the TIG's responsibilities, goals, and priorities for the use of the OO

Restoration Area MAM allocation. Three goals were identified for the use of OO MAM funds: (1) the evaluation of outcomes of the OO restoration effort across the portfolio of OO projects; (2) the identification and filling of data gaps that affect the OO TIG's ability to meet and/or evaluate progress toward restoration goals for OO resources; and (3) the identification of benefits and outcomes from OO restoration activities to resource, cross-resource, and ecosystem restoration across the northern Gulf of Mexico. The strategy also identifies three priorities for OO MAM: evaluation of restoration progress, identification of stressors, and assessment of focal species and important habitats. In addition to MAM goals and priorities, the strategy also describes the TIG's process to develop and release MAM Activities. MAM activities are projects or other MAM efforts (e.g., monitoring, modeling, data collection, studies) developed to address identified MAM priorities.

This MAM Activity Implementation Plan (MAIP) describes the MAM activity, "Gulf-wide Status of Nesting Sea Turtles and Beaches Data Inventory," to begin to address MAM priorities preliminarily identified by the Open Ocean TIG for the *Sea Turtles* Restoration Type. This MAM activity is intended to support evaluation of restoration outcomes within the Open Ocean Restoration Area; perform data synthesis and analysis; and determine where additional data are needed to inform restoration planning and decision-making. This document provides information about the activities to be implemented and the specific uncertainties they will address. It also describes the activity's applicability to the Open Ocean MAM Strategy and consistency with the programmatic alternative selected by the Trustees in the PDARP/PEIS.

# 2.0 MAM Activity Description

## 2.1 Background

The objective of this activity is to inventory and evaluate existing data to determine where additional data are needed to assess restoration progress of three sea turtle (loggerhead, Kemp's ridley, green, and leatherback turtles) life-stages that use terrestrial habitat across the Gulf of Mexico: adult nesting females, incubating eggs, and hatchlings. Coordination will occur as appropriate with the Open Ocean (OO) TIG projects *Gulf of Mexico Sea Turtle Atlas* (PID #223) and *Developing a Gulf-wide Comprehensive Plan for In-water Sea Turtle Data Collection* (PID #221) and the Regionwide TIG project *Restore and Enhance Sea Turtle Nest Productivity* (PID #297). Collaboration with related efforts will leverage funds and prevent duplication. Fieldwork for data collection is not included as part of this MAM activity.

Activity Objectives Statement: *Inventory existing monitoring programs and data for nesting female sea turtle populations and the nesting environment, and evaluate the applicability of data to NRDA restoration planning and evaluation and sufficiency to support draft OO restoration objectives and draft OO ecosystem level objectives.*

**Task 1:** Nesting females--Conduct an inventory of existing monitoring programs and data for nesting females, and evaluate sufficiency of these data to support draft OO restoration objectives and ecosystem-level benefits. Data targeted for this inventory include data that evaluate sea turtle habitat quality and quantity (including mobile and transient habitats, migration corridors, nesting areas, and biological hotspots).

This task will inventory existing monitoring programs (e.g., mark-recapture) for nesting sea turtle populations along the U.S. Gulf of Mexico coast and evaluate their usefulness to OO TIG

restoration objectives. Preliminary evaluations will be made by the Implementing Trustee on whether the scale and locations of existing programs are sufficient from which to fulfill monitoring for draft OO sea turtle restoration objectives or if additional monitoring data are needed. If data are not available to detect nesting trends, reproductive output of individual nesting female sea turtles and hatching success, the activity will outline steps to get this information. The Implementing Trustee will present these evaluations to the OO TIG for feedback and direction for potential next steps.

**Product:** Inventory and evaluation of existing programs for nesting sea turtle populations; a prioritized list of data to be targeted for acquisition from historical and ongoing mark-recapture programs. These data may be available through the Sea Turtle Atlas, so coordination will occur with that project. The inventory will be provided in an accessible format, such as a spreadsheet, that can be updated over time and made available through DIVER. A metadata file will be created that outlines historic and ongoing mark-recapture projects and if or how the data may be available through those programs. Data will not be acquired from those programs at this time, so no database is needed.

**End date:** one year duration upon funding

**Task 2:** Nesting/incubation environment--Conduct an inventory of monitoring programs for existing data on the nesting environment and evaluate sufficiency of these data to support draft OO TIG restoration objectives and ecosystem-level benefits. Nesting environment data (such as sand color, grain size, moisture and temperature, and inundation) could inform potential future restoration activities such as in barrier island and beach restoration projects to ensure those beaches are built with characteristics that will enhance sea turtle reproductive output and thus contribute to sea turtle restoration.

This task will inventory existing monitoring programs and data sets for the sea turtle nesting beach environment across U.S. Gulf of Mexico beaches and evaluate their usefulness for meeting OO TIG restoration objectives. Preliminary evaluations will be made by the Implementing Trustee on whether the scale and locations of existing programs are sufficient from which to fulfill draft OO sea turtle restoration objectives or if additional monitoring data are needed. If data are not available to understand nest/hatchling incubation conditions we will outline steps to get this information. The Implementing Trustee will present these evaluations to the OO TIG for feedback and direction for potential next steps.

**Product:** Inventory and evaluation of existing programs for data on the nesting sea turtle beach environment; a prioritized list of data to be targeted for acquisition from historical and ongoing nesting programs. These data may be available through the Sea Turtle Atlas so coordination with that project will occur. Nesting data for each state are available through state resource agencies (e.g., Florida Fish and Wildlife Conservation Commission) or the US Fish and Wildlife Service (FWS)) so a separate NRDA database will not be developed.

**End date:** one year duration upon funding

**Task 3:** Identify and prioritize where additional data are needed to address the goals defined in the PDARP/PEIS. Data gap identification will occur through development of maps (e.g., spatial and temporal) and potentially through quantitative analysis (e.g., power analysis) depending on the results of the inventory in Tasks 1 and 2. The MAM Activity will identify options to synthesize existing data and to collect new data if needed. Data sources are likely all or primarily available through state natural resource agencies or USFWS. The need for a new database is not expected. This task will assess whether new data collection is necessary and cost-effective.

This task will use information inventoried in Tasks #1 and #2 to identify and prioritize data gaps for sea turtle nesting populations and the sea turtle nesting environment. Recommendations will be made about acquiring existing data and/or collecting new data. Options for several funding levels and project durations will be proposed.

**Product:** A report that includes assessment and evaluation of existing data on sea turtle nesting populations and the sea turtle nesting environment, with recommendations on which (if any) to use for OO TIG data planning and evaluation and whether new data collection is needed.

**End date:** one year duration upon funding

### 2.2 Timeline

This activity will occur over a period of two years. We anticipate this activity will begin in January 2023 and continue through the end of December 2024.

| | FY23 | | | | FY24 | | | |
|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Coordination | x | x | x | x | x | x | x | x |
| Literature review | | x | x | x | x | | | |
| Final products | | | | | | x | x | x |

### 2.3 Budget

| Cost Items | Leveraged Funds | Cost Estimate |
|---|---|---|
| Task 1: Inventory of monitoring programs for sea turtles | | $30,000 |
| Task 2: Inventory of monitoring programs for the nesting environment | | $30,000 |
| Task 3: Gap analysis; write report | | $40,000 |
| Subtotal | | $100,000 |
| MAM Activity Management, Oversight, and Reporting | | $78,152 |
| Subtotal | | $178,152 |
| Contingency ~10% | | $21,848 |
| **TOTAL ESTIMATED COST** | | $200,000 |

# 3.0 Roles and Responsibilities

DOI will be the Implementing Trustee responsible for implementing this MAM activity. The DOI team will serve in administrative and technical capacities. DOI will be responsible for coordinating with the OO TIG and providing overall direction and oversight for this MAM activity, financial tracking, completing compliance requirements, annual reporting, DIVER data management, administration of any contracts or cooperative agreements, and data housing and evaluation.

# 4.0 Data Management and Reporting

The DWH Trustees, as stewards of public resources under the Oil Pollution Act (OPA), will inform the public on the MAM activity's progress and performance. Therefore, DOI will report the status of the proposed activity via the Data Integration, Visualization, Exploration, and Reporting (DIVER) Restoration Portal annually, as outlined in Chapter 7 of the PDARP/PEIS (DWH NRDA Trustees 2016). All reports and documentation created or compiled as part of this MAM activity, including relevant inventories of existing data, the literature review and evaluation, associated documentation, and peer-reviewed publication (if applicable) will also be stored on the DIVER Restoration Portal.

Data storage and accessibility will be consistent with the guidelines in Section 3.1.3 of the MAM Manual (DWH NRDA Trustees 2021).

# 5.0 Consistency with the DWH Programmatic Restoration Plan

This MAM activity is consistent, as well as aligned with the comprehensive, integrated ecosystem restoration portfolio approach taken in the PDARP/PEIS (section 5.5). This activity will specifically support the goals described in the PDARP/PEIS for *Sea Turtles* Restoration Type (section 5.5.10). This activity will explicitly identify gaps in scientific understanding that limit restoration planning, implementation, evaluation, and/or understanding of resource recovery status for sea turtle species and life stages injured by the spill. This MAM activity also has direct linkages to the PDARP/PEIS, *Monitoring and Adaptive Management Framework* (section 5.E). The framework calls for Trustees to synthesize monitoring information and restoration outcomes for individual Restoration Types and across multiple injured resources to support restoration evaluation, inform restoration planning, and inform adaptive management at regional scales.

# 6.0 Compliance Considerations

## 6.1 NEPA Review and Conclusion

The Trustees' approach to compliance with NEPA summarized in this section is consistent with, and tiers where applicable from the PDARP/PEIS Section 6.4.14. Resources considered and impact definitions (minor, moderate, major) align with the PDARP/PEIS. Relevant analyses from the PDARP/PEIS are incorporated by reference. Such incorporation by reference of information from existing plans, studies or other material is used in this analysis to streamline the NEPA process and to present a concise document that briefly provides sufficient evidence and analysis to address the OO TIG's compliance with NEPA (40 CFR 1506.3, 40 CFR § 1508.9). All source documents relied upon are available to the public and links are provided in the discussion where applicable.

As discussed in Chapter 6 of the PDARP/PEIS, a TIG may propose funding a planning phase (e.g., initial engineering, design, and compliance) in one plan for a conceptual project, or for studies needed to maximize restoration planning efforts. This would allow the TIG to develop information needed leading to sufficient project information to develop a more detailed analysis in a subsequent restoration plan, or for use in the restoration planning process. Where these conditions apply and activities are consistent with those described in the PDARP/PEIS, NEPA evaluation is complete and no additional evaluation of individual activities is necessary at this time.

**NEPA Review of MAM Activity**
The activities and tasks described here consist exclusively of desktop analysis of existing literature, existing data resources, report development, and engagement of subject matter experts. This activity would include data collation and synthesis with no field data collection. Consequently, there will be no impact to natural resources as defined within the PDARP/PEIS.

**NEPA Conclusion**
After review of the proposed activities against those actions previously evaluated in the PDARP/PEIS, the OO TIG determined that the environmental consequences resulting from this MAM activity falls within the range of impacts described in Section 6.4.14 of the PDARP/PEIS, thus no additional NEPA evaluation is necessary at this time.

## 6.2 Compliance with Other Environmental Laws and Regulations

There will be no fieldwork as part of this MAM activity, thus further compliance reviews are not necessary because there will be no effects to protected species, their habitats, or to cultural resources. No consultations, permits, or authorizations are needed to complete this MAM activity. Federal environmental compliance responsibilities and procedures follow the Trustee Council Standard Operating Procedures (SOP), which are laid out in Section 9.4.6 of that document. Following the SOP, the Implementing Trustees for each activity will ensure that the status of environmental compliance (e.g., completed vs. in progress) is tracked through the Restoration Portal.

Documentation of regulatory compliance will be available in the Administrative Record that can be found at the DOI's Online Administrative Record repository for the DWH NRDA (https://www.doi.gov/deepwaterhorizon/adminrecord). The current status of environmental compliance can be viewed at any time on the Trustee Council's website: http://www.gulfspillrestoration.noaa.gov/environmental-compliance/.

**Status of federal regulatory compliance reviews and approvals.**

| Federal Statute | Compliance Status |
|---|---|
| Bald and Golden Eagle Protection Act (USFWS) | N/A |
| Coastal Barrier Resources Act (USFWS) | N/A |
| Coastal Zone Management Act | N/A |
| Endangered Species Act (NMFS) | N/A |
| Endangered Species Act (USFWS) | N/A |
| Essential Fish Habitat (NMFS) | N/A |
| Marine Mammal Protection Act (NMFS) | N/A |
| Marine Mammal Protection Act (USFWS) | N/A |
| Migratory Bird Treaty Act (USFWS) | N/A |

| | |
|---|---|
| National Historic Preservation Act | Complete |
| Rivers and Harbors Act/Clean Water Act | N/A |
| National Environmental Policy Act | Complete, based on Section 6.4.14 of the Final PDARP/PEIS and above in the Summary NEPA Review section |

## 7.0 References


Deepwater Horizon Natural Resource Damage Assessment (NRDA) Trustees. 2016. Deepwater Horizon oil spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement. Retrieved from http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulfplan.

Deepwater Horizon Natural Resource Damage Assessment Trustees. 2017. Deepwater Horizon Oil Spill Natural Resource Damage Assessment: Strategic Framework for Sea Turtle Restoration Activities. June. Available: http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan.

Deepwater Horizon Open Ocean Trustee Implementation Group. 2020. Open Ocean Trustee Implementation Group Monitoring and Adaptive Management Strategy. June. Available: http://www.gulfspillrestoration.noaa.gov/.

Deepwater Horizon (DWH) Natural Resource Damage Assessment Trustees. 2021. Monitoring and Adaptive Management Procedures and Guidelines Manual Version 2.0. Appendix to the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the DWH Oil Spill. December. Available: http://www.gulfspillrestoration.noaa.gov/.