Secretive Marsh Bird Habitat Relationships and Distributions in Selected Coastal Louisiana Marshes Project

Introduction

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 2016), 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.

Purpose of this document

This MAM Activities Implementation Plan (MAIP) describes the MAM activity, "*Secretive Marsh Bird Habitat Relationships and Distributions in Selected Coastal Louisiana Marshes Project*," to address MAM priorities preliminarily identified by the Louisiana Trustee Implementation Group (LA TIG) for the Bird Restoration Type. This MAM activity is intended to address significant informational needs (e.g., overall secretive marshbird (SMB) population numbers, predictive SMB habitat relationships, benefits to SMBs provided by coastal restoration projects, and key features that could be added to coastal restoration projects to benefit SMBs to facilitate future LA TIG restoration planning and implementation activities for this suite of species. Related, the LA TIG asserts the need for a comprehensive monitoring methodology to report on individual project progress towards meeting stated restoration goals and objectives, inform future SMB project design and implementation and document future SMB project effectiveness. Collectively, information gained from the Project will directly benefit LA TIG's ability to effectively restore Louisiana's SMB populations within the broader future DWH *Birds* and *Wetlands, Coastal and Nearshore Habitats* restoration projects. This MAM activity is consistent with the DWH Final Programmatic Damage

Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement (PDARP/PEIS) (DWH 2016).

Monitoring and Adaptive Management: [Birds & Wetlands, Coastal and Nearshore Habitats]

Habitat restoration in complex coastal marsh habitats, such as those that were oiled during DWH, has been identified as the best approach to compensate for losses to Louisiana's secretive marsh bird populations (DWH 2016, Strategic Framework for Bird Restoration Activities (DWH 2017)). Therefore, this MAM Activities Implementation Plan (MAIP) describes MAM Activities that address several DWH Trustee Programmatic Trustee Restoration Goals: Restore and Conserve Habitat and Replenish and Protect Living Coastal and Marine Resources (PDARP Section 5.3.1). Within these programmatic goals, the Project will address specific DWH Restoration Types: Birds (PDARP 5.5.12) and Wetlands, Coastal and Nearshore Habitats (PDARP Section 5.5.2). The Project MAM activities will address specific Restoration Type goals as identified within the PDARP.

Birds

- Restore lost birds by facilitating additional production and/or reduced mortality of injured bird species;
- Restore or protect habitats on which injured birds rely;
- Restore injured birds by species where actions would provide the greatest benefits within geographic ranges that include the GOM.] (PDARP, Section 5.5.12.1, Strategic Framework for Bird Restoration Activities (DWH 2017)).

Wetlands, Coastal and Nearshore Habitats

- Restore a variety of interspersed and ecologically connected coastal habitats in each of the five Gulf states to maintain ecosystem diversity, with particular focus on maximizing ecological functions for the range of resources injured by the spill, such as oysters, estuarine-dependent fish species, birds, marine mammals, and nearshore benthic communities;
- Restore for injuries to habitats in the geographic areas where the injuries occurred, while considering approaches that provide resiliency and sustainability;
- While acknowledging the existing distribution of habitats throughout the Gulf of Mexico, restore habitats in appropriate combinations for any given geographic area. Consider design factors, such as connectivity, size, and distance between projects, to address injuries to the associated living coastal and marine resources and restore the ecological functions provided by those habitats.

This MAM activity is intended to support evaluation of regional restoration outcomes within the LA TIG Restoration Area; perform data aggregation and data management; resolve critical information gaps and uncertainties for restoration planning and informing restoration decision-making; and perform monitoring to inform the design and implementation of future restoration projects. This document provides information about MAM activities and the data gaps and uncertainties they will address. It also describes how the MAM activities are consistent with the PDARP/PEIS and compliant with OPA and NEPA.

MAM Activity Description

Background

Habitat restoration in complex coastal marsh habitats, such as those that were oiled during DWH, has been identified as the best approach to compensate for losses (~56,000 birds estimated injury) to Louisiana's secretive marsh bird populations, as emphasized by Wallace and Ritter (2015) and the PDARP/PEIS (DWH NRDA Trustees 2016). However, significant informational needs (e.g., overall population numbers, predictive habitat relationships, benefits to secretive marshbirds provided by coastal restoration projects, and key features that could be added to coastal restoration projects to benefit this suite of species) have been identified to facilitate future LA TIG restoration planning and implementation activities for secretive marshbirds. Related, LA TIG asserts the need for a comprehensive monitoring methodology to report on individual project progress towards meeting stated restoration goals and objectives, inform future SMB project design and implementation, and document future SMB project effectiveness. Collectively, information gained from the Project will directly benefit LA TIG's ability to effectively restore Louisiana's SMB populations within the broader future DWH *Wetlands, Coastal and Nearshore Habitats* restoration projects.

Objectives and Tasks

a.) Determine population estimates of breeding SMBs in select basins of the Louisiana coastal zone;

b.) Determine multi-scale habitat relationships of SMBs in select basins of the Louisiana coastal zone;

c.) Determine benefits provided by selected coastal restoration projects on SMB populations; and

d.) Identify key restoration features, including basin-specific features, to improve SMB habitat in the Louisiana coastal zone.

Budget[a]

Project Phase	Phase I		Phase II		Phase III	LDWF Oversight	Total
Project Year	6 Months	Year 1	Year 2	Year 3	Year 4	Years 1- 4	
Budget	$421,199		$378,927	$393,458	$137,837	$110,000	**$1,441,421**
Project Calendar	TBD [b]	June 2019 to June 2020	June 2020 to June 2021	June 2021 to June 2022	June 2022 to June 2023	June 2019 to June 2023	

[a] See Appendix A for detailed budget
[b] Exact date to be determined, based on date of contract award

Activity implementation

Timeline

2019-2023

Although this document covers the entire scope of the Project (2019-2023), implementation will be conducted in phases to ensure critical milestones are met. As the Project approaches the conclusion of each phase, implementation plans and any required NEPA, OPA, or other compliance analysis for the next phase will be developed that incorporate the preceding work. These implementation plans will be provided to the LA TIG for review and approval prior to additional expenditures being authorized. An overview of the schedule and key activities in each phase are provided below:

Project Phase I (encompasses all of the Project Year 1 activities)

- Based on preliminary fieldwork (site characterization including habitat sampling) to be conducted in Year 1, Contractor will provide LA TIG with a refined SMB monitoring plan. This plan will include: detailed list of all sampling sites, including principal GPS location, proximity to nearest Coastwide Reference Monitoring System (CRMS) station, dominant vegetation type, and whether the sampling site has been subjected to restoration or not (*due 6 months post-funding award*).

- Contractor will provide LA TIG with an annual report (i.e., *Project Year 1 Annual Report*) detailing an overview of the Project activities to date, rather than a complete report. The report will be due 1 June 2020 (i.e., in the middle of the sampling season) so it is not possible to have a complete report on the initial field season at that time (*due 1 June 2020*). Phase I will require limited fieldwork to include recording hydrology and habitat data at the proposed Phase II sampling sites.

Project Phase II (encompasses all of the Project Years 2 and 3 activities)

- Contractor will provide LA TIG with detailed summaries of Year 1 field season (i.e., *Project Year 2 Annual Report*) results including number of points surveyed, number of times each point was surveyed, mean number (and variance) of birds of each species sampled per point, and vegetation summaries for each point. Contractor will also provide initial SMB abundance estimates within each identified coastal basins (*due on 31 January 2021*). This report will also include a full data management plan (see following section for details).

- During Phase II, extensive fieldwork will be conducted to collect vocal observations of SMB and refine habitat analysis.

- Contractor will provide LA TIG detailed summaries of Year 2 field season (i.e., *Project Year 3 Annual Report*) results including number of points surveyed, number of times each point was surveyed, mean number (and variance) of birds of each species sampled per point, associated statistical methodology, and vegetation summaries for each point. Contractor will also provide initial SMB abundance estimates within select coastal basins. Contractor will provide similar information as the *Project Year 2 Annual Report* but will include information from both years (*due on 31 January 2022*).

<u>Project Phase III</u> (encompasses all of the Project Year 4 activities)

- The Contractor's final report will include final SMB population abundance estimates for marsh sites, including associated statistical and modelling methodologies, both with and without restoration, within each identified coastal basin. Further, the report will demonstrate how abundance is affected by multi-scale habitat characteristics, identify key habitat features which promote SMB populations, identify what habitat restoration features are important to promote secretive marshbirds, and enhance Trustees' ability to monitor and promote wise stewardship of Louisiana's SMB populations (*due 30 May 2023*).

Data management and reporting

Data Management

The Trustees acknowledge the importance of informing the public on restoration project progress and performance, as well as on the collective progress toward meeting Restoration Type and programmatic goals (Chapter 7 of PDARP/PEIS; DWH 2016). As such, the implementing Trustees will be responsible for project reporting, following the TC SOP, into DIVER." Related, ongoing LA TIG conversations are occurring regarding use of USGS's ScienceBase (https://www.sciencebase.gov/catalog/) for data storage and serving. Additionally, the Avian Knowledge Network (http://avianknowledge.net/) is being explored as an option for data storage and serving. *NOTE: A full data management plan will accompany the Year 1 Annual Report*.

Data Reporting

Contractor will submit annual and final reports, which will include Project-related information (e.g., raw and post-processed data, data syntheses, aerial imagery, etc.) and reports to the LA TIG following a mutually agreed upon submission schedule.

Consistency of MAM Activity with the PDARP/PEIS

The PDARP/PEIS establishes goals to restore and protect birds by facilitating additional production and/or reduced mortality of injured bird species, restoration and protection of habitats on which injured birds rely and restoring injured birds by species where actions would provide the greatest benefits within geographic ranges that include the GOM (PDARP/PEIS Section 5.5.12.1). This MAM activity is intended to address significant informational needs (e.g., overall population numbers, predictive habitat relationships, benefits to secretive marshbirds provided by coastal restoration projects, and key features that could be added to coastal restoration projects to benefit this suite of species) to facilitate future LA TIG restoration planning and implementation activities for secretive marshbirds. Related, the LA TIG asserts the need for a comprehensive monitoring program to provide the necessary context for future project effectiveness monitoring, to inform future SMB project design and implementation, and to report on individual project progress towards meeting stated restoration goals and objectives. Therefore, information gained from the Project will directly benefit Louisiana SMB populations via incorporation within the LA TIG's expansive future DWH *Wetlands, Coastal and Nearshore Habitats* restoration projects. Therefore, this MAM activity is consistent with the PDARP/PEIS, including the Monitoring and Adaptive Management Framework, as described in Section 5.5.15.2, and the *Strategic Framework for Bird Restoration Activities*, Module 4: Considerations for Restoration - Monitoring and Adaptive Management Considerations.

The Trustees include monitoring and adaptive management as one of their goals to provide for a flexible, science-based approach towards ensuring long-term benefits to the resources and services injured by the spill as envisioned in the PDARP/PEIS (DWH 2016). Related, the Trustees have established guidelines to execute the broad goals articulated in this programmatic plan within the Monitoring and Adaptive Management Procedures and Guidelines Manual Version 1.0., Section: *E.2 Create, Restore, and Enhance Coastal Wetlands: Monitoring Guidance:* Trustees are provided guidance in several key areas including:

- Examples of Restoration Techniques;
- Guidance on example restoration objectives, example drivers, and example uncertainties;
- Guidance on core performance monitoring parameters (e.g., area, elevation, vegetative percent cover and composition, etc.) for projects within the Restoration Approach;
- Guidance on supplemental performance monitoring parameters for specific restoration objectives.

The Project as described (see *MAM Activity description*, above) will clearly address many of these key areas by leveraging validated and peer-reviewed sampling methodologies and modeling analyses (Conway 2011, Pickens and King 2014a, 2014b) both to develop and to refine SMB population estimates in coastal Louisiana, as well as to enhance Trustees' ability to predict and monitor restoration outcomes as they relate to SMB populations (Pickens and King 2014b).

Evaluation of NEPA Requirements

The Trustees' approach to compliance with NEPA summarized in this section is consistent with, and tiers, where applicable, from the PDARP/PEIS Section 6.14.4. Resources considered and impacts 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 LA 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) for a conceptual project, or for studies needed to maximize restoration planning efforts. This allows a TIG to develop information for future use in a subsequent restoration plan, or for use in the restoration planning process generally. Where these conditions apply and activities are consistent with those described in the PDARP/PEIS, NEPA evaluation is complete and no additional evaluation is necessary. This includes the entirety of activities under Phase I of this Project.

NEPA Review of MAM Activity

Consistent with the impacts considered in the PDARP/PEIS, this activity would include minimally intrusive field activities. Temporary impacts to the biological and physical environment could include short-term, temporary disturbance of habitats and species; and minor disturbance to terrestrial, estuarine, and marine environments through vessel access at field sites. Analysis of the data collected, planning meetings, and preparation of reports are data-based components of this activity. Consistent with the analysis in Section 6.14.4 of the PDARP/PEIS, environmental consequences would be direct, short-term, minor impacts through the associated field work. The data gathered would address significant

informational needs (e.g., overall population numbers, predictive habitat relationships, benefits to secretive marshbirds provided by coastal restoration projects, and key features that could be added to coastal restoration projects to benefit this suite of species) to facilitate future LA TIG restoration planning and implementation activities for secretive marshbirds and *Wetland, Coastal and Nearshore Habitat* restoration. Collectively, information gained from the Project will directly benefit LA TIG's ability to effectively restore Louisiana's SMB populations within the broader future DWH *Wetlands, Coastal and Nearshore Habitats* restoration projects.

Field-based activities will encompass passive (i.e., document marshbird observations and vocalizations as well as select environmental criteria) data collection. Data collection by this means will likely not require federal nor state permits for actions involving threatened and endangered species. Based on review of the proposed activities against those actions previously evaluated in the PDARP/PEIS, no additional NEPA evaluation is likely necessary. However, an analysis of whether additional NEPA documentation is necessary will be undertaken prior to initiation of field sampling associated with Phase II or Phase III activities.

NEPA Conclusion

After review of the proposed activities, the Louisiana TIG determined that the environmental consequences resulting from this MAM activity falls within the range of impacts considered in Section 6.4.14 of the PDARP/PEIS, and thus no additional NEPA evaluation is necessary at this time.

Compliance with Other Environmental Laws and Regulations

This Project includes a Year 1 planning phase (Phase I) which will identify and refine the Project elements and associated sampling methodologies. There will be minimal fieldwork in Phase I which will be limited to sampling site classification and general field reconnaissance of habitat and vegetation using non-destructive methods for preliminary work. The LA TIG has completed technical assistance with regulatory agencies and determined that compliance approvals are not required for Phase I. See the compliance memo for more detailed information.

After the completion of Phase I deliverables, updates to the MAIP and compliance memo will be completed. Once the methodologies and locations of additional field work for Phases II and III are known, the LA TIG will request technical assistance from the regulatory agencies to identify additional compliance reviews that may be required.

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 Trustees' 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/.

Activity Close Out

In accordance with Section 9.5.1.6 of the TC SOPs, the Implementing Trustee shall provide the LA TIG with a closeout report after all activities and expenditures have been accomplished. The Final Report shall include a description and any documentation of the completed activity, estimated benefits to natural resources, the final funding balances and any transfers described in Section 7 of the TC SOPs, a summary of the results of monitoring, and any recommendations on adaptive management for the activity. Upon request, the Implementing Trustee shall provide the LA TIG with additional information and supporting documents to complete the closeout report.

Literature Cited

Deepwater Horizon (DWH) Natural Resource Damage Assessment (NRDA) Trustees. 2016. Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan (PDARP) and Final Programmatic Environmental Impact Statement (PEIS). Available: http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan.

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Wallace, B. and K. Ritter. 2015. Deepwater Horizon Natural Resource Damage Assessment: Technical Report: Quantifying Potential Exposures of Birds to Deepwater Horizon Oil in Louisiana Coastal Marsh Habitats. Available: https://www.fws.gov/doiddata/dwh-ar-documents/788/DWH-AR0293641.pdf

Appendix A

A	Personnel Salaries and Wages			
	1	Other Professionals		$236,169
	2	Graduate Assistants		$197,670
	3	Contingent Employees/Transients		$76,800
	Subtotal Salaries and Wages			*$510,639*
B	Fringe Benefits			
	Regular Employees			$115,723
	Contingent Employee/Transients			$9,074
	Subtotal Fringe Benefits			*$124,797*
	Total Salaries, Wages and Fringe			**$635,436**
C	Travel			$262,000
D	Supplies			$54,000
E	Professional Services			
	Other Services (Boat and Equipment Rental etc.)			$310,800
F	Tuition Remission			$69,185
G	LDWF Oversight			$110,000
	Total Project Costs			**$1,441,421**