

Guidance for Optimizing Nekton Habitat in Louisiana’s Constructed Marshes MAM Activities Implementation Plan

1. 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 Trustees 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, the following proposed guidance will provide essential data towards the programmatic goals established in the PDARP/PEIS 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 integrated restoration portfolio emphasizes the broad ecosystem benefits that can be realized through coastal habitat restoration in combination with resource-specific restoration in the ecologically interconnected northern Gulf of America ecosystem (DWH Trustees 2016). Most of the planned restoration projects identified in the integrated restoration portfolio (DWH Trustees 2016) are concentrated in coastal Louisiana and in conjunction with the Louisiana Coastal Master Plan (CPRA 2023). The adaptive management activity proposed below allows for the synthesis of data and lessons learned from past marsh creation efforts. This information would then be integrated into a proposed guidance document that would provide recommendations on how marsh creation projects can be optimized for fish and mobile invertebrates (hereafter, “nekton”) production. The guidance document is intended for restoration practitioners who implement marsh creation projects across the various phases of a project (i.e., design, construction, operations and maintenance).

2. Purpose of this document

This MAM Activities Implementation Plan (MAIP) describes the MAM activity, “Guidance for optimizing nekton habitat in Louisiana’s constructed marshes” (hereafter, “Nekton Guidance”) to help achieve the goals of the Wetlands, Coastal, and Nearshore Habitats (WCNH) restoration type in the PDARP/PEIS. This MAM activity is intended to create planning, engineering and design (E&D), operations and maintenance (O&M), and MAM guidance for marsh creation projects that can be used to enhance nekton productivity for WCNH projects in the Louisiana Restoration Area. This document provides information about the activities to be implemented and the data gaps and uncertainties they will

address; describes their applicability to the PDARP/PEIS; describes their consistency with the programmatic alternative selected by the DWH Trustees in the PDARP/PEIS, OPA, and compliance with NEPA.

This MAM activity is consistent with the DWH Final PDARP/PEIS. The Louisiana Trustee Implementation Group (LA TIG) can use this guidance to better meet the WCNH restoration type goals described in the PDARP/PEIS by applying it during E&D and O&M project phases.

3. Monitoring and Adaptive Management: Guidance for optimizing nekton habitat in Louisiana’s constructed marshes

This MAIP describes a MAM Activity that aligns with the LA TIG’s MAM Strategy (DWH LA TIG 2021) by addressing the following Suggested MAM Activity to Address MAM Need:

Fundamental Objective Addressed (from MAM Strategy)

- WCNH #7. Provide benefits to estuarine dependent fish and invertebrates (nekton and benthic) at a variety of life stages through habitat restoration.

Suggested MAM Activity to Address MAM Need (from MAM Strategy)

- “Develop a technical guidance document for restoration project design and monitoring to maximize habitat value for nekton, using data and knowledge at multiple scales, supplementing with additional data samples as needed within target coastal basins and Subject Matter Experts (SME)s as appropriate (relevant data sets may include: hydrologic connectivity, access, inundation, edge:interior ratio, vegetation, interspersions/features).”

Rationale for meeting these needs

- This proposed MAM Activity is intended to implement the one described in the LA TIG MAM Strategy. This effort would not include additional field-based data collection.

3.1. MAM Activity Description

3.1.1. Background

3.1.1.1. History of Constructing Marsh to Benefit Nekton in Louisiana.

Louisiana’s coastal wetlands fuel extraordinary fisheries production, but land loss puts fisheries at risk. The magnitude of this production is reflected in the commercial fisheries statistics, which show Louisiana ranking second in United States for fisheries landings by weight from 2006 to 2015 (Reeves 2018). Many important commercial and recreational fisheries species rely on emergent marsh as a nursery habitat, including red drum, white shrimp, brown shrimp, and blue crab (Baltz et al. 1993; Rozas and Minello 1998). However, coastal wetlands are quickly disappearing in Louisiana from a combination of subsidence, erosion, a lack of sediment input, and sea level rise (CPRA 2023). Chesney et al. (2000) performed an analysis of fisheries independent monitoring data and found that despite a variety of changes to the coastal landscape, including land loss, many fisheries species have been resilient to these changes. At the time, the authors proposed there is a tipping point for land loss in Louisiana, where some erosion increases flooded marsh edge and benefits fisheries species but declines in those species will occur as more areas convert to open water (Figure 1; see also Browder et al. 1989). In the

subsequent 26 years since publication, Louisiana's coast has continued to change in both positive and negative ways. Massive changes since publication include, Hurricane Katrina, Deepwater Horizon and the subsequent emphasis on restoring coastal wetlands in the aftermath of those disasters.

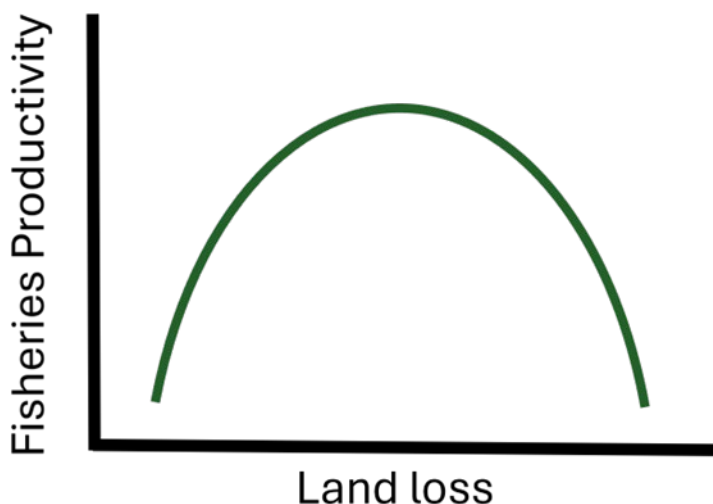


Figure 1: The hypothesized relationship between fisheries productivity and land loss redrawn from Chesney et al. (2000). Initially land loss may benefit fisheries as large expanses of marsh break up, creating more marsh edge. However, as broken marsh converts to open water, fisheries may decline because of habitat loss.

Guided by the Coastal Master Plan, the State of Louisiana and its partners have restored over 55,000 acres of coastal habitats since 2007 (CPRA 2023). While a variety of funding sources have been stitched together to build a portfolio of projects at this magnitude, two of the primary sources of restoration funding have been the Deepwater Horizon NRDA Settlement Funds and the Coastal Wetlands Planning, Protection, and Restoration Act. While both funding streams have components benefiting nekton that depend on coastal wetlands, the PDARP/PEIS makes a clear linkage between WCNH and nekton restoration in section 5.5.2. (DWH NRDA Trustees 2016). Marsh creation does not always initially include features that allow nekton access into marsh interiors. For example, marsh creation often requires the construction of earthen dikes to contain fill material and projects sometimes take much longer than expected to settle into a range where the marsh platform becomes tidally influenced. While the latter is not easily addressed post-construction, the restoration community has incorporated actions to manage containment dikes during and post construction, such as deliberately degrading sections of dikes, to increase the ecological function of marsh.

Marsh creation projects have been designed to mimic what we observe in nature; however, historical data limitations have prevented us from understanding the benefits of design features intended to increase nekton habitat value and how they can be optimized to balance various project objectives. A number of design approaches are utilized to increase constructed marsh nekton habitat value in Louisiana. While it is not a comprehensive list, many of those techniques are on display in the [Large Scale Barataria Marsh Creation – Upper Barataria Component](#) (hereafter, “Upper Barataria”). Upper Barataria is a 1,259-acre marsh creation project constructed with sediment dredged from the Mississippi River. Project features intended to enhance nekton benefits include: containment dike gaps,

areas where fill was unconfined and allowed for gradual marsh edge slopes rather than abrupt edge or cut banks, an interior pond, and constructed tidal creeks (Figure 2). These nekton-friendly features were designed based on expert opinion and decades of experience, as well as the CPRA Marsh Creation Design Guidelines (CPRA 2017). A historical lack of nekton data within marsh creation areas has limited our ability to inform design features and we have largely relied upon expert opinion when designing projects with stated goals of creating nekton habitat. Recent data collection efforts, including the [Monitoring the Effects of Coastal Wetlands Restoration on Fish and Invertebrates MAM Activity](#) (hereafter, “Nekton MAM Activity”) and the Upper Barataria MAM Plan, present us with an opportunity to synthesize expertise and empirical data to help produce Nekton Guidance that will enable us to create higher quality nekton habitat in constructed marsh.

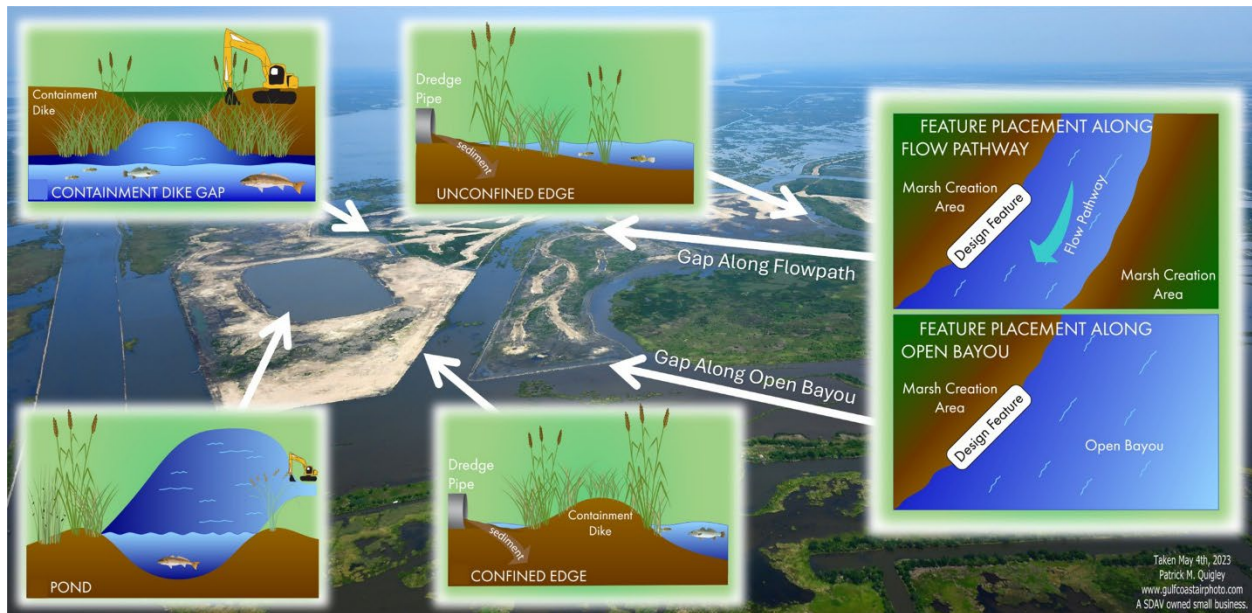


Figure 2: Examples of constructed features that are targeted for fine scale nekton habitat use as a part of the Upper Barataria MAM Plan (Credit: The Water Institute)

This Nekton Guidance MAM activity is timed to synthesize information collected as a part of Deepwater Horizon restoration and MAM efforts and to utilize new information to adaptively manage the LA TIG’s WCNH portfolio and better achieve WCNH restoration goals described in the PDARP/PEIS. 10 years after the DWH NRDA settlement, we have built substantial expertise and knowledge in marsh creation. This project will enable us to characterize, document, and structure this knowledge to ensure it informs restoration planning and design into the future. We will then refine our understanding of marsh creation and address uncertainties using data collected from the Nekton MAM Activity and Upper Barataria MAM Plan. These two projects have conducted fine-scale nekton monitoring of the marsh creation project features described above and are on track to generate over 800 fixed-area nekton samples before we begin the Nekton Guidance analysis. Nekton Guidance will also leverage and, where possible, align with the [Guidance for Coastal Ecosystem Restoration and Monitoring to Create or Improve Bird-Nesting Habitat](#) (hereafter, “Avian Guidance Document”), ensuring we are utilizing common language and approaching shared issues in a consistent manner.

3.1.2. Objectives

The goal of the Nekton Guidance project is to enhance outcomes for the LA TIG’s WCNH restoration in the context of the Goals described in Section 5.5.2 of the PDARP/PEIS (DWH NRDA Trustees, 2016).

Objectives:

1. Develop best practices for designing, building, and managing marsh creation area boundaries/marsh edge by examining different approaches and specifying when, where, how, and to what extent containment should be gapped and/or degraded to optimize nekton access.
2. Identify target water levels over the marsh platform that optimize nekton use of inundated marsh edge and marsh interior while maintaining other project functions
3. Identify when, where, and how to design and build ponds and creeks that facilitate nekton use of the marsh creation area interior
4. Develop best practices for operations and maintenance to adaptively manage and optimize nekton access to constructed features over the project lifespan.

3.1.3. Tasks

This proposed MAIP will complete the work over a three-year period (Table 1). Dates have been generalized, as timelines for finalizing the MAIP and subsequent procurements are uncertain. The three tasks are 1) SME Elicitation; 2) Synthesis of Existing Data; 3) Nekton Guidance Document. This project does not include any field work.

Table 1: Schedule to implement the Nekton Guidance project. Annual quarters, denoted with a “Q,” are on the federal fiscal year calendar, where Quarter 1 starts October 1st.

	Year 1			Year 2				Year 3		
Task	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
1.SME Elicitation										
2. Synthesis										
3. Nekton Guidance document										

3.1.3.1. SME Elicitation and Knowledge Capture (Task 1)

Our current understanding of how coastal Louisiana marshes can be restored to optimize benefits to nekton relies heavily upon the best professional judgment and institutional knowledge of Subject Matter Experts (SMEs). These experts—primarily engineers and project/program managers from state and federal agencies —possess years of experience implementing restoration funded by the LA TIG, CWPPRA, and other programs or activities that include restoration or mitigation components.

Under this task, NOAA will lead a project team to formally engage these SMEs through structured elicitation. The goal is to move beyond anecdotal success and document the specific design approaches currently in use to address objectives 1–4. The team will identify the references, design

manuals, and heuristic tools SMEs utilize to optimize fisheries productivity within marsh creation areas. This expert elicitation will identify gaps in current understanding and/or data availability that limit a more thorough understanding of how to optimize marsh creation for nekton. During expert elicitation, the project team will document terminologies used by resource managers. The Task 1 SME Elicitation Report will include standardized and agreed upon terminology that will be used during the implementation of subsequent tasks. Throughout the lifecycle of the project, this SME team will serve as a continuous advisory body to ensure that subsequent data synthesis and guidance remain implementable and aligned with agency/LA TIG needs.

- Proposed Deliverables: SME Engagement Plan; Annotated bibliography of existing design tools.
- Products: SME Elicitation Report (a formal document detailing existing construction approaches, a prioritized list of knowledge gaps or decision points that require empirical validation, and a list of terminology that will be used in subsequent tasks).

3.1.3.2. Empirical Data Synthesis (Task 2)

To ground the professional judgment captured in Task 1 in foundational science, the project team will conduct a comprehensive meta-analysis and data synthesis. This effort will bridge the gap between intuition and evidence by analyzing data from the Nekton MAM Activity, the Upper Barataria MAM Plan, project monitoring reports, and past published and unpublished studies.

The project team will synthesize these data to determine how marsh creation projects could be optimized to meet objectives 1–4 and address the specific knowledge gaps identified by SMEs. While the primary focus remains on Louisiana’s unique coastal landscape, the synthesis would likely draw on existing studies conducted in similar areas in the northern Gulf of America (e.g., Galveston Bay, TX). This task relies on the aggregation of existing digital and physical records to provide a robust evidentiary basis for the subsequent guidance document.

- Proposed Deliverables: Data Documentation Memo; Preliminary Statistical Findings Presentation.
- Products: Nekton Technical Synthesis Report (A data-driven analysis identifying the specific habitat characteristics; such as availability of marsh edge habitat, edge slope, elevation, and hydrology; that most effectively meet goals 1–4).

3.1.3.3. Development of the Nekton Guidance Document (Task 3)

The final phase of the project involves synthesizing the "best professional judgment" from Task 1 with the "empirical evidence" from Task 2 into a single, cohesive Nekton Guidance Document.

Recognizing that differences may emerge between historical agency approaches and recent data findings, the project team will facilitate a reconciliation process with the Task 1 SMEs. This ensures the final best practices are not only scientifically sound but also practicable within the constraints of state and federal agencies. The resulting document will be authored with the marsh habitat restoration practitioner in mind—providing clear, simple guidance and generalized designs that can be easily

incorporated by SMEs and marsh creation engineers into future project specifications. The nekton guidance document will also include a section that identifies future needs and directions.

- Proposed Deliverables: Draft Guidance Document for SME Review; Final SME Workshop to review the Nekton Guidance Document.
- Products: Nekton Guidance Document (a practitioner-ready guide for designing and constructing marshes to achieve Objectives 1–4). This guidance document will be modeled after the Avian Guidance Document and may live in a web-based platform.

3.1.4. Budget

A budget, including NOAA administrative costs, can be found in Table 2. The total funding for to complete the Nekton Guidance project is \$1,177,555.

Table 2: Total cost to complete the Nekton Guidance project.

Item	Trustee	Cost
Task 1: SME Elicitation and Knowledge Capture	NOAA	\$173,200
Task 2: Empirical Data Synthesis	NOAA	\$346,400
Task 3: Development of the Nekton Guidance Document	NOAA	\$346,400
MAM Activity Management, Oversight, Compliance, and Reporting	NOAA	\$43,300
Task 1	State	\$70,450
Task 2	State	\$81,060
Task 3	State	\$25,815
Contingency (10%)		\$90,930
Grand Total		\$1,177, 555

3.1.5. Timeline

Table 1 (above) describes a task-by-task schedule to implement the effort described in Section 3.1.3. This project would require about 2.5 years to implement the scope of work.

3.1.6. Implementation Roles

NOAA will be the Lead Implementing Trustee and will be responsible for coordinating with the LA TIG, providing overall direction and oversight for the MAM activity, including contract/grant administration, compliance, financial tracking, annual reporting, and approval of deliverables. The State of Louisiana will be a co-Implementing Trustee and will be responsible for participating as SMEs in tasks 1-3 and assisting with the finalization of the Nekton Guidance Document. All LA TIG agencies will have the opportunity to provide technical input into development and review of the deliverables for all tasks.

NOAA as the Lead Implementing Trustee will execute a contract or grant for implementation of the proposed tasks. Contracted efforts will include SME elicitation, data synthesis, and developing the Nekton Guidance Document, as described in Tasks 1-3.

3.1.7. Data management and reporting

Data management by NOAA includes all QA/QC datasets, graphics, and the Nekton Guidance Document. Products will be disseminated to the public through Data Integration, Visualization, Exploration, and Reporting (DIVER) Restoration Portal (Section 10.6.5 of SOP; DWH NRDA Trustees, 2016) and potentially other public web-based platform. All Nekton Guidance products and deliverables will also be provided to the NRDA LA TIG).

The DWH Trustees, as stewards of public resources under OPA, will inform the public on the MAM activity's progress and performance. Therefore, NOAA 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 Trustees, 2016). All products and deliverables compiled as part of this activity will also be stored and made publicly available 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 2024). In the event of a public records request related to data and information that are not already publicly available, the Trustee to whom the request is addressed would provide notice to the other Louisiana TIG members prior to releasing any data that are the subject of the request. Some of the data collected may be protected from public disclosure under federal and state law (e.g., personally identifiable information under the Privacy Act) and therefore would not be publicly distributed.

4. Consistency of MAM Activity with the PDARP/PEIS

This MAIP is consistent with and supports multiple programmatic goals (section 5.3) in the PDARP/PEIS, including a variety of restoration types (section 5.5). This MAM activity supports the programmatic goals of (1) Restore and Conserve Habitat; (2) Replenish and Protect Living Coastal Marine Resources; (3) Provide and Enhance Recreational Opportunities; and (4) Provide for Monitoring and Adaptive Management. Nekton guidance will support a variety of restoration types described in the PDARP/PEIS, mainly Sections 5.5.2, *Wetlands, Coastal, and Nearshore Habitats*; 5.5.6, *Fish and Water Column Invertebrates*; and 5.5.15, *Monitoring and Adaptive Management*. The PDARP/PEIS makes numerous references to using WCNH restoration as a means of helping to restore for injury to FWCI. The FWCI Restoration Type (section 5.5.6.) notes WCNH restoration is a key solution for addressing the injury to FWCI and the injury to FWCI is listed as a key aspect of the injury that informed restoration planning under WCNH (section 5.5.2). Moreover, the three goals of WCNH (section 5.5.2.) directly and indirectly reference restoration of FWCI and their 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 distributions of habitats throughout the Gulf of [America], restore habitats in appropriate combinations for any given geographic area. Consider design

factors such as connectivity, size, distance between projects, to address injuries to the associated living coastal and marine resources and restore the ecological functions provided by those habitats.”

While existing WCNH restoration techniques have made progress towards achieving the goals described for the WCNH and thus also FWCI restoration, a lack of historical data and understanding limits the ability of restoration practitioners to design and manage projects in a way that optimizes nekton habitat. Recent and ongoing data collection efforts funded by the LA TIG (Nekton MAM Activity, Upper Barataria MAM Plan) have now well-positioned the LA TIG to resolve uncertainties and develop Nekton Guidance that better address the WCNH restoration type goals (section 5.5.2). This MAM Activity will create feedback between monitoring and restoration decision-making, including during planning and implementation. Feedback mechanisms are described as core components of the adaptive management framework described in the PDARP/PEIS Approach to Monitoring and Adaptive Management (section 5.5.15).

While not a primary objective, this MAM Activity would also support the goals of 5.5.14, *Provide and Enhance Recreational Opportunities*. Fishermen often target marsh features that yield high nekton productivity, including points, ponds, and tidal creeks. Nekton Guidance is intended to increase constructed marsh features that yield high nekton productivity; thus there will be dual benefits for increasing nekton productivity and fishing opportunities. Nekton Guidance will also improve our ability to create flooded marsh edge and interior marsh areas that increase fish access. These areas are popular for sight fishing as they provide for shallow, flooded areas where fishermen can see through murky waters.

5. NEPA Evaluation

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 Louisiana TIG’s compliance with NEPA, as amended. 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.

5.1. 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 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 Louisiana 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. Compliance with 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 modeling activity. See the table below for the compliance status by statute at the time of this PAIP.

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.

Table 3. Status of federal regulatory compliance reviews and approvals for the proposed Nekton Guidance project.

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	In Progress
Rivers and Harbors Act/Clean Water Act	N/A
National Environmental Policy Act	NEPA review completed in Section 5 of this document.

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/>.

7. 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.

8. Literature Cited

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