

Alabama Trustee Implementation Group

Draft Supplemental Restoration Plan II and  
Environmental Assessment: Marine Mammals



February 2024

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## 1.0 INTRODUCTION / BACKGROUND

### 1.1 Overview

In the *Deepwater Horizon Oil Spill Alabama Trustee Implementation Group Final Restoration Plan II and Environmental Assessment: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; Nutrient Reduction (Nonpoint Source); Sea Turtles; Marine Mammals; Birds; and Oysters* (RP II/EA), the Alabama (AL) Trustee Implementation Group (TIG) selected 20 projects for implementation, allocating funds from several restoration types identified in the Deepwater Horizon (DWH) oil spill consent decree, including the Marine Mammals Restoration type. This *Draft Supplemental Restoration Plan II and Environmental Assessment* (Supplemental RP II/EA) supplements the RP II/EA, evaluating the AL TIG's proposal to use additional funds from the Marine Mammals restoration type to extend the implementation of one or more projects selected in RP II/EA to continue the restoration of Marine Mammals. In this Draft Supplemental RP II/EA, the Alabama TIG proposes using the remaining allocation of marine mammals restoration funds.

Through this document, the AL TIG is supplementing the RP II/EA and providing information about additional proposed marine mammal projects. The AL TIG has determined that using additional funds under the Marine Mammals restoration type requires evaluation under the National Environmental Policy Act (NEPA). Additionally, in this Draft Supplemental RP II/EA, the AL TIG is evaluating alternatives under the Oil Pollution Act (OPA) and its natural resource damage assessment (NRDA) regulations.

### 1.2 Authorities and Regulations

As an oil pollution incident, the DWH oil spill is subject to the provisions of OPA, 33 United States Code (U.S.C.) § 2701 *et seq.* The DWH Trustees are the governmental entities authorized under OPA to act as Trustees on behalf of the public to assess the natural resource injuries resulting from the DWH oil spill and develop and implement restoration plans to compensate for those injuries. Collectively, these Trustees make up the DWH Trustee Council.

As required under OPA, the DWH Trustees conducted an NRDA and prepared the *Final Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement* (Final PDARP/PEIS). NRDA is described under Section 1006 of OPA (33 U.S.C. § 2706) and the OPA NRDA implementing regulations (15 Code of Federal Regulations [C.F.R.] Part 990). The Final PDARP/PEIS sets forth the process for DWH restoration planning to select specific projects for implementation and establishes a distributed governance structure that assigns a TIG for each of eight Restoration Areas. The TIGs include different Trustees depending on the Restoration Area they represent. The AL TIG is composed of the following six DWH Trustees (two state and four federal Trustee agencies):

- Alabama Department of Conservation and Natural Resources (ADCNR)
- Geological Survey of Alabama
- Department of the Interior
- National Oceanic and Atmospheric Administration (NOAA)
- Environmental Protection Agency
- U.S. Department of Agriculture

In accordance with the OPA NRDA regulations (15 C.F.R. 990.53(2)), the AL TIG evaluates a reasonable range of restoration alternatives and identifies its preferred alternative of the Enhancing Capacity for the Alabama Marine Mammal Stranding Network (ALMMSN) Project Extension.

Federal Trustees are also required to comply with NEPA, 42 U.S.C. § 4321 *et seq.*, and the Council on Environmental Quality's (CEQ) NEPA implementing regulations, 40 C.F.R. § 1500 *et seq.*, when planning restoration projects. NEPA requires federal agencies to consider the potential environmental impacts of proposed actions. It provides a mandate and framework for federal agencies to determine if their proposed actions have significant environmental and related social and economic effects. It also mandates that federal agencies consider these effects when choosing between alternative approaches, and that federal agencies inform and involve the public in the environmental analysis and decision-making process. NEPA and its implementing regulations (40 C.F.R. Parts 1500–1508) outline the responsibilities of federal agencies in the NEPA process. In this document, the AL TIG addresses CEQ and NOAA-specific NEPA requirements by supplementing and tiering from environmental analyses conducted in the RP II/EA and the Final PDARP/PEIS; evaluating existing analyses; where applicable, incorporating by reference relevant information and analyses from previous project-specific environmental assessments into this Draft Supplemental RP II/EA; and, as necessary, providing new analyses of the project-specific actions proposed herein.

### **1.2.1 Lead and Cooperating Agencies**

CEQ NEPA implementing regulations require a federal agency to serve as lead agency to supervise the NEPA analysis when more than one federal agency is involved in the same action (40 C.F.R. § 1501.7). NOAA serves as the lead federal agency for NEPA compliance on this Draft Supplemental RP II/EA and has reviewed this document in accordance with the CEQ's NEPA implementing regulations and NEPA implementing procedures (43 C.F.R. Part 46). Each of the other federal and state co-Trustees on the AL TIG is participating as a cooperating agency pursuant to NEPA (40 C.F.R. § 1501.8(a)).

### **1.2.2 Supplemental OPA and NEPA Analysis**

This Draft Supplemental RP II/EA provides OPA and NEPA analyses for the reasonable range of alternatives by supplementing the analyses from RP II/EA. The supplemental analyses provided in this Draft Supplemental RP II/EA augment and incorporate by reference the applicable sections of the RP II/EA, including Chapter 11 (NEPA Analysis – Marine Mammals) and Chapter 3 (OPA, Section 3.5.2). This Draft Supplemental RP II/EA also considers any additional environmental impacts that would result from implementation of the alternatives presented herein, focusing on those impacts that would fall outside the scope of those described and analyzed in the RP II/EA.

### **1.2.3 Intent to Adopt the Supplemental Restoration Plan II and Environmental Assessment: Marine Mammals by Federal Agency Members of the AL TIG**

Each federal cooperating agency on the AL TIG intends to adopt, if appropriate, the NEPA analysis in this Draft Supplemental RP II/EA. In accordance with 40 C.F.R. § 1506.3(a), each of the three federal cooperating agencies participating on the AL TIG will review the Final Supplemental RP II/EA for adequacy in meeting the standards set forth in its own NEPA implementing procedures. Each agency will then decide whether to adopt the analysis contained herein to inform its own federal decision-making and fulfill its responsibilities under NEPA. More information about OPA and NEPA, as well as their application to DWH oil spill restoration planning, can be found in Chapters 5 and 6 of the Final PDARP/PEIS and Section 1.3 of the RP II/EA.

## **1.3 Purpose and Need**

The purpose of the potential restoration actions evaluated in this Supplemental RP II/EA is to provide for additional restoration benefits for marine mammals in the Alabama Restoration Area. Additional marine mammal restoration is needed to provide for continued compensation for and restoration of natural resources and resource services injured in the Alabama Restoration Area as a result of the DWH oil spill.

This purpose and need falls within the general scope of the purpose and need identified in the RP II/EA and is consistent with the Final PDARP/PEIS, as it focuses on the restoration of injuries to Alabama’s natural resources and services arising from the DWH oil spill—specifically, the restoration of “Marine Mammals,” using funds made available through the DWH consent decree (see Final PDARP/PEIS [DWH Trustees 2016: Chapter 10]).

#### **1.4 Public Involvement**

Following public notice, this Draft Supplemental RP II/EA will be available to the public for a comment period of no less than 30 days. An electronic copy of this Draft Supplemental RP II/EA is available at <http://www.gulfspillrestoration.noaa.gov/restoration-areas/alabama>. Comments on the Draft Supplemental RP II/EA must be submitted during the comment period by one of the following methods:

**PEPC:** <https://parkplanning.nps.gov/ALTIGMM>

**Email:** [ALTIG@dcnr.alabama.gov](mailto:ALTIG@dcnr.alabama.gov)

**Via U.S. Mail:** 31115 Five Rivers Boulevard  
Spanish Fort, Alabama, 36527  
ATTN: Jaime Miller

Please note that mailed comments must be postmarked on or before the comment deadline of 30 days following publication of this notice on the DWH Trustee website to be considered. After the close of the public comment period, the AL TIG will consider all comments received and revise the Draft Supplemental RP II/EA, as needed. A summary of comments received and the AL TIG’s responses will be included in the Final Supplemental RP II/EA.

#### **1.5 Summary of Current Marine Mammals Restoration Type Funds Allocations**

Table 1 below provides a summary of the Marine Mammals Restoration Type funds allocated by the AL TIG to date.

**Table 1: Summary of Allocated Marine Mammals Restoration Type Funds to Date**

Project	Restoration Plan	Amount
Enhancing Capacity for the Alabama Marine Mammal Stranding Network	AL TIG Final Restoration Plan II and Environmental Assessment: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; Nutrient Reduction (Nonpoint Source); Sea Turtles; Marine Mammals; Birds; and Oysters	\$2,432,389
Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education	AL TIG Final Restoration Plan II and Environmental Assessment: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; Nutrient Reduction (Nonpoint Source); Sea Turtles; Marine Mammals; Birds; and Oysters	\$686,374
<b>TOTAL FUNDS ALLOCATED:</b>		<b>\$3,118,763</b>
<b>TOTAL FUNDS REMAINING:</b>		<b>\$1,881,237</b>

**1.6 Proposed Action: Implement Preferred Alternative 1: Enhancing Capacity for the Marine Mammal Stranding Network Project Extension**

To meet the Purpose and Need identified in Section 1.3, the AL TIG proposes to fund the preferred alternative, the ALMMSN Project Extension with a total budget of \$1,881,237. Implementing this project extension would commit the remaining Marine Mammals Restoration Type funding allocated to the Alabama Restoration Area through the DWH consent decree.

**1.7 Coordination with Other Gulf Restoration Programs**

As discussed in Section 1.5.6 of the Final PDARP/PEIS, the DWH Trustees are committed to coordinating with other Gulf of Mexico restoration programs to maximize the overall ecosystem impact of DWH NRDA restoration efforts. During the course of its restoration planning process, the AL TIG has coordinated and will continue to coordinate with other DWH oil spill and Gulf of Mexico restoration programs, including restoration programs under the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act, as implemented by the Gulf Coast Ecosystem Restoration Council; the Gulf Environmental Benefit Fund managed by the National Fish and Wildlife Foundation; and other state and federal funding sources. These other restoration efforts are considered in the analysis of cumulative impacts in this Draft Supplemental RP II/EA (Chapter 4.5).

As part of its coordination efforts, the AL TIG has been reviewing the implementation of marine mammal projects in other coastal restoration programs and is working to create synergies with those programs to ensure the most effective use of available funds for the maximum cost benefit. This coordination will ensure that funds are allocated for critical restoration projects across the affected regions of the Gulf of Mexico and within appropriate coastal Alabama areas. The AL TIG will continue to collaborate with other restoration programs to maximize cost savings and restoration benefits to the resources in coastal Alabama that were injured by the DWH oil spill.

### **1.8 Administrative record**

Pursuant to 15 C.F.R. § 990.45, the Trustees opened a publicly available Administrative Record for the DWH oil spill NRDA, including restoration planning activities, concurrently with the publication of the 2010 Notice of Intent to Conduct Restoration Planning (75 Federal Register 60800). DOI is the lead federal Trustee for maintaining the Administrative Record, which can be found at <https://www.doi.gov/deepwaterhorizon/adminrecord>. Information about AL TIG restoration project implementation is being provided to the public through the Administrative Record, the Gulf Spill Restoration website, NOAA's Data Integration Visualization and Exploration data warehouse, and other outreach efforts.

## **2.0 RESTORATION ALTERNATIVES**

### **2.1 Summary of Restoration Goals and Approaches**

The Final PDARP/PEIS (Section 5.5.11) established Gulf-wide goals for marine mammal restoration, which the AL TIG refined to a set of three specific goals for marine mammals in coastal Alabama waters in the RP II/EA.

Projects should:

1. Make direct contributions to reducing mortality or morbidity of Alabama marine mammal populations caused by direct anthropogenic stressors or threats; or
2. Reduce natural stressors or take other actions that support the ecological needs of marine mammals resulting in increased resilience of Alabama populations; or
3. Play a significant role in the collection and/or analysis of data that improves the ability of the AL TIG to restore marine mammal populations in Alabama.

The projects evaluated as part of this Supplemental RP II/EA employ the following restoration approaches identified in the Final PDARP/PEIS:

1. Increase marine mammal survival through better understanding of the causes of illness and death, as well as early detection and intervention for anthropogenic and natural threats; and
2. Reduce injury, harm, and mortality to bottlenose dolphins by reducing illegal feeding and harassment activities.

### **2.2 Summary of Marine Mammal Project Screening Process**

To identify a reasonable range of restoration alternatives for this Supplemental RP II/EA, the AL TIG looked first to the screening conducted as part of RP II/EA. In the RP II/EA, the Trustees identified 18 potential marine mammals restoration projects in the master project database. After evaluating these projects against the TIG's Marine Mammals restoration goals and considering whether the projects may be more appropriate for implementation by the Regionwide or Open Ocean TIGs, which address a larger geographic scope, the AL TIG determined that 9 of the 18 projects were appropriate for further

evaluation for implementation within the Alabama Restoration Area. The AL TIG investigated the nine remaining projects and reconfigured and refined them into the three marine mammals projects analyzed in the RP II/EA. The marine mammals projects funded as part of RP II/EA included the ALMMSN Project and the Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education (Dolphin Education) Project. The non-preferred marine mammals alternative from the RP II/EA—the Assessment of Alabama Estuarine Bottlenose Dolphin Populations and Health restoration project—was then selected by the AL TIG for implementation in the RP II/EA, using Monitoring and Adaptive Management (MAM) funds.

The AL TIG is considering the two projects selected for implementation using marine mammals funds in the RP II/EA as potential restoration alternatives in this Supplemental RP II/EA; specifically, the AL TIG is evaluating a continuation of each project as the restoration choices. For the ALMMSN Project, the TIG is evaluating adding more money to, and extending the time frame for, the already funded project. For the Dolphin Education Project, the TIG is evaluating a follow-on project that would continue the component of the Dolphin Education Project that focuses on the prevention of illegal feeding.

In developing goals and objectives for this Supplemental RP II/EA, the AL TIG considered the goals and objectives for the Marine Mammals Restoration Type projects established during the RP II/EA process, those marine mammals projects already funded using AL TIG and other TIG funds, the amount of Marine Mammals Restoration Type funds available, and other factors, such as cetacean strandings over the last several years. Accordingly, the AL TIG determined that the goals and objectives for this Supplemental RP II/EA were to maximize the remaining funds available for the Marine Mammals Restoration Type in the Alabama Restoration Area by implementing projects with proven records of providing restoration benefits. An extension of the Enhancing Capacity for the Alabama Marine Mammal Stranding Network Project (Alternative 1) and a partial extension of the Alabama Estuarine Bottlenose Dolphin Protection: Enhancement and Education Project (Alternative 2) are therefore fully evaluated in this Supplemental RP II/EA.

### **2.3 Project Descriptions**

#### **Alternative 1: Enhancing Capacity for the Alabama Marine Mammal Stranding Network Project Extension**

**Project Summary/Background.** The ALMMSN Project Extension would continue the restoration activities of the ALMMSN Project, which was originally approved in the RP II/EA. The AL TIG approved a no-cost extension for the ALMMSN Project in early 2023, allowing it to operate through the end of 2024. The ALMMSN Project Extension evaluated in this Draft Supplemental RP II/EA would allow work under the original project to continue through at least 2027.

An extension of the ALMMSN Project would continue to enhance the capacity of the ALMMSN by providing funding for staff time, equipment and supplies, and sample analyses. The ALMMSN is operated out of the Dauphin Island Sea Lab (DISL) on Dauphin Island, Alabama. This Project Extension would allow ALMMSN to continue to use and expand on its existing infrastructure for cetacean stranding response and communications and data management to enhance the ALMMSN's operations. Information on dead or stranded cetaceans is usually obtained by collecting basic stranding data (Level A) and performing necropsies; however, without the enhanced financial assistance that comes from the ALMMSN Project, the ALMMSN has limited capacity for live cetacean stranding response. In addition, ALMMSN's resources to conduct in-depth analysis of causes of illness and mortality in stranded cetaceans have been limited. The ALMMSN Project Extension would allow ALMMSN to continue to better respond to live or dead stranded cetaceans, to necropsy animals, and to analyze samples collected from cetaceans stranded in Alabama waters to better understand the causes of marine

mammal illness and death. It would also continue to support increased data consistency for information collected from stranded marine mammals by supporting ALMMSN to enter its data into regional or national marine mammal databases (e.g., GulfMAP or its online successor, supported by NOAA, or the National Stranding database). The information collected by ALMMSN from stranded cetaceans should enable managers to better mitigate impacts on marine mammals from natural and anthropogenic threats and to monitor population recovery post-DWH oil spill. Accordingly, the ALMMSN Project Extension is expected to support continued work toward a better understanding of the causes of illness/mortality in dolphins and the early detection and intervention of anthropogenic and natural threats. The ALMMSN Project Extension is also expected to contribute to the increased survival of rescued animals by continuing to improve marine mammal stranding response, data collection, data analyses, and reporting for Alabama waters. ADCNR would be the Implementing Trustee for this project.

**Construction Methodology (or Implementation Methodology) and Timing.** The ALMMSN Project Extension would provide funds to continue to support ALMMSN's current data collection efforts, including the more in-depth data analysis provided by the ALMMSN staff in collaboration with the National Marine Fisheries Service Southeast Regional Office and Southeast Fisheries Science Center. Funds to support this increased collaboration would assist the ALMMSN in continuing to build capacity within the region, with the goal of improving live stranding responses in the future. The ALMMSN Project Extension would also provide funds to allow the ALMMSN to maintain its current reporting, databases, publications, necropsy reports, number of metadata records relative to cetaceans responded to, necropsies conducted, and samples processed for several years. Specifically, the proposed timing of the Project Extension is January 1, 2025, to at least December 31, 2027, which includes all activities under this program.

**Maintenance Requirements.** There would be no operation and maintenance requirements associated with the ALMMSN Project Extension because it would not include new infrastructure, maintenance of existing infrastructure, including vehicles and/or boats, or other elements requiring maintenance.

**Project Monitoring Summary.** A MAM plan was developed for the original ALMMSN Project as part of RP II/EA and would be extended as part of the ALMMSN Project Extension; the updated MAM plan is included in Appendix A.

**Costs.** The cost estimate for the ALMMSN Project Extension is \$1,881,237, with implementation activities accounting for \$1,713,859, oversight totaling \$20,000 and contingency funds of \$147,378.

## **Alternative 2: Reducing Illegal Feeding of Bottlenose Dolphins**

**Project Summary/Background.** The Reducing Illegal Feeding of Bottlenose Dolphins Project (Reducing Illegal Feeding Project) would build upon the work conducted in the RP II/EA under the Dolphin Education Project. The overall goal of the Reducing Illegal Feeding Project would be to provide restoration benefits to Gulf bottlenose dolphins by supporting on-going work to reduce the number of dolphin injuries and mortalities due to illegal feeding. This Project would aim to reduce lethal impacts to dolphins from illegal feeding activities by changing human behaviors through a targeted outreach and education strategy. Specifically, the Reducing Illegal Feeding Project would:

- Review and build on outcomes from social science studies previously conducted for dolphin-human interactions and evaluate additional needs;
- Conduct additional social science studies (e.g., focus groups, interviews) in a portion of user groups (e.g., ecotour businesses, residents, tourists);
- Build on the comprehensive, targeted outreach strategy and study results developed in the RP II/EA Dolphin Education Project and implement the resulting recommendations;

- Design and produce outreach materials based on the outreach strategy and results;
- Distribute and communicate education tools and messages, through partnerships with ADCNR and other stakeholders to reach targeted user groups; and
- Repeat social science studies to evaluate the use of informed and targeted outreach to effectively change human behaviors.

The goal of the Reducing Illegal Feeding Project would be to reduce the occurrence of people illegally feeding dolphins, and thus prevent associated injury and mortality of dolphins in Alabama state waters. Illegal feeding of wild dolphins has been documented extensively along the Gulf Coast by various water users (e.g., tourism vessels, commercial fisheries, and recreational anglers). Fed dolphins approach boats more readily looking for handouts, which increases the animals' risk for boat strike or gear entanglement. Fed dolphins can also become targets for human acts of retaliation, including anglers frustrated by dolphins begging, removing bait or catch from their lines, or scavenging on undersized throwbacks. Begging behaviors can be taught to other dolphins via social learning, thus perpetuating and increasing the prevalence of the problem over time. By working to decrease the frequency of these illegal feeding events, the Reducing Illegal Feeding Project would aim to reduce the likelihood of these dangerous interactions. The goal of the Reducing Illegal Feeding Project would be to benefit bottlenose dolphins in all areas of Alabama where illegal feeding activities could occur.

The Reducing Illegal Feeding Project would be implemented by NOAA in coordination with ADCNR.

**Construction Methodology (or Implementation Methodology) and Timing.** The human-dimension social science studies component of this restoration alternative would be conducted in several Alabama Gulf Coast locations, as determined by the Implementing Trustees in coordination with the professional contractor conducting the studies. The following information would be used to determine locations for conducting social science studies: (1) known hotspot locations for illegal feeding activities, and (2) outcomes of previously conducted social science studies. Studies would be anticipated to occur at select locations in Alabama and include a portion of representative user groups (e.g., commercial tour operators, residents, tourists). Distribution and communication of the outreach strategies could be conducted throughout Alabama, as determined by the comprehensive outreach strategy developed and implemented in the RP II/EA Dolphin Education Project.

**Maintenance Requirements.** There would be no operation and maintenance requirements for the Reducing Illegal Feeding Project because this project would not include new infrastructure, maintenance of existing infrastructure, including vehicles and/or boats, or other elements requiring maintenance.

**Project Monitoring Summary.** Because the Reducing Illegal Feeding Project has not been identified as a preferred alternative by the AL TIG, an updated MAM plan has not been developed for this potential project.

**Costs.** The cost estimate for the Reducing Illegal Feeding Project is \$2,400,000, with implementation activities accounting for \$2,013,700, oversight totaling \$100,000, and contingency funds of \$286,300.

## **2.4 Natural Recovery/No Action**

As provided by the OPA NRDA regulations, the Final PDARP/PEIS considered a "natural recovery alternative in which no human intervention would be taken to directly restore injured natural resources and services to baseline" (15 C.F.R. 990.53(b)(2)) following the DWH oil spill. Under a natural recovery alternative, no additional restoration would be done by the DWH Trustees or the AL TIG to accelerate the recovery of injured natural resources or to compensate for lost services. Instead, the AL TIG would allow natural recovery processes to occur, which could result in one of four outcomes for injured resources: (1) gradual recovery, (2) partial recovery, (3) no recovery, or (4) further deterioration.

Although injured resources could presumably recover to at or near baseline conditions under this scenario, recovery would take much longer compared to a scenario in which restoration actions were undertaken. Given that technically feasible restoration approaches are available to compensate for interim natural resource and service losses, the DWH Trustees (including those on the AL TIG) rejected this alternative from further OPA evaluation within the Final PDARP/PEIS. Based on this determination, and tiering this Supplemental RP II/EA from the Final PDARP/PEIS and the RP II/EA, and incorporating that analysis by reference, the AL TIG is not further evaluating natural recovery for the Marine Mammals Restoration Type as a viable alternative under OPA in this Supplemental RP II/EA.

Under NEPA, consideration of a no action alternative may be used as a basis to compare the potential environmental consequences of the action alternatives(s). A no action alternative is evaluated in that sense within this Supplemental RP II/EA. This analysis presents the conditions that would result if the AL TIG selected not to undertake any additional marine mammals restoration to compensate for the injuries to marine mammals resulting from the DWH oil spill at this time. The environmental consequences of a no action alternative are evaluated in Chapter 7 of the RP II/EA for comparison with the proposed action alternative and that analysis is incorporated here.

### 3.0 OPA EVALUATION

Under the NRDA regulations, Trustees are responsible for identifying a reasonable range of restoration alternatives (15 C.F.R. 990.53(a)(2)) to be evaluated according to the OPA standards (15 C.F.R. 990.54). The criteria and process for the OPA evaluation are detailed in the RP II/EA in Section 3.0, including the Restoration Goals and Approaches for marine mammals restoration projects that are provided in Section 3.5.1 (and summarized in Section 2.1 of this Supplemental RP II/EA).

This section provides the OPA evaluation for the ALMMSN Project Extension and the Reducing Illegal Feeding Project alternatives.

#### Alternative 1: Enhancing Capacity for the Marine Mammal Stranding Network Project Extension

The OPA evaluation for the Enhancing Capacity for the Marine Mammal Stranding Network Project Extension is provided in Table 2.

**Table 2: Enhancing Capacity for the Marine Mammal Stranding Network Project Extension OPA Analysis**

Resource Area	OPA Analysis for the Enhancing Capacity for the Marine Mammal Stranding Network Project Extension
Trustee Goals and Objectives	This project meets the TIG’s Marine Mammal restoration goals by working to increase marine mammal survival through a better understanding of the causes of illness and death, as well as the facilitation of the early detection of and potential intervention for anthropogenic and natural threats. Consistent with both the Final PDARP/PEIS and the <i>Strategic Framework for Marine Mammal Restoration Activities</i> (Module 4, section 2.4, page 11), the ALMMSN Project Extension would aim to do this by reducing stranding response time; improving the quantity, quality, and consistency of reporting data for marine mammals; increasing the number of personnel trained for stranding response in the region; increasing the number of biological samples analyzed to determine causes of death and population status; expanding community awareness; and providing long-term data sharing, storage, and retrieval capacity.

Resource Area	OPA Analysis for the Enhancing Capacity for the Marine Mammal Stranding Network Project Extension
	<p>Project efforts would directly enhance the number of reports and quality of information available to dolphin management authorities. Relationships among regional network responders would also be expected to be strengthened by the increased capacity for trained response, and increased veterinarian participation could ease workloads. These combined efforts would aim to reduce marine mammal mortality in Alabama waters, to better define the specific causes of serious injury and death among stranded marine mammals, and to establish baseline conditions or shifts from previous conditions for comparison to immediate and longer-term threats to marine mammals. In the long term, the project efforts would be intended to increase the abundance and stability of marine mammal populations in the region, identify larger patterns in stranding data that would allow managers and policy makers to define and focus management and conservation efforts, improve knowledge of and response to future environmental emergencies like the DWH oil spill or longer term effects such as climate change and habitat loss, and potentially reduce the likelihood of future unusual or mass mortality events.</p>
<p>Cost to Carry Out the Alternative</p>	<p>The proposed cost of this restoration alternative is \$1,881,237. These costs are based on actual operation of the existing ALMMSN program, and the implementation of the original ALMMSN Project from RP II/EA. The AL TIG reviewed the costs to carry out this alternative and found them to be reasonable estimates of the levels of effort required for the proposed activities. The program costs are representative of direct and indirect costs incurred by other similar stranding networks in the Gulf of Mexico. The AL TIG also reviewed the estimated project oversight, supervision, and contingency costs. Based on similar past projects, the AL TIG found these costs to be reasonable. In summary, based on this review, the AL TIG finds the total estimate of the proposed costs for this project reasonable and appropriate.</p>
<p>Likelihood of Success</p>	<p>This alternative has a high likelihood of success, including the potential to strengthen the ALMMSN program and contribute to the knowledge and conservation management of Alabama’s marine mammal populations. The ALMMSN program and the TIG’s previous enhancement and expansion of the program with the original ALMMSN Project is already operating successfully. Funding of this extension effort would ensure its continued operation at current levels. The current program under its existing manager, DISL, is a success because DISL staff have the expertise and experience to implement the activities proposed under the program—including sample collection, necropsies, sample analysis, and data management. This success is expected to continue with the proposed project extension.</p>

Resource Area	OPA Analysis for the Enhancing Capacity for the Marine Mammal Stranding Network Project Extension
Avoids Collateral Injury	The proposed project extension is not expected to cause any collateral damage to other natural resources because it would primarily be a data collection and analysis initiative. Any interactions with marine mammals (e.g., bottlenose dolphins injured through human interactions) would be governed by the existing agreement for the stranding program between DSL and NOAA’s Southeast Region (valid through 9/30/25) or by a renewal of the agreement after expiration of the current one. The reasons why this project avoids collateral injury are discussed more fully in Chapter 11 of the RP II/EA.
Benefits More Than One Natural Resource or Service	This alternative is only expected to benefit marine mammals.
Effects on Public Health and Safety	The proposed project extension is not expected to affect public health and safety. The restoration effort would primarily involve data collection and management by ALMMSN staff. These activities are not expected to result in any health or safety issues for the public, who would not be involved in the project.
Summary OPA Evaluation: Enhancing Capacity for the Marine Mammal Stranding Network Project Extension	The OPA evaluation indicates that implementation of this alternative addresses the TIG’s Marine Mammals restoration goals by continuing efforts to strengthen and grow the understanding of threats to marine mammal populations in Alabama waters and to contribute towards the development of infrastructure to address those threats. The proposed approach has already been successfully implemented as the original ALMMSN Project, and the proposal to provide for continued operation of these efforts is well documented. The costs are based on historical experience and are well documented and reasonable. The project only benefits marine mammals. It is not expected to cause any collateral damage to natural resources. Public health and safety issues are not expected to be a concern. Thus, this project extension is a high priority for implementation.

**Alternative 2: Reducing Illegal Feeding of Bottlenose Dolphins**

An analysis of the OPA evaluation for the Reducing Illegal Feeding Project is provided in Table 3.

**Table 3: Reducing Illegal Feeding of Bottlenose Dolphins Project OPA Analysis**

Resource Area	OPA Analysis for the Reducing Illegal Feeding of Bottlenose Dolphins Project
Trustee Goals and Objectives	This project would meet the TIG’s Marine Mammals restoration goals because it is intended to reduce lethal and harmful impacts on dolphins from illegal feeding activities by working to change human behavior. Consistent with both the Final PDARP/PEIS and the <i>Strategic Framework for Marine Mammal Restoration Activities</i>

Resource Area	OPA Analysis for the Reducing Illegal Feeding of Bottlenose Dolphins Project
	(Module 4, section 2.4, page 11), the project aims to do this by reducing the occurrence of people illegally feeding dolphins, thus preventing associated injury and mortality of dolphins.
Cost to Carry Out the Alternative	The proposed cost of the project is \$2,400,000. These costs are based on the costs of conducting similar social science studies and outreach efforts. The AL TIG reviewed these costs and found them to be reasonable estimates of the levels of effort required for the proposed activities. The AL TIG also reviewed the estimated project oversight, supervision, and contingency costs. Based on similar past projects, the AL TIG found these costs to be reasonable. In summary, based on this review, the AL TIG finds the total estimate of the proposed costs for this project reasonable and appropriate. There are not enough funds remaining in the marine mammal allocation to fund this entire project; however, this project is scalable.
Likelihood of Success	This alternative has a high likelihood of success, as similar education and outreach programs have been successfully implemented. Additionally, similar education and outreach programs have demonstrated the ability to change human behaviors towards particular species.
Avoids Collateral Injury	The proposed project is not expected to cause any collateral damage to other natural resources because it would primarily be a data collection and education initiative.
Benefits More Than One Natural Resource or Service	This alternative is only expected to benefit marine mammals.
Effects on Public Health and Safety	The proposed project is not expected to affect public health and safety. The project would primarily involve data collection and outreach activities. These activities are not expected to result in any health or safety issues for the public.
Summary OPA Evaluation: Reducing Illegal Feeding of Bottlenose Dolphins Project	The OPA evaluation indicates that implementation of this alternative is intended to address one of the TIG’s Marine Mammals restoration goals by developing information and outreach aimed at reducing illegal dolphin feedings. The proposed project activities are likely to succeed based on past, similar projects. The costs are based on historical experience and are well documented and reasonable; and the project is scalable. The project only benefits marine mammals. It is not expected to cause any collateral damage to natural resources. Public health and safety issues are not expected to be a concern.

**Summary of OPA Analysis**

The evaluations for both the ALMMSN Project Extension and Reducing Illegal Feeding Project are similar under all OPA categories. However, while the “Cost to Carry Out the Alternative” is scalable for the

Reducing Illegal Feeding Project, full restoration benefits for that project would be accomplished using the stated project budget, which is more than the funds remaining allocated for the Marine Mammals Restoration Type in the Alabama Restoration Area. In addition, while both projects have a high likelihood of success, the ALMMSN Project is already in progress, demonstrating successful implementation. Moreover, without funding for the extension, the ALMMSN would be underfunded and not able to continue to maintain the level of restoration benefits it currently provides.

#### 4.0 NEPA ANALYSIS

This chapter incorporates by reference and summarizes all relevant NEPA analysis of the RP II/EA. This chapter describes the affected environment and environmental impacts of both action alternatives. Pursuant to NEPA, a no action alternative was considered as “a benchmark, enabling decision-makers to compare the magnitude of environmental effects of the action alternatives (40 C.F.R. § 1502.14(d)).” This analysis is incorporated by reference from the RP II/EA.

The NEPA analysis below tiers from the PDARP/PEIS. Impact definitions (minor, moderate, major) are consistent with those used in the RP II/EA and PDARP/PEIS.

To determine whether an action has the potential to result in significant impacts, the context and intensity of the proposed action must be considered. Context refers to area of impacts (local, state-wide, etc.) and duration (i.e., whether they are short term or long term). Intensity refers to the severity of impact and could include the timing of the action (e.g., more intense impacts would occur during critical periods like high visitation or wildlife breeding/rearing). Intensity is also described in terms of whether the impact would be beneficial or adverse. The analysis of beneficial impacts focuses on the duration (short term or long term) and does not attempt to specify the intensity of the benefit.

“Adverse” is used in this document only to describe the Trustees’ evaluation under NEPA. That term is defined and applied differently in consultations conducted pursuant to the Endangered Species Act (ESA) and other protected resource statutes. Accordingly, there may be adverse impacts identified under NEPA; however, this does not necessarily mean that an action would be likely to “adversely affect” the same species because that term is defined and applied under protected resources statutes. The results of any completed protected resource consultations are included in the DWH AR.

This chapter addresses direct, indirect, and cumulative impacts of the proposed alternatives. Section 6.6 and Appendix 6.B of the PDARP/PEIS (Cumulative Impacts) are incorporated by reference into the cumulative impacts analysis, including the methodologies for assessing cumulative impacts, identification of affected resources, and the cumulative impacts scenario.

As evaluated in the RP II/EA, where the original ALMMSN Project and Dolphin Education Project were analyzed, many resources areas have been determined to be either unaffected or minimally affected by the action alternatives. Accordingly, a summary of those resources is incorporated by reference from Chapter 11.0 of the RP II/EA (i.e., Geology and Substrates; Hydrology and Water Quality; Noise; Federally Managed Fisheries; Socioeconomics and Environmental Justice; Infrastructure and Transportation; Land and Marine Management; Aesthetics and Visual Resources; Public Health and Safety; Fisheries and Aquaculture; and Marine Transportation). In addition, both Alternatives 1 and 2 would not result in noticeable emissions that would result in minor or greater adverse impacts. Alternative 1 would have minimal vehicle use, but this use would result in negligible emissions in the region. Alternative 2 would utilize funding primarily for research, education, and outreach. Because there would be negligible or less impacts to air quality, air emissions, Air Resources are not carried forward for detailed analysis in this Supplemental RP II/EA. Further, environmental justice was also considered, but there is no potential for adverse environmental, economic, social, or health impacts to communities and groups that meet

environmental justice criteria under Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority and Low-Income Populations” (1994). Therefore, environmental justice was not carried forward for detailed analysis. Only those resources with potential for at least minor impacts have been carried forward for detailed analysis below (e.g., biological resources).

#### **4.1 Affected Environment**

##### **4.1.1 Marine and Estuarine Resources**

###### *Habitat*

The primary affected environment related to the restoration activities that would occur under either project includes tidal, coastal, and nearshore waters of the state of Alabama, largely within the Mobile Bay and Perdido watersheds. Additional information on coastal and nearshore habitats where restoration activities would typically occur is listed below.

Intertidal Marshes and Flats. Intertidal marshes and flats occur in shallow depositional areas of estuaries. They are generally shallow water areas that support a great diversity of fishes and other aquatic and terrestrial wildlife. These habitats are most commonly associated with mud-bottomed bays behind barrier bottoms (ADCNR 2015). Fresh and saltwater marshes provide valuable ecosystem services, including filtration of nutrients and pollutants, shoreline and sediment stabilization, and flood protection. Marshes include plants whose root systems are suited to withstand more frequent and longer durations of inundation than plants in low wetlands. Salt marshes in Alabama are primarily dominated by black needlerush (*Juncus roemerianus*) and saltmeadow cordgrass (*Spartina patens*). Common freshwater marsh plants include common reed (*Phragmites australis*), cattail (*Typha sp.*), bulrushes (*Scirpus sp.*), sawgrass (*Cladium jamaicense*) and water lily (*Nymphaea odorata*) (Alabama State Parks 2013).

Beaches and Dunes. Beaches are landforms that consist of coastal accumulations of sandy sediment deposits that are shaped by wave and tidal activity. Because of the constant wave action, vegetation is typically restricted to above the high-tide elevation where dunes are formed. Beaches provide habitat for a number of species, including nesting female sea turtles, beach mice, birds, and shellfish. Dunes are hills of sand formed by wind or the flow of water. Dunes require a healthy plant community to hold substrate in place. The plant root structure prevents shifting of the sand from wind or water erosion, causing dune decay. Dune habitats are separated into four different sections: primary dunes that reside closest to the water, secondary dunes, tertiary dunes, and scrubland. Common dune vegetation in coastal Alabama includes sea oats (*Uniola paniculata*), panic grasses (*Panicum spp.*), coastal bluestem (*Schizachyrium maritimum*), and beach sunflower (*Helianthus debilis*). Many shorebirds and waterbirds use these areas for resting and feeding.

Submerged Aquatic Vegetation (SAV). SAV includes seagrass beds, which are extremely productive habitats within the marine and estuarine waters of coastal Alabama. SAV consists of rooted vascular plants that grow in fresh, brackish, and salt water. SAV beds provide important foraging grounds and nursery habitat for many marine and estuarine species in the Gulf of Mexico, including nearly all managed fisheries. Seagrass communities also support many threatened and endangered species, including sea turtles and manatees. These submerged habitats have a patchy distribution behind protective barrier islands and other nearshore areas where sediment accumulates, with extensive occurrences in Perdido Bay, Wolf Bay, and Mississippi Sound, and the Mobile-Tensaw Delta. Common SAV species that occur within Baldwin and Mobile Counties include widgeon grass (*Ruppia maritima*), American wild celery (*Vallisneria americana*), shoal grass (*Halodule wrightii*), southern naiad (*Najas guadalupensis*), and slender pondweed (*Potamogeton pusillus*) (ADCNR 2015).

Oyster Reefs. Oysters are important as both organisms and habitat with an integral role in the functioning of the ecosystem. The aggregations of oysters that comprise an oyster reef result in a complex and hard substrate that provides habitat for multiple benthic organisms and fish, increasing biodiversity in estuaries. Within an oyster reef community, oysters (*Crassostrea virginica*) are the dominant species, although more than 300 other macrofauna species may be living on an oyster reef. Oysters are an ecological keystone species in most estuaries along the Atlantic and Gulf Coasts, and oyster populations contribute to the integrity and functionality of estuarine ecosystems. Oyster reefs also provide a number of ecosystem services, including improved water clarity, sediment stabilization, and nutrient sequestration. Oyster reefs along the Gulf Coast also provide nursery and foraging habitat for other economically and ecologically important species, including blue crab (*Callinectes sapidus*), shrimp, and various fish species. Currently, threats to oyster populations include loss of hard bottom habitat, degradation of water quality, predation (primarily by the Atlantic oyster drill [*Urosalpinx cinerea*]), and disease (primarily dermo). The total area of public reefs in Alabama, including historically harvested reef footprints, cover approximately 5,300 acres, which includes reefs in Mississippi Sound and Portersville Bay. In Alabama, private oyster beds adjacent to riparian and leased areas are harvested commercially. The area of the riparian and leased water bottoms in which these private, commercially harvested oyster beds are found currently totals approximately 870 acres. The largest areas of oyster reef habitat in Alabama currently include the Cedar Point Reef in Portersville Bay and several small patches of oyster reef in Bon Secour Bay.

Maritime Forest and Coastal Scrub. Maritime forest habitat consists of sandy soils that support a mosaic of woody vegetation, often dominated by oaks (*Quercus sp.*) and pines (*Pinus sp.*). Maritime forest habitat occurs on barrier islands and near-coastal areas that are influenced by salt spray, coastal winds, and extreme disturbance such as hurricanes (ADCNR 2015). Maritime forests also contain species such as pignut hickory (*Carya glabra*), southern magnolia (*Magnolia grandifolia*), and red maple (*Acer rubrum*). Beneath the trees and in recently disturbed areas, an understory of shrubs and herbaceous species occurs, including dwarf huckleberry (*Gaylussacia dumosa*), wax myrtle (*Myrica cerifera*), hollies (*Ilex sp.*), and coreopsis (*Coreopsis tinctoria*). Coastal scrub habitat occurs on areas of deep, well-washed, sterile sands in temperate or subtropical environments. This habitat consists of dense hardwood patches of low-growing oaks interspersed with bare areas of white sand and are dominated by myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), sand live oak (*Quercus geminata*), scrub holly (*Ilex cumulicola*), scrub plum (*Prunus geniculata*), scrub hickory (*Carya floridana*), gray false rosemary (*Conradina canescens*), and saw palmetto (*Serenoa repens*) (Alabama State Parks 2013).

### Wildlife

Both action alternatives would include restoration activities that could impact coastal and marine wildlife. These species are discussed below.

Mammals. The most common mammals on beaches or other coastal habitats where this program would be implemented include coyotes, eastern cottontail, raccoon, red fox, white-tailed deer, nutria, bats, and opossum. Bottlenose dolphin and West Indian manatee could occur in any waters in the project areas. Bottlenose dolphin (*Tursiops truncatus*) is the only marine mammal in Alabama's coastal waters that was documented to be affected by the DWH oil spill.

Reptiles. Sea turtles that could occur within the project area primarily include loggerhead sea turtle and small numbers of Kemp's ridley sea turtle. Although unlikely to be encountered, green, hawksbill, and leatherback sea turtle species could also occur in Alabama waters.

*Rare and Protected Species*

Coastal Alabama’s marine and terrestrial habitats support a diversity of species that are designated as endangered or threatened under the ESA. Rare species of highest conservation concern (SGCN P1) that occur in coastal Alabama include Mississippi diamondback terrapin, snowy plover, and Wilson’s plover. Rare species of high conservation concern (SGCN P2) that could occur near the project areas include rainbow snake, least bittern, reddish egret, northern harrier, American kestrel, yellow rail, American oystercatcher, Nelson’s sharp-tailed sparrow, and seaside sparrow. All marine mammals are federally protected under the Marine Mammal Protection Act.

Alabama does not implement state-level regulatory protection for endangered and threatened species, except for those species that are protected under the Alabama Regulations on Game and Fish and Fur Bearing Animals, which is updated annually (Alabama Administrative Code r. 220-1-1 et seq.) (ALNHP n.d.). These regulations afford protections for some species in Alabama and are administered by ADCNR. The Alabama Natural Heritage Program maintains species inventory lists to help promote state-level conservation efforts (ALNHP 2022). Table 4 lists the rare species that have the potential to occur in Baldwin and Mobile Counties. Listed are higher-level organisms, including amphibians, birds, mammals, reptiles, fishes, crayfish, and freshwater mussels. The list is not inclusive of all species that are tracked by the Alabama Natural Heritage Program because a diversity of rare invertebrate taxa could also occur within the project areas (ALNHP 2022).

**Table 4: Endangered Species Act-listed species that could occur in coastal Alabama**

<b>ESA Listed Species</b>	<b>Protected Status</b>
<b>Loggerhead sea turtle</b>	Threatened
<b>Kemp’s ridley sea turtle</b>	Endangered
<b>Green sea turtle</b>	Threatened
<b>Hawksbill sea turtle</b>	Endangered
<b>Leatherback sea turtle</b>	Endangered
<b>Gulf sturgeon</b>	Threatened
<b>West Indian manatee</b>	Threatened
<b>Alabama Beach Mouse</b>	Endangered
<b>Perdido Key Beach Mouse</b>	Endangered
<b>Tricolored Bat</b>	Proposed Endangered
<b>Gopher tortoise</b>	Threatened
<b>Alabama Red Bellied Turtle</b>	Endangered
<b>Alligator Snapping Turtle</b>	Proposed Threatened
<b>Black Pinesnake</b>	Threatened
<b>Eastern Indigo Snake</b>	Threatened
<b>Dusky Gopher Frog</b>	Endangered
<b>Piping Plover</b>	Threatened
<b>Red Knot</b>	Threatened
<b>Eastern Black Rail</b>	Threatened

ESA Listed Species	Protected Status
Monarch Butterfly	Candidate

On beaches where the ALMMSN could potentially respond to strandings, critical habitat is designated for loggerhead sea turtle nesting (LOGG-T-AL-01, LOGG-T-AL-01, and LOGG-T-AL-03), as well as Alabama beach mouse (Units 1, 2, 3, 4, and 5) and wintering piping plover (Units AL-1, AL-2, and AL-3). Protected marine mammals that could occur near the project areas include both West Indian manatee and bottlenose dolphin. Other marine mammal species that have stranded in the past and have the potential to strand in the future include the melon-headed whale, pygmy killer whale, rough-toothed dolphin, Risso's dolphin, and Atlantic spotted dolphin.

#### **4.1.2 Cultural Resources**

##### *Cultural Resources*

Cultural resources are evidence of past human activity and can include pioneer homes, buildings, old roads, structures with unique architecture, prehistoric village sites, historic or prehistoric artifacts or objects, rock inscription, human burial sites, battlefield entrenchments, prehistoric canals, or mounds. The Alabama Gulf Coast is one of the most historically significant regions in the southeastern United States, with culturally significant resources throughout the area. It was popular with prehistoric Native Americans for fishing and food gathering long before the first European explorers arrived on the coast (Cox 2012). Project activities for both alternatives would occur throughout coastal Alabama.

#### **4.2 Environmental Consequences – Alternative 1: Enhancing Capacity for the Marine Mammal Stranding Network Project Extension**

##### **4.2.1 Marine and Estuarine Resources**

###### *Habitat*

The continuation of the ALMMSN Project and increased funding to support the ALMMSN's response to stranded animals could result in short-term, minor adverse impacts on beaches and dunes, intertidal marshes and flats, or other coastal habitats where marine mammal strandings and associated response activities typically occur. All potential impacts would be temporary, resulting from boat traffic, noise, and human presence during stranding response, and conditions would be expected to quickly return to baseline upon completion of stranding response activities.

###### *Wildlife*

Continuation of the ALMMSN Project could result in short-term, minor adverse impacts on terrestrial and aquatic wildlife. These impacts could result from disturbance by boat traffic, noise, and human presence during stranding response activities. However, the vast majority of affected species are highly mobile and would be expected to easily move to adjacent suitable habitat. In addition, the activities would be limited in duration and should not produce any noticeable increase in the overall high level of human activity in the project area. Thus, there would be no noticeable long-term adverse impacts on wildlife.

Over the long term, the project would continue to provide restoration benefits to marine mammals by enhancing the capacity of the ALMMSN to understand threats to bottlenose dolphins in Alabama waters and respond to stranded marine mammals. It would continue efforts intended to increase marine mammal survival by working to improve the understanding of causes of dolphin illness/mortality, as well as facilitate early detection and intervention to address anthropogenic and natural threats.

### *Rare and Protected Species*

Short-term, minor adverse impacts on sea turtles and other terrestrial ESA-listed species that use coastal and nearshore habitats could occur because of disturbance from ALMMSN staff responding to stranded marine mammals. Boat traffic, noise, and human presence during stranding response could result in temporary disturbance or displacement of some ESA-listed species if individuals are present near the marine mammal stranding locations. However, adverse impacts on any protected species would be expected to be unlikely because these activities would not create substantially greater human presence in project lands and waters. Thus, potential impacts on ESA-listed species, state-protected species, or other species of conservation concern are anticipated to be minimal. Potential impacts on sea turtle species, West Indian manatee, and other ESA-listed species would be negligible with the implementation of appropriate conservation measures. Sea turtle species that potentially occur in Alabama waters but do not nest on Alabama beaches (e.g., green, hawksbill, and leatherback) would not be affected because they would be extremely unlikely to occur near marine mammal stranding locations.

There would be no long-term, adverse impacts on protected marine mammals. Impacts to protected marine mammals within the project area would be limited to short-term, minor adverse impact from temporary disturbance caused by boat traffic, noise, and human presence as project staff respond to marine mammal strandings. The project's purpose is to contribute to the understanding and recovery of Alabama's bottlenose dolphin by improving the state's Marine Mammal Stranding Network and other conservation programs. Over the long term, the project would be anticipated to benefit bottlenose dolphins through increased effectiveness of treating and/or collecting data on stranded marine mammals. The West Indian manatee would not likely be adversely affected by the project activities because the increase in boat traffic would be minimal, and no project activities would contribute threats to the species. Impacts to critical habitat within the project area would be limited to short-term, minor adverse impact from temporary disturbance caused by boat traffic, noise, and human presence as project staff respond to marine mammal strandings. The project would result in no damage or adverse modification to critical habitat for nesting loggerhead sea turtles, Alabama beach mice, or wintering piping plovers because any disturbance from marine mammal stranding response would be expected to be temporary. The project would not alter the physical or biological primary constituent elements that are essential for loggerhead sea turtle survival, reproduction, and ultimately, recovery. Activities would also occur during daylight hours, when nesting loggerhead sea turtles usually do not emerge from water. Impacts to the Alabama red-bellied turtle are expected to be negligible as any disturbance due to marine mammal stranding responses would be temporary and there are no physical or biological alterations taking place within any freshwater streams, rivers, bays, or bayous. Stranding activities will not affect primary elements of the eastern black rail habitat within marshes or meadows; therefore, impacts to the eastern black rail are expected to be minor. The project's effects on Alabama beach mouse critical habitat would be negligible because stranding activities would not affect the primary constituent elements of their dune habitat. Piping plover habitat on beaches in the project would be anticipated to be unaltered. The project would continue to provide restoration benefits to bottlenose dolphin and other cetaceans by enhancing the capacity of the ALMMSN to understand and respond to stranded marine mammals. It would continue efforts aimed to increase marine mammal survival by providing improved understanding of causes of illness/mortality, as well as early detection and intervention to address anthropogenic and natural threats.

### 4.3 Environmental Consequences – Alternative 2: Reducing Illegal Feeding of Bottlenose Dolphins

#### 4.3.1 Marine and Estuarine Resources

##### *Habitat*

Education and public outreach activities would have no effect on local habitats as conservation efforts would be conducted in already-developed areas in a noninvasive manner. There would be no construction or other alteration of habitats relating to the project area; therefore, there would be no impacts on habitats.

##### *Wildlife*

Education and public outreach activities would have no effect on wildlife as conservation efforts would be conducted in already-developed areas in a noninvasive manner. There would be no construction or other alteration of habitats relating to the project area; therefore, there would be no impacts on wildlife. There would be long-term, beneficial impacts on bottlenose dolphins from education and outreach activities aimed at reducing illegal feeding.

##### *Rare and Protected Species*

Over the long term, the project would seek to benefit bottlenose dolphins by reducing illegal feeding through public education and outreach and changed human behaviors. The project has the potential to benefit bottlenose dolphins in all areas of Alabama where illegal feeding activities could occur. The project would not affect any other rare or protected species or critical habitat.

#### 4.3.2 Cultural Resources

##### *Cultural Resources*

The proposed actions associated with this project would have no potential to impact cultural resources. Project activities are limited to public education and outreach.

### 4.4 Comparison of Alternatives

Table 5 provides a summary of the environmental consequences of the evaluated action alternatives.

**Table 5: Summary of Environmental Consequences**

Resource Area	Impact Summary	
	Enhancing Capacity for the Alabama MMSN	Reducing Illegal Feeding of Bottlenose Dolphins
Habitat	Short-term, minor impacts on beaches and dunes, intertidal marshes and flats, or other coastal habitats from disturbances during stranding response.	No impacts on habitats.
Wildlife	Short-term minor adverse impacts from disturbances during stranding response. Long-term beneficial impacts on marine mammals from response and understanding enhancement.	Long-term, beneficial impacts on bottlenose dolphins from education and outreach activities aimed at reducing illegal feeding.
Rare and Protected Species	Short-term, minor adverse impacts from disturbances during stranding response. Long-term beneficial	Long-term, beneficial impacts on bottlenose dolphins from education and outreach activities

Resource Area	Impact Summary	
	Enhancing Capacity for the Alabama MMSN	Reducing Illegal Feeding of Bottlenose Dolphins
	impacts on marine mammals from response and understanding enhancement	aimed at reducing illegal feeding. No impacts on any other rare or protected species.
Cultural Resources	No impacts on cultural resources.	No impacts on cultural resources.

#### 4.5 Cumulative Impacts

No cumulative impacts are expected as a result of the proposed action alternatives. The RP II/EA detailed the expected cumulative impacts of the included projects, including the ALMMSN Project and the Dolphin Education Project. The alternatives evaluated in this Supplemental RP II/EA are a continuation of these projects or elements thereof. Therefore, implementation of one or both of the alternatives evaluated in this Supplemental RP II/EA would not change the cumulative impact findings found in the RP II/EA (see Section 14). The alternatives evaluated in this document would not contribute substantially to short-term or long-term adverse cumulative impacts on physical, biological, or socioeconomic resources when analyzed in combination with other past, present, and reasonably foreseeable future actions.

### 5.0 COMPLIANCE WITH OTHER LAWS AND REGULATIONS

Additional federal and state laws may apply to the proposed projects considered in this Draft Supplemental RP II/EA. The legal authority applicable to restoration project development was fully described in the context of the DWH restoration planning in the PDARP/PEIS, Section 6.9, Compliance with Other Applicable Authorities and Appendix 6.D, Other Laws and Executive Orders, and RP II/EA. Federal environmental compliance responsibilities and procedures will follow the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the Deepwater Horizon (DWH) Oil Spill, provided in Section 9.4.6 of that document. Following these standard operating procedures, the AL TIG, through its Implementing Trustee(s) for the preferred alternative, would ensure that the status of environmental compliance (e.g., completed versus in progress) is tracked through the Restoration Portal. The Implementing Trustee(s) will keep a record of compliance documents (e.g., ESA biological opinions) and ensure that they are submitted for inclusion to the Administrative Record. The Implementing Trustee(s) will ensure compliance with all applicable laws and regulations. A biological evaluation form has been submitted and technical assistance with the National Marine Fisheries Service is complete and technical assistance with the U.S. Fish and Wildlife Service is in progress. Based on the environmental compliance coordination to date, Alternative 1 May Affect, but is Not Likely to Adversely Affect the following NOAA and U.S. Fish and Wildlife Service ESA-listed species: loggerhead sea turtle, Kemp’s ridley sea turtle, green sea turtle, hawksbill sea turtle, leatherback sea turtle, West Indian manatee, Gulf sturgeon, Alabama red-bellied turtle, Alabama beach mouse, piping plover, red knot, and Eastern black rail. Table 6 below lists the status of compliance activities.

#### 5.1 Additional Federal Laws

Potentially applicable federal laws, regulations, and executive orders may include but are not limited to:

- ESA
- Magnuson-Stevens Fishery Conservation and Management Act
- Marine Mammal Protection Act
- Coastal Zone Management Act

- National Historic Preservation Act
- Coastal Barrier Resources Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- Clean Air Act
- Clean Water Act
- Rivers and Harbors Act
- Marine Protection, Research and Sanctuaries Act
- Estuary Protection Act
- Archaeological Resource Protection Act
- National Marine Sanctuaries Act
- Farmland Protection Policy Act
- Private Aids to Navigation (C.F.R. Title 33, Chapter 1, Part 66)
- Federal Water Pollution Control Act
- Executive Orders (EOs) – EO 11988, Floodplain Management; EO 11990, Protection of Wetlands; EOs 12898 and 14096, Environmental Justice; EO 12962, Recreational Fisheries; EO 13112, Invasive Species; EO 13175, Consultation and Coordination with Indian Tribal Governments; EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds; EO 13693, Planning for Federal Sustainability in the Next Decade.

## 5.2 Additional State Laws

Additional state laws may apply to the proposed preferred alternatives considered in this Draft Supplemental RP II/EA.

Potentially applicable state laws may include but may not be limited to:

- ADEM Division 8 Coastal Program Rules

**Table 6: Status of Environmental Compliance Reviews for Preferred Alternative**

Statute	RP II/EA (2018) Status	New / Updated Status for Project Extension
Bald and Golden Eagle Protection Act	Complete	In Progress
Migratory Bird Treaty Act	Complete	In Progress
Coastal Barrier Resources Act		In Progress
Coastal Zone Management Act	Complete	Complete, relying on existing determination; no changes to project
Endangered Species Act, Section 7 (U.S. Fish and Wildlife Service)	Complete	In Progress
Endangered Species Act, Section 7 (National Marine Fisheries Service)	Complete	Complete, relying on existing consultation
Magnuson-Stevens Fishery Conservation and Management Act / Essential Fish Habitat	Complete	Complete, relying on existing compliance
Marine Mammal Protection Act (U.S. Fish and Wildlife Service)	Complete	In Progress
Marine Mammal Protection Act (National Marine Fisheries Service MFS)	Complete	Complete, relying on existing compliance
National Historic Preservation Act	Complete	In Progress

<b>Statute</b>	<b>RP II/EA (2018) Status</b>	<b>New / Updated Status for Project Extension</b>
Rivers and Harbors Act / Clean Water Act (U.S. Army Corps of Engineers permit)	N/A	N/A

## 6.0 REFERENCES

### Alabama Department of Conservation and Natural Resources (ADCNR)

- 2015 Alabama Wildlife Action Plan 2005–2015. Prepared by Terwilliger Consulting, Inc. and Conservation Southeast, Inc. for ADCNR Division of Wildlife and Fisheries Conservation. Available at: [http://www.outdooralabama.com/sites/default/files/AL-SWAP-DRAFT-30JULY\\_0.pdf](http://www.outdooralabama.com/sites/default/files/AL-SWAP-DRAFT-30JULY_0.pdf).

### Alabama Natural Heritage Program (ALNHP)

- n.d. Alabama Department of Conservation and Natural Resources Administrative Code, Chapter 220-2, Game and Fish Division. Available at: [http://www.alabamaadministrativecode.state.al.us/docs/con\\_220-2.pdf](http://www.alabamaadministrativecode.state.al.us/docs/con_220-2.pdf). Accessed February 13, 2024.
- 2022 Tracking List of Rare Species in Alabama. Auburn University. Available at: [https://www.auburn.edu/cosam/natural\\_history\\_museum/alnhp/data/2022\\_trackinglist.pdf](https://www.auburn.edu/cosam/natural_history_museum/alnhp/data/2022_trackinglist.pdf). Accessed November 7, 2023.

### Alabama State Parks

- 2013 Personal Communication Between Kelly Reetz, Naturalist, Gulf State Park, Alabama State Parks, to Carol Zurawski, Environmental Planner, The Louis Berger Group, Inc., Regarding Wildlife and Plant Species. July 26, 2013.

### Cox, D.

- 2012 Gulf Shores, Alabama: Historic Sites & Points of Interest. Available at: <https://www.exploresouthernhistory.com/gulfshores.html>. Accessed November 30, 2023.

**APPENDIX A - MONITORING AND ADAPTIVE MANAGEMENT PLAN FOR DEEPWATER  
HORIZON NRDA PROJECT: ENHANCING CAPACITY FOR THE ALABAMA MARINE  
MAMMAL STRANDING NETWORK**

# **MONITORING AND ADAPTIVE MANAGEMENT PLAN FOR DEEPWATER HORIZON NRDA PROJECT: ENHANCING CAPACITY FOR THE ALABAMA MARINE MAMMAL STRANDING NETWORK**

## **PROJECT OVERVIEW**

The Enhancing Capacity for the Alabama Marine Mammal Stranding Network (ALMMSN) project would enhance the capacity of the ALMMSN by providing funding for staff time, equipment and supplies, and sample analyses and would address the ending of the current funding source through NFWF-GEBF. ALMMSN is operated out of the Dauphin Island Sea Lab (DISL) on Dauphin Island, Alabama. This project would allow ALMMSN to use and expand on its existing infrastructure for cetacean stranding response, and communications and data management in order to enhance the ALMMSN's operations. The project would allow ALMMSN to better respond to live or dead stranded cetaceans, to necropsy animals, and to analyze samples collected from cetaceans stranded in Alabama waters in order to better understand the causes of marine mammal illness and death. It would also support increased data consistency for information collected from stranded marine mammals by supporting ALMMSN to enter its data into a regional marine mammal health database (currently known as GulfMAP, hosted by NOAA). The project is expected to support efforts to increase survival of rescued animals and recovery of populations affected by the DWH oil spill by improving marine mammal stranding response, data collection, data analyses, and reporting for Alabama waters, through better understanding of the causes of illness/mortality and through the early detection and intervention of anthropogenic and natural threats.

## **RESTORATION TYPE GOALS AND PROJECT RESTORATION OBJECTIVES**

- Project Type: Marine Mammals
- Programmatic Goal: Replenish and Protect Living Coastal and Marine Resources
- Restoration Type Goal: Identify and implement actions that support ecological needs of the stocks; improve resilience to natural stressors; and address direct human-caused threats such as bycatch in commercial fisheries, vessel collisions, noise, industrial activities, illegal feeding and harassment, and hook-and-line fishery interactions
- Restoration Approach: Increase likelihood of marine mammal survival through better understanding of the causes of illness and death, as well as early detection and intervention for anthropogenic and natural threats

**Objective 1:** Increase trained staff capacity of ALMMSN.

**Objective 2:** Maintain and/or decrease average reporting time and/or response time.

**Objective 3:** Collect and analyze additional data to increase understanding of marine mammal population.

## **CONCEPTUAL SETTING AND ANTICIPATED OUTCOMES**

Funding the ALMMSN will better fill gaps in stranding coverage, reduce stranding response time, improve quantity, quality and consistency of reporting Level A, B, and C data for marine mammals, increase the number of personnel trained for stranding response in the region, increase the number of biological samples analyzed to determine causes of death and population status, expand community awareness, and provide long-term data sharing, storage and retrieval capacity. These efforts will work towards reducing marine mammal mortality in Alabama waters, better defining the specific causes of serious injury and death among stranded marine mammals, and establishing baseline conditions or shifts from previous conditions for comparison to immediate and longer-term threats to marine mammals. This project will

meet the immediate need to provide data to assess the DWH Oil Spill as well as build capacity for collecting scientifically rigorous data for other sources of serious injury and mortality to marine mammals in the future.

In the longer term, this project will support efforts to increase the abundance and stability of marine mammal populations in the region, identify larger patterns in stranding data that will inform managers and policy makers to define and focus management and conservation efforts, provide reliable stranding datasets that can be compared to environmental data to identify and define boundaries for essential habitat, improve knowledge of and response to future environmental emergencies like the DWH Oil Spill or longer term effects such as climate change and habitat loss, and potentially reduce the likelihood of future unusual or mass mortality events. These benefits are possible because the ability to predict, prepare for, respond to, and prevent strandings depends on quality data. These outcomes will necessarily feedback to further support the health and stability of marine mammal populations and achieve optimum sustainable populations within the carrying capacity of the system. The enhanced collaborations with network responders and local researchers will, in turn, foster development of future collaborative work, and provide opportunities for synergistic research, training, and educational activities.

### **Sources of Uncertainty**

The sources of uncertainty that could influence the success of this project include the number of strandings and their state of decomposition (limiting samples collected), emerging threats and diseases, the ability to hire qualified personnel, and the incorporation of data collected into marine mammal management activities. This project has a high likelihood of successfully enhancing the ALMMSN and supporting its efforts to strengthen and grow Alabama's marine mammal populations. The program is already operating successfully and funding of this effort would ensure its continued operation, which otherwise cannot be guaranteed, and its enhancement and expansion. The proposed expansion and enhancement of the program under its existing manager, DISL, is expected to be a success. DISL staff have the expertise and experience to implement the activities proposed under the program—including sample collection, necropsies, sample analysis, and data management.

## **PROJECT MONITORING, PERFORMANCE CRITERIA, POTENTIAL CORRECTIVE ACTIONS AND MONITORING SCHEDULE**

The proposed monitoring plan for this restoration project was developed to evaluate project performance, key uncertainties, and identify potential corrective actions, if needed. For each of the monitoring parameters identified below, information is provided on the intended purpose of each monitoring parameter (e.g., monitor progress toward meeting one or more of the restoration objectives, regulatory compliance, support adaptive management of the project), monitoring methods, timing and frequency, duration, sample size, and sites. This section also describes applicable performance criteria and potential corrective actions for project parameters associated with project objectives.

The decision-making process requires a structured approach for incorporating new information gained from monitoring and evaluation. As specified in the NRDA regulations, performance criteria are used to determine restoration success or the need for corrective action (15 CFR 990.55(b)(1)(vii)). However, unanticipated consequences, previously unknown conditions or unanticipated environmental drivers uncovered during the evaluation step may also determine the need for corrective actions. The decision to implement a corrective action will holistically consider the overall outcomes of the restoration project by assessing the results of all monitoring parameters compiled in the evaluation step.

**Parameter: Increase Staff Capacity**

- a. Purpose: Increase capacity of network to respond to strandings
- b. Method: Hire qualified staff
- c. Timing and Frequency: Year 1
- d. Sample Size: NA
- e. Sites: NA
- f. Performance Criteria: number of staff hired
- g. Corrective Action(s): Advertise position more broadly if qualified staff cannot be found

**Parameter: Average Response Time**

- a. Purpose: Understand if increased staff capacity reduces stranding response time
- b. Method: Provide summary of response actions and average response time
- c. Timing and Frequency: Report annually
- d. Sample Size: All responses during a given year
- e. Sites: NA
- f. Performance Criteria: Average response time is maintained or reduced
- g. Corrective Action(s): Update response protocols as needed

**Parameter: Percent of Successful Responses to Reported Strandings**

- a. Purpose: To understand the number of reported strandings annually as well as increasing understanding of the potential causes of strandings and hot spot areas
- b. Method: Count and provide summary of response action
- c. Timing and Frequency: Report annually
- d. Sample Size: All responses
- e. Sites: Note location of stranding
- f. Performance Criteria: 100% of calls received are responded to
- g. Corrective Action(s): Update response protocols as needed

**Parameter: Collection of Stranding Data to Increase Understanding of Population**

- a. Purpose: Increase survival of rescued animals and recovery of population by improving understanding of marine mammal population and threats.
- b. Method: Provide stranding information collected and diagnostic results to help managers identify and mitigate impacts on marine mammals from natural and anthropogenic threats.
- c. Timing and Frequency: Data will be collected during each response event, analyzed, and uploaded consistent with the *Data Management* and *Reporting* sections, below.
- d. Sample Size: NA
- e. Sites: NA
- f. Performance Criteria: Summary report provided to ALTIG should provide detail on potential causes of strandings, and identify potential actions to reduce threats as well as identification of any hot spot areas for strandings. Data will also be uploaded consistent with the *Data Management* and *Reporting* sections, below.
- g. Corrective Action(s): Revise if needed

**Parameter: Percent of Biological Samples Collected that are Analyzed**

- a. Purpose: Understand if funding is resulting in increased analysis and subsequent increased understanding of marine mammal populations
- b. Method: Count and provide data in GulfMAP and summary of sample results in annual report per protocols
- c. Timing and Frequency: Data will be collected during each response event, analyzed, and uploaded consistent with the Data Management and Reporting sections, below
- d. Sample Size: All samples collected within a given year
- e. Sites: NA
- f. Performance Criteria: 100%
- g. Corrective Action(s): NA

**Parameter: Percent of Stranded Animals Reported that are Necropsied**

- a. Purpose: Understand if funding is resulting in increased analysis and subsequent increased understanding of marine mammal populations
- b. Method: Count, upload necropsy reports to GulfMAP, and provide summary in annual report
- c. Timing and Frequency: Report annually
- d. Sample Size: All necropsies performed
- e. Sites: NA
- f. Performance Criteria: 100% of Code 2 animals for which a necropsy is feasible
- g. Corrective Action(s): NA

The schedule for project monitoring is shown in Table 1, separated by monitoring activity. Pre- execution monitoring will occur before project execution. Execution monitoring occurs when project has been fully executed as planned. Performance monitoring will occur in the year following initial project execution.

**Table 1: Monitoring Schedule**

<b>Monitoring Parameter</b>	<b>Objective</b>	<b>Pre-Execution Monitoring</b>	<b>As-Built (Year 0)</b>	<b>Project Monitoring (Years 1-4)</b>
Increase staff capacity	1, 2	X		X
Percent of stranded animals that are necropsied	3	X		X
Collection of stranding data to increase understanding of population	3			X
Average Response Time	2	X		X
Percent of biological samples collected that are analyzed	3	X		X

Monitoring Parameter	Objective	Pre-Execution Monitoring	As-Built (Year 0)	Project Monitoring (Years 1-4)
Percent of successful responses to reported strandings	2	X		X

## ADAPTIVE MANAGEMENT

As discussed in the PDARP/PEIS, adaptive management is a form of structured decision-making applied to the management of natural resources in the face of uncertainty (Pastorok et al. 1997; Williams 2011). It is an iterative process that integrates monitoring and evaluation of management actions with flexible decision-making, where adjustments are made to management approaches based on observed outcomes (NRC 2004). Within the context of ecological restoration, adaptive management addresses key uncertainties by linking science to restoration decision-making (Steyer & Llewellyn 2000). Although adaptive management is a critical component of the restoration plan as a whole, the need for adaptive management may vary on a project-by-project basis. Some projects may be well understood and not have uncertainties which warrant adaptive management. The monitoring and adaptive management framework may be more robust for elements of the restoration plan with high degrees of uncertainty or where numerous restoration projects are planned within a given geographic area and/or for the benefit of a particular resource (Appendix 5.E.1, PDARP/PEIS). Under OPA NRDA regulations, restoration projects clearly identify performance criteria that would be used to determine project success or the need for corrective action.

The activities proposed in this project are well-established and known to be effective and the program activities have been underway at DISL for several years. The information collected by ALMMSN from stranded cetaceans should enable managers to mitigate impacts to marine mammals from natural and anthropogenic threats and to monitor population recovery post-DWH. Although extensive adaptive management activities are not expected to be necessary for this project, information gained will be useful in planning future restoration efforts for marine mammals.

## EVALUATION

Evaluation of monitoring data is needed to assess the performance of the project in meeting its restoration objectives, resolving uncertainties to increase understanding, and determine whether corrective actions are needed.

As part of the larger decision-making context beyond the project scale, the evaluation of monitoring data from the individual projects would be compiled and assessed at the Restoration Type and TIG level, and the results would be used to update the knowledge base to inform decisions such as future TIG project prioritization and selection, implementation techniques, and the identification of critical uncertainties. The results of the analysis would be used to answer the following questions:

- Were the project objectives achieved? If not, is there a reason why they were not met?
- Did the project produce unanticipated effects?
- Were there unanticipated events unrelated to the project that potentially affected the monitoring results (e.g., hurricanes)?
- Were any of the uncertainties identified prior to project implementation resolved?
- Were any new uncertainties identified?

- Have data been summarized and characterized in a way that allows for a clear understanding of results?
- Have any trends or patterns been identified, and if so, how can they be characterized?
- What broader insights might be gained from implementation/monitoring of this project?

These questions will be answered and compiled in annual monitoring reports for the project and revisions to the MAM plan be made if needed.

## **DATA MANAGEMENT**

### **Data Description**

All data collected will follow the data standards as per the MAM Manual 1.0 ([DWH NRDA Trustees 2017a](#)). To the extent practicable, all environmental and biological data generated during monitoring activities will be documented using standardized field datasheets. If standardized datasheets are unavailable or not readily amendable to record project-specific data, then Project-specific datasheets will be drafted prior to conducting any project monitoring activities. Original hardcopy datasheets and notebooks and photographs will be retained by the Implementing Trustee. Relevant project data that are handwritten on hardcopy datasheets or notebooks will be transcribed (entered) into standard digital format. All field datasheets and notebook entries will be scanned to PDF files.

All data will have properly documented FGDC/ISO metadata or a data dictionary (defining codes and fields used in the dataset) and a Readme file (describing how data was collected, QA/QC procedures, other information about data such as meaning, relationships to other data, origin, usage, and format – this can reference different documents). Electronic data files will be in a machine-readable format (e.g., comma-separated text values, spreadsheet, or database) named with the date on which the file was created. If a data file is revised, a new version will be uploaded and the original will be preserved.

### **Data Review and Clearance**

After transcription of the data, a second person not associated with data transcription will perform a verification of the data in the electronic data sheets against the original hardcopy datasheets and/or notebooks, and would make any corrections to transcription errors as appropriate before data are used for any analyses or distributed outside of the agency. Implementing Trustees will verify and validate monitoring data and information and ensure that all data are entered or converted into agreed upon/commonly used digital format labeled with metadata. All data will undergo proper QA/QC protocols, be reviewed and verified following the process outlined in Section 3 of the MAM Manual Version 1.0. The TIG will be provided with a 10-day opportunity to review any data that are intended to be made public.

### **Data Storage and Accessibility**

All stranding data and results, including diagnostic results, human interaction, and any information that is not captured on the forms listed under Level A data, will be submitted to the regional and/or national marine mammal stranding database hosted by NOAA (currently GulfMAP, soon to be “Ceto”) within 60 days of collection or receipt of results (per GulfMAP current guidelines), or per the requirements in the Marine Mammal Research and Response Act implementing guidelines, whichever is applicable. Summary data will be uploaded to the NOAA DIVER application within one year of collection and analysis.

### **Data Sharing**

Data will be made publicly available, in accordance with the Federal Open Data Policy (Section 10.6.6 of SOP; DWH NRDA Trustees 2016b), through the DIVER Explorer Interface within a year of when the data collection occurred. Some data collected may be protected from public disclosure under federal and state law (e.g., personally identifiable information under the Privacy Act or observer information collected

under Magnuson–Stevens Fishery Conservation and Management Act (MSFCMA), etc.) and therefore will not be publicly distributed.

Stranding data submitted to GulfMAP/Ceto will be available in accordance with Marine Mammal Research and Response Act regulations and existing data sharing agreements.

Data submitted to GulfMAP will also be provided to the Gulf of Mexico Dolphin Identification System (GoMDIS) to ensure data sharing and collaboration among neighboring GOM networks. Additionally, data associated with strandings showing evidence of human interaction will be immediately forwarded to the NMFS Office of Protected Resources Bottlenose Dolphin Conservation Coordinator. All data sharing will be consistent with the protocols set forth in the “Marine Mammal Conservation and Recovery in the Gulf of Mexico through support of the Alabama Marine Mammal Stranding Network, AL” project through the NFWF Gulf Environmental Benefit Fund.

## **REPORTING**

Annual MAM reports describing results of project monitoring and evaluation will be made publicly available, in accordance with the Federal Open Data Policy (Section 10.6.6 of SOP; DWH NRDA Trustees 2016b), through the DIVER Explorer Interface and in accordance with the MAM Manual MAM Report Template.

A final MAM report for the project will be developed prior to project closeout and submitted to the DIVER Restoration Portal.

ALMMSN would maintain ADCNR reporting, metadata publications, MMHSRP reporting, and necropsy reports, but also increase the number of metadata records relative to the samples processed for cetaceans (~10; estimated at 1-2 additional metadata records per year), increase necropsy reporting consistent with a greater number of animals sampled, and increase the number of publications (~3 total due to increased research capacity), plus share up to 2 newsletter articles per year (~10 total).

## **ROLES AND RESPONSIBILITIES**

ADCNR is the implementing Trustee for this project, and will ensure that the project is completed. The DISL ALMMSN is the project partner and will be responsible for data management and data sharing.

The Trustee Council facilitates consistency in monitoring and data management procedures to evaluate and report on progress towards meeting restoration goals articulated in the PDARP/PEIS.

## **REFERENCES**

DWH NRDA Trustees. 2016. Deepwater Horizon oil spill: final programmatic damage assessment and restoration plan (PDARP) and final programmatic environmental impact statement (PEIS).

DWH NRDA Trustees. 2016b. Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the *Deepwater Horizon* Oil Spill. Originally approved May 4, 2016; revised November 15, 2016.

DWH NRDA Trustees. 2017a. Monitoring and Adaptive Management Procedures and Guidelines Manual Version 1.0. Appendix to the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the DWH Oil Spill. December.

DWH NRDA Trustees. 2017b. Deepwater Horizon Oil Spill Natural Resource Damage Assessment: Strategic Framework for Marine Mammal Restoration Activities. June. Available: <http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan>.

National Research Council. 2004. Adaptive Management for Water Resources Project Planning. Washington, DC: The National Academies Press.

Pastorok, R.A., MacDonald, A., Sampson, J.R., Wilber, P., Yozzo, D.J., & Titre, J.P. 1997. An ecological decision framework for environmental restoration projects. Ecological Engineering, 9, 89-107.

Steyer, G.D. & Llewellyn, D.W. 2000. Coastal Wetlands Planning, Protection and Restoration Act: A programmatic application of adaptive management. Ecological Engineering, 26, 27-39.

Williams, B.K. 2011. Adaptive management of natural resources - Framework and issues. Journal of Environmental Management, 92, 1346-1353.

### MAM PLAN REVISION HISTORY

Old File Name	Revision Date	Changes Made	Reason for Change	New File Name
AL TIG RP II/EA version				
	6/1/2018	Draft to final version; Added detail to parameters	Draft to final	MAM_Plan_Enhancing_Capacity_ALMMSN_6.1.18
MAM_Plan_Enhancing_Capacity_ALMMSN_6.1.18	2/23/2024	Added detail to data management	Updated for project extension	MAM plan - RP2 Enhancing Capacity of Alabama Marine Mammal Stranding Network 022624