RECORD OF DECISION for the *Deepwater Horizon* Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement

March 2016

Lead Agency: National Oceanic and Atmospheric Administration

Cooperating Agencies:
Texas Parks and Wildlife Department
Texas General Land Office
Texas Commission on Environmental Quality
Louisiana Coastal Protection and Restoration Authority
Louisiana Oil Spill Coordinator's Office
Louisiana Department of Environmental Quality
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources
Mississippi Department of Environmental Quality
Alabama Department of Conservation and Natural Resources
Natural Resources Geological Survey of Alabama
Florida Department of Environmental Protection
Florida Fish and Wildlife Conservation Commission
U.S. Environmental Protection Agency
U.S. Department of Agriculture
U.S. Department of the Interior

For Further Information Contact: gulfspill.restoration@noaa.gov

Suggested Citation: *Deepwater Horizon* Natural Resource Damage Assessment Trustees. (2016). *Record of Decision for the* Deepwater Horizon *oil spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement*. Retrieved from *http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan*

Table of Contents

1 Overview 1

2 Introduction and Purpose and Need 3

2.1 *Deepwater Horizon* Incident 3

2.2 Purpose and Need 4

2.3 Alternatives Considered 4

2.4 Funding Allocation for the Preferred Alternative 6

3 Decision Made by Trustees 7

4 Public Notice, Review, and Comment 8

4.1 Scoping for the PDARP/PEIS 8

4.2 Public Review Process for the PDARP/PEIS 9

4.3 Correspondence Received After Publication of the Final PDARP/PEIS 9

5 Comparison of the Environmental Consequences of the Programmatic Alternatives 9

5.1 Summary of Impacts of Alternative A 9

5.1.1 Physical Resources 10

5.1.2 Biological Resources 10

5.1.3 Socioeconomic Resources 11

5.2 Alternative B: Resource-Specific Restoration 11

5.3 Alternative C: Continue Injury Assessment and Defer Comprehensive Restoration Planning 12

5.4 Alternative D: Natural Recovery/No Action 13

5.5 The Environmentally Preferable Programmatic Alternative 14

5.6 Cumulative Impacts 14

6 Programmatic Alternative Decision and Factors Considered in the Decision 15

6.1 The Programmatic Alternative Decision 15

6.2 Factors Considered and Rationale for the Programmatic Decision 15

6.3 Programmatic Mitigation Measures 17

7 Compliance with Relevant Environmental Laws, Regulations, and Executive Orders 17

7.1 Programmatic Consultations Under the Endangered Species Act 17

7.2 Programmatic Consultation Under the Coastal Zone Management Act 19

7.3 Compliance with Other Relevant Laws, Regulations, and Executive Orders 19

7.3.1 Federal 19

7.3.2 State and Local 20
8 Implementation 20
8.1 Governance Structure 20
8.2 Subsequent Restoration Plans and Corresponding NEPA Analyses 21
8.2.1 Additional Considerations 21
8.3 Restoration Project Implementation 22
8.4 Public Engagement 22
8.5 Monitoring and Adaptive Management 23
8.5.1 Monitoring and Adaptive Management for Projects and Restoration Types 23
8.5.2 Monitoring and Adaptive Management for the Restoration Plan 23
8.5.3 Restoration Program Review 24
9 Conclusion 24
10 Point of Contact 25
11 Effective Date 25
12 References 35
13 Appendix A. Settlement of NRD Claims; NRD Final Allocation ($ Dollars) 36
14 Appendix B. Composition of the TIGs 37

RECORD OF DECISION for the *Deepwater Horizon* Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement

1 OVERVIEW

The federal and state natural resource Trustees for the *Deepwater Horizon* oil spill[1] have prepared a Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement (Final PDARP/PEIS) for the purposes of restoring injured natural resources and services resulting from the spill. The PDARP has been prepared under the authority of the Oil Pollution Act of 1990 (OPA), 33 U.S.C. §§ 2701 *et seq*., and integrated with a Programmatic Environmental Impact Statement in compliance with the federal agency decision-making requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321 *et seq*. The PDARP/PEIS provides information and analysis concerning the programmatic approach proposed by the Trustees for restoring injured resources and services.

As the Final PDARP/PEIS analysis shows, the injuries caused by the spill cannot be fully described at the level of a single species, a single habitat type, or a single region. The Trustees found that the extensive injuries to multiple habitats, species, ecological functions, and geographic regions affected by the spill establish the need for comprehensive restoration planning on a landscape and ecosystem scale that recognizes and strengthens existing connectivity among habitats, resources, and natural resource services in the Gulf of Mexico. The Trustees considered this ecosystem context in deciding how best to restore for the vast array of resources and services injured by this spill. Consequently, the Trustees' Selected Alternative for the restoration plan employs a comprehensive, integrated ecosystem approach to best address these ecosystem-level injuries.

This Record of Decision (ROD) sets forth the basis for the Trustees' decision to select the comprehensive, integrated ecosystem restoration alternative (described in Final PDARP/PEIS Sections 5.5 and 5.10). This alternative is a comprehensive integrated restoration portfolio that emphasizes the broad ecosystem benefits that can be realized through coastal habitat restoration in combination with resource-specific restoration in the ecologically interconnected northern Gulf of Mexico ecosystem. This alternative includes five goals and 13 Restoration Types. The Trustees' selection of this alternative includes the funding allocation to Restoration Types and Restoration Areas as established in the allocation table (Final PDARP/PEIS Table 5.10-1, also appended to this ROD as Appendix A).

When a PEIS is prepared, the agency(ies) may "tier" subsequent environmental analyses for site-specific plans or projects from the PEIS (40 CFR § 1502.4[b]; 40 CFR § 1508.28). Federal agencies are encouraged to tier subsequent analyses from a PEIS to eliminate repetitive discussions of the same issues and focus on the actual issues ripe for decision at each level of environmental review (40 CFR § 1502.20). The PDARP/PEIS describes how the Trustees, via Trustee Implementation Groups (TIGs) for each defined

[1] In this context, "the spill" includes activities conducted in response to the oil spill.

Restoration Area, will prepare a series of subsequent restoration plans to propose and select specific projects for implementation, including tiering NEPA analyses for those subsequent restoration plans from the programmatic analysis. The appropriate level of NEPA analysis for each restoration plan will be determined by the lead federal agency for each plan with consensus of the TIG, and this analysis will be developed by each TIG (see Final PDARP/PEIS Chapter 7). When the Trustees propose subsequent restoration plans for consideration, they will consider what additional NEPA analyses may be necessary, including whether the conditions and environmental effects described in the PDARP/PEIS have changed. Subsequent restoration plans and NEPA analyses will be made available for public review and comment. Further discussion of future implementation is addressed in Section 8 of this ROD, summarizing information from PDARP/PEIS Section 5.10.4, Subsequent Restoration Planning; Section 6.17, NEPA Considerations and Tiering Future Restoration Planning; and Chapter 7, Governance.

The following federal agencies are the designated natural resource Trustees under OPA for this spill:

- The U.S. Department of the Interior (DOI), as represented by the U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management, and National Park Service (NPS).
- The National Oceanic and Atmospheric Administration (NOAA), on behalf of the U.S. Department of Commerce.
- The U.S. Environmental Protection Agency (EPA).
- The U.S. Department of Agriculture (USDA).

The following state agencies are designated natural resources Trustees under OPA and are currently acting as Trustees for the spill:

- The State of Florida's Department of Environmental Protection (FDEP) and Fish and Wildlife Conservation Commission (FWC).
- The State of Alabama's Department of Conservation and Natural Resources (ADCNR) and Geological Survey of Alabama (GSA).
- The State of Mississippi's Department of Environmental Quality (MDEQ).
- The State of Louisiana's Coastal Protection and Restoration Authority (CPRA), Oil Spill Coordinator's Office (LOSCO), Department of Environmental Quality (LDEQ), Department of Wildlife and Fisheries (LDWF) and Department of Natural Resources (LDNR).
- The Texas Parks and Wildlife Department (TPWD), Texas General Land Office (TGLO), and Texas Commission on Environmental Quality (TCEQ).

Each of the federal and state co-Trustees participated as a cooperating agency pursuant to NEPA (40 CFR § 1508.5). NEPA permits a federal agency to adopt another agency's EIS provided that the statement meets the standards for an adequate statement under the NEPA regulations (40 CFR § 1506.3). Further,

an agency participating in the NEPA process as a cooperating agency may adopt the EIS of a lead agency without recirculating the statement when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied. DOI, USDA, and EPA participated in the development of the PDARP/PEIS as cooperating federal agencies for purposes of NEPA. Each agency has independently determined that the PEIS component of the PDARP/PEIS is sufficient for the purposes of informing that agency's decision and hence adopts the PEIS in accordance with 40 CFR § 1506.3 and its agency-specific NEPA procedures. The Trustees are issuing this ROD pursuant to NEPA regulations at 40 CFR § 1505.2 and OPA regulations at 15 CFR § 990. This document serves as the NEPA ROD for NOAA, DOI, EPA, and USDA.

2 INTRODUCTION AND PURPOSE AND NEED

2.1 *Deepwater Horizon* Incident

On April 20, 2010, the *Deepwater Horizon* mobile drilling unit exploded, caught fire, and eventually sank in the Gulf of Mexico (Final PDARP/PEIS Chapter 1, Figure 1.1-1), resulting in a massive release of oil and other substances from BP's Macondo well. Tragically, 11 workers were killed and 17 injured by the explosion and fire. Initial efforts to cap the well following the explosion were unsuccessful, and for 87 days after the explosion, the well continuously and uncontrollably discharged oil and natural gas into the northern Gulf of Mexico. Approximately 3.19 million barrels (134 million gallons) of oil were released into the ocean (U.S. v. BP et al. 2015), by far the largest offshore oil spill in the history of the United States. The volume of oil discharged during the *Deepwater Horizon* spill was equivalent to the *Exxon Valdez* oil spill re-occurring in the same location every week for 12 weeks.

Oil spread from the deep ocean to the surface and nearshore environment, from Texas to Florida. The oil came into contact with and injured natural resources as diverse as deep-sea coral, fish and shellfish, productive wetland habitats, sandy beaches, birds, endangered sea turtles, and protected marine life (Final PDARP/PEIS Chapter 1, Figure 1.1-2). The oil spill prevented people from fishing, going to the beach, and enjoying their typical recreational activities along the Gulf of Mexico.[2] Extensive response actions, including cleanup activities and actions to try to prevent the oil from reaching sensitive resources, were undertaken to try to reduce harm to people and the environment. However, many of these response actions had collateral impacts on the environment. The oil and other substances released from the well, in combination with the extensive response actions, together make up the *Deepwater Horizon* oil spill incident.

As an oil pollution incident, the *Deepwater Horizon* spill was subject to the provisions of OPA, which addresses preventing, responding to, and paying for oil pollution incidents in navigable waters, adjoining shorelines, and the exclusive economic zone of the United States. Under the authority of OPA, a council

[2] This document is concerned with impacts to the public's natural resources and the services provided by those resources, such as recreation. It does not discuss economic harm to private parties and governments caused by the *Deepwater Horizon* spill.

of federal and state "Trustees" was established, on behalf of the public, to assess natural resource injuries resulting from the incident and work to make the environment and public whole for those injuries. As required under OPA, the Trustees have conducted a natural resource damage assessment (NRDA) and prepared a PDARP/PEIS, which describes the Trustees' injury assessment and proposed restoration plan. A draft of the PDARP/PEIS was made available for public review and comment, and the Trustees considered public comments when preparing the Final PDARP/PEIS, as discussed in Chapter 8 of the Final PDARP/PEIS and in Section 4 of this ROD.

2.2 Purpose and Need

As stated in the Final PDARP/PEIS, to meet the purpose of restoring extensive and complex injuries to natural resources and services resulting from this spill, the Trustees identified a need for a comprehensive restoration plan consistent with OPA and able to restore these injured natural resources and services (see 15 CFR § 990.10). The Trustees' overarching goals and planning objectives (Final PDARP/PEIS Section 5.3) align with this purpose and need. At this programmatic level, the Trustees select the Comprehensive Integrated Ecosystem Restoration Alternative to restore the injuries to natural resources and services resulting from this spill. The Comprehensive Integrated Ecosystem Restoration Alternative in the Final PDARP/PEIS will serve as the basis for the subsequent development and selection of specific restoration projects. Consistent with the Comprehensive Integrated Ecosystem Restoration Alternative, the Trustees will undertake subsequent restoration planning and project implementation to provide primary and compensatory restoration of habitats, species, and services.

2.3 Alternatives Considered

The Trustees developed the PDARP/PEIS after carefully reviewing the available scientific data, making reasonable scientific inferences, and considering ecological linkages, resiliency, and sustainability. The Trustees identified the need for a comprehensive restoration plan at a programmatic level to guide and direct the massive restoration effort, based on five overarching goals that work both independently and together to restore injured resources and services. Further, the Trustees identified 13 distinct Restoration Types that pertain to these goals as follows. These goals and Restoration Types are as follows:

- **Goal: restore and conserve habitat.** Restoration Types: wetlands, coastal, and nearshore habitats; habitat projects on federally managed lands.
- **Goal: restore water quality.** Restoration Types: nutrient reduction; water quality.
- **Goal: replenish and protect living coastal and marine resources.** Restoration Types: fish and water column invertebrates; sturgeon; submerged aquatic vegetation (SAV); oysters; sea turtles; marine mammals; birds; mesophotic and deep benthic communities.
- **Goal: provide and enhance recreational opportunities.** Restoration Types: provide and enhance recreational opportunities.
- **Goal: provide for monitoring, adaptive management, and administrative oversight to support restoration implementation.**

The Trustees also identified restoration approaches that can help meet the more specific goals developed for each Restoration Type. The PDARP/PEIS focused on presenting these Restoration Types and approaches at a programmatic level. The Trustees will subsequently identify, plan, evaluate, carry out, and monitor specific restoration activities in accordance with the goals, Restoration Types, and restoration approaches in the Final PDARP/PEIS.

The Trustees identified restoration ideas and options from a variety of information sources. These sources included public input during scoping and other public comments (see Section 4, below), regional restoration planning documents (including plans developed by co-Trustees, nongovernmental organizations, academia, and other sources), ideas submitted by the public via a project submittal database, and Trustees' agency and resource-specific restoration expertise. The Trustees developed a reasonable range of alternatives to the comprehensive restoration plan. The Final PDARP/PEIS presents the full restoration needed to compensate for all injuries to natural resources and services, taking into account those projects already planned or completed under Early Restoration.[3] The Restoration Types and restoration approaches are building blocks used to create comprehensive restoration plan alternatives. The description and restoration philosophy of each alternative are summarized below.

- Alternative A establishes a comprehensive, integrated ecosystem restoration plan based on the programmatic Trustee goals described above. Alternative A comprises 13 Restoration Types that, as an integrated portfolio, address the Trustees' goals by maximizing the potential synergies among the Restoration Types and approaches. The comprehensive, integrated ecosystem plan will implement a range of approaches to address 1) assessed injuries to natural resources and services, including wetland, coastal, and nearshore habitat and lost recreational use; and 2) inferred injuries to ecosystem components and services. Alternative A has a primary focus on implementing restoration actions that provide the benefit of ecosystem linkages, and the ability to compensate for inferred or unquantified injuries as well as the connectivity among resources, habitats, and human uses. This plan includes a substantive focus on northern Gulf of Mexico coastal habitats to restore resource-to-habitat and habitat-to-habitat linkages in the northern Gulf of Mexico system. Approved early restoration projects would continue.[4]

[3] Early Restoration was undertaken by the Trustees (see Final PDARP/PEIS Chapter 1, Section 1.4.3.2, Early Restoration; Section 5.4.3, Early Restoration; and associated Appendix 5.B, Early Restoration Table). Early Restoration allowed the Trustees to move forward with implementing restoration projects in advance of reaching full resolution of the case against BP. As described in Final PDARP/PEIS Chapter 1, on April 20, 2011, the Trustees and BP agreed to terms by which BP would provide up to $1 billion toward Early Restoration projects as a preliminary step toward the restoration of injured natural resources and services resulting from the spill. Sixty-five projects with a total cost of approximately $877 million have been selected through the five phases of Early Restoration planning. The balance of the $1 billion in funding originally pledged for Early Restoration has been incorporated into the proposed settlement described in Chapter 1, Section 1.6.

[4] Under the action alternatives, agreed-upon early restoration projects would continue. Final PDARP/PEIS Chapter 7, Section 7.4.4, Relationship to Early Restoration Framework Agreement, describes that decisions concerning any project modification(s), the selection and implementation of any replacement project(s), and the use of any unexpended Early Restoration project funds will be made by the appropriate TIG for that project. To the extent

- Alternative B is a resource-specific restoration plan based on the programmatic Trustee goals. Alternative B seeks to maximize benefits to living coastal and marine resources and human uses based on close, well-defined relationships between injured resources and outcomes of restoration actions. Alternative B comprises the same Restoration Types as Alternative A. However, there are important distinctions in how the Trustees could implement restoration under the two alternatives. Alternative A (Comprehensive Integrated Ecosystem Restoration) and Alternative B (Resource-Specific Restoration) represent two different restoration philosophies and would result in two different investment strategies for the available settlement funds. Alternative A emphasizes coastal habitat restoration particularly to address inferred or unquantified injuries. Although such ancillary benefits may be provided for ecosystem linkages under Alternative B, these are not a primary consideration for this alternative. Therefore, coastal habitat restoration is a component but not the focus of Alternative B. Approved early restoration projects would continue.

- Alternative C defers restoration plan development at this time, in favor of continued injury assessment. A comprehensive restoration plan would be proposed when greater scientific understanding of the injury determination is achieved. Alternative C may include the Restoration Types presented for Alternatives A and B, or could include additional or different Restoration Types and distribution of effort among the Restoration Types. All additional restoration would be deferred under Alternative C until such time as a comprehensive restoration plan is proposed and selected by the Trustees. Early Restoration would continue to be implemented.

- Alternative D is the natural recovery/no-action alternative, which the Trustees are required to evaluate under the OPA regulations and NEPA. Under this alternative, Early Restoration would be the only restoration implemented; no additional restoration under NRDA would be done by Trustees to accelerate the recovery of injured natural resources or to compensate for lost services.

Alternatives A and B would include monitoring, assessment, and science support in an adaptive management framework, as well as administrative oversight and management. These science and management plan elements, coupled with the Trustees' significant experience in planning and implementing restoration, support realization of the Trustees' goals and objectives over years of implementing a restoration plan.

2.4 Funding Allocation for the Preferred Alternative

The Trustees have determined that natural resource damage settlement funds in the amount of $8.1 billion (plus up to $700 million for adaptive management for unknown conditions) are appropriate and sufficient to address injuries caused by this spill. To address the diverse suite of injuries that occurred at both regional and local scales, the Trustees' Selected Alternative allocates these funds to Restoration Types based on the understanding of injury and the capacity of each programmatic goal and Restoration Type to restore for injuries. Additionally, the Trustees allocate restoration funds geographically based on

---

that any of the selected projects cannot be implemented for any reason, the decision in this ROD is to allocate the funds for that project to the Restoration Type and Restoration Area reflected in Appendix A, but this ROD does not reflect any additional Trustee decision regarding implementation of that specific project.

their understanding and evaluation of exposure and injury to natural resources and services, as well as their evaluation of where restoration spending for the various Restoration Types will be most beneficial within the ecosystem-level restoration portfolio. These geographic Restoration Areas are Regionwide, Open Ocean, and the five Gulf states (Alabama, Florida, Louisiana, Mississippi, and Texas). A series of payments will be distributed to each TIG over the course of 15 years, proportional to the total amount allocated to each Restoration Area (see Final PDARP/PEIS Chapter 5, Section 5.10). Some additional funds will be reserved for an eighth Restoration Area, Unknown Conditions and Adaptive Management. By allocating restoration funds across resources, supporting habitats, and geographic areas, the Trustees will maximize the likelihood of providing long-term benefits to those resources and services injured by the spill.

The investment of funds proposed under Alternative A particularly focuses on restoring Louisiana coastal marshes, which is an essential element of the plan. Given both the extensive impacts to Louisiana marsh habitats and species from the *Deepwater Horizon* incident and the critical role that these habitats play for many injured resources and for the overall productivity of the northern Gulf region, coastal and nearshore habitat restoration is the most appropriate and practical mechanism for restoring the ecosystem-level linkages disrupted by the *Deepwater Horizon* incident. Aspects of this vast and diverse injury, however, will require additional restoration, especially for resources that spend some or all of their lives in the open waters of the Gulf of Mexico. Therefore, this plan also calls for restoration focused on specific living coastal and marine resources. To ensure that recreational use injuries are fully compensated, additional investments will be made to enhance human interaction with the environment by increasing recreational opportunities, improving water quality and habitats, and using education and outreach to engage people in restoration and stewardship of natural resources.

The Trustees' decision to select this alternative includes the funding allocation as established in the allocation table (Appendix A to this ROD; Table 5.10-1 in the Final PDARP/PEIS). The funding allocation table also highlights where investments have already been made through the Trustees' Early Restoration planning process.

3 DECISION MADE BY TRUSTEES

Based on the Trustees' injury determination established in Chapter 4 of the Final PDARP/PEIS, this ROD sets forth the basis for the Trustees' decision to select Alternative A (Comprehensive Integrated Ecosystem Restoration), as described in Final PDARP/PEIS Sections 5.5 and 5.10. This selection includes the funding allocation as established in the allocation table (Final PDARP/PEIS Section 5.10, also Appendix A to this ROD).

Alternative A meets the five programmatic restoration goals by implementing Restoration Types within a monitoring and adaptive management framework that restores, protects, or enhances habitats, natural resources, and services within an integrated restoration portfolio. These Restoration Types work both independently and together to achieve necessary benefits to injured resources and services at the ecosystem level.

The combination of steps to implement projects under the Selected Alternative will work synergistically to restore for the full range of assessed injuries caused by this spill. By conducting restoration for both targeted species in the Gulf of Mexico food web and the habitats on which they rely, ecological linkages may also be restored. The ecosystem approach to the restoration portfolio also includes a commitment to monitoring and adaptive management that accommodates the dynamics of ecosystems and new knowledge on how they respond, as well as to continuous oversight and rigorous planning. Monitoring and adaptive management will also be used to address inferred, unquantified, or currently unknown injuries that may be uncovered in the future. In this manner, the Trustees provide for a flexible, science-based approach to ensure that the restoration portfolio provides long-term benefits to the resources and services injured by the spill in the manner envisioned in this programmatic plan.

4 PUBLIC NOTICE, REVIEW, AND COMMENT

OPA and NEPA require the Trustees to consider public comments on the *Deepwater Horizon* restoration planning process. Public outreach and involvement have been an integral part of Trustee restoration planning since 2010.

4.1 Scoping for the PDARP/PEIS

The Trustees first provided public notice on the need for restoration planning for the *Deepwater Horizon* oil spill in October 2010 (DOI 2010; DPS&C 2010). Since then, the Trustees have engaged the public in several different ways, including obtaining input during a formal restoration scoping process in 2011 (DWH Trustees 2011).[5] State and federal Trustees established websites to provide the public with information about injury and restoration processes.[6] The Trustees also developed a website[7] where the public can submit restoration project ideas on an ongoing basis. The Trustees have reviewed and

[5] The April 2011 scoping document provided the public with background on scoping, the NRDA process, the relationship of the NRDA and NEPA processes, alternatives development, types of restoration, and environmental consequences.

[6] The Trustees established the following websites:

- NOAA, Gulf Spill Restoration, available at http://www.gulfspillrestoration.noaa.gov/
- NOAA, DIVER, available at https://dwhdiver.orr.noaa.gov/
- DOI, *Deepwater Horizon* Oil Spill Response, available at http://www.fws.gov/home/dhoilspill/
- Texas Parks and Wildlife Department, *Deepwater Horizon* Oil Spill, available at http://www.tpwd.state.tx.us/landwater/water/environconcerns/damage_assessment/deep_water_horizon.phtml/
- Louisiana, *Deepwater Horizon* Oil Spill Natural Resource Damage Assessment, available at http://la-dwh.com/
- Mississippi Department of Environmental Quality, Natural Resource Damage Assessment, available at http://www.restore.ms/
- Alabama Department of Conservation and Natural Resources, NRDA Projects, available at http://www.alabamacoastalrestoration.org
- Florida Department of Environmental Protection, *Deepwater Horizon* Oil Spill Response and Restoration, available at http://www.deepwaterhorizonflorida.com

[7] See http://www.gulfspillrestoration.noaa.gov/restoration/give-us-your-ideas/.

considered these project ideas as part of restoration planning and during development of the PDARP/PEIS.

In addition, during each of the five phases of Early Restoration planning (discussed in Chapter 5.4.3 of the Final PDARP/PEIS), the Trustees published a draft restoration plan, held public meetings, solicited public comments, and responded to comments in a final restoration plan. Although these comments were targeted at Early Restoration, much of the input was relevant and incorporated into the programmatic restoration planning process.

4.2 Public Review Process for the PDARP/PEIS

The Trustees encouraged the public to review and comment on the Draft PDARP/PEIS during a 60-day review period, October 5, 2015, through December 4, 2015 (80 FR 60126). During this time, the Trustees held a series of public meetings in each of the affected states to facilitate the public review and comment process. The Trustees considered all relevant comments received during the public comment period, and revised the Draft PDARP/PEIS as appropriate. A summary of comments received and the Trustees' responses are included in the Final PDARP/PEIS Chapter 8. A Final PDARP/PEIS was made available to the public on February 19, 2016 (81 FR 8483).

4.3 Correspondence Received After Publication of the Final PDARP/PEIS

The Trustees received two letters following the release of the Final PDARP/PEIS. The substance of those letters was duplicative of public comment received on the Draft PDARP/PEIS during the open comment period, and as such was addressed in the summary of comments included in Chapter 8 of the Final PDARP/PEIS.

EPA's Office of Federal Activities submitted a letter according to its responsibilities under Section 309 of the Clean Air Act. After reviewing the Final PDARP/PEIS, EPA found that its comments on the Draft PDARP/PEIS had been satisfactorily addressed and its recommendations had been incorporated.

5 COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE PROGRAMMATIC ALTERNATIVES

The Trustees' considered the environmental impacts as part of the decision making described in this ROD. This section summarizes and compares the environmental consequences of Alternatives A (Comprehensive Integrated Ecosystem Restoration), B (Resource-Specific Restoration), C (Continue Injury Assessment and Defer Comprehensive Restoration), and D (Natural Recovery/No Action).

5.1 Summary of Impacts of Alternative A

As part of the PEIS, potential long- and short-term physical, biological, and socioeconomic impacts of restoration under the programmatic alternatives were evaluated. The generally qualitative level of detail of the evaluation is commensurate with the programmatic planning-level decisions made.

Long- and short-term; beneficial and adverse; and minor, moderate, or major impacts are anticipated as a result of Alternative A, depending on the specific characteristics of the projects ultimately proposed in

subsequent restoration plans, including the size, location, design, operation, and other aspects of future project development. However, there are some similarities in impacts across resources. Adverse impacts are generally short-term in duration, such as disturbances associated with construction activities. Long-term adverse impacts include impacts to geology and habitat as a result of conversion of habitat from one type to another that occurs as part of restoration activities. Impacts to each of these resource categories are briefly summarized below.

5.1.1 Physical Resources

The benefits to the physical environment as a result of these restoration actions are typically minor and include ocean and shoreline improvements due to removal of marine debris and removal of minor impairments, and improvements to water and air quality due to reduced or restricted development.

Impacts of restoration approaches targeting creation, restoration, and/or enhancement of coastal habitats (e.g., dunes, barrier islands, coastal wetlands) to physical resources are generally anticipated to be primarily adverse in the short term due to disturbance from construction, and beneficial in the long term due to restoration of sustainable and resilient coastal systems. Short-term adverse impacts would be minimized by best practices. The long-term benefits to the physical resources outweigh the short-term, minor impacts and include restored freshwater flows, sediment, and nutrient loads; restored sediment dynamics and deltaic processes; and overall coastal resiliency.

Several restoration approaches focus on species or groups of species: for example, reef and highly migratory pelagic fish, Gulf sturgeon, sea turtles, birds, and marine mammals. Impacts to physical resources for these approaches are fewer, of smaller intensity, and localized in comparison to habitat restoration.

5.1.2 Biological Resources

Long-term benefits to these resources from restoration approaches are anticipated as a result of reducing mortality and increasing chances of reproductive success, coupled with other management actions supporting habitat restoration and related natural resource service flows.

Adverse impacts to biological resources as a result of restoration approaches range from short- and long-term and minor to moderate to major. Adverse impacts are typically a result of replacement of existing habitat by the newly created or restored habitat (e.g., burial with sediment for dune creation), displacement or loss of species due to habitat replacement, or injury or mortality of species due to direct interaction or entrainment during restoration activities (e.g., construction or processing equipment). Benefits to biological resources are long-term and will increase habitat for foraging, nesting, and spawning; reduce bycatch and mortality of bycatch among fish, sea turtles, birds, and marine mammals; or reduce disturbance to resources such as mesophotic corals, oyster reefs, and SAV beds.

Habitat restoration approaches that create, restore, or enhance habitat will have a minor to moderate to major adverse impacts on existing habitats being replaced. Short-term, minor adverse impacts anticipated include reduced water quality, air quality, and ambient noise conditions primarily due to construction in water, in wetlands, and on land. Long-term major adverse impacts include loss of

existing habitats and commensurate losses of vegetation and animals associated with the replaced habitats. Benefits of marsh restoration would be long-term and significant with respect to sediment supply source, water quality improvements, fish and wildlife habitat (nursery, foraging, spawning), as well as opportunities for recovery of particular listed species.

Restoration approaches include limiting access within discrete areas, reducing bycatch and bycatch mortality, improving response and rescue abilities, revegetation, and predator control. Adverse impacts of these approaches are typically associated with incidental injury or mortality that would occur with or without the restoration.

5.1.3 Socioeconomic Resources

The magnitude and duration of socioeconomic impacts will depend on the scale of the actions chosen and site-specific characteristics such as location, presence of cultural resources in the project area, and regional availability of substitutes (e.g., recreational opportunities or alternative employment).

Numerous socioeconomic benefits are expected to result from the restoration approaches included in Alternative A. Over the long term, restoration approaches will improve the health of wildlife and fish populations, which in turn leads to increased opportunities for wildlife viewing and fishing. Regional economic benefits are expected as a result of increased tourism and recreation due to restoration of and increased access to barrier islands, beaches, and other important habitats. In addition, construction associated with the restoration approaches will result in short-term regional economic benefits due to increased employment and spending. Finally, the restoration approaches will provide a very important socioeconomic benefit by reducing the risk of potential hazards, such as storm surges, and improving shoreline integrity.

Few major adverse impacts to socioeconomic resources are expected to result from the restoration approaches. Some of the coastal restoration approaches could have adverse socioeconomic impacts related to effects on fisheries or the availability of water supply for agriculture or municipal uses, transportation, flood protection, and hydropower supply.

Industries such as shipping and energy could be affected if noise restrictions are enacted. Construction activities associated with the restoration approaches may result in short-term limitations on public access, resulting in economic impacts due to reduced visitation and spending.

5.2 Alternative B: Resource-Specific Restoration

Alternative B would establish a resource-specific restoration portfolio based on the Trustees' programmatic goals, purpose, and need. Alternative B seeks to maximize benefits to individual resources and human uses based on close, well-defined relationships between injured resources and the Restoration Types. This alternative is focused on restoring injured natural resources as directly as is practical. Because Alternative B comprises the same Restoration Types as Alternative A, its description does not repeat the information for each Restoration Type presented in Final PDARP/PEIS Section 6.4. Although the Restoration Types that make up Alternative B are the same as those described under Alternative A, there are important distinctions in how the Trustees could implement restoration between Alternatives A and B.

Alternative B would emphasize the Restoration Types associated with living coastal and marine resource restoration, with correspondingly less emphasis on wetland, coastal, and nearshore habitat restoration. Alternative A has a primary focus on implementing restoration actions that provide the benefit of ecosystem linkages and the ability to compensate for inferred or unquantified injuries as well as the connectivity among resources, habitats, and human uses. This means that there is an emphasis on coastal habitat restoration in Alternative A. Alternative B has a focus on restoring living coastal and marine resources. Although ancillary benefits may be provided for ecosystem linkages under Alternative B, these are not a primary consideration for this alternative. Therefore, coastal habitat restoration is a component but not the focus of Alternative B.

Under both Alternatives A and B, the Trustees would implement monitoring, assessment, and scientific support activities to evaluate the response to restoration and to better inform ongoing restoration and management decisions within an adaptive management framework. Likewise, both Alternatives A and B would factor in contingencies to address future unknown conditions, given the unprecedented scale of restoration required and the number of years that it will take to implement this plan.

Overall, Alternative B would focus on resource-specific restoration, shifting the restoration and funding allocation emphasis from the goal of Restore and Conserve Habitats to the goal of Replenish and Protect Living Coastal and Marine Resources. Although restoration of living coastal and marine resources may include some habitat restoration, the amount of habitat restoration that would be implemented is less certain than in Alternative A. Since the restoration portfolio under this alternative relies on the same approaches as Alternative A with a different emphasis across Restoration Types, the potential environmental consequences, including the direct, indirect, and cumulative impacts of the approaches could be the same as those summarized in Final PDARP/PEIS Section 6.1. However, the environmental consequences of Alternative B would be expected to reflect relatively less of those impacts associated with the approaches under the Wetlands, Coastal, and Nearshore Habitat Restoration Type and more of those impacts associated with approaches under the goal of Replenish and Protect Living Coastal and Marine Resources.

5.3 Alternative C: Continue Injury Assessment and Defer Comprehensive Restoration Planning

Alternative C defers development of a comprehensive restoration plan until greater scientific understanding of the injury determination is achieved. This alternative could include the Restoration Types identified for Alternatives A and B, which are described in Final PDARP/PEIS Section 5.5, Alternative A: Comprehensive Integrated Ecosystem Restoration (Preferred Alternative), but also could include refinements to those Restoration Types or a change in focus across the Restoration Types. Although approved Early Restoration projects would continue, no further NRDA restoration would be conducted until the additional injury assessment is completed and a corresponding restoration plan developed. Under Alternative C, the allocation of funding to restoration could be substantially less because injury assessment costs would reduce the total amount available for restoration. As a result, it would be expected that less restoration would occur, and correspondingly fewer environmental

consequences (including fewer beneficial impacts) associated with that restoration implementation would also result.

This alternative might increase the potential for more directly targeted restoration projects. However, further study may not substantially change the understanding of the nature or extent of certain injuries regardless of the length of time or amount of funding devoted to further study. This is due to the inherent difficulties in studying many oceanic systems and the time that has already passed since the spill. Although further study might be able to provide more certainty to the injury quantification, the Trustees do not expect that the increased degree of certainty would substantially change the Trustees' restoration approach.

Deferring restoration planning in favor of continued assessment would cause substantial delays in restoration implementation beyond Early Restoration, which would lead to further losses in natural resources and their services. This further study may not substantially change the understanding of the nature or extent of certain injuries regardless of the length of time or amount of funding devoted to further study. Additionally, the reduction in funds available for restoration (due to expenditure on continued assessment) would result in Alternative C not providing as much benefit to injured resources as Alternative A or B.

5.4 Alternative D: Natural Recovery/No Action

NEPA requires consideration of a no-action alternative as a basis for comparison of potential environmental consequences of the action alternatives. OPA regulations also require that "trustees must consider a natural recovery alternative in which no human intervention would be taken to directly restore injured natural resources and services to baseline" (15 CFR § 990.53[b][2]). This section summarizes the analysis of natural recovery/no action in the Final PDARP/PEIS that was considered as part of the selection of Alternative A.

As discussed in the Final PDARP/PEIS Chapter 5, Section 5.8, under the Natural Recovery/No-Action alternative, the Trustees would not prepare subsequent restoration plans to undertake any additional restoration for injured natural resources or to compensate for lost services. Early Restoration would be the only restoration implemented under NRDA under this alternative—no additional restoration would be done by Trustees.

Under this alternative, Trustees 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. Under this alternative, resources affected by the spill would remain injured for a longer period of time.

A "no-impact" conclusion could be made for the Natural Recovery/No-Action alternative because this alternative would not undertake additional restoration, and would largely result in a continuation of the conditions described in Final PDARP/PEIS Chapters 3, Ecosystem Setting, and 4, Injury to Natural Resources, and there would be neither associated funding costs nor any economic benefits.

This alternative does not meet the purpose and need for restoration of injured resources and services. Under this alternative, the benefits to resources as a result of implementing the Final PDARP/PEIS would not be realized. Given that technically feasible restoration approaches are available, the alternative is not further compared against the other action alternatives.

5.5 The Environmentally Preferable Programmatic Alternative

As required by the Council on Environmental Quality NEPA implementing regulations, a ROD must identify the alternative or alternatives considered to be environmentally preferable (40 CFR § 1505.2[b]). The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources.

The Trustees have determined that Alternative A is the environmentally preferable alternative. In addition to representing the best path to addressing the ecological injuries from the spill, Alternative A also provides a more comprehensive and ecosystem-level restoration approach and outcomes to addressing these injuries than the other alternatives analyzed. As discussed in Section 5.1 above, Alternative A will employ an ecosystem approach toward implementing the integrated restoration portfolio with the intent of enhancing the connectivity and productivity of habitats and resources, which will help sustain restoration gains over the long term. This focus is complemented by additional restoration that addresses specific injuries or aspects of injuries not fully addressed by coastal habitat restoration. The recognition of the key role of coastal habitats in the interconnected Gulf of Mexico ecosystem helps ensure that multiple resources will benefit from restoration and that reasonably inferred but unquantified injuries are likely to be addressed.

5.6 Cumulative Impacts

A cumulative impacts analysis was conducted that assessed the impacts of the proposed alternatives when added to other past, present, and reasonably foreseeable future actions. Based on the analysis, the Trustees concluded that numerous physical, biological, and socioeconomic benefits are expected to result from the restoration approaches considered in Alternative A, such as improved health of wildlife and fish populations, increased opportunities for wildlife viewing and fishing, regional benefits from tourism and recreation due to restoration of barrier islands and beaches and other important habitats, among others. None of the alternatives would contribute substantially to cumulative adverse impacts for any of the affected resources analyzed. Based on information available for this analysis, Alternatives A, B, and C are not expected to contribute substantially to short-term or long-term cumulative adverse impacts to physical, biological, or socioeconomic resources when analyzed in combination with other past, present, and reasonably foreseeable future actions. Alternative C would delay and may reduce benefits to physical resources. Alternative D would not contribute to long-term restoration benefits to physical resources and would contribute to degradation of physical resources in the northern Gulf of Mexico ecosystem. Where appropriate, regional or site-specific cumulative impact analyses will be conducted in documents tiering from the Final PDARP/PEIS to address potential impacts in more detail.

6 PROGRAMMATIC ALTERNATIVE DECISION AND FACTORS CONSIDERED IN THE DECISION

6.1 The Programmatic Alternative Decision

The Trustees have chosen Alternative A, Comprehensive Integrated Ecosystem Restoration—as described in the Final PDARP/PEIS—as the Programmatic Restoration Plan for the spill.

6.2 Factors Considered and Rationale for the Programmatic Decision

In reaching the programmatic decision, the Trustees considered the purpose and need for the action as described in Section 2.2 of this ROD, including the programmatic evaluation criteria developed for the PDARP described below. The Trustees also carefully considered public comments.

The Trustees are, in part, evaluating a programmatic decision regarding how natural resource damage settlement funds in the amount of $8.1 billion (plus up to $700 million for adaptive management for unknown conditions) would be used for restoration to address the natural resource injuries described in this document. Each action alternative emphasizes a different comprehensive restoration planning philosophy.

The Final PDARP/PEIS provides the Trustees' comparison of alternatives (see Final PDARP/PEIS Chapter 5, Section 5.9, Comparison of Alternatives), based on the OPA Evaluation Standards (15 CFR § 990.54[a][1]–[6]) and supported by the consideration of the environmental consequences of the alternatives, summarized in Section 5 above.

The Trustees followed the OPA regulations identifying minimum criteria to evaluate alternatives. The Trustees must evaluate and select the proposed restoration alternatives, and eventually actual restoration projects, based on these OPA Evaluation Standards:

- The cost to carry out the alternative.
- The extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses.
- The likelihood of success of each alternative.
- The extent to which each alternative will prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative.
- The extent to which each alternative benefits more than one natural resource and/or service.
- The effect of each alternative on public health and safety.

The Trustees found that Alternative D does not meet the programmatic purpose and need for restoration of injured natural resources and natural resource services. Additionally, the Trustees determined that Alternative C would not be as successful as Alternatives A or B in meeting the Trustees'

goals, particularly given delay in implementing restoration and the reduction in funds available for restoration.

The Trustees provided a more detailed comparison of Alternatives A and B in the Final PDARP/PEIS. Each of these action alternatives are composed of a restoration portfolio that 1) meets the four programmatic goals of benefiting habitat, water quality, living coastal and marine resources, and recreational use; 2) includes the Restoration Types identified based on injury; and 3) distributes that restoration across the five states, federal lands, and nearshore and offshore waters. Additionally, the Trustees' action alternatives meet the fifth goal by including monitoring, adaptive management, and adaptive management for unknown conditions. The Trustees would also factor in contingencies to address future unknown conditions, given the unprecedented scale of restoration required and the number of years that it will take to implement this plan. However, the Trustees' restoration planning under Alternatives A and B differ in their emphasis on coastal habitat restoration and ecological interconnectivity compared to their emphasis on living coastal and marine resources.

Alternative A will take an ecosystem approach to implementing the integrated restoration portfolio with the intent of enhancing the connectivity and productivity of habitats and resources, which will help sustain restoration gains over the long term. The recognition of the key role of coastal habitats in the interconnected Gulf of Mexico ecosystem helps ensure that multiple resources will benefit from restoration and that reasonably inferred but unquantified injuries are likely to be addressed. To achieve the desired portfolio of restoration approaches, the emphasis on coastal habitat restoration will be complemented by additional restoration for living coastal and marine resources and recreational uses to ensure that all injured resources are fully compensated. This combination of implementing restoration across resource types and emphasizing coastal habitat restoration, plus robust monitoring and adaptive management, creates a restoration portfolio that maximizes the likelihood of providing long-term benefits to all resources and services injured by the spill.

Alternative B would implement more direct, resource-specific restoration, shifting the restoration emphasis from the goal Restore and Conserve Habitats to the goal Replenish and Protect Living Coastal and Marine Resources. However, since Alternative B emphasizes living coastal and marine resources and, correspondingly, reduces the emphasis on coastal habitat restoration, the Trustees are less certain that Alternative B would successfully restore the reasonably inferred but unquantified injured natural resources and services described in Chapter 4 of the Final PDARP/PEIS. The strong, but indirect, ecological linkages between habitats and species injured by the spill would be ancillary, rather than primary, benefits under Alternative B.

The Trustees find that Alternatives A and B are both consistent with the Trustees' programmatic goals; however, Alternative A is preferred because it best meets the Trustees' goals, purpose, and need for restoration by working synergistically to restore for the full range of assessed injuries caused by this spill. By conducting restoration for both targeted species in the Gulf of Mexico food web and the habitats on which they rely, ecological linkages may also be restored. Final PDARP/PEIS Chapter 5, Table 5.9-1, provides a comparative analysis of Alternatives A and B using a subset of the OPA Evaluation Standards that are most meaningfully differentiated at this programmatic level.

This evaluation provided sufficient information for the Trustees to determine that Alternative A is preferred, as it best meets the Trustees' goals, purpose, and need for restoration.

6.3 Programmatic Mitigation Measures

In choosing Alternative A, the Trustees relied on confidence that all practicable means that could be used to avoid or minimize potential adverse effects when planning and implementing subsequent restoration projects were considered at the programmatic level (Appendix 6.A of the Final PDARP/PEIS) and are available to the TIGs. Additional site-specific measures identified during planning and/or resulting from consultations will also be considered. All projects implemented under subsequent restoration plans and tiered NEPA analyses consistent with the Final PDARP/PEIS will secure all necessary state and federal permits, authorizations, consultations, or other regulatory processes, including those related to sensitive habitats (e.g., wetlands or essential fish habitat) protected species and cultural and historic resources.

Appendix 6.A of the Final PDARP/PEIS is intended to evolve as an adaptive management component of implementing the PDARP/PEIS. As such, the appendix is intended be a living document. As new best practices are established, existing best practices are refined, or new techniques and information are informed by implementation, these measures will be added to or updated on the Trustee Council website. In this capacity, new projects will have available the current range of best practices to support project design and implementation.

Based on the best practices identified in Appendix 6.A to the Final PDARP/PEIS and the Trustees' decision to determine and establish measures for future projects based on subsequent restoration planning and site-specific circumstances, the Trustees have determined that all practicable means to avoid or minimize environmental harm from Alternative A have been adopted.

7 COMPLIANCE WITH RELEVANT ENVIRONMENTAL LAWS, REGULATIONS, AND EXECUTIVE ORDERS

Before selecting the Preferred Alternative, the Trustees reviewed the proposed action to ensure that taking such action is compliant with relevant federal laws, regulations, and Executive Orders. The PDARP was evaluated programmatically in accordance with ESA and the Coastal Zone Management Act (CZMA). Prior to the completion of regulatory reviews and approvals of subsequent projects tiered from the PDARP/PEIS, the Trustees will not make any irreversible or irretrievable commitment of resources on that project that has the effect of foreclosing alternative measures to protect trust resources. This does not prohibit Trustees from conducting or authorizing nondestructive project planning activities before completion of regulatory reviews and approvals.

7.1 Programmatic Consultations Under the Endangered Species Act

On October 8, 2015, the NOAA Restoration Center, on behalf of the Trustees, requested programmatic ESA formal consultation with National Marine Fisheries Service (NMFS) on the Preferred Alternative, including consideration of the governance and future decision-making processes identified in the PDARP/PEIS under ESA Section 7(a)(2). Based on the outcome of pre-consultation discussions with NMFS

since 2013, and the types of future projects to be proposed and implemented under the program described in the Preferred Alternative, a programmatic analysis was deemed the appropriate path of ESA consultation.

On February 10, 2016, NMFS completed a framework programmatic Biological Opinion (BO) on the Preferred Alternative to guide the development of subsequent restoration plans and project-level actions and concluded that the proposed action is not likely to jeopardize the continued existence of any ESA-listed endangered or threatened species under the jurisdiction of NMFS and is not likely to destroy or adversely modify any designated critical habitat. It included Conservation Recommendations that are discretionary measures intended to guide restoration planning to achieve the ESA and PDARP goals of restoring ESA-listed resources.

The NMFS BO described pathways for subsequent Section 7 consultations on project-level actions that tier from the PDARP/PEIS. Those consultations will be either informal or formal, depending on the individual action and follow procedures in 50 CFR § 402. A streamlined informal consultation pathway using project design criteria was identified for several common restoration activities proposed in the Final PDARP/PEIS.

On February 1, 2016, USFWS, on behalf of the Trustees, submitted a Biological Assessment and request for consultation pursuant to Sections 7(a)(2) and 7(c) of the ESA to evaluate the proposed action described in the Final PDARP/PEIS.

On March 18, 2016, USFWS completed a biological and conference opinion (BO/CO) in accordance with Section 7(b) of the ESA of 1973, as amended (16 U.S.C. § 1531 et seq.), and implementing regulations at 50 CFR § 402. This framework programmatic BO/CO evaluates the effects of the framework programmatic action to implement the PDARP on 115 listed, proposed, or candidate species and 39 designated or proposed critical habitats, and concluded that the proposed action is not likely to jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of critical habitat. Although the framework programmatic action may result in short-term adverse effects to threatened and endangered species and their critical habitats, the purpose of these actions is designed to accomplish comprehensive ecosystem restoration and therefore will provide direct and indirect benefits to listed, proposed, and candidate species and their designated and proposed critical habitats.

These BOs do not include an incidental take statement or authorize any incidental take associated with implementing the PDARP. In accordance with 50 CFR § 402.14, for a framework programmatic action, an incidental take statement is not required at the programmatic level. Any incidental take resulting from any action subsequently authorized, funded, or carried out under the program will be addressed in subsequent Section 7 consultations, as appropriate.

To comply with ESA on future project-specific actions as specified in the NMFS and USFWS programmatic ESA BOs, a federal Trustee, on behalf of the Implementing Trustee(s) when necessary, will serve as the action agency to initiate ESA consultations and conferences with USFWS and/or NMFS on

proposed projects or groups of projects that may affect listed and proposed species and their designated or proposed critical habitats. The status of these ESA consultations and conferences, including required conservation measures and/or best practices and design criteria, where applicable, will be included in final subsequent restoration plans prepared by TIGs consistent with the Final PDARP/PEIS (see Section 6.17, NEPA Considerations and Tiering Future Restoration Planning).

7.2 Programmatic Consultation Under the Coastal Zone Management Act

Restoration actions proposed to be undertaken or authorized by federal agencies, including federal Trustees acting pursuant to OPA, are subject to review for "federal consistency" under CZMA. Although the PDARP/PEIS does not propose any specific restoration actions or projects, it does outline and describe a programmatic structure under which project-specific restoration plans would be developed, proposed, and selected, with substantial and meaningful opportunities for public participation in that process

The federal Trustees recognize that there are reasonably foreseeable effects on coastal uses and resources that would flow from implementation of the Final PDARP/PEIS. Further, federal and state agencies are encouraged to coordinate as early as possible in developing a proposed federal action under CZMA regulations; guidance and procedures for federal and state agencies' coordination, cooperation, and compliance with federally approved state coastal management plans under CZMA are provided at 15 CFR § 930. Accordingly, the federal Trustees evaluated those reasonably foreseeable effects of the Final PDARP/PEIS for consistency with the federally approved coastal management programs in Texas, Louisiana, Alabama, Mississippi, and Florida and submitted a consistency determination for the PDARP/PEIS for state review coincident with public review of this document on October 6, 2015 (Final PDARP/PEIS, Appendix 6.C.3). Each state reviewed the Trustees' consistency determination and each state concurred with the determination that the PDARP/PEIS is consistent to the maximum extent practicable with their federally approved Coastal Management Programs (Final PDARP/PEIS, Appendix 6.C.4). The development of subsequent restoration projects tiered from the Final PDARP/PEIS remains subject to additional consistency reviews as may be required under applicable Coastal Management Programs.

7.3 Compliance with Other Relevant Laws, Regulations, and Executive Orders

7.3.1 Federal

In addition to the requirements of OPA and NEPA, requirements of other federal laws may apply to the PDARP/PEIS. The Trustees considered relevant laws, regulations, and Executive Orders with respect to the programmatic action selected in the PDARP/PEIS. The Trustees will ensure compliance with these relevant authorities as subsequent project-level restoration plans tier from the PDARP/PEIS. Whether and to what extent an authority applies to a future project depends on the specific characteristics of a particular project, among other things. An expanded list of federal laws and regulations is included in the Final PDARP/PEIS Appendix 6.D, Other Laws and Executive Orders.

7.3.2 State and Local

As subsequent project-level analyses are tiered from the PDARP/PEIS, Trustees will ensure compliance with all applicable state and local laws relevant to the individual state within which the project is to be located. Those laws and regulations relevant to individual proposed projects will be addressed in subsequent restoration planning.

8 IMPLEMENTATION

The manner in which the Selected Alternative will be implemented is provided in Chapter 7, (Governance) of the Final PDARP/PEIS. Many commenters on the Draft PDARP/PEIS provided comment on this chapter, and those comments were considered by the Trustees in finalizing the document. Given the public interest in the governance section, key aspects of the governance and implementation are summarized below.

8.1 Governance Structure

In keeping with the Trustees' responsibilities under OPA, and in the context of the comprehensive, integrated ecosystem restoration identified as the Selected Alternative, the Trustees' governance structure guides the continuing restoration process and establishes transparency and public accountability of the Trustees' actions. Chapter 7 of the Final PDARP/PEIS describes the Trustees' governance structure to ensure that restoration is achieved with financial accountability and that obligations set forth in OPA, the future Consent Decree, the Final PDARP/PEIS, and subsequent restoration plans are met. The duties of the Trustees include restoration planning, restoration implementation, monitoring and adaptive management, financial management, public engagement, and restoration tracking. As described in Chapter 7, subsequent to this ROD, the Trustees will also develop federal and state memoranda of understanding and Standard Operating Procedures (SOP) and revise these over time as needed.

The Trustees will operate via a distributed governance structure that assigns a TIG for each of seven Restoration Areas (restoration in each of the five Gulf states, Open Ocean, and Regionwide), and additionally establishes a TIG for "Unknown Conditions and Adaptive Management." The Trustees believe that restoration can be carried out most efficiently by directly vesting restoration decision-making in those Trustees who have the strongest collective trust interests in natural resources and their services within each Restoration Area. Because these are shared public trust resources, with overlap in federal and state jurisdiction, both state and federal Trustees serve on the Trustee Council and within respective TIGs.

The Trustee membership on the Trustee Council and TIGs is illustrated in Final PDARP/PEIS Table 7.2-1 and Appendix B to this ROD. More description of the structure and responsibilities of the TIGs and the Trustee Council is provided in Final PDARP/PEIS Chapter 7, Governance.

8.2 Subsequent Restoration Plans and Corresponding NEPA Analyses

The TIGs for each Restoration Area will prepare a series of subsequent restoration plans to propose and select specific projects for implementation. Restoration plans will propose project(s), or groups of projects, and alternatives to those projects.

Subsequent restoration plans will propose specific projects that will be consistent with the Final PDARP/PEIS and Consent Decree and will be presented for public review and comment prior to finalization. Individual projects will contribute to one or more of the goals established for the relevant Restoration Type(s), and will be based on one or more of the restoration approaches analyzed for the relevant Restoration Type in the Final PDARP/PEIS Appendix 5.D, Restoration Approaches and OPA Evaluation. The OPA regulations (15 CFR § 990.54) establish required evaluation standards and allow Trustees to establish additional incident-specific evaluation and selection criteria for alternatives and restoration projects. For this incident, the Trustees have determined that the subsequent restoration plans and projects must also be consistent with the goals outlined in Final PDARP/PEIS Section 5.3.1, Programmatic Trustee Goals, and with the Restoration Types described in Section 5.5, Alternative A: Comprehensive Integrated Ecosystem Restoration (Preferred Alternative).

In developing and evaluating projects in subsequent restoration plans, the TIGs will take into account the planning and implementation considerations described in Final PDARP/PEIS Chapter 5 and its appendices, and restoration planning will be informed by adaptive management to support science-based decisions, as well as by public comment on the draft plans. As restoration implementation and science in the northern Gulf of Mexico evolve, the Trustees may also update Final PDARP/PEIS Appendix 5.D to ensure that restoration approaches remain the best available to the Trustees over the life of the Final PDARP/PEIS implementation. Changes to Final PDARP/PEIS Appendix 5.D will be retained on the Trustee Council website for public awareness.

The programmatic environmental consequence analysis included in the Final PDARP/PEIS evaluated broad programmatic issues and impacts, thereby allowing the Trustees to tier (see 40 CFR § 1508.28) future project-specific NEPA analyses from the programmatic NEPA analysis. The corresponding NEPA analysis will typically be integrated with the subsequent restoration plan. The tiered NEPA analyses will be prepared in accordance with NEPA and implementing regulations, and will be consistent with the PEIS and the environmental consequences analyses for the relevant restoration approaches. These tiered project-specific analyses reduce or eliminate duplicative documentation by focusing on project-specific issues and incorporating by reference the issues evaluated in the PEIS. Among other factors consistent with NEPA, TIGs will consider the scope and magnitude of potentially significant impacts that were not already considered and addressed in the PEIS in determining the level of NEPA documentation (e.g., environmental assessment or environmental impact statement) to be developed. The public will have an opportunity to review and comment on draft restoration plans and the corresponding NEPA analyses.

8.2.1 Additional Considerations

In addition to addressing requirements of OPA and NEPA and analyzing and describing compliance required under other environmental laws, regulations, and executive order, the Trustees will address

considerations of 1) climate change and 2) environmental justice in more detail in subsequent restoration plans and their integrated NEPA analyses:

- Consistent with Section 6.14 of the Final PDARP/PEIS (Consideration of the Effects of Climate Change), subsequent restoration plans tiered from the PDARP/PEIS will include an appropriate level of analysis of greenhouse gas (GHG) emissions and assess any project or site-specific considerations related to climate change.

- As described in the Final PDARP/PEIS (Section 6.16), the restoration approaches that make up the programmatic alternative are not, in general, expected to create a disproportionately high and adverse effect on minority or low-income populations. Subsequent restoration plans and tiered NEPA analyses will, where applicable, evaluate population characteristics (including race and ethnicity and per-capita income as it relates to the poverty level) and effect determinations for environmental justice analyses. Project-specific data, such as those available from the EPA environmental justice mapping and screening tool "EJSCREEN," will be used to consider implications for local minority or low-income populations.

8.3 Restoration Project Implementation

The Final PDARP/PEIS is programmatic, and therefore did not propose or select individual projects for implementation. Project implementation responsibilities of the TIGs, the Individual Trustee Agencies, and the Trustee Council are broadly described in Final PDARP/PEIS Chapter 7, Governance. Following release of subsequent final restoration plans and their integrated NEPA analyses, implementation of future selected restoration projects will be consistent with those final restoration plans, including required compliance with all applicable federal, state, and local laws. The TIGs will also continue the implementation and monitoring of Early Restoration projects (Final PDARP/PEIS Appendix 5.B, Early Restoration; Table 5.B-2 shows the Early Restoration projects by Restoration Area).

8.4 Public Engagement

In addition to public review and comment on subsequent draft restoration plans and their integrated NEPA analyses, the Trustees will provide opportunities for public engagement throughout the implementation of this restoration program. Public engagement will occur to provide information to, and to receive comment from, the public on restoration activities. The Trustees will publicly notice certain program milestones as part of effective restoration planning and implementation, exchange restoration ideas or concerns, cultivate a broad understanding of restoration, and increase the public's awareness of the process.

The Trustee Council will hold at least one public meeting per year in which each TIG will provide an update on the status of its restoration planning, implementation, and monitoring/adaptive management, with opportunity for public input. In addition, as described in Final PDARP/PEIS Section 7.3, each TIG will hold at least one public meeting per year (unless a TIG planning cycle calls for a different frequency) to discuss the status of its restoration planning and upcoming restoration planning (including the Restoration Type[s] that it will focus on for a specified timeframe), with an opportunity for

public input. TIGs may also coordinate with specific communities when developing specific restoration projects.

The Trustee Council will maintain and update its current public website containing information on restoration activities. The website will be updated to provide public access to restoration information and updates from the Trustee Council, TIGs, and Individual Trustee Agencies in one central location. Information also may be available on individual Trustees' websites.

8.5 Monitoring and Adaptive Management

According to the OPA regulations (15 CFR § 990.55), a draft restoration plan includes "a description of monitoring for documenting restoration effectiveness, including performance criteria that will be used to determine the success of restoration or need for interim corrective action." Given the unprecedented temporal, spatial, and funding scales associated with this restoration plan, the Trustees recognize the need for a robust monitoring and adaptive management framework to measure the beneficial impacts of restoration, ensure that their decisions are carried out, and support restoration decision-making.

This monitoring and adaptive management framework will also support the Trustees in carrying out their decisions, in accordance with NEPA regulations (40 CFR § 1505.3). Through the adaptive management process, new information concerning potential environmental impacts discovered through NRDA monitoring activities or outside sources will inform decision-making for subsequent restoration plans. In addition, practicable means to avoid or reduce adverse impacts would be adopted through best management practices or mitigation measures described in subsequent restoration plans/tiered NEPA analyses. Project monitoring activities will be described in subsequent restoration plans, and will include documentation of compliance with any required mitigation or monitoring measures and other conditions established in final restoration plans or associated environmental compliance documents.

8.5.1 Monitoring and Adaptive Management for Projects and Restoration Types

The Trustees will perform monitoring and analysis for all restoration projects implemented under this plan, as per the OPA regulations, to evaluate whether projects are meeting their objectives and to inform the need for corrective actions. Additional monitoring and scientific support at the project level may be conducted to support project design, location, and implementation; identify environmental factors that may influence project success; support project compliance with applicable environmental regulations; and better understand ecological functions and benefits. The Trustees may also perform targeted resource level monitoring and scientific support activities for those Restoration Types with substantial gaps in scientific understanding, which limit restoration planning, implementation, evaluation, and/or understanding of resource recovery status.

8.5.2 Monitoring and Adaptive Management for the Restoration Plan

The Trustees' selection of Alternative A includes allocation of funding for monitoring and adaptive management activities. These activities could include resolving key uncertainties that limit restoration planning and evaluating restoration outcomes across multiple projects and Restoration Types.

The Trustees will also establish and maintain the infrastructure needed to manage restoration monitoring information and report on restoration outcomes to the public. This will include the use of

the Restoration Management Portal, where monitoring data, research results, project information, and reports related to all activities undertaken through this restoration plan are made available to the public in a single location. Per OPA regulations, the Trustees will report on progress toward meeting restoration goals and objectives for individual restoration projects. They will also synthesize information collected across projects to report on progress toward meeting the programmatic restoration goals outlined in the PDARP/PEIS.

The Trustees will compile compliance monitoring data and information collected across all TIGs and Restoration Types to achieve programmatic compliance with ESA, and other statutes, as applicable, in the future, and support evaluation of any broader impacts.

8.5.3 Restoration Program Review

The Trustees will synthesize monitoring information and overall restoration results across TIGs and Restoration Types at appropriate intervals to evaluate and report on the Trustees' collective progress toward meeting the ecosystem goals described in the PDARP/PEIS and determine whether any updates based on newly emerged science and/or restoration procedures and Trustees' experience managing and implementing this restoration program are needed.

In performing programmatic reviews, Trustees will:

- Consider the outcomes of restoration conducted to date, including restoration activities funded through the PDARP and restoration work funded through other restoration programs in the Gulf of Mexico, to identify potential synergies and/or interactions among restoration efforts.
- Consider any new evidence of changing environmental conditions or previously unknown conditions that could influence future restoration outcomes.
- Recommend adjustments to restoration implementation based on the evaluation.
- Report to the public on the progress of NRDA restoration.

The Trustee Council may re-examine the restoration program at appropriate intervals, approximately every 5 years, to track its progress toward meeting the established restoration goals, including the Monitoring, Adaptive Management, and Administrative Oversight goal, and to determine any updates needed based on newly emerged science and/or restoration procedures and the Trustees' experience managing and implementing this restoration program.

9 CONCLUSION

Through the Final PDARP/PEIS, and documented in this ROD, the Trustees have determined injury to natural resources and services, analyzed restoration alternatives to address those injuries, analyzed environmental impacts associated with those alternatives and the extent to which any adverse impacts could be mitigated, and have considered the objectives of the action. The Trustees have also considered public and agency comments received during the public review period. The Trustees have decided to select and implement their Preferred Alternative, Alternative A: Comprehensive Integrated Ecosystem

Restoration for the Programmatic Damage Assessment and Restoration Plan. The Trustees also conclude that all practicable means to avoid, minimize, or compensate for environmental harm from the action have been considered programmatically, and that project-specific measures will be adopted at a later date during subsequent restoration planning efforts.

10 POINT OF CONTACT

Further information concerning this Record of Decision and associated PDARP/PEIS authorized under this decision may be obtained by contacting:

National Marine Fisheries Service
Office of Habitat Conservation
1315 East-West Hwy
Silver Spring, MD 20910
gulfspill.restoration@noaa.gov

11 EFFECTIVE DATE

This Record of Decision for the PDARP/PEIS is contingent on entry of the proposed Consent Decree lodged with the court in *Deepwater Horizon oil spill: United States v. BPXP et al., Civ. No. 10-4536, centralized in MDL 2179, In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010 (E.D. La.),* but will otherwise be effective for all Trustees when each listed signatory has signed the Record of Decision. The Trustees will implement the Record of Decision if and when the proposed Consent Decree has been entered by the Court.

FOR THE DEPARTMENT OF THE INTERIOR:

__3/22/16_____
Date

_____
CYNTHIA K. DOHNER
Authorized Official, Department of the Interior

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

_____3/22/16_____
Date

_____
MARY KAY LYNCH
Alternate to Principal Representative
U.S. Environmental Protection Agency

FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION:

03/22/16

Date

DAVID G. WESTERHOLM
Director
Office of Response and Restoration
National Ocean Service
National Oceanic and Atmospheric Administration

EILEEN SOBECK
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration

CHRISTOPHER D. DOLEY
Principal Representative
National Oceanic and Atmospheric Administration

FOR THE U.S. DEPARTMENT OF AGRICULTURE:

____3/22/16_____
Date

_____
ANN C. MILLS
Deputy Under Secretary for Natural Resources and Environment
Principal Representative for the U.S. Department of Agriculture

FOR THE STATE OF ALABAMA:

_____3/22/16_____
Date

_____
N. GUNTER GUY, JR.
Commissioner, Alabama Department of Conservation and Natural Resources
Principal Representative for Alabama Trustees

FOR THE STATE OF FLORIDA:

_____3/22/16_____
Date

_____
MIMI A. DREW
Principal Representative for Florida Trustees

FOR THE STATE OF LOUISIANA:

3/22/2016

Date

JOHNNY B. BRADBERRY
Chairman
Louisiana Coastal Protection and Restoration Authority
Principal Representative for Louisiana Trustees

FOR THE STATE OF MISSISSIPPI:

____3/22/16_____
Date

_____
GARY C. RIKARD
Executive Director
Mississippi Department of Environmental Quality
Principal Representative for Mississippi Trustee

FOR THE STATE OF TEXAS:

22 March 2016
Date

CARTER SMITH
Executive Director
Texas Parks and Wildlife Department
Principal Representative for Texas Trustees

12 REFERENCES

DOI (U.S. Department of the Interior). (2010). *Discharge of oil from Deepwater Horizon/Macondo well, Gulf of Mexico; intent to conduct restoration planning*. 75 FR 60800-60802. Retrieved from https://www.federalregister.gov/articles/2010/10/01/2010-24706/discharge-of-oil-from-deepwater-horizonmacondo-well-gulf-of-mexico-intent-to-conduct-restoration

DPS&C (Louisiana Department of Public Safety and Corrections). (2010). *Restoration planning—discharge of oil from the Deepwater Horizon mobile offshore drilling unit and the subsea Macondo well into the Gulf of Mexico, April 20, 2010*. 36 Louisiana Register 2441-2443. Retrieved from http://www.doa.la.gov/osr/reg/1010/1010.pdf

DWH Trustees (2011). *Public scoping for preparation of a Programmatic Environmental Impact Statement for the Deepwater Horizon BP oil spill*. Retrieved from http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/04/Public-DWH-PEIS-Scoping-Review-Document.pdf

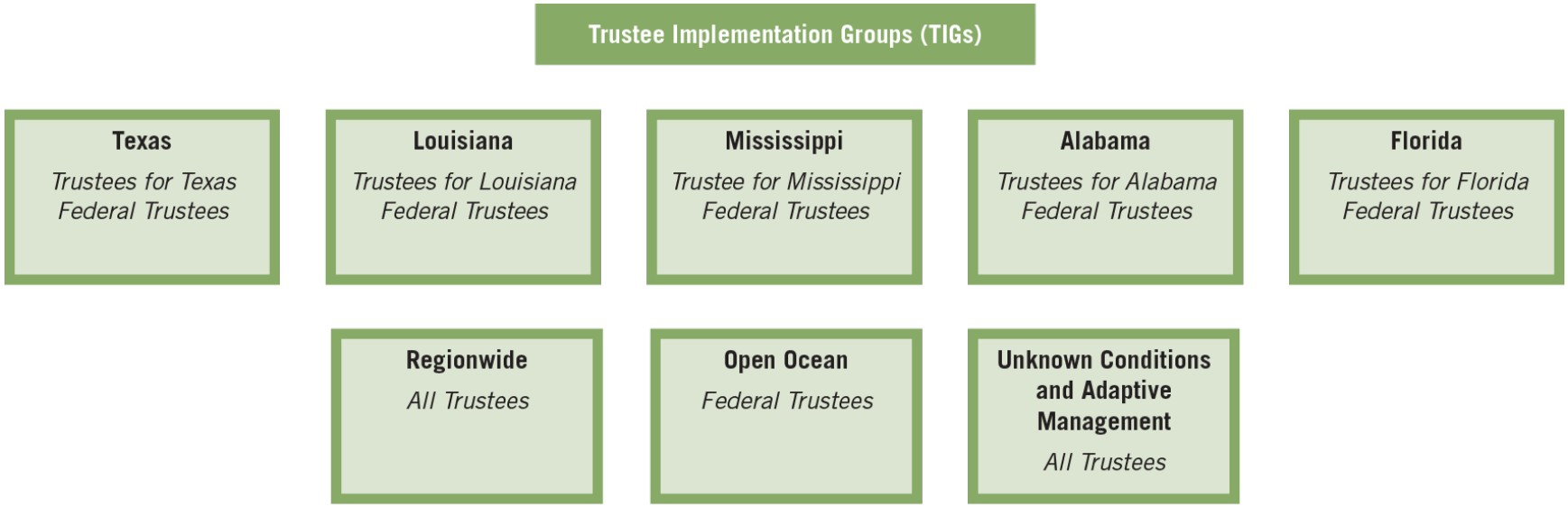
U.S. v. BP et al. (United States of America v. BP Exploration & Production, Inc., et al.). (2015). *Findings of fact and conclusions of law: Phase Two trial. In re: Oil spill by the oil rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, No. MDL 2179, 2015 WL 225421 (LA. E.D. Jan. 15, 2015)*. (Doc. 14021). U.S. District Court for the Eastern District of Louisiana. Retrieved from https://www.gpo.gov/fdsys/pkg/USCOURTS-laed-2_10-md-02179/pdf/USCOURTS-laed-2_10-md-02179-63.pdf

13 APPENDIX A. SETTLEMENT OF NRD CLAIMS; NRD FINAL ALLOCATION ($ DOLLARS)

Major Restoration Categories	Unknown Conditions	Regionwide	Open Ocean	Alabama	Florida	Louisiana	Mississippi	Texas	Total Restoration Funding[a]
1. Restore and Conserve Habitat									
Wetlands, Coastal, and Nearshore Habitats				**65,000,000**	**5,000,000**	**4,009,062,700**	**55,500,000**	**100,000,000**	**4,234,562,700**
Habitat Projects on Federally Managed Lands				**3,000,000**	**17,500,000**	**50,000,000**	**5,000,000**		**75,500,000**
Early Restoration (through Phase IV)				28,110,000	15,629,367	259,625,700	80,000,000		383,365,067
2. Restore Water Quality									
Nutrient Reduction (Nonpoint Source)				**5,000,000**	**35,000,000**	**20,000,000**	**27,500,000**	**22,500,000**	**110,000,000**
Water Quality (e.g., Stormwater Treatments, Hydrologic Restoration, Reduction of Sedimentation, etc.)					**300,000,000**				**300,000,000**
3. Replenish and Protect Living Coastal and Marine Resources									
Fish and Water Column Invertebrates			**380,000,000**						**380,000,000**
Early Restoration Fish and Water Column Invertebrates			20,000,000						20,000,000
Sturgeon			**15,000,000**						**15,000,000**
Sea Turtles		**60,000,000**	**55,000,000**	**5,500,000**	**20,000,000**	**10,000,000**	**5,000,000**	**7,500,000**	**163,000,000**
Early Restoration Turtles		29,256,165						19,965,000	49,221,165
Submerged Aquatic Vegetation						**22,000,000**			**22,000,000**
Marine Mammals		**19,000,000**	**55,000,000**	**5,000,000**	**5,000,000**	**50,000,000**	**10,000,000**		**144,000,000**
Birds		**70,400,000**	**70,000,000**	**30,000,000**	**40,000,000**	**148,500,000**	**25,000,000**	**20,000,000**	**403,900,000**
Early Restoration Birds		1,823,100		145,000	2,835,000	71,937,300		20,603,770	97,344,170
Mesophotic and Deep Benthic Communities			**273,300,000**						**273,300,000**
Oysters		**64,372,413**		**10,000,000**	**20,000,000**	**26,000,000**	**20,000,000**	**22,500,000**	**162,872,413**
Early Restoration Oysters				3,329,000	5,370,596	14,874,300	13,600,000		37,173,896
4. Provide and Enhance Recreational Opportunities									
Provide and Enhance Recreational Opportunities				**25,000,000**	**63,274,513**	**38,000,000**	**5,000,000**		**131,274,513**
Early Restoration Recreational Opportunities			22,397,916	85,505,305	120,543,167	22,000,000	18,957,000	18,582,688	287,986,076
5. Monitoring, Adaptive Management, Administrative Oversight									
Monitoring and Adaptive Management		**65,000,000**	**200,000,000**	**10,000,000**	**10,000,000**	**225,000,000**	**7,500,000**	**2,500,000**	**520,000,000**
Administrative Oversight and Comprehensive Planning		**40,000,000**	**150,000,000**	**20,000,000**	**20,000,000**	**33,000,000**	**22,500,000**	**4,000,000**	**289,500,000**
Adaptive Management NRD Payment for Unknown Conditions	**700,000,000**								**700,000,000**
Total NRD Funding	**$700,000,000**	**$349,851,678**	**$1,240,697,916**	**$295,589,305**	**$680,152,643**	**$5,000,000,000**	**$295,557,000**	**$238,151,458**	

[a] The total restoration funding allocation for the Early Restoration work; each Restoration Type; and monitoring, adaptive management, and administrative oversight is $8.1 billion (plus up to an additional $700 million for adaptive management and unknown conditions).

14 APPENDIX B. COMPOSITION OF THE TIGS



A complete list of federal and state Trustees is included in Section 1 of this ROD.