Alabama Trustee Implementation Group Weeks Bay Land Acquisition (Lloyd Tract) Project: Draft Supplemental Restoration Plan/Environmental Assessment (EA) to Final Restoration Plan II /EA: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; Nutrient Reduction (Nonpoint Source); Sea Turtles; Marine Mammals; Birds and Oysters

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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 Trustee Implementation Group (AL TIG) selected 20 projects for implementation, allocating funds from several restoration types identified in the Deepwater Horizon (DWH) oil spill consent decree, including the Wetlands, Coastal, and Nearshore Habitats restoration type. One of the projects selected for implementation in the RP II/EA, using Wetlands, Coastal, and Nearshore Habitats funds, was the Weeks Bay Land Acquisition (Harrod Tract) project. For the reasons stated below the AL TIG has terminated the Harrod Tract project. This *Weeks Bay Land Acquisition (Lloyd Tract) Project: Supplemental Restoration Plan and Environmental Assessment* (Supplemental RP/EA) supplements the RP II/EA, evaluating the AL TIG's proposal to use those funds previously allocated to the Harrod Tract project to support a new acquisition project in the same watershed.

The Alabama Department of Conservation and Natural Resources (ADCNR) was the Implementing Trustee for the Harrod Tract project. After the RP II/EA Finding of No Significant Impact (FONSI) was signed, ADCNR initiated the due diligence for the acquisition of the Harrod Tract. During due diligence, ADCNR found that the seller was no longer willing to sell the property at a price within the original project budget. Additionally, ADCNR discovered that the presence of extensive cogon grass (*Imperata cylindrica*) on the property would require additional restoration beyond that contemplated in the RP II/EA to realize the restoration benefits expected for the Harrod Tract project. For these reasons, the AL TIG determined that acquisition of the Harrod Tract, while possibly a viable future restoration project, should not be pursued at this time and has terminated the Harrod Tract project.

The termination of the Harrod Tract project has resulted in $3,606,900 of previously allocated Wetlands, Coastal, and Nearshore Habitats restoration funds to become available to the AL TIG. Accordingly, the AL TIG is proposing to use those funds to support a new acquisition project in the Weeks Bay watershed, where the Harrod Tract acquisition would have occurred. Specifically, in this Supplemental RP/EA, the AL TIG evaluates the use of Wetlands, Coastal, and Nearshore Habitats funds to acquire a tract known as the Lloyd Tract, which is located along two tributaries of the Fish River, slightly upstream from the Harrod Tract. The property is bordered by two tidal creeks, Waterhole Branch and Green Branch, and their confluence occurs at the southeastern boundary of the property. The Lloyd Tract has a willing seller, is at risk of development, contains farmland that can be restored to longleaf pine habitat, would become part of the Weeks Bay National Estuarine Research Reserve (Weeks Bay NERR), and would provide restoration benefits to Wetlands, Coastal, and Nearshore Habitats.

Therefore, through this document, the AL TIG is supplementing the RP II/EA and providing information about the proposed Lloyd Tract project, which would replace the Harrod Tract project previously funded in the RP II/EA and provide for the acquisition and restoration of the Lloyd Tract. The AL TIG has determined that using funds previously allocated for the Harrod Tract project for the Lloyd Tract project requires evaluation under the National Environmental Policy Act (NEPA). Additionally, in this Supplemental RP/EA, the AL TIG is evaluating the Lloyd Tract project 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 Trustee Implementation Group (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 six of the DWH Trustees - two state and four federal Trustee agencies - as listed below:

- 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
- United States Department of Agriculture (USDA)

In accordance with the OPA NRDA regulations (15 C.F.R. 990.53(2)), the AL TIG considered a reasonable range of restoration alternatives and identified its preferred alternative: to acquire and restore the Lloyd Tract. No other alternatives were found to meet the AL TIG's purpose and need for this Supplemental RP/EA. Specifically, no other alternative would address the AL TIG's particular goal of further contributing to its Wetlands, Coastal, and Nearshore Habitats restoration efforts in this case, by replacing the Harrod Tract acquisition with another property in the Weeks Bay watershed, which could become part of Weeks Bay NERR. Because the AL TIG was not aware of any other properties that would fit these criteria and were available for acquisition during project development, only the AL TIG's preferred alternative is fully evaluated in this Supplemental RP/EA.

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 effects 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 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 Supplemental RP/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 Supplemental RP/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 Supplemental RP/EA provides OPA and NEPA analyses for the proposed Lloyd Tract acquisition project by supplementing the analyses of using Wetlands, Coastal, and Nearshore Habitats restoration funds to acquire lands in the vicinity of the Weeks Bay NERR included in the RP II/EA. The supplemental analyses provided in this Supplemental RP/EA augment and incorporate by reference the applicable sections of the RP II/EA, including Chapter 7 (NEPA Analysis – Wetlands, Coastal, and Nearshore Habitats) and Chapter 3 (Section 3.1.5). This Supplemental RP/EA also considers any additional environmental impacts that would result from implementation of the Lloyd Tract project that fall outside the scope of those described and analyzed in the RP II/EA (i.e., invasive plant treatment, prescribed burning, and longleaf pine planting).

1.2.3 Intent to Adopt the Weeks Bay Land Acquisition (Lloyd Tract) Supplemental Restoration Plan and Environmental Assessment 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 Supplemental RP/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 Supplemental RP/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 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 and need for the proposed action is to provide for additional restoration benefits for Wetlands, Coastal, and Nearshore Habitats in the Alabama Restoration Area by replacing the Harrod Tract acquisition and management project approved in the RP II/EA, with the acquisition and management of another property in the Weeks Bay watershed, which would become part of Weeks Bay NERR. 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 "Wetlands, Coastal, and Nearshore Habitats," using funds made available through the DWH consent decree (see Final PDARP/PEIS [DWH Trustees 2016: Chapter 10]). Additionally, the purpose and need is consistent with the AL TIG's identification of the Weeks Bay watershed as a high priority coastal location for DWH restoration (see Chapter 2, Section 2.3.1, of the RP II/EA).

1.4 Public Involvement

Following public notice, this Draft Supplemental RP/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/EA is available at http://www.gulfspillrestoration.noaa.gov/restoration-areas/alabama. Comments on the Draft Supplemental RP/EA must be submitted during the comment period by one of the following methods:

PEPC: https://parkplanning.nps.gov/ALTIGLLOYDTRACT

Email: ALTIG@dcnr.alabama.gov

Via U.S. Mail: 31115 Fiver Rivers, Boulevard, Spanish Fort, Alabama, 36527. ATTN: Kelly Swindle

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. Following the close of the 30-day public comment period, the AL TIG will consider any comments received. If no substantive comments are received, the AL TIG will finalize the Supplemental RP/EA and FONSI. If, however, substantive comments are received, such comments shall be responded to and/or addressed prior to determining whether to issue a Final Supplemental RP/EA and FONSI.

2.0 WEEKS BAY LAND ACQUISITION (LLOYD TRACT) PROJECT

2.1 Proposed Action: Weeks Bay Land Acquisition (Lloyd Tract) Project

To meet the purpose and need for action, the AL TIG proposes to acquire the Lloyd Tract and implement habitat restoration and management activities on the property. ADCNR would be the Implementing Trustee for the project. Specific project actions proposed in this Supplemental RP/EA include the following:

- Acquisition of the Lloyd Tract, an approximately 60-acre parcel (see Figure 2);
- Removal of invasive species on the Lloyd Tract by hand or mechanical means, including the application of herbicides;
- Prescribed burning on the Lloyd Tract; and
- Planting and maintenance of longleaf pine habitat on the Lloyd Tract.

The Lloyd Tract is an approximately 60-acre parcel, located across the Fish River and slightly upstream from the Harrod Tract (Figure 1). Due to their proximity, the affected environment for the Lloyd and Harrod tracts is similar.

Project Summary/Background. The proposed project is to acquire and restore the approximately 60-acre Lloyd Tract, transferring it into state ownership, and protecting its existing and restored ecological value through a conservation easement or deed restriction. The habitat found on the Lloyd Tract is shown in Figure 2. This tract contains approximately 17 acres of wetlands that are freshwater forested/shrub wetlands along the riverfront. The 6,000 feet of shoreline area along the Waterhole Branch and the Green Branch of the Fish River is wooded with pine and hardwood trees, including Gulf white cedar (*Chamaecyparis thyoides* subsp*. henryae*), an S3 species (rare or uncommon in Alabama with typically 21 to 100 occurrences) (Keener et al. 2021). The northern, eastern, and central portion of the tract contain open farmland (approximately 30 acres). The farmland is currently used for private use and not commercial production. The property is improved with a single-family residence, attached decks

and porches, detached sheds, and chain link fencing, and is considered at high risk for development because of its proximity to waterfront at the southern and eastern edges. Potential development of this property into a residential subdivision would increase sediment runoff into the tributaries of the Fish River. Accordingly, acquisition and maintenance of this property with restoration improvements (as discussed herein) would benefit riparian and wetland ecosystems and would further restoration goals in Alabama, as outlined in the RP II/EA and Final PDARP/PEIS. The Lloyd Tract contains an intact coastal transition encompassing open water to fresh marsh to forested freshwater wetlands to adjacent upland habitats. This continuum could allow unimpeded upslope migration space for these habitats on the Lloyd Tract in the face of sea level rise because this property is located so close to tidally influenced waters/wetlands. Additionally, acquisition of the Lloyd Tract would enable the transition of agricultural land back to native upland longleaf pine (*Pinus palustris*) habitat, thus reducing future agricultural runoff into the surrounding waterways. The soil type present at the property and the subsequent restoration to longleaf pine habitat are also conducive to gopher tortoise (*Gopherus polyphemus*), which are listed as a species of highest conservation concern in the State of Alabama.

Construction Methodology (or Implementation Methodology) and Timing. ADCNR would purchase the property through a willing seller at or below the Yellow Book appraised value to be incorporated into the Weeks Bay NERR. The Weeks Bay NERR would maintain the conservation value of the property and prohibit any future development. The acquisition of this property would include an appropriate land protection instrument (i.e., deed restriction or conservation easement) to ensure that the purpose of restoration, as described in this plan, is maintained in perpetuity.

Restoration management activities proposed for the Lloyd Tract would be incorporated into the existing Weeks Bay NERR management plan. At present, restoration is anticipated to include removal of any invasive species through use of hand tools and herbicides, prescribed burning to prepare the site for restoration, planting of longleaf pine, and maintenance burning as needed to restore and maintain the longleaf pine habitat. These restoration activities are analyzed below. Other restoration activities determined to be needed during modification of the existing plan would be analyzed in future NEPA analyses and other environmental compliance and permitting, as needed. Acquisition would take approximately 6 months to complete. Restoration activities would be conducted over an approximately 4-year period following acquisition.

Maintenance Requirements. ADCNR would hold title to the property. Weeks Bay NERR would manage the restoration and future maintenance.

Project Monitoring Summary. A Monitoring and Adaptive Management (MAM) plan has been developed and would be implemented as part of this project; the MAM plan is included in Appendix B.

Costs. Estimated project cost is $3,606,900 and would include funds for project implementation (land acquisition and restoration activities), monitoring, and Trustee oversight. A Yellow Book appraisal has been completed, and both the acquisition and proposed restoration activities are within the project budget.

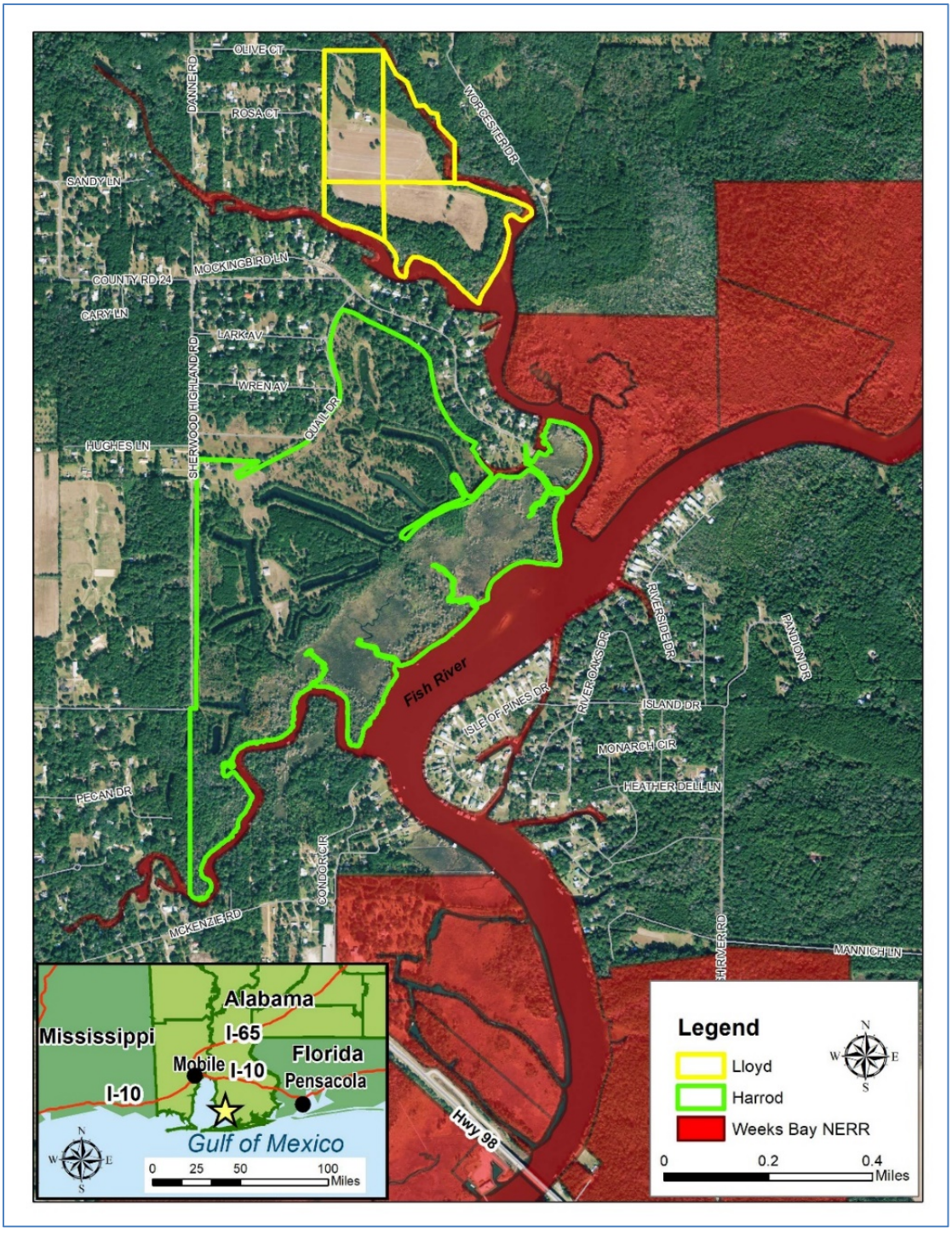
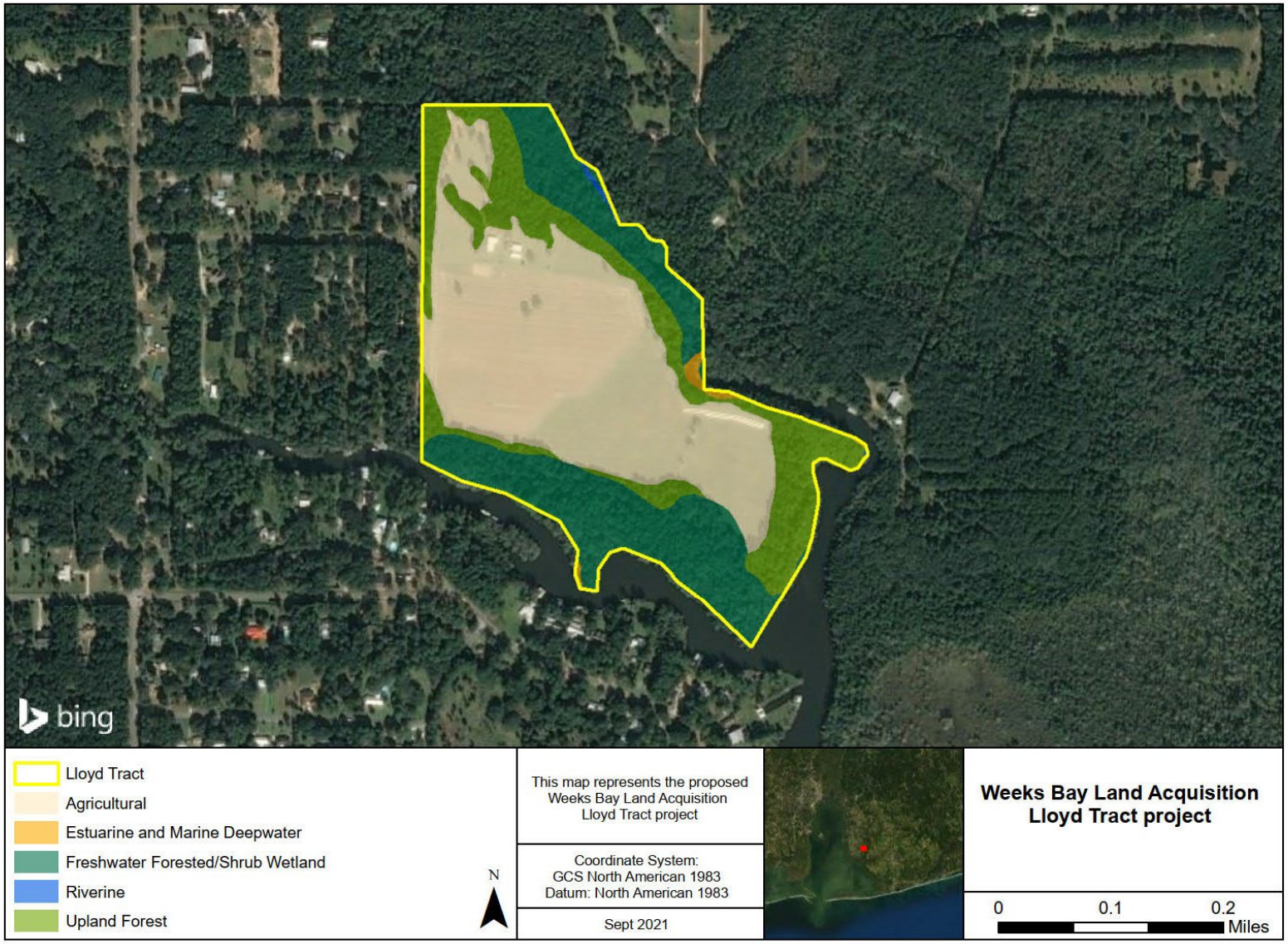


Figure 1: Lloyd Tract Location


bing
Lloyd Tract
Agricultural
Estuarine and Marine Deepwater
Freshwater Forested/Shrub Wetland
Riverine
Upland Forest
N
This map represents the proposed Weeks Bay Land Acquisition Lloyd Tract project
Coordinate System: GCS North American 1983 Datum: North American 1983
Sept 2021
Weeks Bay Land Acquisition Lloyd Tract project
0
0.1
0.2
Miles

2.2 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)). Under a natural recovery alternative, no additional restoration would be done by the Trustees to accelerate the recovery of injured natural resources or to compensate for lost services. The 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. 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 Trustees rejected this alternative from further OPA evaluation within the Final PDARP/PEIS. Based on this determination, and tiering this Supplemental RP/EA from the Final PDARP/PEIS and RP II/EA and incorporating that analysis by reference, the AL TIG did not further evaluate natural recovery for the Wetlands, Coastal, and Nearshore Habitats restoration type as a viable alternative under OPA, and natural recovery is not considered further in this Supplemental RP/EA.

Under NEPA, consideration of a no action alternative may be used as a basis for comparison of potential environmental consequences of the action alternatives(s). Therefore, a no action alternative is evaluated in that sense within this Supplemental RP/EA. This analysis presents the conditions that would result if the AL TIG did not select to undertake any additional restoration for injured natural resources or to compensate for lost services at this time. The environmental consequences of such an alternative are evaluated in Chapter 7 of the RP II/EA for comparison with the proposed action alternative.

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 (Section 3.0) as well as the overview of Restoration Goals and Approaches for Wetlands, Coastal, and Nearshore Habitats restoration projects (Section 3.1.1).

To identify a reasonable range of restoration alternatives for this Supplemental RP/EA, the AL TIG looked first to the reasonable range of Wetlands, Coastal, and Nearshore Habitats projects identified in the RP II/EA. However, the only non-preferred Wetlands, Coastal, and Nearshore Habitats alternative from the RP II/EA—the Perdido River Land Acquisition (Molpus Tract) restoration project—was selected by the AL TIG for implementation, using recreational use funds, in its *Final Restoration Plan III and Environmental Assessment: Provide and Enhance Recreational Opportunities; and Birds*. Therefore, the RP II/EA did not provide a source of additional, potential restoration actions to fit the AL TIG's purpose and need. Next, the AL TIG considered if there were other acquisition opportunities within the Weeks Bay Watershed along the Fish River that would fit its goal of identifying an acquisition and management project that could replace the Harrod Tract project and provide for the purchase of land to be incorporated into and managed by the Weeks Bay NERR. The Lloyd Tract was the only property that the AL TIG was aware of during project development that was available for purchase within the proposed project budget that fits these criteria. Accordingly, this proposed action is the only restoration alternative fully evaluated in this Supplemental RP/EA.

An analysis of the OPA evaluation for the Lloyd Tract is provided in Table 1. The OPA evaluation indicates that implementation of this alternative would meet the Trustees' Wetlands, Coastal, and Nearshore Habitats goals by permanently protecting valuable wetland, riverine, and connected upland habitat from

future development, while providing for the effective restoration and management of the site for many years. The alternative has a strong nexus to the downstream ecological injury caused by the DWH oil spill. The land acquisition and restoration planning costs of the alternative are well documented and reasonable. The project has a high probability of success and is expected to benefit other natural resources in the Weeks and Mobile Bay estuaries. No collateral injuries to natural resources are anticipated. Public health and safety issues are not expected to be a concern.

Table 1: Lloyd Tract OPA Analysis

Resource Area	**OPA Analysis for the Lloyd Tract**
Trustee Goals and Objectives	The project would permanently protect wetlands and other riparian habitats; remove direct threats of development; provide nesting and foraging habitat for birds; protect and thereby improve freshwater inflows to estuaries; and improve coastal water quality through the acquisition of the property, removal of invasive species, and the restoration and management of longleaf pine habitat. The property is located within the Weeks Bay watershed, an area the TIG has identified as a high priority coastal location (see Chapter 2, Section 2.3.1, RP II/EA) with major potential to generate the types of ecological benefits identified in the Final PDARP/PEIS. Additionally, the project includes minor restoration activities such as removing invasive species, prescribed burning, and planting native vegetation, which also contribute to the Final PDARP/PEIS and TIG-specific goals. This project has a strong nexus to the spill given the permanent protection of a continuum of on-site habitat types and the ability of these on-site habitats to support species injured by the spill, including estuarine-dependent fish.
Cost to Carry Out the Alternative	The budget for the alternative ($3,606,900) includes funds for land acquisition, invasive species removal, restoration, monitoring, project oversight and supervision, and contingency. The land acquisition costs included in the budget are based on a 2021 Yellow Book appraisal and are consistent with previous conservation purchases in the area. The cost of management actions such as the removal of invasive species, longleaf pine restoration, and prescribed burning are consistent with similar restoration projects in the area. Based on this review, the AL TIG finds the total estimate of the proposed costs for this project to be reasonable and appropriate.
Likelihood of Success	The proposed land acquisition and restoration techniques (invasive species removal, longleaf pine restoration, and prescribed burning) have been widely and successfully implemented. South Alabama Land Trust (formerly Weeks Bay Foundation), which would conduct the transaction for the property, is a well-established non-governmental organization that has managed similar transactions in the past. ADCNR would hold title to the property and already owns numerous other properties similar to the one proposed for acquisition under this alternative. The ultimate transfer of the

Resource Area	OPA Analysis for the Lloyd Tract
	property to ADCNR would include a permanent land protection instrument to ensure conservation and maintenance of the property in perpetuity. The alternative's goal of protecting, conserving, and restoring the Lloyd Tract has a high likelihood of success.
Avoids Collateral Injury	The project has the potential to create a healthier and more resilient ecosystem in Weeks and Mobile Bays than would be the case if the property were not protected and restoration did not occur. These positive impacts of the property acquisition, invasive species removal, longleaf pine restoration, and prescribed burning are not expected to be accompanied by any direct or indirect collateral natural resource injuries because acquisition and restoration are the only planned activities proposed for this project.
Benefits More Than One Natural Resource or Service	The project would directly protect coastal brackish wetland habitat through the acquisition and conservation of the property. This in turn would benefit estuarine-dependent fish and invertebrates, birds, and marine mammals in the area. Land acquisition, invasive species management, and longleaf pine restoration would provide habitat for these species in perpetuity. By ensuring the property remains undeveloped, the project also has the potential to benefit the water quality of the lower Fish River and downstream areas. As such, the project would enhance the ecological health and resilience of the connected food web and other ecological resources of the Weeks and Mobile Bay estuaries, furthering the goals of the Trustees.
Effects on Public Health and Safety	The proposed land acquisition, invasive species removal, longleaf pine restoration, and prescribed burning would not affect public health and safety. Conservation of the property, removal of invasive species, longleaf pine restoration, and prescribed burning are not expected to have any impacts on public health or safety. Passive uses that might result from increased recreational activity on the property are not expected to pose risks to public health and safety.
Summary OPA Evaluation: Weeks Bay Land Acquisition	The OPA evaluation indicates that implementation of this alternative would meet the Trustees' Wetlands, Coastal, and Nearshore Habitats goals by permanently protecting and restoring valuable wetland, riverine, and connected upland habitat from future development, while providing for the effective restoration and management of the site for many years.

4.0 NEPA ANALYSIS

4.1 Introduction

This section addresses the NEPA analysis for the proposed action. Chapter 7 of the RP II/EA details the method for analysis as well as resource areas not analyzed in detail. Further, the general affected environment for coastal Alabama described in Chapter 4 of the RP II/EA is also applicable to this proposed project. The Lloyd Tract is across the Fish River and only slightly upstream from the Harrod Tract (see Figure 1), whose affected environment was analyzed in the RP II/EA. Where the affected environment of the Lloyd Tract is similar to that of the Harrod Tract, the affected environment described in the RP II/EA is referenced and incorporated herein. For impacts related to the no action alternative, see Section 7.0 of the RP II/EA.

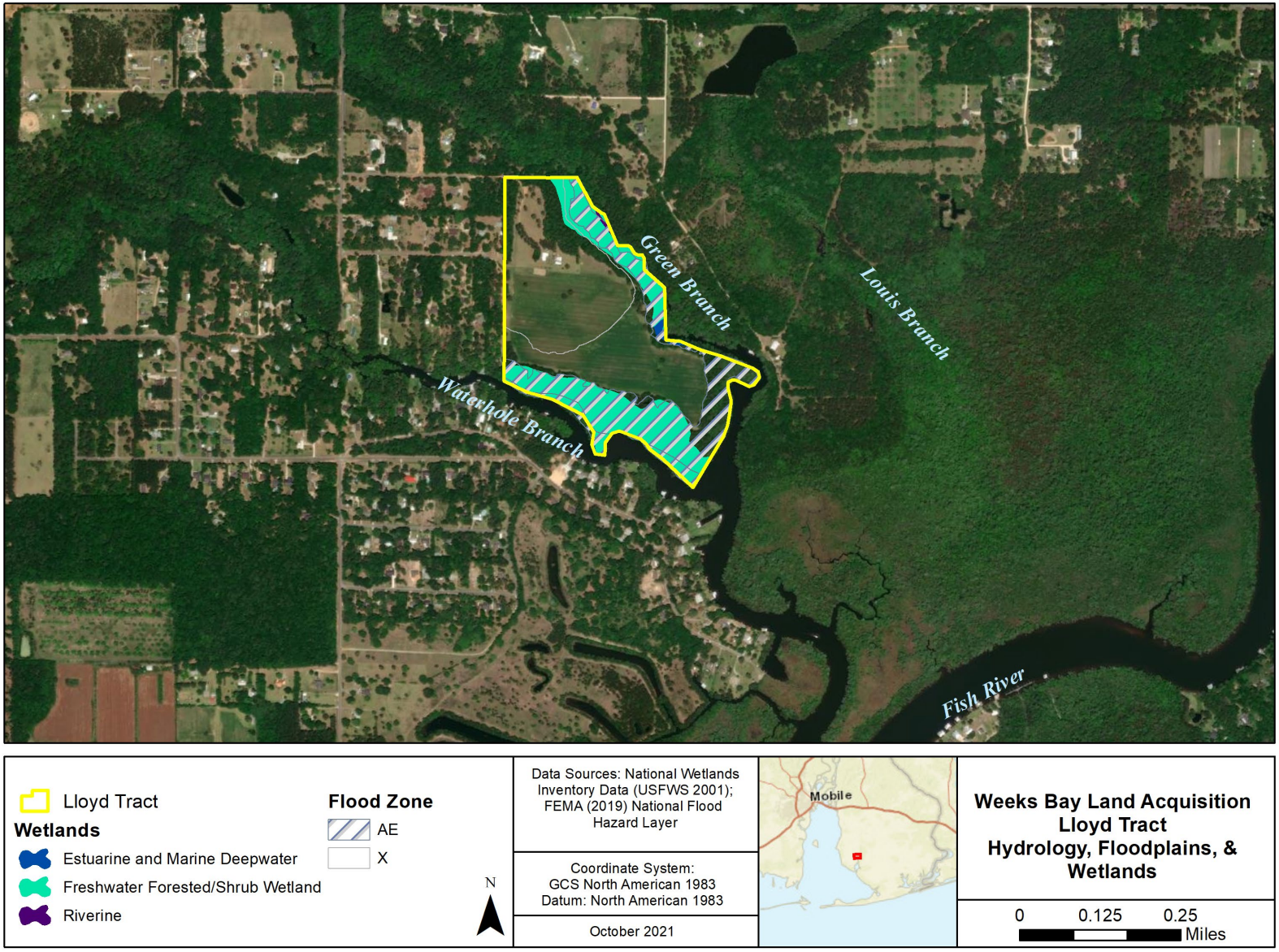
Section 7.0 of the RP II/EA characterized resource areas not analyzed in detail for the Wetlands, Coastal, and Nearshore Habitats restoration type and analyzed impacts to those resources categories that would experience no impacts to minor impacts across all projects selected for implementation in the RP II/EA. Those resource categories included Geology and Substrates; Air Quality and Greenhouse Gas Emissions; Noise; Socioeconomics; Infrastructure and Transportation; Fisheries and Aquaculture; and Marine Transportation. See Section 7.0 of the RP II/EA for a discussion of these resources. Potential Environmental Justice impacts associated with the proposed action were included in the RP II/EA as a topic not analyzed in detail but have been carried forward for detailed analysis in this Supplemental RP/EA and are addressed in Section 4.4.6, below.

4.2 Physical Environment

4.2.1 Hydrology/Water Quality/Floodplains/Wetlands

Affected Environment. The Lloyd Tract is approximately 700 to 800 feet north of the Harrod Tract, on the other side of Waterhole Branch; like the Harrod Tract, the tract is in the Weeks Bay watershed. The property is bordered by two tidal creeks, Waterhole Branch and Green Branch, and their confluence occurs at the southeastern boundary of the property. Fish River is a tidal system characterized by water level and salinity fluctuations. Waterhole Branch and its tributary Green Branch drain the central west side of the Lower Fish River Subwatershed. Waterhole Branch and Green Branch have flashy hydrographs and high reported average discharge rates per unit area (27 to 31 cubic feet per second [cfs] per square mile [mi^2]) and total sediment loads (normalized) ranging from 119 to 158 tons/mi^2/year (Thompson Engineering 2017 citing Cook 2016). The USDA's Soil and Water Assessment Tool estimated similar sediment loading for these tributaries (Thompson Engineering 2017). The hydrological features, floodplains, and wetlands of the Lloyd Tract are shown in Figure 3.

Water quality of surface waters on the Lloyd Tract is similar to that described for the Harrod Tract (see RP II/EA Section 7.1.1). Downstream, the Fish River is listed on the Alabama Department of Environmental Management's (ADEM) 303(d) list of impaired waters for elevated mercury levels from atmospheric deposition (ADEM 2020; ADEM 2012) and Waterhole Branch is assigned to Category 2A, which includes waters where available data do not satisfy minimum data requirements to determine if water quality standards are met, but where there is a high potential for use impairment based on the limited data. No information is available from ADEM on water quality in Green Branch, but water quality data for both tributaries is available in the *Weeks Bay Watershed Plan*. Nitrate levels are reportedly low in both Waterhole Branch and Green Branch with moderate enrichment of phosphorus (Thompson Engineering 2017).


Green Branch
Louis Branch
Waterhole Branch
Fish River
Lloyd Tract
Wetlands
Estuarine and Marine Deepwater
Freshwater Forested/Shrub Wetland
Riverine
Flood Zone
AE
X
N
Data Sources: National Wetlands Inventory Data (USFWS 2001); FEMA (2019) National Flood Hazard Layer
Coordinate System: GCS North American 1983 Datum: North American 1983
October 2021
Mobile
Weeks Bay Land Acquisition
Lloyd Tract
Hydrology, Floodplains, & Wetlands
0
0.125
0.25
Miles

Approximately 20 acres of the Lloyd Tract area lies within the 100-year floodplain, designated as Zone AE with a base flow elevation of 9 feet. This flood zone area includes nearly all forested lands along the southern and eastern sides of the property, and the floodplain boundary generally tracks alongside the forest edge (Figure 3). The remaining two-thirds of the property are mapped within Zone X, which includes around 20 acres of moderate flood hazard within the 500-year floodplain and approximately 20 acres of minimal flood hazard above the 500-year floodplain (FEMA 2019).

The Lloyd Tract contains approximately 18 acres of wetlands mapped by the National Wetlands Inventory (NWI; USFWS 2001). Wetlands on the property generally coincide with the extent of floodplains on the property as described above (Figure 3). The majority, or about 17 acres, are classified as freshwater forested/shrub wetlands. The remaining wetlands intersecting the property include portions of adjacent waterbodies (Waterhole Creek and Green Branch) that are mapped as either riverine or estuarine and marine deepwater wetland habitats. Hydric soils mapped by USDA-NRCS (2021) on the Lloyd Tract are restricted to these wetlands.

The Lloyd Tract provides intact coastal habitats transitioning from open water to fresh/brackish marsh, to forested wetland, to adjacent upland habitats. Because of the lack of fine-scale topographic data, it is not possible to calculate the area of the Lloyd Tract that would be affected by sea level rise; however, the Alabama Coastal Comprehensive Plan allows visualization of the buffering capacity of coastal wetlands in the face of relative sea level rise combined with storm driven coastal flooding.

Environmental Consequences*.* The Weeks Bay Land Acquisition Lloyd Tract project aims to acquire more than 60 acres of land. Land acquisition is an administrative action that would have no adverse environmental impacts on physical resources. The acquisition of this land for conservation would have long-term benefits on all water resources by preventing future development through an appropriate land protection instrument that would be required upon acquisition. This project could involve minimal ground-disturbing activities to remove invasive plants, create a fire break lane along the western edge of the property, and plant longleaf pine seedlings. These activities would result in minimal impacts to soil compacting, run off, and/or groundwater recharge. The overall hydrologic processes of the area would not be affected from these actions. No short- or long-term, adverse impacts on hydrology are expected. Acquiring and restoring the Lloyd Tract would ensure the continuation and maintenance of natural hydrologic processes by protecting the area from hydrologic modifications associated with development. This would result in long-term, beneficial impacts on the hydrology of the site. The continuum of land could allow unimpeded upslope migration space for these habitats on the Lloyd Tract in the face of sea level rise because this property is located close to tidally influenced waters/wetlands, resulting in beneficial impacts.

This project could involve minimal ground-disturbing activities to remove invasive plants, create a fire break lane along the western edge of the property, and plant longleaf pine seedlings. Heavy equipment associated with these efforts could result in a temporary and minor increase in siltation from erosion into nearby waterbodies because the existing forested edge along the shoreline would minimize erosion. However, areas of disturbance would be small, and impacts would be temporary. If prescribed fire were employed for habitat restoration purposes, temporary water quality impacts could occur via sediment inputs and turbidity; however, appropriate sediment and erosion control measures would be implemented before and after prescribed fire to protect against long-term, adverse impacts. Use of herbicides could have short-term impacts on water quality; however, herbicides would be applied in low quantities using best available practices to minimize the amount of herbicide entering the water. As such, short- and long-term, negligible to minor impacts on water quality are expected. Conservation and conversion of the land from farmland to longleaf pine habitat would also enhance water quality in the region from the restoration of native species and would protect against water quality degradation

associated with development. Accordingly, the proposed project is expected to result in long-term, beneficial impacts on the water quality of the site.

The floodplain would not be compacted, excavated, or eroded from the use of heavy machinery and grading related to invasive species removal, longleaf pine restoration, or prescribed burning. As a result, no short- or long-term, adverse impacts on floodplains are expected. Acquiring and restoring the Lloyd Tract would protect the area from future development that would otherwise increase impervious surfaces, which in the floodplain would increase flood risk, extend the floodplain, and result in a higher base flood elevation. By protecting against development, this project would have a long-term, beneficial impact on floodplains within the site.

Project wetlands would not be compacted, excavated, or eroded from the use of heavy machinery and ground-disturbing activities related to invasive species removal, longleaf pine restoration, or prescribed burning. As such, the project would not have any short- or long-term, adverse impacts on wetlands. The acquisition and protection of the Lloyd Tract would restore the natural wetland habitat and hydrologic processes and protect the area from future development. Reintroducing native species to the area would improve the overall health of the wetlands. Thus, long-term, beneficial impacts on wetlands are expected.

4.3 Biological Environment

4.3.1 Habitats

Affected Environment. Approximately half of the 60-acre Lloyd Tract is open farmland. On aerial imagery, these acres appear to be managed for hay production and pasture and are used for private, not commercial, production. Over the past 5 years, according to USDA National Agricultural Statistics Service Cropland Data Layer, this land has been used for various crops, including soybeans, peanuts, grassland/pasture, other hay/non alfalfa, and fallow/idle cropland (USDA-NASS 2021). This pasture/cropland is bordered by approximately 12 acres of upland forest that transitions to forested wetlands in the floodplain (Figure 3). Approximate areas for each of these habitats is shown in Table 2.

Table 2: Habitats on the Lloyd Tract

Habitat Type	Acres (Approximate)
Agriculture	30
Upland Forest	12
Freshwater Forested/Shrub Wetland	17
Riverine	<0.5
Estuarine and Marine Deepwater Wetland	<0.5
Total	60

The Lloyd Tract contains approximately 17 acres of freshwater forested/shrub wetlands mapped by NWI (USFWS 2001) within the floodplain of Waterhole Branch and Green Branch. The 2,300 feet (0.4 miles) of shoreline area along the Waterhole Branch and 3,700 feet (0.7 miles) along Green Branch of the Fish River are wooded with pine and hardwood trees, including Gulf white cedar (*Chamaecyparis thyoides henryae*), an S3 species (typically 21 to 100 occurrences) in Alabama (Keener et al. 2021). The property is improved with one single-family residence and detached shed buildings. It is considered at high risk for development because of its proximity to waterfront at the southern and eastern edges.

Environmental Consequences*.* The proposed acquisition of the Lloyd Tract and protection via an appropriate land protection instrument would have no short- or long-term, adverse impacts on habitat. The project would have long-term, beneficial impacts on habitat values. No future development would occur on a parcel that has high development potential. The protection of the wetland habitat would serve to absorb and clean runoff and preserve water quality in the Fish River. Further, the upland areas are also suitable for the planned restoration of longleaf pine habitat. The conversion of 30 acres of farmland, including the removal of invasive species by mechanical means or herbicides, would not affect local agricultural production because the site is currently used for private, not commercial, agriculture. Regarding invasive species removal, herbicides would be applied in low quantities using best available practices to minimize potential impacts on adjacent habitats.

Approximately 80 percent of the Lloyd Tract is not considered prime farmland, as classified by USDA-NRCS (2021), including all currently cultivated areas. Approximately 12 acres are classified as prime farmland (if drained). These 12 acres are currently forested areas with soils mapped by USDA-NRCS (2021) as Lynchburg fine sandy loam, 0 to 2 percent slopes, are not currently under cultivation, and are classified as not "being used to currently produce." Further, this area would remain forested and no conversion of these lands and the prime farmland soils would occur. No impacts on prime farmland would occur from the acquisition and restoration of this site.

Short-term, minor, adverse impacts could occur because of soil disturbance caused by removal of invasive plants, the use of herbicides to remove invasive species, equipment used during the restoration and planting of longleaf pine, and from damage to individual plants and plant groupings after prescribed burns. These impacts would be temporary and are expected to resolve within a growing season. Overall, short-term impacts from these activities would be minor; there would be no long-term impacts.

4.3.2 Wildlife

Affected Environment*.* Wildlife on the Lloyd Tract would be the same as those described for the Harrod Tract. See Section 7.2.3.4 of the RP II/EA.

Environmental Consequences*.* The acquisition of the Lloyd Tract and protection via an appropriate land protection instrument would have long-term, beneficial impacts on wildlife because critical wetland and upland habitat that wildlife depend on would be conserved and not destroyed or fragmented by development. The action of acquiring the Lloyd Tract would have no short- or long-term, adverse effects on any wildlife species. Future management activities that could occur on the Lloyd Tract, including invasive species removal, prescribed burning, and native vegetation restoration, could have short-term, minimal, adverse impacts on wildlife during implementation (e.g., disturbance and associated stress or displacement to some species). Short-term, minor impacts are also possible from the use of herbicides to remove invasive plant species; however, herbicides would be applied in low quantities using best available practices to minimize potential impacts to wildlife. However, any adverse impacts on wildlife from such activities would not be lasting and would be offset by long-term benefits from acquisition, land protection, and proper habitat management.

4.3.3 Marine and Estuarine Resources

Affected Environment*.* Marine and estuarine resources on the Lloyd Tract would be the same as those described for the Harrod Tract. See Section 7.2.5.4 of the RP II/EA.

Environmental Consequences*.* The proposed acquisition of the Lloyd Tract would have long-term, beneficial impacts on marine and estuarine fauna in the project area because the project would conserve approximately 60 acres of habitat, including nearly 17 acres of wetlands in close proximity to estuarine habitats in the Weeks Bay watershed, and approximately 2.25 miles upstream of Weeks Bay. No short-or long-term, adverse impacts on marine or estuarine fauna are expected to occur because of the proposed land acquisition.

The anticipated restoration activities would involve temporary ground-disturbing activities to remove invasive species, create a fire break, and plant longleaf pine seedlings, but these activities would have no effect on marine and estuarine resources. While these ground-disturbing activities could cause negligible to minor, short-term soil compaction, erosion, and sediment-laden run off, the hydrologic processes of the area would not be affected, and there would be no impacts on downstream aquatic biota in the Fish River, Weeks Bay, and Mobile Bay. The existing forested shoreline is expected to reduce erosion and runoff. The use of herbicides to remove invasive species could have short-term, minor impacts on marine and estuarine resources. However, herbicides would be applied in low quantities using best available practices to minimize the amount of herbicide entering the water. Acquiring and restoring the Lloyd Tract would ensure the maintenance of natural hydrologic processes that serve to support downstream marine and estuarine resources.

4.3.4 Rare and Protected Species

Affected Environment*.* Rare and protected species on the Lloyd Tract would be the same as those described for the Harrod Tract. See Section 7.2.7.4 of the RP II/EA.

Environmental Consequences*.* Acquiring the Lloyd Tract to restore habitats on the site and protect it from development with an appropriate land protection instrument would not have any long-term, adverse impacts on any state-protected or Endangered Species Act (ESA)-listed species or protected marine mammals. Rather, because the requirements stipulated in the land protection instrument would prevent adverse impacts to the conservation values of the property, the habitat protection and restoration efforts associated with the project are expected to have long-term, beneficial impacts on rare and protected species. The project would include the development of a management plan for the Lloyd Tract, which could involve site evaluations, wildlife and/or habitat surveys, and other data collection to document the property's ecological values. Anticipated restoration activities, including the removal of invasive species, planting of longleaf pine, and prescribed burning for longleaf pine habitat management, may have short-term impacts on small numbers of individuals animals within upland areas from ground disturbance by vehicles and heavy equipment; however, restoration activities would have long-term, beneficial impacts on populations of rare and protected species.

In particular, the gopher tortoise and hundreds of other animal species (including the ESA-listed eastern indigo snake) dependent on their burrows for shelter and protection from predators would benefit from longleaf pine restoration. Waterhole Branch, Green Branch, and adjacent uplands with sandy soils would also provide suitable foraging and nesting habitat for the endangered Alabama red-bellied turtle. Other ESA-listed species that could occur in downstream waters and wetlands, including Gulf sturgeon, West Indian manatee, and wood stork, could benefit from the maintenance of water quality provided by the proposed land acquisition and upland habitat restoration. Thus, overall direct and indirect impacts on protected species are expected to be long term and beneficial. Other rare species of greatest conservation need (SGCN) that could benefit from the conservation of the Lloyd Tract include terrestrial

species such as black pine snake and marsh rabbit, and aquatic species such as river frog, southern dusky salamander, and Mississippi diamondback terrapin.

4.3.5 Federally Managed Fisheries

Affected Environment. This land conservation project would occur along tributaries to the Fish River—the Waterhole Branch and Green Branch, approximately 2.25 miles upstream of Weeks Bay. Because the project activities would be land based, no managed fish species or essential fish habitat (EFH) would occur within the Lloyd Tract. However, the project lands drain into Weeks Bay, an estuary that contains EFH red drum, 43 species of reef fish, coastal migratory pelagics, 4 species of shrimp, bull shark, spinner shark, Atlantic shortnose shark, and finetooth shark.

Environmental Consequences. The proposed acquisition of the Lloyd Tract, conservation through an appropriate land protection instrument, and associated management activities (invasive species removal, longleaf pine restoration, and prescribed burning) would not destroy or adversely modify Fishery Management Plan species or EFH because the project is a land conservation project. Instead, the project would prevent development on the site; thus, preventing potential degradation of downstream water quality and enhancing shoreline habitat that may benefit nearby EFH for red drum, coastal migratory pelagics, shrimp, juvenile reef fish (e.g., several species of grouper, snapper), and sharks that may use estuaries for nursery habitat. While short-term, minor impacts from the use of herbicides to remove invasive species could occur, herbicides would be applied in low quantities using best available practices to minimize the amount of herbicide entering the water and is not expected to have any long-term impacts on federally managed fisheries.

4.4 Socioeconomic Resources

4.4.1 Cultural Resources

Affected Environment. ADCNR is currently coordinating with the Alabama Historic Resources commission on the types and extent of cultural resources on the Lloyd Tract. A complete review of the project location and activities to satisfy the requirements of Section 106 of the National Historic Preservation Act of 1966 would be completed prior to any activities that would restrict consideration of measures to avoid, minimize, or mitigate any adverse effects on historic properties located in the project area. This project would be implemented in accordance with all applicable laws and regulations concerning the protection of cultural and historic resources.

Environmental Consequences. ADCNR is currently in coordination with the Alabama Historic Resources Commission. All necessary compliance would be completed prior to project implementation.

4.4.2 Land and Marine Management

Affected Environment. The Lloyd Tract is a privately owned tract in the lower part of the Fish River, composed primarily of upland, wetland, and river shoreline. Two tributaries to the Fish River and Weeks Bay NERR—the Waterhole Branch and Green Branch—form the northern, southern, and eastern boundaries of the site. These waters are included in the Weeks Bay NERR (USGS 2020).

Environmental Consequences. The proposed project would involve land acquisition and restoration, but no construction is proposed. Implementation of the project, including land acquisition with an appropriate land protection instrument, invasive species removal (both mechanical and with herbicides), longleaf pine restoration, and prescribed burning, would not disrupt existing land management. The land conserved by this project would become part of the Weeks Bay NERR, and its conservation would be consistent with the purpose and management of the NERR. Impacts on land and

marine management would be long term and beneficial because acquiring the tract would enhance habitat protection.

4.4.3 Tourism and Recreation

Affected Environment*.* The tract is currently under private single-family ownership and is not used by the public for tourism or recreational uses.

Environmental Consequences*.* No adverse impacts on tourism and recreational use are anticipated from the proposed action. The tract is currently not used by the public for tourism or recreational uses. Impacts on tourism and recreational use would likely be long term and beneficial because acquiring the tract would enhance habitat protection, which could result in greater opportunities for passive recreation because the site would be in public ownership.

4.4.4 Aesthetics and Visual Resources

Affected Environment*.* The Lloyd Tract comprises cropland, forest, wetlands, and creek shoreline. It is accessed by an unpaved driveway in the northwest corner that terminates at the single residence. The tract includes at least three adjacent outbuildings/sheds, and there is no evidence of debris or equipment storage around the residence. Based on aerial imagery (Google Earth™ 2021), the visual setting of the residential areas has not noticeably changed since at least 1985. The open agricultural land behind the house, to the south, also has not changed much over time. The cropland is accessed by unimproved two-track roads that encircle the field.

The surrounding visual setting is characterized by a mosaic of low-density development to the north and west, amid a mixture of intact forest and marsh habitat. However, that development is not generally visible from the Lloyd Tract because of the surrounding forest cover. The southern and eastern boundaries are bounded by Green Branch and Waterhole Branch, respectively, which merge at the southeastern corner of the Lloyd Tract and flow southward to Weeks Bay. Much of the undeveloped land within surrounding landscape is state conservation land managed by ADCNR and the Natural Resources State Lands Division as part of the Weeks Bay NERR.

Environmental Consequences*.* No adverse impacts on aesthetics or visual character would occur. Acquiring private land for conservation purposes (using an appropriate land protection instrument) and implementing management such as invasive species removal (mechanical and with herbicides), longleaf pine restoration, and prescribed burning would not result in adverse impacts on aesthetics or visual character. The Lloyd Tract is not visible from any major highways or railroads. Long-term, beneficial effects on visual quality are expected as the result of enhanced habitat in areas where such improvements would be publicly visible.

4.4.5 Public Health and Safety

Affected Environment*.* This tract is under private ownership and is not used by the public. The existing 18 acres of intact wetland habitat prevent shoreline erosion, decrease storm-surge risk, and naturally filter the water system.

Environmental Consequences*.* This tract is under private ownership and is not used by the public. Conservation of the site by acquisition with an appropriate land protection instrument could reduce shoreline erosion in and around the site. Preservation of this site has the potential to increase passive recreation, but no adverse impacts on public health or safety are expected. No adverse impacts on public health and safety are anticipated from management actions including invasive species removal, longleaf pine restoration, and prescribed burning. Herbicides would be applied in low quantities using best available practices and would be applied according to manufactures instructions. Areas undergoing

herbicide application would be closed during applications, and there would be no impact to public health and safety.

4.4.6 Environmental Justice

Affected Environment. In Section 4.3.1 of the RP II/EA, the AL TIG described the socioeconomics of the populations living in Baldwin County and Mobile County, Alabama. In the RP II/EA, the AL TIG concluded that neither Baldwin nor Mobile counties qualify as areas with a high minority population, based on a threshold of containing a minority population percentage greater than 50 percent. Additionally, only Mobile County was found to be classified as "low-income," i.e., with a higher percentage of individuals whose income fell below 200 percent of the poverty level than is true for the state. The proposed Lloyd Tract project would be implemented in Baldwin County.

Environmental Consequences. No adverse impacts on communities experiencing environmental justice conditions are expected to occur as a result of the AL TIG's implementation of the proposed action because the project would not occur in an area with any known communities experiencing such conditions. Further, because the proposed project consists only of the acquisition of land under private ownership and initial restoration activities on the acquired lands, the project is expected to have no more than minor, adverse environmental or economic impacts. Additionally, implementation of the project would not result in any limitations on existing public access to natural resources because the property is currently under private ownership. On the contrary, the project would add lands to public ownership.

4.5 Summary

A summary of the potential impacts associated with the Lloyd Tract acquisition are provided in Table 3. Overall, the proposed action is expected to result in negligible to minor adverse impacts and substantial long-term benefits.

Table 3: Anticipated Environmental Consequences of the Weeks Bay Land Acquisition (Lloyd Tract) Project

Resource Area	Lloyd Tract Impact Summary
Hydrology and Water Quality	No adverse impacts. Long-term, beneficial effects from improved water quality.
Habitats	Minor, short-term, adverse impacts from invasive plant removal and prescribed burning. Long-term, beneficial effects because habitats would be conserved.
Wildlife	Minor, short-term, adverse impacts from invasive plant removal and prescribed burning. Long-term, beneficial impacts on wildlife because wetland and upland habitat would be conserved.
Marine and Estuarine Fauna	No adverse impacts. Long-term, beneficial impacts because the project would conserve intact terrestrial lands and wetland alongside estuarine habitats that would serve to sustain marine and estuarine fauna.
Rare and Protected Species	*No Effect* on any rare and protected species. Long-term, beneficial impacts because wetland and upland habitat would be conserved.
Federally Managed Fisheries	No destruction or adverse modification to Fishery Management Plan species or EFH. Beneficial impacts on EFH for red drum, coastal migratory pelagics, shrimp, Gulf stone crab, and juvenile reef fish.

Resource Area	Lloyd Tract Impact Summary
Cultural Resources	It is anticipated that impacts to cultural resources would be avoided. The specific impact determination is pending consultation with the Alabama Historic Resources Commission.
Land and Marine Management	No impacts on existing land management.
Tourism and Recreation	No adverse impacts on tourism and recreational use.
Aesthetics and Visual Resources	No adverse impacts. Long-term, beneficial effects from preserving the undeveloped character of the landscape.
Public Health and Safety	No impact on public health or safety.

4.6 Cumulative Impacts

No cumulative impacts are expected as a result of the proposed action. The RP II/EA detailed the expected cumulative impacts of the included projects, including the Harrod Tract acquisition. Acquiring the Lloyd Tract instead of the Harrod Tract would be substituting one similar land acquisition project for another and would not change the cumulative impact findings found in that document (see RP II/EA, Section 14), and this action is not expected to contribute substantially to short- 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 ENVIRONMENTAL COMPLIANCE

The above sections of this document provide detailed information and OPA and NEPA analysis for the proposed Lloyd Tract project, its expected environmental consequences, and its consistency with the Final PDARP/PEIS and the RP II/EA. In addition, coordination and reviews to ensure compliance with a variety of other legal authorities potentially applicable to the proposed alternative have begun. While compliance review for the Lloyd Tract is in progress, progress to date suggests that the Lloyd Tract project would be able to meet permitting and other environmental compliance requirements, and that this alternative would be implemented in accordance with all applicable laws and regulations. Compliance reviews with National Marine Fisheries Service (NMFS) are complete under ESA, EFH, and the Marine Mammal Protection Act were determined to be not applicable because the project entails acquisition of land and upland work. A permit with the U.S. Army Corps of Engineers is not needed for this proposed project.

The status of the Lloyd Tract project in meeting applicable environmental compliance requirements is shown in Table 4. Federal environmental compliance responsibilities and procedures will follow the Trustee Council's Standard Operating Procedure (SOP), which are laid out in Section 9.4.6 of that SOP document. Following that SOP, the Implementing Trustee for this alternative would ensure that the status of environmental compliance (e.g., completed versus in progress) is tracked through the NOAA Restoration Portal. The Implementing Trustee would keep a record of compliance documents (e.g., ESA biological opinions, U.S. Army Corps of Engineers permits) and ensure that they are submitted for inclusion in the Administrative Record.

Table 4: Project Compliance Summary Status

Statute	Progress
Bald and Golden Eagle Protection Act (U.S. Fish and Wildlife Service)	In progress. Bald eagles are present and required conservation measures would be implemented.
Coastal Barrier Resources Act	In progress
Coastal Zone Management Act	In progress
ESA Section 7 (U.S. Fish and Wildlife Service)	In progress. Preliminary determination of may affect, not likely to adversely affect for West Indian manatee, wood stork, Alabama red-bellied turtle, gopher tortoise, Gulf sturgeon, and monarch butterfly. No effect for Eastern black rail and Eastern indigo snake.
ESA Section 7 (NMFS)	Not applicable
Magnuson Steven Act/EFH (NMFS)	Not applicable
Marine Mammal Protection Act (NMFS)	Not applicable
Marine Mammal Protection Act (U.S. Fish and Wildlife Service)	Not applicable
National Historic Preservation Act	In progress
Rivers and Harbors Act / Clean Water Act (U.S. Army Corps of Engineers permit)	Not applicable

6.0 REFERENCES

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APPENDIX A: MONITORING AND ADAPTIVE MANAGEMENT PLAN FOR WEEKS BAY LAND ACQUISITION—LLOYD TRACT

PROJECT OVERVIEW

The Lloyd Tract is an approximately 60-acre parcel located in Baldwin County, Alabama.

This tract contains approximately 18 acres of wetlands that are freshwater forested/shrub wetlands along the river front. The 4,500 feet of shoreline area along the Waterhole Branch and the Green Branch of the Fish River is wooded with pine and hardwood trees including Atlantic White Cedar (*Chamaecyparis thyoides*), an S3 species (typically 21 to 100 occurrences) in Alabama (Keener, et al. 2021). The northern, eastern, and central portion of the tract is open farmland.

The Lloyd Tract contains an intact coastal transition encompassing open water to fresh/brackish marsh to forested wetland to adjacent upland habitats. This continuum would provide for unimpeded upslope migration space of these habitats on the Lloyd Tract in the face of sea level rise. Additionally, acquisition of the Lloyd Tract would enable the transition of agricultural land back to native longleaf pine (*Pinus palustris*) habitat, thus reducing agricultural runoff into the surrounding waterways in the future. The soil type present at the property and the subsequent restoration to longleaf pine habitat are also conducive to gopher tortoise (*Gopherus polyphemus*), which are listed as threatened by the U.S. Fish and Wildlife Service and are of highest conservation concern in the State of Alabama.

Activities include the acquisition and protection of the parcel with an appropriate land protection instrument, restoration, and the development of a management plan. Future restoration activities that may be conducted on the purchased property include invasive species removal, prescribed burning to prepare the site for restoration, planting of longleaf pine, and maintenance burning as needed.

RESTORATION TYPE GOALS AND PROJECT RESTORATION OBJECTIVES

- Programmatic goal: Restore and Conserve Habitat
- Restoration type: Wetlands, Coastal, and Nearshore Habitats
- Restoration type goal: Restore a variety of interspersed and ecologically connected coastal habitats with particular focus on maximizing ecological functions for the range of resources injured by the spill, such as oysters, estuarine-dependent fish species, birds, marine mammals, and nearshore benthic communities. The project also meets Trustee goals for Wetlands, Coastal, and Nearshore Habitats restoration through the inclusion of funds for invasive species control, prescribed burning, native species planting, and erosion control, as well as through the provision of funding for future restoration planning to determine the feasibility of reestablishing longleaf pine savannahs and other historic landscapes.
- Restoration approach: Protect and conserve marine, coastal, estuarine, and riparian habitats
- Restoration technique: Acquire lands for conservation

Objective 1: Restore and conserve coastal habitat in the Weeks Bay watershed.

Objective 2: Develop a management plan to further prioritize restoration needs.

Objective 3: Conduct stewardship and management activities as needed to enhance the quality of habitat.

CONCEPTUAL SETTING AND ANTICIPATED OUTCOMES

As stated in the Final PDARP/PEIS, coastal wetlands and associated habitats provide a wide range of ecological functions and services, including providing important habitat for fish and wildlife species,

improving water quality, stabilizing shorelines, reducing storm-surge risk, and capturing and storing carbon in organic soils. The restoration approach utilized is to protect and conserve marine, coastal, estuarine, and riparian habitats. The specific technique under this restoration approach is to acquire lands for conservation.

Conserving and protecting land parcels via acquisition or conservation easements can protect wetlands and other significant coastal, estuarine, and riparian habitats; create connections between protected areas; remove direct threats of development; provide mechanisms for protected species management; provide nesting and foraging habitat for birds; protect critical freshwater inflows to estuaries; and improve coastal water quality.

The activities in this project include the acquisition of 60 acres of coastal habitat and subsequent placement of that acreage into conservation and active management, which will reduce stressors including development, habitat loss and alteration, fragmentation, and erosion, ultimately leading to improved habitat conditions and quality as well as improved water quality. Long-term outcomes of the project include an increase in acres of lands managed for conservation purposes, increased habitat connectivity, and an overall enhancement of ecosystem services of Gulf Coast habitats and resources.

Sources of Uncertainty

The primary source of uncertainty for this project is related to the willingness of the seller for the purchase of the parcel, although the property owner has indicated they are willing to sell. If for any reason the state is unable to purchase the property, another parcel may be sought. Other potential uncertainties that could influence project success include:

- Vegetation stress due to herbivory, disease and competition from invasive species;
- Land use changes; and
- Sustaining optimal hydrologic conditions.

These potential uncertainties would be addressed when specific restoration activities are identified, and the MAM plan will be updated accordingly.

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 (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 C.F.R. 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: Acquisition and Protection of Parcel

a. Purpose: To verify acquisition of high quality habitat
b. Method: Submission of executed acquisition documents, such as a deed
c. Timing and Frequency: Once upon completion of acquisition
d. Sample Size: n=1
e. Sites: Lloyd Tract
f. Performance Criteria: Executed acquisition document
g. Corrective Action(s): Identify another willing seller if parcel cannot be acquired

Parameter: Area Acquired

a. Purpose: Determine area of habitat restored/enhanced/protected by habitat type
b. Method: Analysis of aerial imagery, ground survey or boundary survey that accompanies deed
c. Timing and Frequency: Once upon completion of acquisition
d. Sample Size: n=1
e. Sites: Project footprint
f. Performance Criteria: Acres acquire matches Supplemental EA acreage (60 acres)
g. Corrective Action(s): NA

Parameter: Completed Management Plan

a. Purpose: To prioritize and plan management actions for the parcel
b. Method: Provide copy of management plan that identifies and prioritizes restoration activities to AL TIG
c. Timing and Frequency: End of year one
d. Sample Size: NA
e. Sites: NA
f. Performance Criteria: Management plan should identify priority activities and habitats and rough cost estimates
g. Corrective Action(s): Revise and update as needed

Parameter: Vegetation Percent Cover and Composition

a. Purpose: To determine if vegetation is becoming established, increasing or being maintained
b. Method: Visual assessment of 1-4 m^2 plots for total percent cover of target and undesirable species. Percent cover of individual species by layer.
c. Timing and Frequency: baseline, as built (year zero) and annually in mid-late summer
d. Sample Size: 1-4 m^2 plots
e. Sites: Throughout project footprint
f. Performance Criteria: Performance criteria will be determined when specific management actions are identified
g. Corrective Action(s): Adjust management techniques as necessary to reach performance criteria goals. This may include increasing or decreasing the prescribed fire frequency, increasing amount of mechanical removal of canopy species, or an increase in herbicidal treatment for invasive species.

Parameter: Area (Acres) Enhanced / Restored by Habitat Type

a. Purpose: To determine whether the goals of the management plan are being met
b. Method: Analysis of aerial imagery, ground survey and/or biological survey(s) completed during management plan development
c. Timing and Frequency: Annually in all areas where new work has been conducted

d. Sample Size: Total area
e. Sites: All sites where work has been conducted
f. Performance Criteria: All activities undertaken meet recommendation in management plan
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

Monitoring Parameter	Objective	Pre-Execution Monitoring	As Built (Year 0)	Project Monitoring (Years 1-3)
Acquisition and Protection of Parcel	1		X	
Area	1		X	
Vegetation Percent Cover and Composition	3	X	X	X
Number of acres enhanced/restored	3		X	X
Completed Management Plan	2			X

ADAPTIVE MANAGEMENT

As discussed in the Final 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 (DWH NRDA Trustees 2016a, Appendix 5.E.1). Under OPA NRDA regulations, restoration projects clearly identify performance criteria that would be used to determine project success or the need for corrective action.

Although adaptive management is a critical component of the restoration plan as a whole, the need for adaptive management on specific conservation practices being implemented is not needed for this project due to the nature of the activities, the scale of the site and the robust understanding of the habitat enhancement activities that will be conducted. Additionally, the development of a management

plan that contains prioritized restoration needs would assist in addressing and reducing uncertainties by identifying those activities most likely to be successful. Corrective actions may be undertaken on an as needed basis. Data, analysis, and information obtained from this project would be used to help inform future Restoration Plan development, priorities, and project selection.

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 restoration objectives achieved? If not, is there a reason why they were not met?
- Did acquisition of property increase the acreage of conserved habitat in the Weeks Bay Watershed?
- Did the restoration activities undertaken produce unanticipated effects?
- Were there unanticipated events unrelated to the restoration 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?

These questions will be answered and compiled in annual monitoring reports for the project and revision 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 2017). 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, a data dictionary (defines codes and fields used in the dataset), and/or a ReadMe file as appropriate (e.g., how data was collected, QA/QC procedures, other information about data such as meaning, relationships to other data, origin, usage, and format – can reference different documents). Electronic data files will be named with the date on which the file was created and will include a ReadMe file that describes when the file was created and by whom, and any explanatory notes on the file contents. If a data file is revised, a new copy will be made and the original 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. 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.

Data Storage and Accessibility

Once all data have been verified by quality assurance/quality control procedures, they will be submitted to the DIVER Restoration Portal. Trustees will provide DWH NRDA MAM data and information to the Restoration Portal as soon as possible and no more than one year from when data are collected.

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.

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.

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

ROLES AND RESPONSIBILITIES

ADCNR is the lead Trustee agency for this project and will ensure that the tract is acquired by the WBF.

WBF will purchase the property and transfer it into the permanent ownership of ADCNR with management by the Weeks Bay NERR.

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

REFERENCES

DWH NRDA Trustees. 2016a. 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. 2017. 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.

National Research Council (NRC). 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
Weeks Bay Land Acquisition (Lloyd Tract) Supplemental EA				