

**DRAFT DAMAGE ASSESSMENT AND RESTORATION
PLAN/ENVIRONMENTAL ASSESSMENT FOR THE BRETON
ISLAND 2005 OIL SPILL AND RESTORATION PROJECT**

PLAQUEMINES PARISH, LOUISIANA

MAY 2019

FOR PUBLIC REVIEW

Prepared by:

United States Fish and Wildlife Service
and
Natural Resource Trustees for the State of Louisiana

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SUMMARY

On June 12, 2005, approximately 12 barrels of crude oil was released into Breton Sound from an oil storage tank located on an offshore platform as a result of Tropical Storm Arlene. The offshore platform was located in Plaquemines Parish, Louisiana, and was owned and operated by Hess Corporation. Federal and state entities responded to the spill to support clean up efforts and assess the impact on the resources affected by the oil. As a result of the Breton Island 2005 Oil Spill, 1,328 Brown Pelican fledglings were killed and much of their nesting habitat on West Point Island (formerly connected to North Breton Island) within the Breton National Wildlife Refuge was covered in oil. Rehabilitation and capture personnel arrived on site on June 14 and began the capture and transport of oiled Pelicans back to facilities in Venice, Louisiana. Of the captured oiled Pelicans, 242 fledglings were rehabilitated and released. On August 29, 2005, Hurricane Katrina reduced the size of West Point (Breton) Island from approximately 35 acres to five acres, which in 2019, is now less than half an acre in size and submerged except at extreme low tide.

The Oil Pollution Act of 1990 and the Louisiana Oil Spill Prevention and Response Act authorize Natural Resource Damage Assessment (NRDA) trustees to evaluate the impacts of an oil spill to the natural resources that were affected and develop restoration plans to offset these impacts. The purpose of restoration for this project is to compensate the public for injuries to natural resources and natural resource services lost from the Breton Island 2005 Oil Spill by returning the injured natural resources and natural resource services to the condition that would have existed if the oil spill had not occurred and compensating for associated interim losses. This project would, specifically, provide nesting and foraging habitat for Brown Pelicans (*Pelecanus occidentalis*) and other wildlife species. The Trustees for the Breton Island 2005 Oil Spill propose the creation of Brown Pelican habitat at North Breton Island as the preferred restoration alternative. West Point Island, directly southwest of North Breton, was severely damaged from Hurricane Katrina and is now completely submerged. The Trustees have agreed that North Breton Island is an ideal location for this restoration project because of the close proximity to the West Point Island site and its established Brown Pelican nesting colony.

The Breton Island Brown Pelican Habitat Creation – Additional Increment Project is part of a larger project (the North Breton Island Barrier Island Restoration Project) implemented under the Programmatic and Phase III Early Restoration Plan and Early Restoration Programmatic Environmental Impact Statement (DWH Trustees 2014) funded by settlements from the Deepwater Horizon Natural Resource Damage Assessment and being implemented and managed by the United States Fish and Wildlife Service. As these projects share the same affected environment and build off of one another, the National Environmental Policy Act (NEPA) compliance was accomplished by adopting the assessment of environmental consequences and cumulative effects from the Deepwater Horizon planning efforts (DWH Trustees 2014).

The Trustees overall goal for restoration is to compensate for Brown Pelicans lost due to the Breton Island 2005 Oil Spill. The restoration objectives are to:

- Create barrier island for the purposes of providing nesting habitat to support existing Brown Pelican colonies; and
- Create this habitat as close in vicinity to the location of the oil spill.

This document is both a Damage Assessment and Restoration Plan and an Environmental Assessment (DARP/EA). The chapters within this DARP/EA describe the rationale and decision process for implementing the Breton Island Brown Pelican Habitat Creation – Additional Increment Project.

Chapter 1: Provides an overview of the purpose and need for restoration, the involvement by Hess Corporation in assessing the damage and developing restoration options, and relevant authorities and processes followed.

Chapter 2: Describes the steps taken by Trustees to assess and quantify the injury to natural resources.

Chapter 3: Identifies the process the Trustees undertook in developing a plan for restoring the injured resources and services and describes the Trustees' preferred restoration alternative.

Chapter 4: Describes compliance with NEPA to assess the environmental consequences and cumulative effects from implementing this project.

Chapter 5: Lays out the monitoring actions that will occur for this project in coordination with the North Breton Island Barrier Island Restoration Project.

Chapter 6: Lists the citations that the Trustees used in planning this restoration project.

GLOSSARY

Administrative Record

A publicly available record to document the basis for trustee decisions pertaining to restoration, opened concurrently with the publication of the Notice of Intent to Conduct Restoration Planning.

Baseline

The condition of natural resources and services that would have existed had the incident not occurred.

Compensatory Restoration

Any action (or alternative), or combination of actions (or alternatives), to restore, rehabilitate, replace or acquire the equivalent taken to compensate for interim losses of natural resources and services that occur from the date of the incident until recovery.

Damages

Damages means damages specified in section 1002 of OPA (33 USC 1002(b)), and includes the costs of assessing these damages, as defined in section 1001(5) of OPA (33 USC 2701(5)).

Incident

Any occurrence or series of occurrences having the same origin, involving one or more vessels, facilities, or any combination thereof, resulting in the discharge or substantial threat of discharge of oil into or upon navigable waters or adjoining shorelines or the Exclusive Economic Zone.

Injury

An observable or measurable adverse change in a natural resource or impairment of a natural resource service.

Natural Resource Damage Assessment

The process of collecting and analyzing information to evaluate the nature and extent of injuries resulting from an incident, and determine the restoration actions needed to bring injured natural resources and services back to baseline and make the environment and public whole for interim losses.

Natural Resources

Land, fish, wildlife, biota, air, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any state or local government, Indian tribe, or any foreign government.

Natural Resource Services

Functions performed by a natural resource for the benefit of another resource and/or the public.

Natural Resource Trustees

Those officials of the federal and state governments, of Indian tribes, and of foreign governments, designated under 33 USC 2706(B) of the Oil Pollution Act of 1990.

Oil

Oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Primary Restoration

Any action (or alternative), or combination of actions (or alternatives), to restore, rehabilitate, replace or acquire the equivalent that returns injured natural resources and services to baseline.

Recovery

The return of injured natural resources and services to baseline.

Response

Containment and removal of oil or a hazardous substance from water and shorelines or the taking of other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

ABBREVIATIONS AND ACRONYMS

AR	Administrative Record
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CPRA	Coastal Protection and Restoration Authority
DARP	Damage Assessment and Restoration Plan
DOI	United States Department of the Interior
DWH	Deepwater Horizon
EA	Environmental Assessment
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LOSCO	Louisiana Oil Spill Coordinator's Office
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NRDA	Natural Resource Damage Assessment
NWR	National Wildlife Refuge
OPA	Oil Pollution Act of 1990
OSPRA	Louisiana Oil Spill Prevention and Response Act of 1991
REA	Resource Equivalency Analysis
RP	Responsible Party
RRP	Regional Restoration Plan
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

CHAPTER 1: INTRODUCTION

This Draft Damage Assessment and Restoration Plan/Environmental Assessment (Draft DARP/EA) is intended to inform the public concerning the natural resource injuries caused by the oil spill that occurred on June 12, 2005 in Block 51 of Breton Sound, Plaquemines Parish, Louisiana, and propose a restoration project that would compensate for those injuries. The United States Fish and Wildlife Service (USFWS); Louisiana Oil Spill Coordinator's Office (LOSCO); Louisiana Department of Natural Resources (LDNR); Louisiana Department of Environmental Quality (LDEQ); Louisiana Department of Wildlife and Fisheries (LDWF); and the Coastal Protection and Restoration Authority (CPRA), collectively known as the Natural Resource Trustees (hereafter, Trustees), are undertaking a Natural Resource Damage Assessment (NRDA) pursuant to the Oil Pollution Act of 1990 (OPA), 33 USC 2701 *et seq.*, and the Louisiana Oil Spill Prevention and Response Act of 1991 (OSPRA), La. Rev. Stat. 30:2451 *et seq.*

This Draft DARP also serves as an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) and addresses the potential impact of the proposed restoration actions to be implemented under the direction of the Trustees pursuant to this Draft DARP/EA on the quality of the physical, biological, and cultural environment. As described in detail below, the Trustees propose restoration that would be undertaken in the Breton Sound, Plaquemines Parish, Louisiana. Figure 1 depicts the location of proposed restoration project area in relation to the location of the oil spill.



Figure 1. Map illustrating the location of the Breton Island 2005 Oil Spill and project area for the proposed restoration.

Purpose of and Need for Restoration

The purpose of this NRDA restoration is to compensate the public for injuries to natural resources and natural resource services lost from the Breton Island 2005 Oil Spill by returning the injured natural resources and natural resource services to their “baseline” condition (i.e., the condition that would have existed if the oil spill had not occurred) and compensating for associated interim losses. The proposed

project would, specifically, provide nesting and resting habitat for Brown Pelicans (*Pelecanus occidentalis*) and other wildlife species.

Federal and State Trustees and Their Responsibilities

The Federal Trustee for this NRDA is the United States Department of the Interior (DOI), represented by the USFWS. State Trustees for Louisiana are designated by the Governor of Louisiana, and are represented by LOSCO, LDEQ, LDNR, LDWF, and CPRA¹. Each of these agencies is a designated natural resource trustee under § 1006 (b) of OPA, 42 USC § 2706(b), the National Contingency Plan, 40 CFR § 300.600, and 40 CFR § 300.605. These same state agencies serve as State Trustees under OSPRA according to La. R.S. 30:2451, *et seq.* and La. Admin. Code tit. 43, part XXIX, *et seq.*

Each designated Trustee is authorized to act on behalf of the public to assess and recover natural resource damages, and to plan and implement actions to restore natural resources and resource services injured or lost as the result of a discharge or discharges of oil.

Summary of the Breton Island 2005 Oil Spill and Injury to Natural Resources

On June 12, 2005, Hess Corporation (operated as Amerada Hess Corporation prior to May 2006) owned and operated an offshore platform in Block 51 of Breton Sound, Plaquemines Parish, Louisiana. On this date and as a result of Tropical Storm Arlene, a storage tank on Hess Corporation's platform discharged an estimated 12 barrels of crude oil into Breton Sound. On June 13, 2005, United States Coast Guard (USCG) officials conducting surveillance in Breton Sound discovered oil on the shoreline and in the marshes on West Point Island, located within the Breton National Wildlife Refuge (Breton NWR). An undetermined area of critical nesting habitat, sandy beach, back barrier marsh dominated by Black Mangrove, and fauna inhabiting West Point Island were exposed to oil as a result of the discharge. Specifically, Brown Pelicans were exposed to oil. The Trustees focused the injury assessment on juvenile Brown Pelicans, which resulted in 1,328 individuals killed.

Summary of Response Actions

USFWS, National Oceanic and Atmospheric Administration (NOAA), USCG, LOSCO, LDEQ, and LDWF representatives mobilized on the morning of June 14, 2005 to perform site assessment at North Breton Island. The purpose of the assessment was to document the extent of oil exposure and recover and rehabilitate affected fauna. The primary species affected by the oil spill was Brown Pelicans, where more than 1,000 fledglings, four to six weeks old, were moderately to heavily oiled. Additionally, USFWS representatives reported that oil covered 80-90 percent of the Brown Pelican nesting colony. Oiled Brown Pelicans with potential for rehabilitation were captured and transported to Venice, Louisiana.

NRDA Authority and Process

Overview of NRDA

NRDA is described under Section 1006(c) of OPA (33 USC § 2706(c)) and OSPRA (L.R.S. 30:2451 *et seq.*). Both federal and state NRDA regulations (15 CFR § 990 and La. Admin. Code tit. 43, part XXIX, *et seq.*, respectively,) provide a step-by-step process for natural resource Trustees to determine injuries, assess damages, and develop and implement restoration projects that compensate the public for injuries to natural resources and services impacted by an incident. This process includes three phases:

- Preassessment;
- Restoration Planning; and
- Restoration Implementation.

¹ CPRA was designated a State Trustee for Natural Resources in May 2010.

Coordination with the Responsible Party

The OPA and OSPRA regulations require trustees to invite the Responsible Party (RP) to participate in the damage assessment process. On February 1, 2006, LOSCO sent Hess Corporation notice that the Trustees would proceed with the Preassessment Phase of the NRDA process and invited Hess Corporation to participate. On February 23, 2006, Hess Corporation acknowledged receipt of the notice and confirmed that the company would participate in the process. Hess Corporation participated in the damage assessment and restoration planning process with the Trustees for the Breton Island 2005 Oil Spill. As required by the regulations at 15 CFR § 990.14 (c)(4), the Trustees, however, retained final authority to make determinations regarding injury and restoration.

Preassessment Phase

The purpose of the Preassessment Phase is to determine whether Trustees have jurisdiction to pursue restoration under OPA and OSPRA and, if so, whether it is appropriate to proceed with restoration planning. During the Preassessment Phase, the Trustees determined that they had jurisdiction to pursue restoration under OPA and OSPRA based on the requirements of 15 CFR § 990.41(a).² The Trustees also determined, pursuant to 15 CFR § 990.42(a), that injuries to natural resources and natural resource services had resulted from the incident, that response actions did not, and would not, adequately address the injuries resulting from the incident, and that feasible restoration alternatives existed to address the injuries.

Restoration Planning Phase

On the basis of those determinations, on November 3, 2006, the Trustees issued the Notice of Intent (NOI) to Conduct Restoration Planning for the NRDA case associated with the Breton Island 2005 Oil Spill in Plaquemines Parish, Louisiana. In the Restoration Planning Phase, the Trustees evaluated and quantified the nature and extent of injuries to natural resources and services, and determined the need for, type of, and scale of appropriate restoration actions. Using the information developed during the Restoration Planning Phase, the Trustees developed this Draft DARP/EA.

The first component of the Restoration Planning Phase is injury assessment, where the Trustees evaluated injury to Brown Pelicans and their habitat. Further detail regarding the Trustees' injury assessment and quantification is discussed in Chapter 2 of this Draft DARP/EA. The second component of the Restoration Planning Phase is restoration selection. Considering the nature and extent of exposure and/or injuries to natural resources caused by the Breton Island 2005 Oil Spill, the Trustees developed a plan for restoring the injured resources and services. The Trustees overall goal for restoration is to compensate for Brown Pelicans lost due to the Breton Island 2005 Oil Spill. The restoration objectives are to:

- Create barrier island for the purposes of providing nesting habitat to support existing Brown Pelican colonies; and
- Create this habitat as close in vicinity to the location of the oil spill.

The Trustees identify a reasonable range of restoration alternatives and evaluate those alternatives using criteria found at 15 CFR § 990.54:

- Cost to carry out the alternative;

² To determine that legal jurisdiction exists to conduct a NRDA, 15 CFR § 990.41(a) requires the Trustees to first determine if the oil spill constituted an "incident" as defined by 15 CFR § 990.30. Second, the Trustees must decide if the incident was not an "excluded discharge" within the meaning of OPA Section 1002(c) (i.e., the incident was not authorized by permits issued under federal, state, or local law, or did not originate from a public vessel or from an onshore facility subject to the Trans-Alaska Pipeline Authorization Act). And third, potential injury to trust resources and services under designated federal and state trusteeship of the Trustees had occurred because of the incident.

- 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;
- Likelihood of success of each alternative;
- 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;
- Extent to which each alternative benefits more than one natural resource and/or service; and
- Effect of each alternative on public health and safety.

Trustees may also consider other criteria, such as the following criteria used by the Louisiana Regional Restoration Planning (RRP) Program³, when evaluating restoration alternatives:

- Ability to implement project with minimal delay;
- Degree to which project supports existing strategies/plans;
- Project urgency; and
- Other factors as appropriate.

In proposing their preferred restoration alternative, the Trustees considered the criteria outlined in the regulations, including but not limited to, the cost to carry out the alternative, the likelihood of success of the alternative, the extent to which the alternative was expected to meet the Trustees' goals and objectives in returning injured natural resources and services to baseline and/or compensating for interim losses, and the extent to which the restoration alternative was expected to provide benefits to more than one natural resource and/or service. Overall, the Trustees, in proposing Brown Pelican habitat creation at Breton Island, are proposing the most cost effective, practicable alternative expected to provide the restoration benefits required by these criteria.

Sums recovered in settlement of such claims, other than reimbursement of trustee costs, may only be expended in accordance with a restoration plan such as this. Under the terms of a NRDA settlement between the Trustees and Hess Corporation, Hess Corporation has agreed to pay approximately \$8.63 million to the Trustees. The amount of this payment reflects the Trustees' estimate of the costs of planning, implementation, oversight, and monitoring of the proposed project and reimbursement of the Trustees' assessment costs that had not been reimbursed at the time the parties reached an agreement in principle.

Restoration Implementation Phase

The final phase in the NRDA is the Restoration Implementation Phase, which includes conducting the restoration and monitoring its effectiveness. If the Trustees' preferred restoration alternative is selected for implementation, the Trustees for the Breton Island 2005 Oil Spill would coordinate with the Trustees for the Deepwater Horizon (DWH) Oil Spill to incorporate additional acreage to the currently planned North Breton Island Barrier Island Restoration Project (hereafter, DWH North Breton Island Project) in accordance with all federal, state, and local permitting agencies. Monitoring would be conducted during and following construction to ensure that project designs are followed and any necessary corrective actions are implemented. Following completion of the project, the success of the project would be assessed using both qualitative and quantitative monitoring protocols as outlined in the DWH NRDA Monitoring Plan for

³ Louisiana's RRP Program identifies a statewide Program structure, defines trust resources and services in Louisiana that are likely to be or are anticipated to be injured (i.e., at risk) by oil spill incidents, establishes a decision-making process, and sets forth criteria that are used to select restoration project(s) that may be implemented to restore the trust resources and services injured by a given spill. The RRP Program's Final Programmatic Environmental Impact Statement (FPEIS) may be viewed in its entirety at <http://www.losco.state.la.us/LOSCUploads/RRPAR/la2395.pdf>.

the Phase III Early Restoration Louisiana Outer Coast Restoration Project, prepared by the Louisiana, NOAA, and DOI DWH NRDA Trustees (DWH Trustees 2017).

National Environmental Policy Act Compliance

Any restoration of natural resources under OPA must comply with NEPA, as amended (42 USC 4321 *et seq.*), and its implementing regulations (40 CFR § 1500-1508) with respect to federal actions that may significantly impact the human environment. In general, federal agencies contemplating implementation of a major federal action must produce an Environmental Impact Statement (EIS) if the action is expected to have significant impacts on the quality of the human environment. When it is uncertain whether a contemplated action is likely to have significant impacts, federal agencies prepare an EA to evaluate the need for an EIS. If the EA demonstrates that the proposed action will not significantly impact the quality of the human environment, the federal agencies issue a Finding of No Significant Impact (FONSI), which satisfies the requirements of NEPA, and no EIS is required. If a FONSI cannot be made, then an EIS is required. The OPA requires trustees to describe the damage assessment and restoration plan in a DARP. The restoration plan and NEPA environmental analysis requirements were combined in the development of this Draft DARP/EA.

Federal agencies are encouraged to coordinate and take appropriate advantage of existing NEPA documents and studies, including adoption and incorporation by reference. Under Council on Environmental Quality (CEQ) NEPA regulations (40 CFR § 1506.3), DOI NEPA regulations (43 CFR § 46.120), and individual DOI bureau NEPA procedures, DOI may adopt another federal agency's NEPA analysis to streamline the NEPA compliance process.

A federal agency may adopt another federal agency's NEPA analysis or portion thereof if it meets the standards for an adequate analysis under the CEQ NEPA regulations, and if it adequately assesses the environmental effects of the proposed action and reasonable alternatives (40 CFR 1506.3(a); 43 CFR 46.120(c)). The supporting record must include an evaluation of whether new circumstances, new information or changes in the action or its impacts not previously analyzed may result in significantly different environmental effects (43 CFR 46.120(c)). A federal agency may adopt another federal agency's NEPA analysis if it independently reviews the analysis and finds that the analysis complies with its own NEPA procedures, relevant provisions of the CEQ NEPA regulations, and with other program requirements (43 CFR 46.320(a)). The adopting agency must also ensure that its own public involvement requirements are met before adopting another federal agency's NEPA analysis (43 CFR 46.320(d)). When appropriate, the Responsible Official may augment the analysis to be consistent with any differences in the proposed action (43 CFR 46.320(b)).

The proposed Breton Island Brown Pelican Habitat Creation – Additional Increment Project (hereafter, Brown Pelican Habitat Project) falls within the scope of a project that was analyzed under NEPA in a larger context as a component of the Louisiana Outer Coast Restoration – North Breton Island project (DWH Trustees 2014). This project was included in a final Deepwater Horizon oil spill early restoration plan in 2014⁴, for which DOI served as the lead agency responsible for NEPA compliance. The borrow area and conveyance system for sediment to be used in the island construction must be permitted by the United States Army Corps of Engineers (USACE) and, in accordance with USACE NEPA procedures, were analyzed through a USACE permit application in 2017⁵. DOI reviewed the DWH Trustees' NEPA analysis of the Louisiana Outer Coast Restoration – North Breton Island project and finds that it adequately assesses the environmental effects of the Brown Pelican Habitat Project. Accordingly, DOI is adopting and

⁴ The *Deepwater Horizon* Oil Spill: Final Programmatic and Phase III Early Restoration Plan and Early Restoration Programmatic Environmental Impact Statement (Phase III ERP/PEIS) and Record of Decision (DWH Trustees 2014) can be found at (<http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/phase-III-NOI.pdf>)

⁵ USACE public notice can be found at (<http://www.mvn.usace.army.mil/Missions/Regulatory/Public-Notices/Article/1313318/mvn-2014-2106-epp/>)

incorporating by reference the DWH Trustees' NEPA analysis for the Project and has summarized the impacts identified in those NEPA analyses in Chapter 4 of this document.

Public Involvement

Throughout the injury assessment and restoration planning process, the Trustees have provided the public with information on the status of injury assessment and restoration planning efforts. The Trustees published a NOI to Conduct Restoration Planning in the Louisiana Register (Vol. 32, No. 11, pgs. 2192-2193, November 20, 2006), The Times Picayune, New Orleans, Louisiana, and The Advocate, Baton Rouge, Louisiana, and The Plaquemines Watchman and Gazette, Belle Chase, Louisiana, stating that, based on preassessment findings, they were proceeding with restoration planning under OPA and OSPRA and opening an Administrative Record (AR) to facilitate public involvement in the restoration planning process.

Additionally, the Draft Phase III ERP/PEIS was released for public comment on December 6, 2013. The DWH Trustees provided a 75 day public comment period. None of the comments received regarding the Louisiana Outer Coast Restoration project raised objections, and for the North Breton Island Project component in particular comments to expedite the project were submitted. Details on public comments and the DWH Trustees' responses can be found in Chapter 13 of the Phase III ERP/PEIS.

This Draft DARP/EA provides information about the nature and extent of natural resource injuries resulting from the incident and identifies a preferred restoration alternative that would address those injured resources. Public review of the Draft DARP/EA is an integral component of the restoration planning phase. Public comment is consistent with all state and federal laws and regulations that apply to the NRDA process, including Section 1006 of OPA, the NRDA regulations at 15 CFR Part 990 and OSPRA at LAC 43:XXIX.101 *et seq.*, NEPA (42 USC §§4371 *et seq.*), and the regulations implementing NEPA (40 CFR §§1500 *et seq.*).

This Draft DARP/EA is available to the public for a 30-day comment period, which will begin on the date of the public notice announcing availability of the Draft DARP/EA. After the public comment period has ended, all comments received from the public will be evaluated by the Trustees and summarized in a Final DARP/EA. An additional opportunity for public review will be provided in the event that the Trustees decide to make significant changes to the Draft DARP/EA based on the initial public comments.

Comments on this Draft DARP/EA should be sent to:

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Administrative Record

The Trustees have maintained records to document the information considered by the Trustees as they developed this Draft DARP/EA. These records are compiled in an Administrative Record (AR), which is available to the public online and at the address listed below. The AR facilitated public participation in the assessment process and will be available for use in future administrative or judicial review of Trustee actions to the extent provided by federal or state law. Additional information and documents, including public comments received on the Draft DARP/EA, and other related restoration planning documents are part of the AR. The AR for the Damage Assessment portion of the case will be housed at the following physical location as well as online at the URL provided below:

Louisiana Oil Spill Coordinator's Office
Department of Public Safety & Corrections
Gina Muhs Saizan
gina.saizan@la.gov
(225) 925-6606
7979 Independence Blvd.
Baton Rouge, Louisiana 70806
Mon.-Fri. 8:00am to 4:30pm Central Time Zone
<https://data.losco.org/>

The Restoration Project AR can be viewed at:

U.S. Fish & Wildlife Service
National Wildlife Refuge System
Southeast Louisiana Refuges Complex
Lacombe, LA

Arrangements should be made in advance to review the record or to obtain copies of documents in the record by contacting Barret K. Fortier, Senior Wildlife Biologist at (985) 882-2000 or barret_fortier@fws.gov.

CHAPTER 2: INJURY ASSESSMENT AND QUANTIFICATION

The Trustees for the Breton Island 2005 Oil Spill initiated preassessment activities immediately after being notified of the discharges. Preassessment activities focused on collecting ephemeral data essential to determine whether:

- Injuries have resulted, or are likely to result, from the discharges of oil;
- Response actions have adequately addressed, or are expected to address, such injuries; and
- Feasible restoration actions exist to address the potential injuries.

Based on information collected since June 12, 2005, the Trustees determined that natural resources and services have been injured and that response actions were not expected to fully address the injuries. Throughout the injury assessment and restoration planning process, the Trustees used available information, expert scientific judgment, information generated through response activities, shoreline assessments, and literature on the fate and effects of oil spills on Brown Pelicans to arrive at the best estimate of the injuries.

Brown Pelican Injury Assessment

Following the oil spill on June 12, 2005, USFWS, NOAA, USCG, LOSCO, LDEQ, and LDWF representatives mobilized on the morning of June 14, 2005 to assess the extent of oil and rehabilitate affected fauna, where possible. USFWS representatives reported that the oil covered 80-90 percent of the island and Brown Pelican nesting colony. The majority of affected Brown Pelicans observed were four to six weeks of age. An early estimate was that approximately 1,000 young still on the island had been moderately to heavily oiled with the majority experiencing 100 percent body coverage by oil. Initial assessment was considered incomplete since no counts were made in the interior of the island due to USFWS recommendation to limit additional stress to the young prior to capture by rehabilitators.

Few adult Brown Pelicans were present during the initial assessment and no parental care or feeding of oiled young was observed. The majority of adults abandoned the young and left the island, dispersing throughout the Breton Sound and Mississippi Delta area. This abandonment and dispersal could be attributed to the oiling of the habitat and young and inability of adults to identify their young following the event. Oiled young were observed moving to the water's edge with many birds entering the water and being caught in the tidal flow. Birds that were too weak to make it back to shore were carried out into the Gulf of Mexico. Rehabilitation and capture personnel arrived on site on June 14 and began the capture and transport of oiled Pelicans back to facilities in Venice, Louisiana.

Three days after the initial oil spill (on June 16, 2005), all cleanup activities with the exception of removal of absorbent boom and recovery of approximately 30 dead nestlings were completed. Based on USFWS representative calculations, a total of 1,328 Brown Pelicans were killed as a result of the spill for purposes of the NRDA. Other species of birds were injured or killed, but their losses were not specifically quantified for the NRDA.

On August 29, 2005, Hurricane Katrina reduced the size of West Point Island from approximately 35 acres (2004 measurement) to five acres. Comparisons of pre- and post- Hurricane Katrina photography indicate that those areas most severely impacted by oiling were also the portions of the island most severely impacted by the hurricane. Those vegetated portions of the island, which were lightly impacted by oiling, lost approximately 40-50% of land area to storm erosion. Those areas more heavily impacted by oiling lost 100% of land area to storm erosion.

Injury Quantification and Scaling

The Trustees, in coordination with Hess Corporation, used Resource Equivalency Analysis (REA) to quantify the injury to Brown Pelicans (debit) and scale the restoration alternative scenarios (credit). The REA approach evaluates the number of individuals per year that have been lost due to an incident and

compares that to the number of individuals per year that can be gained from implementing a restoration project. The currency of this REA model is bird-years.

The Trustees estimated that 1,328 Brown Pelican fledglings were killed by the oil spill. To quantify this loss, the Trustees considered the direct loss of these birds over a 10-year average lifespan, as well as the indirect loss of two future generations of Brown Pelicans that would have been produced had the oil spill not occurred. The Trustees accounted for birds lost through natural processes by incorporating the annual survival rates for Brown Pelicans. Using the REA, the Trustees estimated a total of 5,483 present value (PV) bird-years were lost from the oil spill.

To estimate the additional increment of habitat that would need to be created to offset Brown Pelican losses from the Breton Island 2005 Oil Spill, the Trustees applied the same method of scaling for Brown Pelican habitat as used for the DWH North Breton Island Project (DWH Trustees 2014). The Trustees also applied the same life history assumptions from the REA debit to determine the REA credit. Based on these data, assumptions, and methods, Trustees estimate 53 acres of Brown Pelican habitat creation at North Breton Island would fully offset the 5,483 lost PV bird-years.

CHAPTER 3: RESTORATION SELECTION

The goal of restoration under OPA and OSPRA is to compensate the public for injuries to natural resources and services from an oil spill. This goal is achieved by returning injured natural resources to their baseline condition, if possible, and by compensating for any interim losses of natural resources and services during the period of recovery to baseline.

Restoration actions under the OPA regulations are either primary or compensatory. Primary restoration is action(s) taken to return injured natural resources and services to baseline on an accelerated time frame. The regulations require that the Trustees consider natural recovery under primary restoration (15 CFR § 990.53). The Trustees may select natural recovery under three conditions:

- If feasible;
- If cost-effective primary restoration is not available; or
- If injured resources will recover quickly to baseline without human intervention.

Alternative primary restoration activities can range from natural recovery, to actions that prevent interference with natural recovery, to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty as compared to natural recovery.

Compensatory restoration is action(s) taken to compensate for the interim losses of natural resources and/or services pending recovery. The type and scale of compensatory restoration may depend on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services given the primary restoration action. When identifying the compensatory restoration components of the restoration alternatives, the Trustees must first consider compensatory restoration actions that provide services of the same type and quality and of comparable value to those lost, or in-kind restoration. If compensatory actions of the same type and quality and of comparable value cannot provide a reasonable range of alternatives, the Trustees then consider other compensatory restoration actions that would provide services of at least comparable type and quality as those lost; also referred to as out-of-kind restoration.

Restoration Types

In identifying a preferred restoration alternative, the Trustees followed the process outlined in The Louisiana Regional Restoration Planning Program Programmatic Environmental Impact Statement (NOAA et al., 2007). This analysis was accomplished by identifying the restoration types appropriate for restoring the injured resources, which in this case was birds, specifically Brown Pelicans (Figure 4.2; NOAA et al., 2007). Restoration types with a weak nexus to Brown Pelicans were then eliminated from consideration. Restoration types with no current projects available in RRP Region 1 (the RRP Region that the spill occurred in) were also eliminated. The Trustees then applied screening criteria⁶ to the remaining restoration types to determine the preferred restoration type(s) for addressing injuries to Brown Pelicans (Table 1).

Based on the analysis in Table 1, the Trustees selected Creation/Enhancement of Beaches/Shorelines/Streambeds⁷ involving dredge and fill and vegetative plantings as their preferred restoration type. This restoration type continues to be a proven and successful strategy for increasing the types of natural resources and services injured as a result of the Breton Island 2005 Oil Spill.

Further review of available projects within RRP Region 1, led to the identification of one Creation/Enhancement of Beaches/Shorelines/Streambeds restoration project within the region – the Brown Pelican Habitat Project.

⁶ Restoration type screening criteria are identified in section 4.2.4.1.5 of the Louisiana Regional Restoration Planning Program Final Programmatic Environmental Impact Statement (NOAA et al., 2007).

⁷ Creation/Enhancement of beaches/shorelines/streambeds is described in section 4.2.3.1.3 of the Louisiana Regional Restoration Planning Program Final Programmatic Environmental Impact Statement (NOAA et al., 2007).

Table 1. Screening to Determine Preferred Restoration Type

	Screening Criteria		
Restoration Types	Nexus	Scalability	Restores for Multiple Injuries
Creation/Enhancement Coastal Herbaceous Wetlands	0	+	+
Creation/Enhancement Beaches/Shorelines/Streambeds	++	+	+
Physical Protection Coastal Herbaceous Wetlands	0	-	+
Physical Protection Beaches/Shorelines/Streambeds	++	-	+
Acquisition/Legal Protection Coastal Herbaceous Wetlands	0	+	+

++ indicates a very strong relationship exists between the restoration type and the criterion

+ indicates a strong relationship exists between the restoration type and the criterion

0 indicates neutral relationship exists between the restoration type and the criterion

- indicates weak relationship exists between the restoration type and the criterion

Restoration Alternative 1: No Action/Natural Recovery

Alternative 1 considers taking no action to restore Brown Pelicans or their nesting habitat. This alternative would effectively allow for the continuation of current conditions at the site with no intervention. Approximately three months after the Breton Island 2005 Oil Spill occurred, Hurricane Katrina affected this area, resulting in additional degradation and loss of Brown Pelican habitat. Under this alternative, no steps would be taken to stabilize, create, or enhance Brown Pelican nesting habitat or replace Brown Pelicans that were lost as a result of the oil spill, and therefore, this alternative would not sufficiently compensate for the injuries caused by the Breton Island 2005 Oil Spill. The No Action alternative is required by NEPA to be included in the analysis of alternatives, including as a basis for comparison of the impacts of the other alternatives to the status quo. The natural recovery alternative is required for consideration under OPA (15 CFR § 990.53).

Restoration Alternative 2: Breton Island Brown Pelican Habitat Creation – Additional Increment (Preferred Action)

This project considers the creation of habitat suitable for Brown Pelicans at North Breton Island. Habitat creation is where no Pelican nesting habitat exists and prime Pelican nesting habitat is created through dredge and fill. The Brown Pelican Habitat Project would add Brown Pelican habitat creation to a separate restoration project (DWH North Breton Island Project) currently being planned to compensate for natural resource injuries associated with the 2010 DWH Oil Spill (DWH Trustees 2014). The DWH North Breton Island Project is part of a larger project implemented under the Phase III ERP/PEIS (DWH Trustees 2014) funded by settlements from the DWH NRDA and is being implemented and managed by the USFWS. The Brown Pelican Habitat Project considers constructing an additional 53 acres of Brown Pelican habitat that would not be created under the DWH North Breton Island Project.

Project Description

The Brown Pelican Habitat Project proposed in this Draft DARP/EA involves the creation of 53 acres of Brown Pelican habitat on North Breton Island to restore Brown Pelicans injured by the Breton Island 2005 oil spill. North Breton Island lies just north of the West Point Island Pelican rookery affected by the Breton Island 2005 Oil Spill. North Breton Island is located within the Mississippi River delta plain system bordered to the north and west by Breton and Chandeleur Sounds and to the east and south by the northern central Gulf of Mexico. North Breton Island is approximately 19 miles east of the port city of Venice, Louisiana located along the southern Mississippi River and approximately 62 miles southeast from the metropolitan city of New Orleans, Louisiana (Figures 1 & 2). The island is part of Breton NWR, owned and managed by the USFWS. The Breton NWR consists of a series of barrier islands within Breton Sound, including the Chandeleur Island chain to the north. Breton NWR was established in 1904 and is the second oldest national wildlife refuge in the NWR System. The objectives of the Breton NWR are to (1) provide sanctuary for nesting and wintering seabirds, (2) protect and preserve the wilderness character of the islands, and (3) provide sandy beach habitat for a variety of wildlife species. Breton NWR is a designated National Audubon Society “Globally Important Bird Area” due to the resources it provides to a number of bird species. North Breton Island hosts one of Louisiana’s largest historic Brown Pelican nesting colonies, as well as supporting thousands of pairs of other nesting bird species.

The Brown Pelican Habitat Project would rebuild and reestablish portions of North Breton Island by placing sand into the North Breton Island system. This project is intended to enhance the natural physical and ecological functions of the island and island platform system, increasing the longevity of the aerial aspects of the island as it continues to move and evolve naturally. The project area includes the fill footprint, offshore sand source area located in the Gulf of Mexico, and a conveyance corridor connecting the borrow area to the fill footprint (Figure 2). The approximate coordinates for the project would be Latitude 29°29'22.91"N and Longitude 89°10'16.91"W.

The northern end of the island currently consists of a vegetation community dominated by Black Mangrove, Groundsel Bush, and Wax Myrtle fronted by a sandy beach. The central and southern portions of the island consist of an elongated arm of continuous sandy shoreline newly formed following significant erosion from Hurricane Katrina in 2005. Recent historic dynamics of the island include erosion and westward movement of the island and reemergence during extended periods of calm weather (Flocks and Terrano, 2016; Terrano et al., 2016).

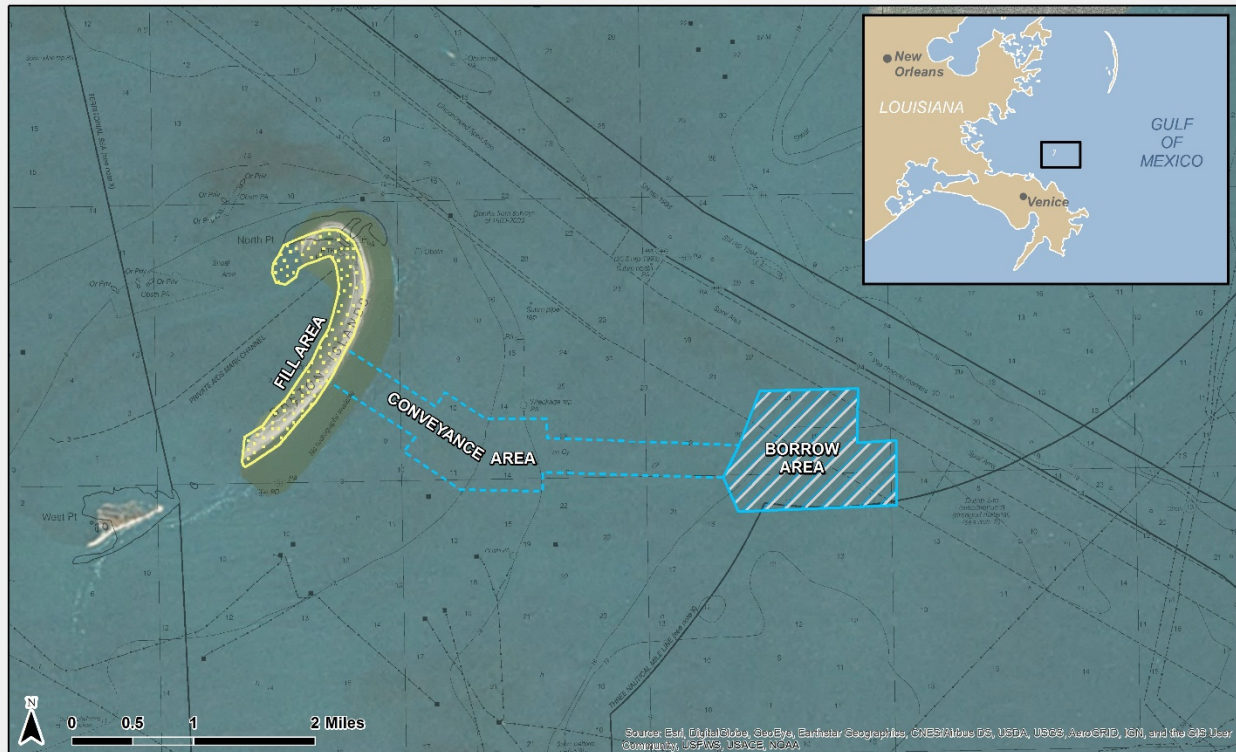


Figure 2. Project Area, including Borrow Area, Conveyance Area, and Fill Area.

The borrow area to create the DWH North Breton Island, as well as the Brown Pelican Habitat Project, is located in an offshore shoal approximately 4 miles east-southeast of Breton Island (Figure 2). The approximate center coordinates for the borrow area would be Latitude 29°28'04.07"N and Longitude 89°06'45.91"W. This area was identified based on geotechnical and sediment analyses of potential dredge material (American Society for Testing and Materials standard particle size analysis of soils) in this and the surrounding area. Material would be dredged from the borrow area with a hydraulic dredge with a cutterhead and transported to the island via a 27,200-foot hydraulic dredge pipeline.

The design for the DWH North Breton Island Project consists of the following elements:

- Fill placement extending southerly from the existing landmass, creating or restoring approximately 200 acres of beach, dune, and back barrier marsh habitat;
- Total island width of 1,100 feet bounded by sloped foreshore and back barrier marsh platforms;
- Elevated dune platform of + 6.5 feet (NAVD88) above sea level with a footprint width of ~200 feet and 100-foot crest width;
- Beach berm, 200 feet in width, extending from the gulf-side dune toe seaward, with an elevation of +4.5 feet (NAVD88); and
- Back barrier marsh platform, ~750 feet in width, extending landward of the beach/dune platforms, with an elevation of +3 feet (NAVD88).

The 53 acres proposed to be added by the Brown Pelican Habitat Project would modify the design to add (Figure 3):

- Brown Pelican habitat ~1,000 feet in width, extending landward of the beach/dune platforms, with an elevation of +0.8 feet (NAVD88)

In January 2014 the DWH NRDAR Trustees began collecting additional data to guide engineering, design, and implementation of the DWH North Breton Island Project. Data included topography/bathymetry lidar, single/swath bathymetry, sidescan sonar, ship subbottom sonar, magnetometer, and vibracore and surface geotechnical and sediment characterization samples. These data and guidance from additional resource management tools [research on nesting bird habitat (Visser et al. 2005); Habitat Suitability Index Models (Carreker 1985; Hingtgen et al., 1985; Zale and Mulholland 1985); ecology of Black Mangrove (Alleman and Hester 2011); comprehensive reports on the Breton NWR (Lavoie 2009)] were used to inform the development and design of the DWH North Breton Island Project, as well as the Brown Pelican Habitat Project.



Figure 3. Breton Island Concept Design Plan 4B without (Panel A) and with (Panel B) additional increment from the Breton Island 2005 Oil Spill.

In collaboration with USFWS, Bureau of Ocean Energy Management, and United States Geological Survey (USGS), USFWS's contractors developed seven Concept Design Plans for evaluation and review (DWH Trustees 2014). Concept Design Plan 4B (Figure 3) moved forward as the preferred design due to models indicating that this design would maximize Pelican breeding habitat while maintaining the integrity of the island. The DWH North Breton Island Project's Concept Design Plan 4B is expected to enhance approximately 2.25 miles (12,000 linear feet) of beach, dune, and back-barrier marsh habitat on North Breton Island for a total of approximately 200 acres of barrier island habitat. The as-built dune would be approximately 6.5 feet-high by 100 feet-wide at the top and 200 feet-wide at the base. The as-built beach would be 4.5 feet-high by 200 feet-wide, and the back barrier marsh would be ~750 feet-wide by 3 feet-high (North American Vertical Datum [NAVD] 88). The Brown Pelican Habitat Project put forward as part of this analysis would provide 53 additional acres of habitat that would support Brown Pelicans compared to the existing plan (Figure 3).

Beach/Dune, Marsh, and Wetland Fill

A barge mounted hydraulic dredge with a cutterhead, and a barge mounted booster pump (self-contained barge possibly 90 feet long X 30 feet wide with a crew), and up to 5 miles of dredge pipeline would be used to dredge material and transport it from the borrow site to the island for use in the enhancement project. Marsh buggy track hoes (2 to 5 expected) would be used to move dredge pipe. Two or more bulldozers would shape the sand. Equipment and personnel would be transported to the site via barges, tugboats, and crew boats. In addition, there may be a living quarters barge on site for the crew.

Construction Equipment and Logistics

The construction crews and equipment consist of a shore-based construction crew and equipment responsible for fill shaping and grading; an offshore sediment pipeline crew and equipment responsible for maintenance of the submerged sediment pipeline segments; and a shore sediment pipeline crew and equipment responsible for maintenance and relocation of the shore sediment pipeline as the fill advances within the fill template. The equipment associated with shore segments of the sediment pipeline crew activities included bulldozers and sediment pipeline segment handlers commonly called skidders. The submerged sediment pipeline crews may require additional personnel such as welders and crane operators. The submerged sediment pipeline crews may utilize additional equipment such as barges, cranes, welding machines, and air compressors to maintain the submerged segments of the sediment pipeline.

Construction Duration

The construction duration is based on mobilization of crews and equipment, sediment pipeline installation and removal, sediment excavation and fill placement, and demobilization. The estimated construction duration for this project is 340 days. Construction will begin at the north end of the island in late summer (after the Brown Pelicans have left), and progress south to avoid disturbance of the existing rookery. Construction time would be 10 to 24 hours per day (depending on season, light availability, and construction task). The project would require approximately 30-40 workers during construction period. Sanitary waste disposal would be provided for the workers during construction. Louisiana Hwy 23 would likely be used to transport workers and some lighter equipment. It is unknown at this time exactly where barges would deploy from, but they would likely come from the Mississippi River to the project site by way of Breton Sound. Personnel shift changes would likely be transported from Venice, Louisiana via crew boats. The bulk of the equipment would be transported via barges through the Mississippi River, Gulf Intracoastal Waterway and other channels.

Vegetation

After a period of settlement and salinity stabilization of placed materials, native intertidal and dune habitat species would be planted in dune and marsh areas where needed to expedite vegetation community establishment. There are no plantings proposed for the 53 acres project, but given the proximity of the existing Mangrove wetland, the newly created habitat may re-vegetate naturally.

Cost

The total estimated cost to implement the Brown Pelican Habitat Project is approximately \$8.63 million. This cost reflects current cost estimates developed from the most current design available to the Trustees. The cost includes provisions for planning, engineering and design, construction, monitoring, and potential contingencies.

Project Evaluation

The Trustees evaluated the Brown Pelican Habitat Project based on the OPA evaluation criteria and the additional RRP Program-specific criteria listed in Chapter 1.

The proposed restoration has a sufficient nexus to resources injured by the Spill. See 15 C.F.R. § 990.54 (a)(2). The project will create Brown Pelican barrier island nesting habitat in Breton Sound. The barrier island restored by the project is anticipated to provide similar or complimentary ecological services to the injured trust resources. The creation of a barrier island will provide nesting opportunity to the Brown Pelican and services that were injured by the incident as well as provide additional habitat benefits to multiple other bird species and island wildlife. See 15 C.F.R. § 990.54 (a)(5).

The Brown Pelican Habitat Project would be conducted at a reasonable cost for this type of action and could be expected to be implemented with minimal delay given the previous planning already completed. See 15 C.F.R. § 990.54 (a)(1); RRP Program FPEIS (NOAA et al. 2007b, p. 104). Because this project will be constructed in the immediate vicinity of, and concurrent with, ongoing dredging activities involving the construction of hundreds of acres of barrier island, the Trustees expect the project to benefit from economies of scale, including substantial time and cost savings achieved through administrative, logistical, and construction efficiencies associated with larger projects. The project will achieve additional cost efficiencies related to the close proximity of the barrier island creation area to the borrow site construction occurring concurrent with construction for the DWH North Breton Island Project. Cost estimates for this project suggest that the project will be a cost-effective alternative for creating barrier island habitat given costs associated with other barrier island creation projects. Finally, because the DWH North Breton Island Project is currently permitted, an opportunity exists to leverage those activities to construct the Brown Pelican Habitat Project in the near future.

The project is technically feasible and utilizes proven techniques with established methods and documented results. Dredging to create barrier islands has been successfully used as a restoration technique in coastal Louisiana for several years. Since CWPPRA was authorized in 1990, several barrier island projects have been constructed. The Trustees scaled the project benefits over a 15-year time horizon, providing additional confidence that the project will provide sufficient compensatory restoration for the incident. Furthermore, building additional acreage (beyond the required 5353 acres) may be possible depending on actual costs. For these reasons, the restoration alternative has a high likelihood of success. See 15 C.F.R. § 990.54 (a)(3).

A thorough review of this project, including review under applicable environmental laws and regulations, is described in the cited existing NEPA analyses, and indicates that adverse effects from the project would largely be minor to moderate, localized, and temporary. In addition, best management practices and measures to avoid or minimize adverse effects would be implemented, where applicable. As a result, collateral injury would be avoided and minimized during project implementation (construction). See 15 C.F.R. § 990.54(a)(4). The Trustees do not anticipate this project adversely affecting public health or safety. See 15 C.F.R. § 990.54(a)(6).

Alternatives Considered but Eliminated from Further Evaluation

During the course of the restoration planning process, the Trustees considered other restoration alternatives, including habitat creation projects at Queen Bess, Raccoon, Wine, and Rabbit Islands, as well as different project designs at Breton Island. These projects were eliminated during the planning process by the Trustees because of size and other design limitations, timeline for implementation, proximity to the spill site, and low likelihood that the projects would fully compensate for the injuries.

CHAPTER 4: NEPA COMPLIANCE

DOI has independently evaluated the existing NEPA analysis pertinent to the project, and believes that this existing NEPA analysis meets the standards for NEPA analyses under the CEQ NEPA regulations, DOI NEPA regulations, and individual DOI bureau NEPA procedures. DOI's public involvement requirements have also been met. The incorporated NEPA analysis adequately assesses the environmental effects of the proposed restoration project and there are no new circumstances, new information, or changes in the action or its impacts not previously analyzed that may result in significantly different environmental effects. All applicable environmental commitments previously made in the adopted NEPA analysis found in Chapter 9, Section 9.6 of the Phase III ERP/PEIS (DWH Trustees 2014) are described below or incorporated by reference into this DARP/EA.

Accordingly, DOI has adopted and is incorporating by reference the NEPA analyses from the Phase III ERP/PEIS to fulfill DOI's NEPA requirements for analysis of the Brown Pelican Habitat Project. Below is a brief summary of impacts analyzed in the Phase III ERP/PEIS, compliance with other environmental laws and mitigation commitments. Please refer to Chapter 9, Section 9.6 of the Phase III ERP/PEIS for the detailed analysis (DWH Trustees 2014).

Summary of Impacts and Compliance with Other Environmental Laws and Mitigation

The resource areas that were analyzed in the Phase III ERP/PEIS DWH North Breton Island Project are:

- Geology and substrates;
- Hydrology and water quality;
- Air quality and greenhouse gases;
- Noise;
- Living coastal and marine resources;
- Protected species;
- Socioeconomics and environmental justice;
- Aesthetics and visual resources;
- Tourism and recreational use; and
- Infrastructure and public health and safety.

The NEPA analysis of the environmental consequences suggests that short term minor adverse impacts are anticipated to all potentially affected resources except "Protected Species," where a short term moderate adverse impact is anticipated to Piping Plover and Red Knot due to construction and dredging related disturbances. No moderate to major adverse impacts are anticipated to result to all other resources. The project would provide long-term benefits by restoring barrier island habitats.

Overall, the cumulative impact of past, present, and reasonably foreseeable future actions related to the DWH North Breton Island Project would result in beneficial cumulative impacts over the long-term, as restoration and environmental stewardship activities and other barrier island restoration projects would all contribute to improving the natural environment. Similar to other past, present, and reasonably foreseeable future actions, implementation of the DWH North Breton Island Project would result in short-term adverse impacts from disturbance during construction that would no longer occur once the project is completed. There would be beneficial cumulative impacts from restored habitat to which the DWH North Breton Island Project would contribute.

Compliance with Relevant Federal Environmental Laws

Consultations or reviews have been completed under the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, the Migratory Bird Treaty Act, the Marine Mammal Protection Act, and the Bald and Golden Eagle Protection Act. Consistency review of the Phase III ERP/PEIS was initiated by the DWH Federal Trustees under the Coastal Zone Management Act and has been completed for purposes of finalizing the Early Restoration Plan. Additional reviews may occur if necessary during permitting processes required for implementation. Consultation under the National Historic Preservation Act (NHPA) and the Clean Water Act and the Rivers and Harbors Act has also been completed.

Mitigation Measures Described in the DWH Phase III ERP/PEIS

The Trustees agree to implement the following conservation measures and best management practices (BMPs), which include measures identified during the consultations noted above. Although conservation measures and BMPs are listed under specific resources that they are intended to benefit, they could also result in reduced impacts to other resources.

Measures to Mitigate Impacts to the Physical Environment

- Sand fencing will be erected to capture windblown sand and foster dune development.
- The dune and back barrier marsh areas will be planted with native vegetation shortly after construction, after a period of settlement and salinity stabilization.
- Modeling exercises were conducted as part of this project to assess possible changes in the wave climate due to changes in substrate contours resulting from source dredging. Activities in the borrow area are not expected to impact wave climate (Daylander et al. 2015).
- A Spill Prevention, Control, and Countermeasure Plan will be developed and implemented to reduce incidental discharges of fuel and oil from construction.

Measures to Mitigate Impacts to Biological Resources

- Impacts to birds will be avoided by implementing the Louisiana Guidelines for Minimizing Disturbance to Colonial Nesting Birds (USFWS 2014a). A bird abatement plan is in place during construction activities to avoid impacts to nesting birds.
- After a period of settlement and salinity stabilization of placed materials, native intertidal and dune habitat species will be planted in dune and marsh areas as applicable. Plantings will help establish the plant community and foster retention of placed sediments.
- The Trustees intend to implement the USFWS Standard Conditions for In-water Work in the Presence of Manatees, dated 2011, and NOAA's Measures for Reducing Entrapment Risk to Protected Species, revised on May 22, 2012.
- The USFWS will ensure compliance with the Best Management Practices in National Marine Fisheries Service's Sea Turtle and Smalltooth Sawfish construction conditions and Measures for reducing entrapment risk to protected species, dated 2014.
- The following Conservation Measures and Reasonable and Prudent Measures included within the Biological Opinion (USFWS 2014b) will be implemented to protect trust resources.
 - The Contractor shall be aware of threatened and endangered species and migratory birds, and implement practices and follow all conditions set forth by NOAA, USFWS, and LDWF to protect these resources.

- A baseline survey for Piping Plovers and Red Knots should be conducted within the migrating and wintering season immediately prior to initial construction in order to determine each species' preferred habitat use within the action area. Such information could then be used as an aid to determine whether specific project actions require slight modifications in order to minimize the effects of the take for future migrating and wintering seasons. For example, initial bird surveys may aid in locating and marking appropriate access routes for ORVs and other work-related equipment, as well as equipment staging areas, in order to reduce disturbance to foraging and roosting birds to the maximum extent practicable.
- A simple diversity and abundance survey of the intertidal benthic prey species community was conducted within the migrating and wintering season (April 2018) in order to establish a baseline of benthic prey species diversity and abundance (e.g., biomass). Again, such information could then be used as an aid to determine whether specific project actions require slight modifications in order to minimize the effects of the take for future migrating and wintering seasons. For example, initial surveys could locate areas of abundant benthic prey where birds may tend to congregate for foraging, and those areas could be flagged for avoidance by regular personnel traffic to reduce disturbance to foraging Piping Plovers and Red Knots.
- The DOI should carefully mark and stake the boundaries of the project footprint on North Breton Island and ensure that those markers are maintained for the duration of project construction activities. Should the project actions (e.g., personnel, equipment, etc.) affect suitable habitat outside of those boundary markers and beyond the action area as described in the biological opinion, then the level of incidental take (i.e., all Piping Plovers using the existing 198 acres of bare sand, mud flat, and intertidal habitats) for this project will be exceeded and the DOI should reinstate Section 7 consultation with the USFWS as soon as possible.
- Piping Plover and Red Knot monitoring surveys should be conducted during the migrating and wintering seasons throughout the initial project in order to determine whether access routes are working or whether they need to be adjusted, and for three consecutive years following completion of initial construction to determine whether birds are still utilizing the project area during the benthic recovery period. The frequency of surveys will be determined in coordination with the USFWS.
- To determine if incidental take exceeds the anticipated recovery time (i.e., up to two years) of suitable foraging habitat on North Breton Island for migrating and wintering Piping Plovers and Red Knots, monitoring surveys of the intertidal benthic prey species community should be conducted each year following completion of initial construction for three consecutive years. Such information could also be used to determine whether corrective actions (that may be necessary to achieve the DOI's NRDAR success criteria) require slight modifications in order to minimize the effects of the take.
- Due to the remoteness of the project area, weather conditions, potential logistical constraints, and the need to closely coordinate with Breton NWR staff, the DOI should meet with the USFWS within six months of the date of this biological opinion to coordinate and develop a detailed monitoring plan and schedules for bird and benthic surveys.
- Due to the duration between receiving construction funds and letting out contracts, the USFWS should be notified in writing at least six months prior to mobilization when construction will be initiated so that the DOI and the USFWS can coordinate and exchange updated species and project information to ensure that re-initiation of consultation is not necessary.

- A comprehensive report describing the actions taken to implement mitigation and terms and conditions associated with the incidental take statement shall be submitted to the USFWS by June 30 of the year following completion of all required surveys.
- To reduce potential impacts to the Gulf Sturgeon, the cutterhead will remain completely buried in the sediment during dredging operations. The Contractor will be responsible for surveillance, management, and control of their construction activities to minimize interference with, disturbance to, and damage of water, fish, and wildlife resources.
- No Bald Eagles are known to nest in Breton NWR. If any Bald Eagle nests are observed prior to or during construction, appropriate best management practices (USFWS 2007) to avoid disturbance to nesting Bald Eagles shall be implemented.
- To ensure these pathways are “broken” and do not spread or introduce species, the following BMPs will be implemented:
 - All equipment to be used during the project, including personal gear, will be inspected and cleaned such that there is no observable presence of mud, seeds, vegetation, insects (especially ants and snails), and other species.
 - Native vegetation will be used for planting.
 - Prior to bringing vegetation to the island, it will be inspected and “non-target⁸” species will be removed.

Measures to Mitigate Impacts to Human Uses and Socioeconomics

- This project was reviewed under Section 106 of the NHPA to identify any historic properties located within the project area and to evaluate whether the project will affect any historic properties.
- This project will be implemented in accordance with all applicable laws and regulations concerning the protection of cultural and historic resources.
- Magnetometer surveying within the target borrow area and associated conveyance corridors, access channels, and project fill areas was conducted in May 2016 as part of project engineering and design before construction activities begin to better delineate these structures. The survey identified two targets. Target 1 is likely a “buried hazard” and Target 2 has “the characteristics of a cultural resource” and has been avoided. USFWS recommended a determination of “no historic properties affected” which was supported by the Louisiana State Historic Preservation Office and respondent tribes.
- If hazardous materials are encountered in the project area during construction activities, appropriate measures for the proper assessment, remediation, management, and disposal of the contamination will be required in accordance with applicable federal, state, and local regulations.
- All occupational and marine safety regulations and laws will be followed to ensure safety of all workers and monitors.

Mitigation Measures Described in the USACE Permit for the North Breton Island

- The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be

⁸ A non-target species is any species that is present on the species of choice but is not desirable and should be removed. For example, within soil that is often packed around plant roots, there may be species of snails capable of carrying parasites that can affect birds or fire ants that may attack bird eggs or chicks.

required, upon due notice from USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

- The use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
- Permittee must install and maintain, at permittee's expense, any safety lights, signs, and signals prescribed by the USCG, through regulations or otherwise, on the authorized facilities.
- If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, DOI is advised to notify the Eighth USCG District, so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of the permit approval and drawings, should be mailed to the Commander (dpw) Eighth USCG District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth USCG, Waterways Management at (504) 671-2107.
- Please be aware that you must comply with the "Standard Manatee Conditions for In-Water Activities".
- If the authorized project requires any additional work not expressly permitted herein, the permittee must apply for an amendment to the authorization.

CHAPTER 5: MONITORING PROGRAM AND PERFORMANCE CRITERIA

Following project implementation, the Trustees will monitor the project to evaluate and document restoration effectiveness, including performance criteria for determining the success of restoration or need for interim corrective action (15 CFR 990.55(b)(1)(vii)). Since the Brown Pelican Habitat Project is an expansion of the larger DWH North Breton Island Project, the Trustees will adopt the qualitative and quantitative monitoring protocols as outlined in the DWH NRDA Monitoring Plan for the Phase III Early Restoration Louisiana Outer Coast Restoration Project (DWH Trustees 2017). More specifically, portions of Objective #1 and #2 of the Monitoring Plan (summarized below) are most directly related to establishment of Brown Pelican nesting.

Monitoring activities are expected to take place over several years. Available data sets from pre-implementation, implementation, and post-implementation time periods are expected to be utilized. Successful implementation of the project will be measured using a combination of quantitative and qualitative monitoring efforts designed to evaluate whether the following restoration goals and objectives are met, and to determine whether corrective actions are necessary.

The Trustees will evaluate the stability and function of the restored islands and marsh habitat characteristics. Performance criteria will be established to determine whether the restored areas are functioning as healthy barrier islands and supporting nesting birds. Components of monitoring may include collecting data on the following parameters:

- Barrier island structure and function, potentially including metrics such as shoreline position, stability (e.g., frequency of overwash, number and status of breaches), area, elevation, and/or volume.
- Bird habitat use and nesting activity, potentially including metrics such as habitat occupancy surveys, colony size, and nest densities.
- Marsh habitat characteristics, potentially including metrics such as species composition, vegetation cover, nekton, and invertebrate population densities, and habitat areal coverage.

Updates and additional details concerning the performance measures and monitoring for this project will be made available to the public as they are developed.

The following sections provide a summary of the main monitoring objectives and parameters, data management protocols, and schedule. For more detailed explanations of monitoring and corrective actions, refer to the [DWH NRDA Monitoring Plan for the Phase III Early Restoration Louisiana Outer Coast Restoration Project](#) (DWH Trustees 2017).

Management Objectives, Monitoring Methodologies, and Corrective Actions

Objective #1: Restore barrier island habitats that will contribute to making the environment and the public whole for spill-related injuries to these habitats

This objective includes a parameter for vegetation survival and/or percent cover (Parameter 1) and a nested set of parameters for habitat acreage and geomorphic structure (Parameters 2-5). Parameter 1 will be measured to quantify planting survival and/or percent cover of dune and back-barrier marsh habitats and evaluate whether additional plantings are needed to promote and establish appropriate vegetation communities. Parameter 2 is designed to evaluate project performance based on habitat acreage. If the performance target for Parameter 2 is not met, evaluations related to the geomorphic structure of the individual project components might be conducted (Parameters 3-5). Performance evaluations for this restoration objective will inform the potential need for corrective actions. Monitoring data collected for Parameters 2 and 4 will also be used to inform potential adaptive management at North Breton Island relating to bird production.

Objective #2: Support nesting activity for Brown Pelicans, Terns, Skimmers, and Gulls that contributes to making the environment and the public whole for spill-related injuries to these species.

Monitoring parameters for this objective include a parameter for colony location mapping (Parameter 1) and estimates of production (Parameter 2) of Brown Pelicans, Terns, Skimmers, and Gulls using habitats produced across the Project. Parameter 1 will be accomplished by mapping approximate colony boundaries of Brown Pelicans, Gulls, Terns, and Skimmers. Parameter 2 will be accomplished by estimating numbers of active nests and/or breeding pairs of each guild on the island in its entirety (i.e., within and outside of the NRDA restoration component) on an annual basis. Parameters 1 and 2 and average productivity rates of each guild will be combined to estimate fledgling production produced by the project. Results of this objective will be evaluated in the context of Objective 1 to facilitate nesting bird habitat association analyses.

Monitoring technicians will map colonies of Brown Pelicans (Parameter 1) using hand-held GPS units using a NAD-83 UTM projection and hand-drawn maps illustrated while on site. Colony maps will be digitized using a geographic information system (e.g., ArcMap) using the NAD-83 UTM projection, creating a separate shapefile for colonies of each of the four bird groups each year (i.e., four shapefiles for each survey year). Shapefile metadata will include survey date, name of surveyor, estimated nest counts, habitat type, and other pertinent notes for each polygon. Colony mapping will take place 3-8 times annually, targeting April-May, June, and early July, and will occur concurrent with data collection for Brown Pelican productivity estimates.

Brown Pelican production estimates (Parameter 2) will use the following methods:

- Nesting colonies will be located by walking and/or boat surveys of the project component islands with particular emphasis being placed on previous colony locations. Once located, walking surveys will be conducted for each colony in the project area, delineating colonies in historic island habitat vs. colonies in new/restored habitat. Active nests within a minimum of ten percent of each separate colony will be counted. Nests within 10-foot wide belt transects across the entire colony will be counted. For colonies large enough to require more than one transect to record at least ten percent of estimated nests, transects will be at least 100 feet apart. The total number of active nests counted within transects will be multiplied by the ratio of the total size of summed transects to the estimated total size of the colony to produce an estimate of total active nests in the colony. In colonies estimated to contain fewer than 200 nests, attempts should be made to count each active nest. Care should be taken to minimize stress and disturbance to birds, especially when young birds are in the nests by surveying in the cooler morning or late evening hours. Additional information may include the stage of development of young and approximate number of adults present in the area.
- Brown Pelican production will be estimated as the product of total number of nests and an assumed fledgling rate of 1.4/nest. For example, total estimated fledglings in a restored area with an estimated 150 nests⁹ in a certain year = $(150)(1.4) = 210$.
- Gull production will be estimated as the product of total number of nests and an assumed fledgling rate of 0.97/nest (Martin et al. 2014). For example, total estimated fledglings in a restored area with an estimated 94 nests in a certain year = $(94)(0.97) = 91$.
- Monitoring site-specific habitat quality as it relates to supporting nesting Pelicans and Gulls and the use of habitats by those species is important to facilitate adaptive management of the project

⁹ All active nests will be assumed successful pending other available information on chick survival, such as known nest failures or apparent drowning of fledglings (e.g., if post-storm observations indicate that a portion of chicks drowned due to wash-over events, a corresponding portion of fledgling estimates will be removed from estimates of production from otherwise successful nests).

components for project success. Visual observations of habitat type used by each nesting Brown Pelican and Gull colony will be categorized following Louisiana Barrier Island Comprehensive Monitoring Program terminology. Data collected under Objective 1 herein will also be used to evaluate production-habitat associations.

- The same personnel should conduct surveys each year, if possible, to reduce observer variances.

Performance Criteria:

- Estimates of Brown Pelican, Tern, Skimmer, and Gull fledglings indicate that the various species are colonizing the Project Area.

Potential Corrective Actions:

- Sand or shell hash renourishment (e.g., increase longevity of project components, provide additional nesting habitat for Terns or Skimmers).
- Vegetation management (e.g., additional plantings to support Pelican and/or Gull nesting, removal of vegetation to support Tern and/or Skimmer nesting).

Monitoring Schedule

Data for all parameters may be derived from various sources including project-specific survey data, the BICM Program, and other regional monitoring programs (e.g., Coastal Wetlands Planning, Protection, and Restoration Act Program). Refer to Table 2 in the DWH NRDA Monitoring Plan for the Phase III Early Restoration Louisiana Outer Coast Restoration Project (DWH Trustees 2017) for a more detailed project schedule.

Reporting and Data Requirements

The Trustees will document, validate, and report field data collected for the purposes of performance monitoring. Refer to Section 4 of the DWH NRDA Monitoring Plan for the Phase III Early Restoration Louisiana Outer Coast Restoration Project (DWH Trustees 2017) for a more detailed description of data management. In summary, the reporting and data requirements are intended to:

- Maximize the quality, utility, and integrity of monitoring data;
- Organize, track, locate, and access monitoring data over the long-term; and
- Share finalized monitoring data with the public in a consistent and comprehensible format.

The Trustees will produce a Final Construction Report at the end of construction and interim monitoring progress reports as needed between 2019 and 2031. A comprehensive monitoring report will be produced after sampling is completed in 2030. If corrective actions are necessary, the Trustees may develop a Corrective Action Plan that would provide a revised performance monitoring and reporting schedule. All reports will contain monitoring data that have been validated and have undergone final quality control checks.

CHAPTER 6: REFERENCES

- Alleman LK and MW Hester. 2011. Reproductive ecology of Black Mangrove (*Avicennia germinans*) along the Louisiana coast: Propagule production cycles, dispersal limitations, and establishment elevations. *Estuaries and Coasts* 34(5):1068-1077.
- Carreker RG. 1985. Habitat suitability index models: Least Tern. U.S. Fish Wildl. Serv. Biol. Rep. 82(10.103). 29 pp.
- Daylander, P.S., R.C. Mickey, J.W. Long, J. Flocks. 2015. Effects of proposed sediment borrow pits on nearshore wave climate and longshore sediment transport rate along Breton Island, Louisiana: U.S. Geological Survey Open-File Report 2015-1055, 41p.
- DWH Trustees. 2014. Deepwater Horizon Oil Spill: Programmatic and phase III early restoration plan and early restoration programmatic environmental impact statement. <http://www.gulfpillrestoration.noaa.gov/restoration/early-restoration/phase-iii/>
- DWH Trustees. 2017. Deepwater Horizon Natural Resource Damage Assessment Monitoring Plan, Phase III Early Restoration, Louisiana Outer Coast Restoration Project. [https://pub-data.diver.orr.noaa.gov/restoration/Deepwater%20Horizon%20Natural%20Resource%20Damage%20Assessment%20\(NRDA\)%20Monitoring%20Plan%20Phase%20III%20Early%20Restoration%20Louisiana%20Outer%20Coast%20Restoration%20Project%20%20FINAL%202017%2002%2006.pdf](https://pub-data.diver.orr.noaa.gov/restoration/Deepwater%20Horizon%20Natural%20Resource%20Damage%20Assessment%20(NRDA)%20Monitoring%20Plan%20Phase%20III%20Early%20Restoration%20Louisiana%20Outer%20Coast%20Restoration%20Project%20%20FINAL%202017%2002%2006.pdf)
- Flocks JG and JF Terrano. 2016. Analysis of seafloor change at Breton Island, Gosier shoals, and surrounding waters, 1869 – 2014, Breton National Wildlife Refuge, Louisiana: U.S. Geological Survey Open-File Report. 2016–1069. Reston, Virginia. <https://pubs.er.usgs.gov/publication/ofr20161069>.
- Hingtgen TM, R Mulholland, and AV Zale. 1985. Habitat suitability index models: Eastern Brown Pelican. U.S. Fish Wildl. Serv. Biol. Rep. 82(10.90) 20 pp.
- Lavoie D ed. 2009. Sand resources, regional geology and coastal processes of the Chandeleur Islands Coastal System: An evaluation of the Breton National Wildlife Refuge. Scientific Investigations Report 2009-5252. U.S. Geological Survey. 180 pp.
- Martin, N., J. Dwyer, J. Murray, and N. Tyack. 2014. Avian life history information for focus bird species using the northern Gulf of Mexico. Industrial Economics, Inc. Report Prepared for the Department of the Interior, U.S. Fish and Wildlife Service.
- National Oceanic and Atmospheric Administration, U.S. Department of the Interior, Louisiana Oil Spill Coordinator's Office, Office of the Governor, Louisiana Department of Environmental Quality, Louisiana Department of Natural Resources, Louisiana Department of Wildlife and Fisheries, 2007, The Louisiana Regional Restoration Planning Program Final Programmatic Environmental Impact Statement, 172p + appendices,.
- Terrano JF, JG Flocks, and KEL Smith. 2016. Analysis of shoreline and geomorphic change for Breton Island, Louisiana, from 1869 to 2014. U.S. Geological Survey. U.S. Geological Survey Open-File Report 2016–1039. Reston, Virginia. 34 pp., <https://pubs.er.usgs.gov/publication/ofr20161039>.
- United States Fish and Wildlife Service (USFWS). 2007. National Bald Eagle management guidelines. May 2007. 23 pp.
- United States Fish and Wildlife Service (USFWS). 2014a. Louisiana guidelines for minimizing disturbance to colonial nesting birds.

- United States Fish and Wildlife Service (USFWS). 2014b. Biological Opinion. Deepwater Horizon Early Restoration North Breton Island Restoration Project Plaquemines Parish, Louisiana. May 9, 2014. 138pp.
- Visser JM, WG Vermillion, DE Evers, RG Linscombe, and CE Sasser. 2005. Nesting habitat requirements of the Brown Pelican and their management implications. *Journal of Coastal Research* 21(2): 27–35.
- Zale AV, and R Mulholland. 1985. Habitat suitability index models: Laughing Gull. U.S. Fish Wildl. Serv. Biol. Rep. 82(10.94). 23 pp