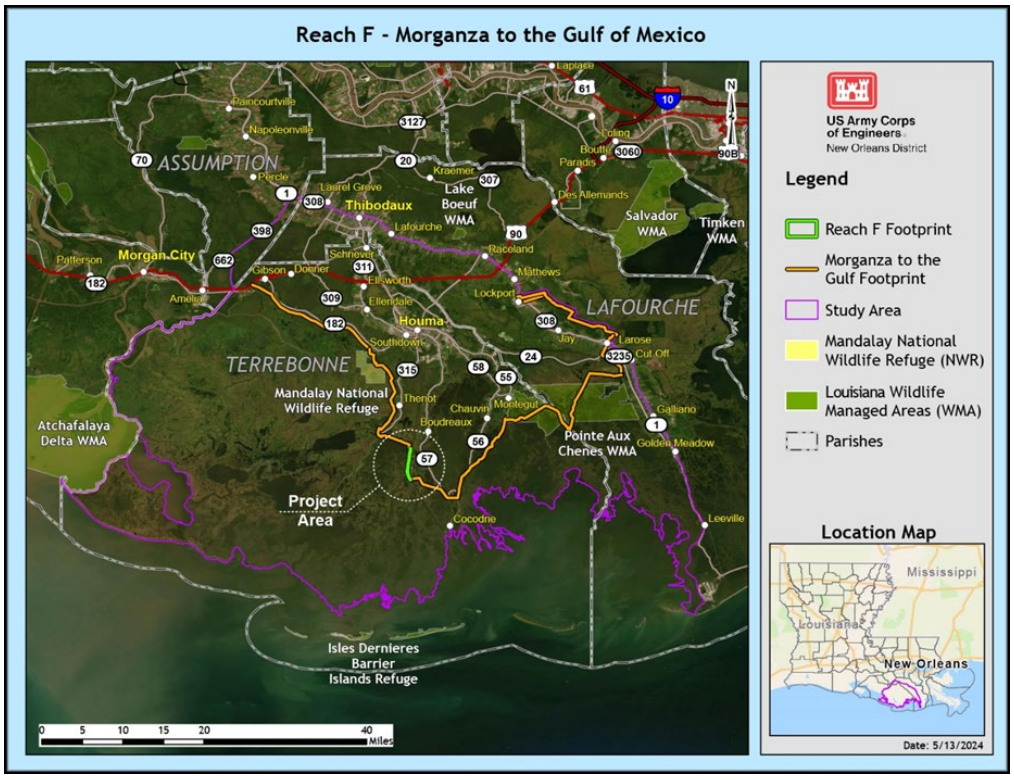
Reach F, Hurricane and Storm Risk Reduction Project Morganza to the Gulf, Terrebonne Parish, Louisiana



Appendix B: USFWS Draft Coordination Act Report

February 2026

CONTENTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services
200 Dulles Drive
Lafayette, Louisiana 70506

November 22, 2024

Colonel Cullen Jones
District Engineer
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Jones:

The U.S. Army Corps of Engineers' (USACE) is proposing to construct levees for the proposed Morganza to the Gulf of Mexico, Louisiana (MTG) Project, Hurricane and Storm Damage Risk Reduction System. The objective of the proposed project is to reduce hurricane-related damages up to 100-year recurrent frequency storm events. The features are described in the Final Post Authorization Change Report (PACR) and Revised Programmatic Environmental Impact Statement (PEIS) dated May 2013. The project consists of the construction of 98 miles of levees in the Terrebonne Basin, approximately 84 miles of which would overlay existing hydrologic barriers such as natural ridges, roadbeds, and existing levees. This draft report covers the second MTG levee reach scheduled to be constructed, Reach F. That 4.3-mile reach begins near the intersection of the Houma Navigational Canal (HNC) and Falgout Road near the town of Dulac. It would be an earthen levee adjacent and parallel to the HNC terminating near the proposed HNC Lock Complex site.

This draft report contains a description of existing fish and wildlife resources in the project area, discusses the Proposed Action and the No Action Alternative habitat conditions, identifies fish and wildlife-related impacts, and provides recommendations to improve the proposed MTG project. This document is in partial fulfillment of the Fish and Wildlife Coordination Act (FWCA) and does not constitute the final report of the Secretary of the Interior as required by Section 2(b) of the FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The Fish and Wildlife Service (Service) is coordinating with National Marine Fisheries Service (NMFS) and Louisiana Department of Wildlife and Fisheries (LDWF). Their comments will be incorporated into the final report.

We appreciate the cooperation of your staff on this project. Should your staff have any questions regarding the enclosed report, please have them contact David Castellanos (337/291-3112) of this office.

Sincerely,

Brigette D Firmin

BRIGETTE FIRMIN Digitally signed by BRIGETTE FIRMIN
Date: 2024.11.22 16:40:15 -06'00'

Brigette D. Firmin
Field Supervisor
Louisiana Ecological Services

Enclosures

cc: Environmental Protection Agency, Dallas, TX
CEMVN-PM-R
National Marine Fisheries Service, Baton Rouge, LA
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD), Baton Rouge, LA
Coastal Protection and Restoration Authority (CPRA), Baton Rouge, La

Draft Fish and Wildlife Coordination Act Report
For the
Morganza to the Gulf of Mexico, Louisiana (MTG) Project, Hurricane and Storm Damage Risk Reduction System, Reach F

SUBMITTED TO
NEW ORLEANS DISTRICT
U.S. ARMY CORPS OF ENGINEERS

PREPARED BY
U.S. FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
LAFAYETTE, LOUISIANA
November 2024

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This draft report contains a description of existing fish and wildlife resources in the project area, discusses the future with the Proposed Action Alternative and the future with the No Action Alternative habitat conditions, identifies fish and wildlife-related impacts, and provides recommendations to improve the proposed Morganza to the Gulf of Mexico, Louisiana (MTG) Project, Hurricane and Storm Damage Risk Reduction System, Reach F. This document does not constitute the final report of the Secretary of the Interior as required by Section 2(b) of the Fish and Wildlife Coordination Act (FWCA; 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The Fish and Wildlife Service (Service) is coordinating with National Marine Fisheries Service (NMFS) and Louisiana Department of Wildlife and Fisheries (LDWF). Their comments will be incorporated into the final report.

The features are described in the Final Post Authorization Change Report (PACR) and Revised Programmatic Environmental Impact Statement (PEIS) dated May 2013. The project consists of the construction of 98 miles of levees, approximately 84 miles of which would overlay existing hydrologic barriers such as natural ridges, roadbeds, and existing levees. Reach F will encompass approximately 4.3 miles of the proposed MTG levee system.

Marshes, swamps, and bottomland hardwood forests (BLH) are considered by the Service to be aquatic resources of national importance due to their increasing scarcity and high habitat value for fish and wildlife within Federal trusteeship (i.e., migratory waterfowl, wading birds, other migratory birds, threatened and endangered species, and interjurisdictional fisheries).

The MTG Reach F is anticipated to impact the Timbalier subbasin with a loss of approximately 62.4 brackish and 25.0 saline marsh acres and approximately 9.4 acres of BLH. This would result in a loss of a total 34.67 Average Annual Habitat Units (AAHUs) over the 61-year period of analysis. Note that the BLH AAHUs contribution is subject to change based on an interagency habitat evaluation team (HET) review that could not be conducted by the time this report was submitted. Additionally, there is a potential for indirect impacts from Reach F when combined with the entirety of MTG that should continue to be considered by the U.S. Army Corps of Engineers (USACE). For unavoidable impacts, compensatory mitigation is required to replace the loss of jurisdictional wetland function and area.

The Service supports the construction of the Proposed Action (MTG Reach F Modified PACR alignment) provided that the following fish and wildlife recommendations are carried out concurrently with project implementation:

1. Coastal marshes and forested wetlands are considered by the Service to be aquatic resources of national importance due to their increasing scarcity and high habitat value for fish and wildlife within Federal trusteeship (i.e., migratory waterfowl, wading birds, other migratory birds, threatened and endangered species, and interjurisdictional fisheries). The Service's mitigation policy (Federal Register, Volume 46, Number 15, pages 7656-7663, January 23, 1991) provides guidance to help ensure that the level of mitigation recommended by the Service is consistent with the value and scarcity of the fish and wildlife resources involved. In keeping with that policy, the Service usually recommends that losses of high-value habitats which are becoming scarce be avoided or

minimized to the greatest extent possible. Unavoidable losses of such habitats should be fully compensated by replacement of the same kind of habitat value; this is called "in-kind" mitigation. The Service should be consulted in the development of plans and specifications for mitigation of unavoidable impacts to coastal marshes and forested wetlands.

2. Construction of levees and surrounding right of way (ROW) is expected to directly impact marsh and BLH habitat. Note that the BLH impacts are subject to change based on an interagency habitat evaluation team (HET) review that could not be conducted by the time this report was submitted. Once any habitat impacts are revised they should be included in the final FWCA report, FONSI, and ROD.
3. If soils must be removed prior to levee construction, those soils should be used to create or restore emergent wetlands to the greatest extent possible or be used for levee construction as suggested by USACE.
4. Care should be taken to avoid impacts to bald eagles and their nesting habitat. Prior to and during any project construction, on-site personnel should be informed of the possible presence of nesting bald eagles in the vicinity of the project boundary, and should identify, avoid, and immediately report any such nests to this office. Prior to construction, the Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nests during the nesting season (October through mid-May). If a bald eagle nest occurs or is discovered within 1,500 feet of the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line using the Service's guidance and determination tool. Any take should be reported to this office and the LDWF. Bald eagle nest (active, inactive, or seemingly abandoned) should be protected, and no large trees should be removed.
5. During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. For more detail on avoiding contact with manatee contact this office. Should a proposed action directly or indirectly affect the West Indian manatee, consultation with this office will be necessary.
6. Avoid adverse impacts to nesting wading bird colonies through careful design of project features and timing of construction. The Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nesting colonies during the nesting season (September 1 through February 15).
7. Avoid adverse impacts to alligator snapping turtle by minimizing disturbance and alteration of nesting habitat, particularly in the nesting season (April-June), including minimizing the removal of log jams in streams.
8. The impacts to Essential Fish Habitat should be discussed with the NMFS to determine if the project complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Magnuson-Stevens Act; P.L. 104-297, as amended) and its implementing regulations.

9. Disturbed areas should be revegetated with native plant species, including species of nectar-producing plants and milkweed endemic to the area; we recommend consultation with state botanists to determine appropriate species where possible
10. Access roads across existing wetlands should be avoided if possible and secondary impacts to wetland hydrology should be prevented or reduced. To avoid changes to hydrology the Service recommends appropriately sized culverts (minimum 24-inch culverts) be installed and maintained every 250 feet across access roads through wetlands with additional culverts placed at stream crossings and drainage features. Alternatively, upon completion of construction activities, access roads should be degraded to restore natural hydrology.
11. To the greatest extent possible, design (e.g. implementation of "T"-walls, sheet-pile, and/or cement floodwall in levee designs) and position flood protection features so that destruction of forested and emergent wetlands is avoided or minimized.
12. Please include this office in future considerations of programmatic features and any planned levee lifts as additional consultation will likely be necessary.
13. To avoid unplanned shortfalls in mitigation acreage, the Service recommends that the target marsh acreage be calculated to exclude any internal borrow areas used for construction of the marsh creation area containment dikes.
    a. Marsh creation projects must provide at least the required acreage within 3 years of project implementation to be considered as having achieved the intended mitigation. This will depend on achieving a settled disposal area elevation conducive to growth of marsh vegetation.
14. With the new definition of the Waters of the United States (WOTUS, published Aug 29, 2023) all enclosed (protected side) wetlands may be redefined as non-jurisdictional wetlands because of this project, thus impacting all enclosed wetlands. There is concern that this would increase developmental pressures on enclosed wetlands The Service recommends the USACE coordinates with us once they receive guidance on how they will implement that new rule to ensure protection of enclosed wetlands. Enclosed wetlands will still be connected hydrologically and thus will still be tidally influenced via the planned major structures (i.e., floodgates) and any additional environmental structures and/or culverts, etc. For this reason, it is the Service's and the NMFS's opinion that the enclosed wetlands in question should be exempt from redefinition implications.
15. To minimize impacts to fisheries, flood protection water control structures in any watercourse should maintain pre-project cross section in width and depth to the maximum extent practicable. Water control structures within a waterway should include shoreline baffles and/or ramps (e.g., rock rubble, articulated concrete mat) that slope up to the structure to enhance organism passage. Various ramp designs should be considered. Please coordinate with the NMFS, Craig Gothreaux (craig.gothreaux@noaa.gov) on this issue.
16. Material from dredging or borrow pits should not be piled outside of the ROW.
17. The Aragon Road proposed borrow pit delineated area includes forested habitat. Those areas should be avoided if possible and only used for borrow material they have been environmentally cleared and any mitigation necessary has been quantified.
18. If it becomes necessary to use borrow sources other than the previously proposed environmentally cleared sites, the Service recommends USACE begin investigating potential borrow sources in coordination with the Service. Borrow sites to be considered

should have minimal impacts to fish and wildlife resources. The Service identified a priority selection process and list for borrow sites in our November 15, 2023, Planning-aid letter to USACE (Appendix 1). That prioritization process should be utilized if additional borrow sites are needed (please contact Cathy Breaux (337) 291-3122 for more information).

19. The Service recommends that the USACE contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made and or finalized.

INTRODUCTION

This draft report contains a description of existing fish and wildlife resources in the project area, discusses the future with the Proposed Action Alternative and the future with the No Action Alternative habitat conditions, identifies fish and wildlife-related impacts, and provides recommendations to improve the proposed Morganza to the Gulf of Mexico, Louisiana (MTG) Project, Hurricane and Storm Damage Risk Reduction System, Reach F. This document is in partial fulfillment of the Fish and Wildlife Coordination Act (FWCA) and does not constitute the report of the Secretary of the Interior as required by Section 2(b) of the FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The Fish and Wildlife Service (Service) is coordinating with National Marine Fisheries Service (NMFS) and Louisiana Department of Wildlife and Fisheries (LDWF). Their comments will be incorporated into the final report.

This project was authorized in May of 2011 through the Water Resource Development Act of 2007. Please reference the Service's FWCA report from April 2013 and the Service's June 2013 comment letter on the Morganza to the Gulf Post Authorization Change Report (PACR). The features are described in the PACR and Revised Programmatic Environmental Impact Statement (PEIS) dated May 2013. The MTG project consists of the construction of 98 miles of levees, approximately 84 miles of which would overlay existing hydrologic barriers such as natural ridges, roadbeds, and existing levees.

The 4.3-mile Reach F portion of the MTG project would be located near the town of Dulac, Louisiana, adjacent and parallel to the HNC. It would connect to the planned Reach B segment to the north and the planned Reach G segment to the south.

DESCRIPTION OF THE PROJECT AREA

The MTG study area lies within a region dominated by extensive wetlands created by deltaic processes of the Mississippi River. The study area occupies portions of three hydrologic subbasins within the Terrebonne Basin. The Timbalier subbasin contains Reach F and is discussed below.

Timbalier Subbasin

The Timbalier Subbasin is located between Bayou du Large to the west and Bayou Lafourche on the east. It is bounded on the south by the Gulf of Mexico and on the north by the GIWW. Former distributary channels that radiate from the Houma area divide the area into a series of interdistributary basins. Those channels include Bayou Grand Caillou, Bayou Petit Caillou, Bayou Terrebonne, Bayou St. Jean Charles, and Bayou Pointe au Chien. Lands along distributary channels are the highest naturally occurring lands within the area; they are widest and highest in the northern portion of the basin. Closer to the Gulf, they generally become progressively lower and narrower. Because of the higher banks along the former distributary channels, human settlement and development is located predominantly along those features.

The northern portion of the interdistributary basin between Bayou du Large and Bayou Grand Caillou supports an extensive zone of cypress swamp. Dead swamps and low-salinity marshes grade into brackish and saline marshes south of the living swamps. The hydrology of this basin is strongly influenced by the Houma Navigation Canal (HNC). During high Atchafalaya River stages, up to 8,000 cubic feet per second (cfs) of freshwater flow from the GIWW southward to the Gulf through

the HNC. Under these conditions, much of the area is freshened. From its junction with the HNC, fresh water also flows southward down lower Bayou Grand Caillou and freshens adjacent marshes. During periods of low river stages, and especially during the fall, brackish conditions prevail throughout this area. Because the HNC is such an efficient channel, tides may push salt water up the HNC and adversely affect cypress swamp and adjacent low-salinity marshes.

Louisiana Highway 57 crosses the interdistributary basin between Bayou Grand Caillou and Bayou Petit Caillou. That highway separates the Lake Boudreaux Basin from the saline marshes to the south. Living and dead cypress swamps occur in northern portions of the Lake Boudreaux Basin; most of the northern area is occupied by low-salinity and brackish marshes. The lower Lake Boudreaux Basin consists primarily of brackish and saline marshes amid large open water areas. The HNC cuts diagonally through the zone south of Louisiana Highway 57 and seasonally provides that area with fresh water. Fresh water from the HNC may also flow via Bayou Dulac into the western portion of the Lake Boudreaux Basin, seasonally reducing salinities in that area.

The interdistributary basin between Bayou Petit Caillou and Bayou Terrebonne is bisected by Bush Canal. Brackish marshes north of that canal are protected by an existing hurricane protection levee system, and tidal exchange is regulated by water control structures. The saline marshes south of Bush Canal are not enclosed by a levee system. At several locations, oilfield canals cut from east to west across that portion of the subbasin, allowing saline waters from Lake Barre to readily move into Bayou Petit Caillou.

Of the marshes located between Bayou Terrebonne and Bayou Pointe au Chien, the study area includes only those areas north of Lake Barre. Open water and remnants of brackish marsh dominate the northern portion of that area. During high Atchafalaya River stages, a small amount of fresh water flows from the GIWW southward through Company Canal, Bayou Terrebonne, and into open water areas east of Bayou Terrebonne via Humble Canal. The southern portion of the study area is dominated by broken saline marshes located along the northern shore of Lake Barre and Lake Felicity.

The Grand Bayou interdistributary basin lies between Bayou Pointe au Chien and Bayou Lafourche. Some fresh marsh remains in the extreme northwestern portion of this basin. Fresh water from the GIWW seasonally enters the northern end of this basin through Bayou L'Eau Bleu and helps to maintain the fresh and low-salinity marshes in the basin's northern end. Most of the basin, however, is dominated by brackish and saline marshes.

DESCRIPTION OF ALTERNATIVES

Two alternatives were carried forward for detailed analysis in the EA included the following:

Alternative 1:No Action (2013 PACR Alignment for Reach F)
The Reach F segment of the MTG levee alignment was assessed as a constructible feature in the 2013 PACR and Revised Programmatic Environmental Impact Statement (RPEIS) at a level of "design" (Figures 1 and 2). Since the 2013 PACR, the Non-Federal Sponsor, Terrebonne Levee and Conservation District, has constructed lower elevation levees along much of the 2013 PACR alignment, including along all of Reach F. That levee is also considered part of No Action alternative.

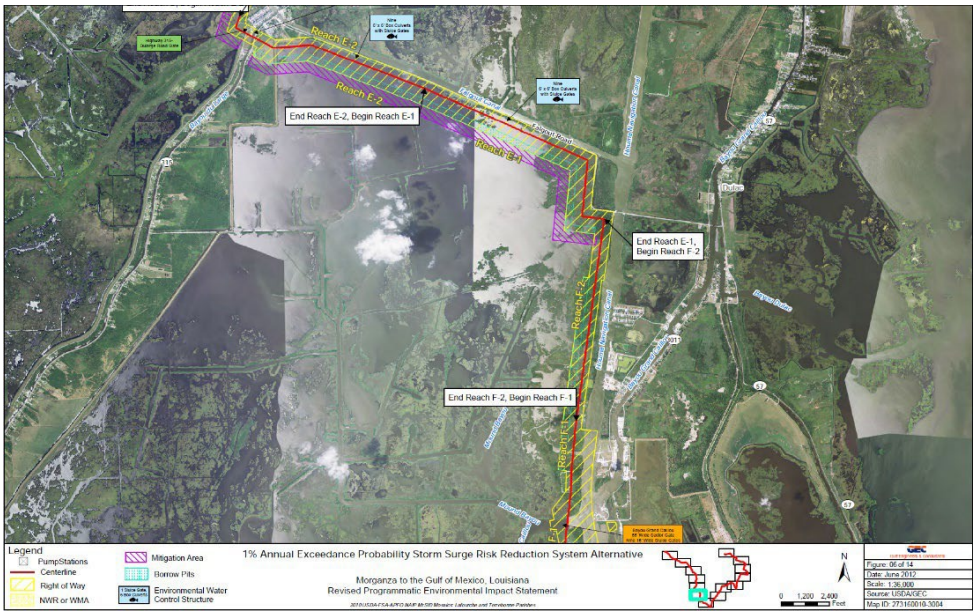


Figure 1: North section of Reach F alternative 1.

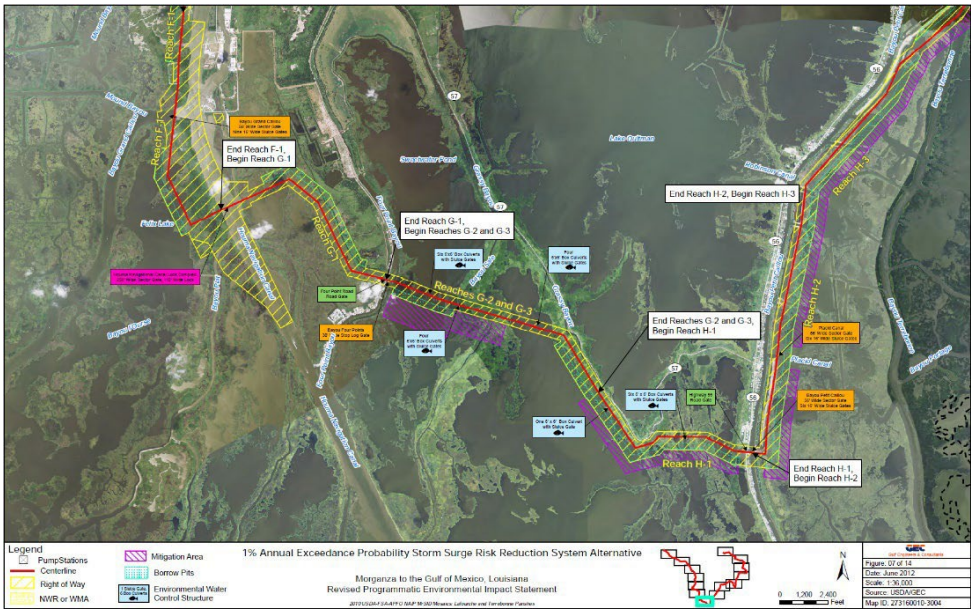


Figure 2. Southern section of Reach F section of Reach F alternative 1.

Alternative 2: Proposed Action (Modified PACR alignment)
The Proposed Action is a modification of the PACR alignment for Reach F.. Construction of an earthen levee and ROW would be the only constructed features (Figure 3). It has been determined that there is adequate detail and analysis to recommend construction pending approval of the FONSI.

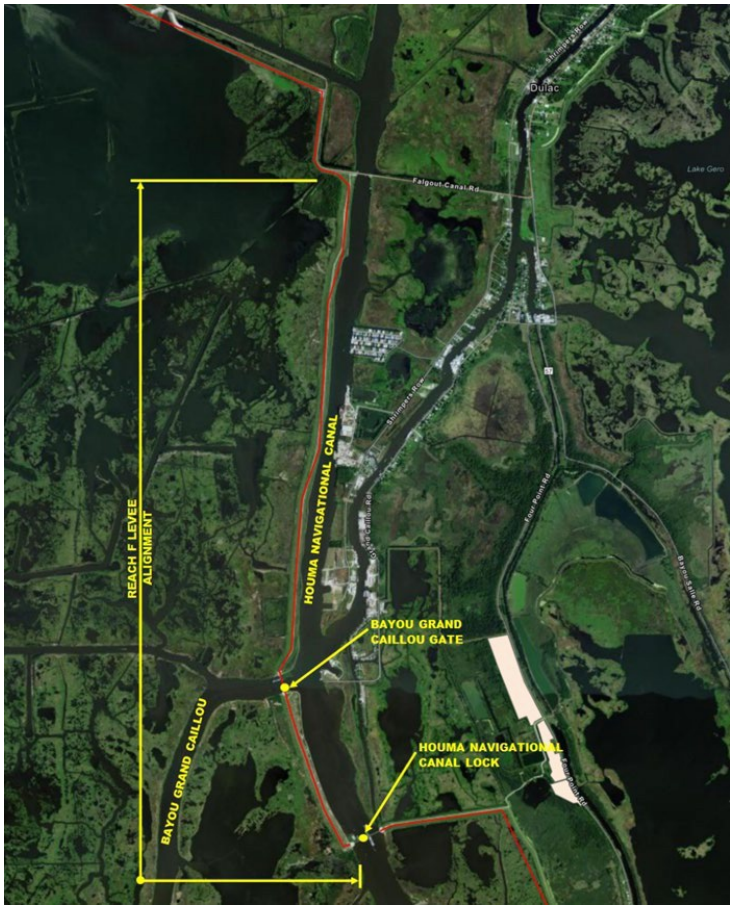


Figure 3: Reach F alternative 2.

Project construction is expected to begin in 2025 with completion by 2027. This would result in a levee with an elevation at the 2035 1 percent annual exceedance probability. Subsequent lifts in 2050 and 2070 would elevate the levee crown to the 2085 1percent annual exceedance probability elevation.

The Reach F levee alignment includes 4.33 miles (22,851 linear feet) of earthen levee in a north-south orientation adjacent to the west bank of the HNC. The northern end of the reach is located near the intersection of the HNC and Falgout Road and the reach terminates near the proposed HNC Lock Complex site. The Bayou Grand Caillou navigation gate separates the proposed levee into Reach F-1 on the north side and Reach F-2 on the south side. The Reach F-1 and Reach F-2 levees would be constructed to an elevation of 17.0 feet. The base width (levee toe to levee toe) of Reach F-1 would be 383 feet, and Reach F-2 base width would be 380.5 feet. Both Reach F segments would have a 4:1 flood-side slope above the berm, 4.1 protected-side slope above the berm and a crown width of 10 feet. Total permanent ROW would be 600 feet wide. Construction is expected to last approximately 730 days. After settlement, the design height of the 2035 Reach F-1 levee would be 15.5 feet, and the Reach F-2 levee height would be 16 feet.

The levee would be constructed in two lifts. The first lift (previously completed) was constructed to an elevation of 8.0 feet by the non-federal sponsor (NFS), the Terrebonne Levee and Conservation District. The second lift, raising the levee elevation to the elevations mentioned previously would be

completed by the USACE. A third lift, completed by the USACE, would bring the levee elevation to the 2085 design height.

An estimated 1,806,900 cubic yards of earthen material will be required to construct the Reach F levee section. Borrow material would be excavated from the following borrow pits: Saia Woodlawn Ranch pit located approximately 13.7 miles from the northern end of Reach F, Aragon Rd located approximately 22.6 miles from the northern end of Reach F, NFS-A1 located approximately 11 miles from the northern end of Reach F, and DE-6 located approximately 6.8 miles from the northern end of Reach F. Borrow from these sites would be hauled via truck to construct the section of Reach F north of Bayou Grand Caillou. The section of Reach F south of Bayou Grand Caillou is not accessible by road, borrow would be barged in along the Houma Navigational Canal from borrow pit NFS-A1 located approximately 15.4 miles north of this section the project alignment on the GIWW

Access to Reach F-1 is available via an existing gravel levee access road off Falgout Canal Road adjacent to the Houma Navigational Canal. There will be two staging areas for this project for equipment and construction trailers which would be located within the proposed levee and ROW footprint. The north staging area will be 1.25 acres and will be located at the northern end of Reach F adjacent to the Falgout Canal Road and the HNC (Figure 4). It will be accessed from the above-described access road. The 1.5-acre south staging area is located south of Grand Caillou Bayou adjacent to the HNC (Figure 5). This staging area is only accessible via water, thus requiring access via the Houma Navigational Canal. Embankment will be barged in from Borrow Pit NFS-A1 to construct the Reach F-2 levee. Fill, geotextile fabric and temporary stone would be placed as necessary to provide a dry area within the staging area limits. Once the project is complete the area would be restored to original conditions.

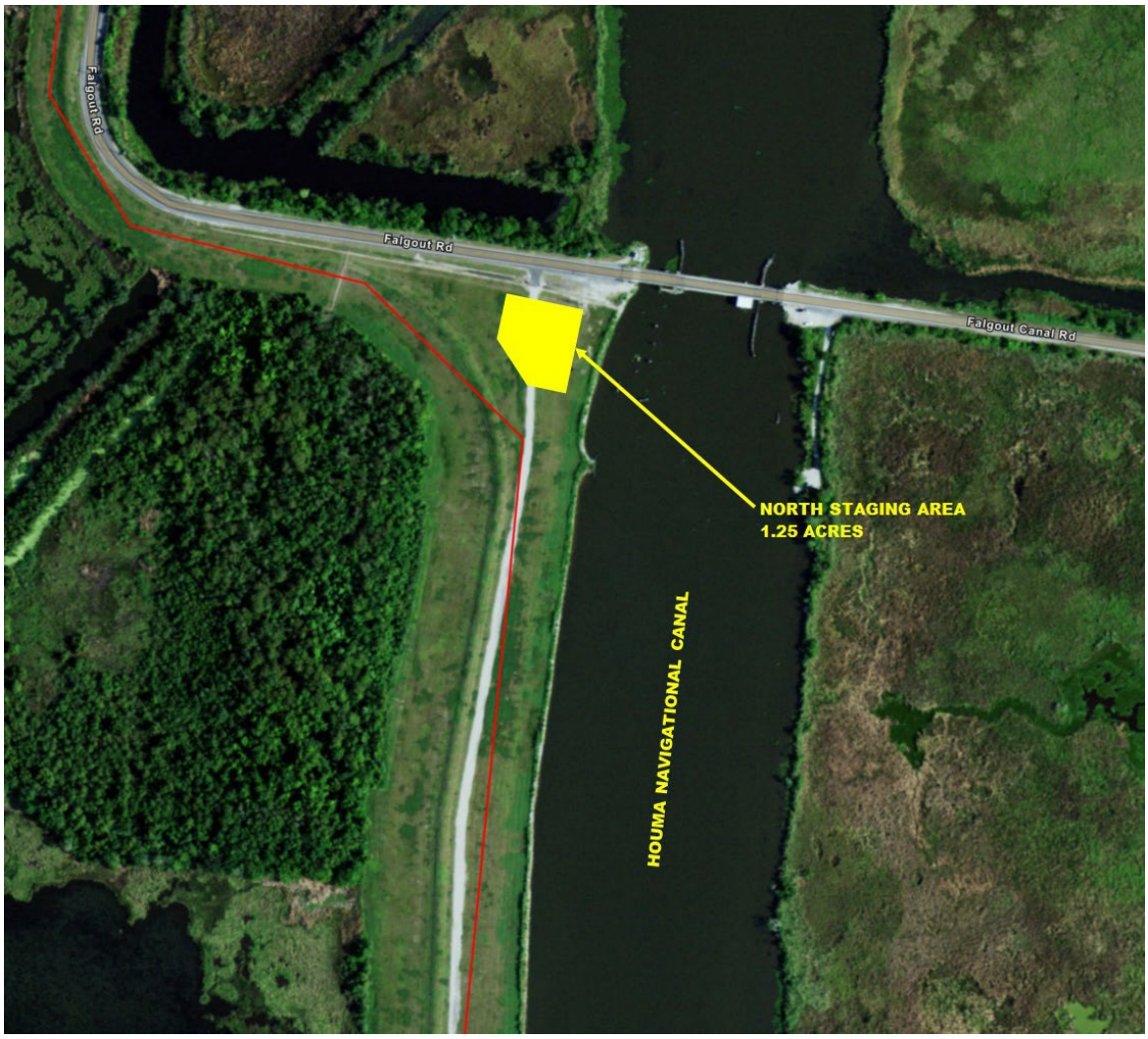


Figure 4. North staging area.

Figure 5. South staging area.

FISH AND WILDLIFE RESOURCES

Description of Habitats

Existing conditions

Forested Wetlands – Forested wetlands in the study area consist of bottomland hardwood forests (BLH). BLH found in coastal portions of the project area occur primarily on the natural levees of distributary channels. Dominant vegetation may include sugarberry (*Celtis laevigata* Willd), water oak (*Quercus nigra* L.), live oak (*Quercus virginiana* Mill.), bitter pecan (*Carya aquatica* (Michx. f.) Nutt.), black willow *(Salix nigra* Marshall), American elm (*Ulmus americana* L.), Drummond red maple (*Acer rubrum* L.), Chinese tallow-tree (*Triadica loureiro*), boxelder (*Acer negundo* L.), green ash (*Fraxinus pennsylvanica* Marshall), baldcypress (*Taxodia* Rich.), and elderberry (*Sambucus* L.). Cypress-tupelo (*Nyssa* L.) swamps are located along the flanks of larger distributary ridges as a transition zone between bottomland hardwoods and lower-elevation marsh or scrub-shrub habitats. Cypress-tupelo swamps exist where there is little or no salinity and usually minimal daily tidal action.

Scrub-Shrub – Scrub-shrub habitat is often found along the flanks of distributary ridges. Typically, it is bordered by marsh at lower elevations and by developed areas, cypress-tupelo swamp, or

bottomland hardwoods at higher elevations. Typical scrub-shrub vegetation includes elderberry (*Sambucus* L.), wax myrtle (*Morella cerifera* (L.) Small), buttonbush (*Cephalanthus* L.), black willow (*Salix nigra* Marshall), Drummond red maple (*Acer rubrum* L.), Chinese tallow-tree (*Triadica Loureiro*), and groundselbush (*Baccharis halimifolia* L.).

Fresh Marsh – Fresh marshes occur at the upper ends of interdistributary basins and are often characterized by floating or semi-floating organic soils. Most fresh marshes exhibit minimal daily tidal action; fresh marshes in the Atchafalaya River delta and adjacent to Atchafalaya Bay are the exceptions. Vegetation may include maidencane (*Panicum hemitomon* Schult.), bulltongue (*Sagittaria lancifolia* L.), cattail (*Typha* L.), California bulrush (*Schoenoplectus californicus* (C.A. Mey.) Palla), pennywort (*Hydrocotyle* L.), giant cutgrass (*Zizaniopsis miliacea* (Michx.) Döll & Asch.), American cupscale (*Sacciolepis striata* (L.) Nash), spikerushes (*Eleocharis* R. Br.), bacopa (*Bacopa* Aubl.), and alligatorweed (*Alternanthera philoxeroides* (Mart.) Griseb.). Associated open water habitats may often support extensive beds of floating-leafed and submerged aquatic vegetation including water hyacinth (*Eichhornia Kunth*), Salvinia (*Salvinia* Ség.), duckweeds (*Lemna* L.), American lotus *(Nelumbo lutea* Willd.), white waterlily (*Nymphaea odorata* Aiton), water lettuce (*Pistia stratiotes* L.), coontail (*Ceratophyllum demersum* L.), Eurasian milfoil (*Myriophyllum spicatum* L.), hydrilla (*Hydrilla* Rich.), pondweeds (*Potamogeton* L. or *Stuckenia* Börner), naiads (*Najas* L.), fanwort (*Cabomba* Aubl.), American eelgrass (*Vallisneria americana* Michx.), water stargrass (*Heteranthera dubia* (Jacq.) MacMill.), elodea (*Egeria densa* Planch.), and others.

Intermediate Marsh – Intermediate marshes are a transitional zone between fresh and brackish marshes and are often characterized by organic, semi-floating soils. Typically, intermediate marshes experience low levels of tidal action. Salinities are negligible or low throughout much of the year, with salinity peaks occurring during late summer and fall. Vegetation includes saltmeadow cordgrass (*Spartina patens*), deer pea (*Vigna luteola*), three cornered grass (*Schoenoplectus americanus*), cattail, bulltongue, seashore paspalum (*Paspalum vaginatum* Sw.), fall panicgrass (*Panicum dichotomiflorum*), and bacopa (*Bacopa monnieri* (L.) Pennell). Ponds and lakes within the intermediate marsh zone often support extensive submerged aquatic vegetation including southern naiad (*Najas guadalupensis*), Eurasian milfoil, and widgeongrass (*Ruppia maritima* L.).

Brackish Marsh – Brackish marshes are characterized by low to moderate daily tidal energy and by soils ranging from firm mineral soils to organic semi-floating soils. Freshwater conditions may prevail for several months during early spring; however, low to moderate salinities occur during much of the year, with peak salinities in late summer or fall. Vegetation is usually dominated by saltmeadow cordgrass, but also includes saltgrass (*Distichlis spicata*), saltmarsh cordgrass (*Spartina alterniflora*), three cornered grass, leafy three-square (Schoenoplectus maritimus), and deer pea. Shallow brackish marsh ponds also support beds of widgeongrass.

Saline Marsh – Saline marshes occur along the southern fringe of coastal wetlands. Those marshes usually exhibit firm mineral soils and experience moderate to high daily tidal energy. Vegetation is dominated by saltmarsh cordgrass, but also includes black needlerush (Juncus roemerianus), saltgrass, saltmeadow cordgrass, and leafy three-square. Submerged aquatic vegetation is rare. Within the study area, intertidal mud flats are the most common non-emergent habitat type.

Developed Areas – Most developed areas are located on higher elevations of former distributary channels and are typically well drained. They include agricultural lands, as well as commercial and residential developments.

Canals and Bayous – Canals and larger bayous typically range in depth from 4 or 5 feet, to over 15 feet. Strong tidal flows may occur at times through those waterways, especially where they provide hydrologic connections to other large waterbodies. Such canals and bayous may have mud or clay bottoms that range from soft to firm. Dead-end canals and small bayous are typically shallow, and their bottoms may be filled in to varying degrees with semi-fluid organic material. Erosion due to wave action and boat wakes, together with shading from overhanging woody vegetation, tends to retard the amount of intertidal marsh vegetation growing along the edges of those waterways.

No Action Alternative
The construction of the NFS levee resulted in the filling or removal of marsh, shrub-scrub, and BLH habitat. These impacts have been mitigated through the USACE's regulatory program. Construction of the 2013 PACR alignment would cause further loss of habitat due to the larger impact area compared to the NFS levee. Brackish and saline marshes, shrub-scrub, and a small amount of BLH would be filled in and become part of the levee and ROW as part of the construction of the 2013 PACR alignment. Habitat loss from construction of the NFS levee has occurred in a linear strip mostly on the side of the levee opposite the HNC. Habitat loss from construction of the 2013 PACR alignment would occur in a similar manner.

Fishery/Aquatic Resources

Existing conditions
Wetlands throughout the study area are occupied by small resident fishes and shellfishes such as least killifish (*Heterandria formosa*), rainwater killifish (*Lucania parva*), sheepshead minnow (*Cyprinodon variegatus*), mosquitofish (*Gambusia affinis*), sailfin molly (*Poecilia latipinna*), grass shrimp (*Palaemonetes*), and others. Those species are typically found along marsh edges or among submerged aquatic vegetation and provide forage for a variety of fish and wildlife. Fresh water and low-salinity marshes provide habitat for commercially and recreationally important resident freshwater fishes such as largemouth bass (*Micropterus salmoides*), yellow bass (*Morone mississippiensis*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), redear sunfish (*Lepomis microlophus*), warmouth (*Lepomis gulosus*), blue catfish (*Ictalurus furcatus*), channel catfish (*Ictalurus punctatus*), buffalo (*Ictiobus*), freshwater drum (*Aplodinotus grunniens*), bowfin (*Amia calva*), and gar (*Lepisosteidae*). Areas supporting stable freshwater fisheries occur in the northern portion of the Penchant Subbasin. Freshwater fishes may also utilize low-salinity areas (intermediate marsh zone), provided they have access to fresher areas during periods of high salinity.

The coastal marshes also provide nursery habitat for many estuarine-dependent commercial and recreational fishes and shellfishes. Because of the protection and abundant food afforded by those wetlands, they are critical to the growth and production of species such as blue crab (*Callinectes sapidus*), white shrimp (*Litopenaeus setiferus*), brown shrimp (*Farfantepenaeus aztecus*), Gulf menhaden (*Brevoortia patronus*), Atlantic croaker (*Micropogonias undulatus*), red drum (*Sciaenops ocellatus*), spotted seatrout (*Cynoscion nebulosus*), black drum (*Pogonias cromis*), sand seatrout (*Cynoscion arenarius*), spot (*Leiostomus xanthurus*), southern flounder (*Paralichthys lethostigma*),

striped mullet (*Mugil cephalus*), and others. Those species are generally most abundant in the brackish and saline marshes; however, blue crab, white shrimp, Gulf menhaden, red drum, and Atlantic croaker and several other species also utilize fresh and low-salinity marshes, especially as juveniles.

Because tidal marshes provide essential nursery habitat, commercial shrimp harvests are positively correlated with the area of tidal emergent wetlands, not open water area (Turner 1977 and 1982). Future commercial harvests of shrimp and other fishes and shellfishes could be adversely impacted by the high rates of marsh loss throughout the study area (Turner 1982).

The eastern oyster (*Crassostrea virginica*) occurs throughout much of the brackish and saline marsh zones within the study area. Oyster harvesting constitutes a valuable fishery in the northern portions of that zone, where salinities range from 10 to 15 parts per thousand (ppt).

No Action Alternative
The construction of the NFS levee resulted in the filling or removal of marsh, shrub-scrub, and BLH habitat. These impacts have been mitigated through the USACE's regulatory program. Construction of the 2013 PACR alignment would cause further loss of habitat due to the larger impact area compared to the NFS levee. Because marsh habitat would be destroyed, some sessile or slow-moving aquatic organisms would be killed and others would be displaced to other marsh areas that could vary in quality compared to the areas removed.

Essential Fish Habitat

Existing conditions
The project is located at least partially within an area identified as Essential Fish Habitat (EFH) by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA, Magnuson-Stevens Act; P.L. 104-297). The updated and revised 2006 generic amendment of the Fishery Management Plans for the Gulf of Mexico, prepared by the Gulf of Mexico Fishery Management Council (GMFMC), identifies estuarine wetlands and associated waters in the project area that are considered EFH for various life stages of multiple federally managed species. Specific habitat types designated as EFH include estuarine emergent marsh, submerged aquatic vegetation, soft bottom, sand and shell bottom, and associated water column. These habitat types serve as EFH for Federally managed species including brown shrimp , white shrimp, red drum, lane snapper (*Lutjanus synagris*), and gray snapper (*Lutjanus griseus*). The 2017 Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan describes EFH for HMS spatially rather than by habitat type, and estuarine waters in the project area would be considered EFH for bull sharks (*Carcharhinus leucas*).

In addition to being designated as EFH for these species, water bodies and wetlands in the project area provide nursery and foraging habitats supportive of a variety of economically important marine fishery species, such as striped mullet, Eastern oyster, pinfish (*Lagodon rhomboides*), spot, Gulf killifish (*Fundulus grandis*), bay anchovy (*Anchoa mitchilli*), Atlantic croaker, Gulf menhaden, spotted seatrout, sand seatrout, southern flounder (*Paralichthys lethostigma*), black drum (*Pogonias cromis*), white shrimp, brown shrimp, and blue crab. Some of these species also serve as prey for other fish species managed under the Magnuson-Stevens Act by the GMFMC (i.e., mackerels, snappers, and groupers) and highly migratory species managed by the NMFS (i.e., billfishes and

sharks). Wetlands in the project area also produce nutrients and detritus, important components of the aquatic food web, which contributes to the overall productivity and economic value of the estuary.

No Action Alternative
The construction of the NFS levee resulted in the filling or removal of marsh, shrub-scrub, and BLH habitat. These impacts have been mitigated through the USACE's regulatory program. Construction of the 2013 PACR alignment would cause further loss of habitat due to the larger impact area compared to the NFS levee. Because of marsh destruction, EFH would be lost and some fish species would be displaced to other marsh areas that could vary in quality compared to the areas removed, potentially negatively impacting many species of fish.

Wildlife Resources

Existing conditions

Numerous species of birds utilize study-area marshes, including large numbers of migratory waterfowl which winter there. Project-area fresh and intermediate marshes provide excellent wintering habitat for migratory waterfowl, especially puddle ducks. For this reason, the North American Waterfowl Management Plan's Gulf Coast Joint Venture has recognized this area, the Terrebonne Unit (which includes fresh and intermediate marshes in this study area), as a key waterfowl wintering area. Brackish marshes having abundant submerged aquatic vegetation may also support large numbers of puddle ducks. Puddle ducks that occur in the study area include mallard (*Anas platyrhynchos*), gadwall (*Anas strepera*), northern pintail (*Anas acuta*), blue-winged teal (*Spatula discors*), green-winged teal (*Anas carolinensis*), American wigeon (*Mareca americana*), wood duck (*Aix sponsa*), and northern shoveler (*Spatula clypeata*). The resident mottled duck (*Anas fulvigula*) also utilizes project-area coastal marshes. Diving ducks prefer larger ponds, lakes, and open water areas. Common diving duck species include lesser scaup (*Aythya affinis*), canvasback (*Aythya valisineria*), redhead (*Aythya americana*), ring-necked duck (*Aythya collaris*), red-breasted merganser (*Mergus serrator*), common merganser (*Mergus merganser*), and hooded merganser (*Lophodytes cucullatus*). The snow goose (*Anser caerulescens*) and the greater white-fronted goose (*Anser albifrons*) also utilize coastal marshes. Other migratory game birds found in coastal marshes include the king rail (*Rallus elegans*), clapper rail (*Rallus crepitans*), Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), American coot (*Fulica americana*), common moorhen (*Gallinula chloropus*), and common snipe (*Gallinago gallinago*).

Marshes and associated shallow open water areas provide habitat for a number of wading birds, shorebirds, seabirds, and other nongame birds. Common wading birds include the little blue heron (*Egretta caerulea*), great blue heron (*Ardea herodias*), green-backed heron (*Butorides striatus*), yellow-crowned night heron (*Nyctanassa violacea*), black-crowned night heron (*Nycticorax nycticorax*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), cattle egret (*Bubulcus ibis*), reddish egret (*Egretta rufescens*), white-faced ibis (*Plegadis chihi*), white ibis (*Eudocimus albus*), and roseate spoonbill (*Platalea ajaja*). Shorebirds include the killdeer (*Charadrius vociferus*), American avocet (*Recurvirostra americana*), black-necked stilt (*Himantopus mexicanus*), common snipe (*Gallinago gallinago*), and various species of sandpipers (*Scolopacidae*) including western sandpiper (*Calidris mauri)*. Seabirds include American white pelican (*Pelecanus erythrorhynchos*), brown pelican (*Pelecanus occidentalis*), black skimmer (*Rynchops niger*), herring gull (*Larus*

argentatus), laughing gull (*Leucophaeus atricilla*), and several species of terns (*Sterna*). Other nongame birds such as boat-tailed grackle (*Quiscalus major*), red-winged blackbird (*Agelaius phoeniceus*), seaside sparrow (*Ammospiza maritima*), neotropic cormorant (*Phalacrocorax brasilianus*), northern harrier *(Circus hudsonius*), belted kingfisher (*Megaceryle alcyon*), and sedge wren (*Cistothorus platensis*) also utilize coastal areas.

Common mammals occurring in the coastal marshes include nutria (*Myocastor coypus*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), river otter (*Lontra canadensis*), raccoon (*Procyon lotor*), swamp rabbit (*Sylvilagus aquaticus*), white-tailed deer (*Odocoileus virginianus*), and coyote (*Canis latrans*).

Reptiles are most abundant in fresh and low-salinity coastal wetlands. Common species include the American alligator (*Alligator mississippiensis*), cottonmouth (*Agkistrodon piscivorus*), water snakes (*Nerodia*), mudsnake (*Farancia abacura*), speckled kingsnake (*Lampropeltis holbrooki*), western ribbon snake (*Thamnophis proximus*), Texas ratsnake (*Pantherophis obsoletus*), red-eared slider (*Trachemys scripta elegans*), common snapping turtle (*Chelydra serpentina*), alligator snapping turtle (*Macrochelys temminckii*), common mud turtle (*Kinosternon subrubrum*), and spiny softshell turtle (*Apalone spinifera*). Amphibians commonly found in the area include the American bullfrog (*Lithobates catesbeianus*), pig frog (*Lithobates grylio*), bronze frog (*Lithobates clamitans*), southern leopard frog (*Lithobates sphenocephalus*), cricket frogs (*Acris*), tree frogs (*Hyla*), chorus frogs (*Pseudacris*), three-toed amphiuma (*Amphiuma tridactylum*), sirens (*Siren*), and several species of toads. In brackish and saline marshes, reptiles are limited primarily to the American alligator and the diamond-backed terrapin (*Malaclemys terrapin*), respectively.

Forested wetlands and scrub-shrub areas provide habitats for songbirds such as the mockingbird (*Mimus polyglottos*), yellow-billed cuckoo (*Coccyzus americanus*), northern parula (*Setophaga americana*), yellow-rumped warbler (*Setophaga coronata*), prothonotary warbler (*Protonotaria citrea*), white-eyed vireo (*Vireo griseus*), Carolina chickadee (*Poecile carolinensis*), and tufted titmouse (*Baeolophus bicolor*). Additionally, these areas also provide important resting and feeding areas for songbirds migrating across the Gulf of Mexico. Other avian species found in forested wetlands include the American woodcock (*Scolopax minor*), common flicker (*Colaptes auratus*), brown thrasher (*Toxostoma rufum*), belted kingfisher (*Megaceryle alcyon*), loggerhead shrike (*Lanius ludovicianus*), pileated woodpecker (*Dryocopus pileatus*), red-headed woodpecker (*Melanerpes erythrocephalus*), downy woodpecker (*Dryobates pubescens*), common grackle (*Quiscalus quiscula*), and American crow (*Corvus brachyrhynchos*). Numerous other bird species use forested wetlands throughout the study area.

Forested habitats and associated waterbodies also support raptors such as the red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), Mississippi kite *(Ictinia mississippiensis*), northern harrier, screech owl (*Megascops asio*), great horned owl (*Bubo virginianus*), and barred owl (*Strix varia*). Wading bird colonies typically occur in cypress swamp and scrub-shrub habitat. Species found in those nesting colonies include anhinga (*Anhinga anhinga*), great egret (*Ardea alba*), great blue heron, black-crowned night heron, tricolored heron (*Egretta tricolor*), little blue heron, cattle egret, snowy egret, white-faced ibis (*Plegadis chihi*) and glossy ibis (*Plegadis falcinellus*), and reddish egret. Waterfowl species found in forested wetlands and adjacent waterbodies in the project area include, but are not limited to, wood duck, mallard, green-winged teal, gadwall, and hooded merganser.

Game mammals associated with forested wetlands include eastern cottontail (*Sylvilagus floridanus*), swamp rabbit, gray squirrel (*Sciurus carolinensis*) and fox squirrels (*Sciurus niger*), and white-tailed deer. Commercially important fur bearers include river otter, muskrat, nutria, mink, and raccoon. Other mammals found in forested wetlands include striped skunk (*Mephitis mephitis*), coyote, Virginia opossum (*Didelphis virginiana*), bobcat (*Lynx rufus*), armadillo (*Dasypus novemcinctus*), gray fox (*Urocyon cinereoargenteus*), and red bat (*Lasiurus borealis*). Smaller mammal species serve as forage for both mammalian and avian carnivores and include the cotton rat (*Sigmodon hispidus*), marsh rice rat (*Oryzomys palustris*), white-footed deermouse (*Peromyscus leucopus*), eastern wood rat (*Neotoma floridana*), eastern harvest mouse (*Reithrodontomys humulis*), least shrew (*Cryptotis parva*), and southern flying squirrel (*Glaucomys volans*).

Reptiles which utilize study area bottomland hardwoods, cypress swamps, and associated shallow water include the American alligator, ground skink (*Scincella lateralis*), five-lined skink (*Eumeces fasciatus*), broad-headed skink (*Eumeces laticeps*), green anole (*Anolis carolinensis*), Gulf coast ribbon snake (*Thamnophis proximus orarius*), yellow-bellied water snake (*Nerodia erythrogaster flavigaster*), speckled kingsnake, southern copperhead (*Agkistrodon contortrix contortrix*), cottonmouth, pygmy rattlesnake (*Sistrurus miliarius*), broad-banded water snake (*Nerodia fasciata confluens*), diamond-backed water snake (*Nerodia rhombifer*), spiny softshell turtle, red-eared slider, southern painted turtle (*Chrysemys dorsalis*), mud turtle, stinkpot (*Sternotherus odoratus*), common snapping turtle and alligator snapping turtle, in addition to numerous other species.

Some of the amphibians believed to be in study-area forested wetlands include dwarf salamander (*Eurycea quadridigitata*), three-toed amphiuma, lesser siren (*Siren intermedia*), central newt (*Notophthalmus viridescens louisianensis*), Gulf coast toad (*Incilius nebulifer*), eastern narrow-mouthed toad (*Gastrophryne carolinensis*), green treefrog (*Hyla cinerea*), squirrel treefrog (*Hyla squirella*), pig frog, bullfrog, southern leopard frog, bronze frog, upland chorus frog (*Pseudacris feriarum*), southern cricket frog (*Acris gryllus gryllus*), and spring peeper (*Pseudacris crucifer*).

Most developed areas provide low-quality wildlife habitat. Sites developed for agricultural purposes are located on low ridges and on lower elevation areas that have improved drainage. In agricultural areas, wildlife habitat is primarily provided by unmaintained ditch banks and field edges, fallow fields, pasture lands, and rainfall-flooded fields. Cultivated crops, especially soybeans, provide forage for some wildlife species. Game species that utilize agricultural lands include the white-tailed deer, mourning dove (*Zenaida macroura*), northern bobwhite (*Colinus virginianus*), eastern cottontail, and common snipe. Seasonally flooded cropland and fallow fields may provide important feeding habitat for wintering waterfowl, wading birds, and other waterbirds.

Wildlife with Conservation Concerns

Many of the wildlife resources are species with conservation concern in Louisiana. These include pygmy rattle snake (*Sistrurus miliarius*), reddish egret, gull-billed tern (*Gelochelidon nilotica*), black skimmer, mottled duck, bobwhite, little blue heron, roseate spoonbill, king rail, sandwich tern, seaside sparrow, bald eagle, red head, lesser scaup, and dickcissel. Additionally: northern pintail, gadwall, lesser scaup, blue-winged teal, mottled duck, redhead, northern bobwhite, loggerhead shrike, seaside sparrow, western sandpiper, reddish egret, little blue heron, king rail, gull-billed tern and black skimmer are considered priority species by the Gulf Coast Joint Venture.

No Action Alternative
The construction of the NFS levee resulted in the filling or removal of marsh, shrub-scrub, and BLH habitat. These impacts have been mitigated through the USACE's regulatory program. Construction of the 2013 PACR alignment would cause further loss of habitat due to the larger impact area compared to the NFS levee. The majority of habitat lost due to the No Action Alternative would be brackish and saline marsh. Small mammals, ground dwelling birds, and the few amphibians and reptiles that may use those habitats would be displaced by the removal of marsh and scrub-shrub. Additionally, the loss of forested wetland habitat in the area would decrease the amount of feeding, roosting, and nesting habitat for birds in the area.

Endangered and Threatened Species

West Indian Manatee (Trichechus manatus) – Threatened – Marine Mammal (Protection Act)
The threatened West Indian manatee (*Trichechus manatus*) is known to regularly occur in Lakes Pontchartrain and Maurepas and their associated coastal waters and streams. It also can be found less regularly in other Louisiana coastal areas, most likely while the average water temperature is warm. Based on data maintained by the LDWF Wildlife Diversity Program, approximately 84 percent of reported manatee sightings (1990-2019) in Louisiana have occurred from the months of June through December. Manatee occurrences in Louisiana appear to be increasing and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. Manatees may also infrequently be observed in the Mississippi River and coastal areas of southwestern Louisiana. Cold weather and outbreaks of red tide may adversely affect these animals. However, human activity is the primary cause for declines in species number due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution.

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:

- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water whenever possible.

- If used, siltation or turbidity barriers should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water-related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- To ensure manatees are not trapped due to construction of containment or water control structures, we recommend that the project area be surveyed prior to commencement of work activities. Should manatee be observed within those areas, the contractor should immediately contact the Service's Louisiana Ecological Services Office (337/291-3100) and the LDWF, Wildlife Diversity Program (225/765-2821).
- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's Louisiana Ecological Services Office (337/291-3100) and the LDWF, Wildlife Diversity Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

Eastern Black Rail (Laterallus jamaicensis ssp. Jamaicensis) – Threatened
The eastern black rail (*Laterallus jamaicensis ssp.*) is a wetland-dependent bird requiring dense emergent cover and extremely shallow water depths (< 6 cm) over a portion of the wetland-upland interface to support its resource needs. Birds are found in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. Plant structure is considered more important than plant species composition in predicting habitat suitability (Flores and Eddleman 1995). In Louisiana, occurrences have been documented in high brackish marsh vegetated with Gulf cordgrass (Spartina spartinae), saltgrass, sea oxeye *(Borrichia frutescens)*, and saltmeadow cordgrass and often interspersed with shrubs such as marsh elder (*Iva frutescens*) or groundselbush. The high marsh is only inundated during extreme high tide events. In general, the character of the high marsh is a short grassy savannah. It may also occur in working wetland habitats such as rice fields. Recent surveys conducted within southwestern Louisiana have revealed that the eastern black rail occurs along the Cameron, Vermilion, and St Charles Parish coastlines in both the breeding and non-breeding season.

On October 8, 2020, the eastern black rail was added to the list of threatened species along with a 4(d) rule, which became effective on November 9, 2020. If the proposed action would directly or indirectly affect the eastern black rail or its habitat, further consultation with the Service will be necessary.

At-Risk Species

The Service's Southeast Region has defined "at-risk species" as those that are: 1) proposed for listing under the ESA by the Service; 2) candidates for listing under the ESA, which means the species has a "warranted but precluded 12-month finding"; or 3) petitioned for listing under the ESA, which means a citizen or group has requested that the Service add them to the list of protected species. Petitioned species include those for which the Service has made a substantial 90-day finding as well as those that are under review for a 90-day finding. As the Service develops proactive conservation strategies with partners for at-risk species, the states' Species of Greatest Conservation Need (defined as species with low or declining populations) will also be considered.

The Service's goal is to work with private and public entities on proactive conservation to conserve these species, thereby precluding the need to federally list as many at-risk species as possible. While not all species identified as at-risk will become ESA listed species, their potentially reduced populations warrant their identification and attention in project planning. Listed below are species currently designated as "at-risk" that may occur within the proposed study area.

Proposed Species

Alligator Snapping Turtle

The alligator snapping turtle (AST, *Macrochelys temminckii*) has a wide geographic range and occurs in bayous, rivers, streams, swamps, and lakes in Texas, Louisiana, Oklahoma, Arkansas, Missouri, Illinois, Kentucky, Tennessee, Mississippi, Alabama, Georgia, and Florida. They prefer water bodies (small streams [perennial], bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows) with overhang banks and adjacent riparian forest, especially bald cypress bordered banks. Sections of waterways with steep-sloped banks, or those lined with concrete, stone, etc. are likely avoided, especially when there are no trees on the bank. However, relatively short sections of non-preferred bank composition do not necessarily preclude occupation of the entire waterway. They may venture onto the adjacent floodplain during high water events. Although they have been found at the edge of the Gulf of Mexico, coastal marshes and saline water are not their preferred habitat type. They also prefer waterbodies with snags and submerged logs, tree root masses, or other debris in the water. Adults generally stick to deeper water (enough to cover their body to deeper than 20ft), but in areas with deep, loose mud, they have been found in 10 inches of water with a mud layer of several feet. Juveniles can be found in shallow streams less than 1 foot deep. AST are sensitive to water temperature and will change locations as needed to thermoregulate. AST generally stay on the water bottom, but they do move along the bottom, and can travel considerable distances (miles) in just days or weeks. Trapping surveys are generally effective at locating AST, but lack of capture, especially during short-term limited area survey efforts, does not confirm absence.

AST rarely leave the water except for nesting females generally from April to early July (typically April-May in southern parts of the range including Louisiana and May-July in north/western portion of the range). Egg incubation time is generally between 96 and 143 days. Nesting areas may have varying amounts of canopy cover. Nests are generally located between 4 and 656 feet from the water line, and more likely less than 300 feet from the water line.

Alligator snapping turtle is considered vulnerable (S3) by LDWF. LDWF recommends minimizing disturbance and alteration of nesting habitat, particularly during nesting season (April – June). Nesting typically occurs close to riverbanks and lake shores. Additionally, LDWF recommends

minimize removal of log jams in streams, as woody debris provides cover and hunting areas used by this species. Stream alteration should be avoided to protect turtle habitat. If dredging is needed, material should be dumped away from potential turtle nesting sites or dumped prior to egg laying (May – early June). Please contact Keri Lejeune at 337-735-8676 for more information.

Should the proposed project directly or indirectly affect the alligator snapping turtle or its habitat, further conference with this office will be necessary.

Candidate Species

Monarch Butterfly
The monarch butterfly (*Danaus plexippus*) is a candidate species and not yet listed or proposed for listing. Consultation with U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act is not required for candidate species, like the monarch. We encourage agencies, however, to take advantage of any opportunity they may have to conserve the species.

On June 20, 2014, President Obama signed a Presidential Memorandum, "Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators," outlining an expedited agenda to address the devastating declines in honey bees and native pollinators, including the monarch butterfly. Recent research has shown dramatic declines in monarchs and their habitats leading conservation groups to petition the Service to list the species under Endangered Species Act (ESA). Ensuring adequate and sustainable habitats, meeting all the life history needs of these species is of paramount importance. The Service and its partners are taking immediate actions to replace and restore monarch and pollinator habitat on both public and private lands across the U.S. landscape. Therefore, the Service recommend revegetation of disturbed areas with native plant species, including species of nectar-producing plants and milkweed endemic to the area, we recommend consultation with state botanists to determine appropriate species where possible.

Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA)

There are several species found throughout the project area that are protected under the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.) and/or the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d), including bald eagle, brown pelican and other colonial nesting birds, and most native bird species.

Care should be taken to avoid impacts to bald eagles and their nesting habitat. Prior to and during any project construction, on-site personnel should be informed of the possible presence of nesting bald eagles in the vicinity of the project boundary, and should identify, avoid, and immediately report any such nests to this office. Prior to construction, the Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nests during the nesting season (October through mid-May). If a bald eagle nest occurs or is discovered within 1,500 feet of the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line using the Service's guidance and determination tool. Any take should be reported to this office and the LDWF. Bald eagle nest (active, inactive, or seemingly abandoned) should be protected, and no large trees should be removed.

Colonial Nesting Waterbirds

In accordance with the Migratory Bird Treaty Act of 1918 (as amended) and FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), please be advised that the project area is located in habitats which are commonly inhabited by colonial nesting waterbirds and/or seabirds.

Please be aware that entry into or disturbance of active breeding colonies is prohibited by the Louisiana Department of Wildlife and Fisheries (LDWF). In addition, LDWF prohibits work within a certain radius of an active nesting colony.

Colonies may be present that are not currently listed in the database maintained by the LDWF. Though the waterbird colony database is extensive and updated often, colony nesting site locations are very fluid, particularly, in marsh habitats where late nesters or new colonies can be established between surveys. Due to the difficult nature of documenting all nesting colonies, the Service recommends that a qualified biologist inspect the proposed construction site for the presence of documented and undocumented nesting colonies during the nesting season of each year that project construction is ongoing. This field visit should take place no more than two weeks before project construction begins.

Following the field visit a survey report should be provide LDWF and the Service which is to include the following information:

1. qualifications of survey personnel;
2. survey methodology including dates, site characteristics, and size of survey area;
3. species of birds present, activity, estimates of number of nests present, and general vegetation type including digital photographs representing the site; and
4. topographic maps and ArcGIS shapefiles projected in UTM NAD83 Zone 15 to illustrate the location and extent of the colony.

Please email to the Service and mail survey reports by electronic mail to:

Wildlife Diversity Program
La. Dept. of Wildlife & Fisheries
P.O. Box 98000
Baton Rouge, LA 70898-9000

To minimize disturbance to colonial nesting birds, the following conservation measures should be considered:

1. For colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills), anhingas, and/or cormorants, all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, exact dates may vary within this window depending on species present).

2. For colonies containing nesting gulls, terns, and/or black skimmers, all activity occurring within 650 feet of a rookery should be restricted to the non-nesting period (i.e., September 16 through April 1, exact dates may vary within this window depending on species present).

In addition, we recommend that on-site contract personnel including project-designated inspectors be trained to identify colonial nesting birds and their nests and avoid affecting them during the breeding season (i.e., the time period outside the activity window). Should on-site contractors and inspectors observe potential nesting activity, coordination with the LDWF and the Service should occur. If no nesting colonies are found within 1000 feet (2000 feet for Brown Pelicans) of the proposed project, no further consultation with LDWF and the Service will be necessary. If you have any questions or need additional information on birds from LDWF, please contact Rob Dobbs at 337-735-8675.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. The following migratory birds may be present at your project location at certain times of the year.

Common Name	Species name	Breeding Season
Bald Eagle	*Haliaeetus leucocephalus*	Sep1 to Jul 31
Chimney Swift	*Chaetura pelagica*	Mar 15 to Aug 25
Dickcissel	*Spiza americana*	May 5 to Aug 31
Gull-billed Tern	*Gelochelidon nilotica*	May 1 to Jul 31
Kentucky Warbler	*Oporornis formosus*	Apr 20 to Aug 20
Lesser Yellowlegs	*Tringa flavipes*	Breeds Elsewhere
Little Blue Heron	*Egretta caerulea*	Mar 10 to Oct 15
Painted Bunting	*Passerina ciris*	Apr 25 to Aug 15
Pectoral Sandpiper	*Calidris melanotos*	Breeds elsewhere
Prairie Warbler	*Dendroica discolor*	May 1 to Jul 31
Prothonotary Warbler	*Protonotaria citrea*	Apr 1 to Jul 31
Reddish Egret	*Egretta rufescens*	Mar 1 to Sep 15
Rusty Blackbird	*Euphagus carolinus*	Breeds elsewhere
Sandwich Tern	*Thalasseus sandvicensis*	Apr 25 to Aug 31
Swallow-tailed Kite	*Elanoides forficatus*	Mar 10 to Jun 30
Wood Thrush	*Hylocichla mustelina*	May 10 to Aug 31

Table 1: Migratory birds of note in study area.

EVALUATION METHODOLOGY

To quantify anticipated direct project impacts to fish and wildlife resources, the Service used the 2017 (version 2) USACE Approved Wetland Value Assessment (WVA) models. The WVA model was developed to evaluate restoration projects proposed for funding under Section 303 of the CWPPRA and was modified through the USACE approval process for use in the USACE planning process. These models are approved for regional use on USACE Civil Works projects. Further information on this model may be obtained from the USACE's New Orleans District, Regional

Planning and Environmental Division South at https://ecolibrary.planusace.us/ (use the search term "WVA").The WVA quantifies changes in fish and wildlife habitat quality and quantity that are expected to result from a proposed project. The WVA operates under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland habitat type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated or expressed through the use of community models developed specifically for each habitat type. The results of the WVA, measured in Average Annual Habitat Units (AAHUs), can be combined with cost data to provide a measure of the effectiveness of a project in terms of cost per AAHU gained or lost.

The WVA community models have been designed to function at a community level and therefore attempt to define an optimum combination of habitat conditions for all fish and wildlife species utilizing a given habitat type. The WVA models operate under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Each model consists of 1) a list of variables that are considered important in characterizing fish and wildlife habitat, 2) a Suitability Index (SI) graph for each variable, which defines the assumed relationship between habitat quality (Suitability Index) and different variable values, and 3) a mathematical formula that combines the Suitability Index for each variable into a single value for habitat quality; that single value is referred to as the Habitat Suitability Index, or HSI. The output of each model (the HSI) is assumed to have a linear relationship with the suitability of a coastal wetland system in providing fish and wildlife habitat. The WVA models assess the suitability of each habitat type for providing resting, foraging, breeding, and nursery habitat to a diverse assemblage of fish and wildlife species. This standardized, multi-species, habitat-based methodology facilitates the assessment of project-induced impacts on fish and wildlife resources.

Field data were used in conjunction with the above-discussed mathematical models to compute an HSI value for each target year (TY). Target years were established when significant changes in habitat quality or quantity were expected during the 61-year project life, under future with-project and future without-project conditions.

The product of an HSI value and the acreage of available habitat for a given target year is known as the Habitat Unit (HU). The HU is the basic unit for measuring project effects on fish and wildlife habitat. Future HUs change according to changes in habitat quality and/or quantity. Results are annualized over the project life to determine the Average Annual Habitat Units (AAHUs) available for each habitat type.

The change (increase or decrease) in AAHUs for each future with-project scenario, compared to future without-project conditions, provides a measure of anticipated impacts. A net gain in AAHUs indicates that the project is beneficial to the habitat being evaluated; a net loss of AAHUs indicates that the project is damaging to that habitat type. In determining future with-project conditions, all project-related direct (construction) impacts were assumed to occur in Target Year 1.

Three types of USACE certified wetland value assessments (WVAs) were used to determine direct impacts to fish and wildlife resources: bottomland hardwood (BLH), brackish marsh and saline marsh. For all WVAs, data was collected both in the field, using satellite imagery, and Coastwide Reference Monitoring System (CRMS) data. Note that data for the BLH habitat was taken from

Reach B field data and applied to this reach since there was not time to collect Reach F specific data.

The WVA fresh/intermediate marsh model consists of six variables: 1) percent of wetland covered by emergent vegetation; 2) percent open water dominated by submerged aquatic vegetation (SAV); 3) degree of marsh edge and interspersion; 4) percent of open water less than or equal to 1.5 feet deep; 5) mean high salinity during the growing season; and 6) aquatic organism access. The WVA model for swamp consists of seven variables: 1) stand structure; 2) stand maturity; 3) water regime; 4) mean high salinity during the growing season; 5) size of contiguous forested area; 6) Suitability and traversability of surrounding land uses and 7) disturbance. The WVA model for bottomland hardwood consists of seven variables: 1) tree species composition; 2) stand maturity; 3) understory/midstory cover; 4) hydrology; 5) size of contiguous forested area; 6) Suitability and traversability of surrounding land uses and 7) disturbance. Changes in each variable are predicted for future without-project and future with-project scenarios over a 61-year project life. By incorporating variables for SAV and shallow open water into each of the marsh models, impacts to those habitat components are combined with impacts to emergent marshes. Because emergent marsh is of higher overall fish and wildlife value than SAV, and because SAV is of higher value than shallow open water, those latter components receive proportionally less weight when combined into one AAHU value. The swamp and BLH models do not include SAV or shallow open water variables; hence, impacts to those habitats are not included in the WVA analysis for swamp.

Further explanation of how impacts/benefits are assessed within the WVA process and an explanation of the assumptions affecting HSI values for each target year are available for review at the Service's Louisiana Ecological Services field office website.

PROJECT IMPACTS

Habitat Types

Construction of levees and surrounding ROW is expected to directly impact marsh and BLH habitat. A total of 62.4 acres of brackish marsh and 25.0 acres of saline marsh are expected to be negatively impacted leading to a loss of 19.93 AAHUs and 11.09 AAHUs, respectively (Table 2). A total of 9.4 acres of BLH would also be impacted by the project for a net loss of 3.65 AAHUs. Note that the BLH AAHUs are subject to change because the required interagency habitat evaluation team (HET) review could not be conducted by the time this report was submitted. An HET-reviewed AAHU value for the impacted BLH habitat will be included in the final FWCA report. Additionally, during preparation of this report, modifications to the levee footprint occurred which are not reflected here and may alter the final impacted acres.

Table 2. Total Reach F Construction Segment Impacts by Habitat Type

Location	Acres	AAHUs
Brackish Marsh	62.4	-19.93
Saline Marsh	25.0	-11.09
BLH	9.4	-3.65
TOTAL	**96.8**	**-34.67**

Borrow sites have been identified by the USACE to provide material for construction of the Reach F earthen levee. According to the borrow sites delineated by the USACE, habitat described in section requiring mitigation have largely been avoided, but the Aragon Road site appears to contain some BLH and possibly other habitat types.

Fishery Resources

Construction of the Proposed Action (Modified 2013 PACR levee alignment) would remove marsh habitat. Some aquatic organisms would be killed, and others would be displaced to other marsh areas that could vary in quality compared to the areas removed. Through coordination of USACE the Service and NMFS, direct impacts to marsh habitat from the construction of the Proposed Action have been minimized.

Essential Fish Habitat

EFH would be lost due the construction of the Proposed Action, negatively impacting some fish species. Through coordination of USACE the Service and NMFS, direct impacts to EFH from the construction of the Proposed Action have been minimized. Total direct impacts to EFH include the loss of 87.4 acres of brackish and saline marsh (Table 1). Indirect impacts to enclosed marshes are still being studied. The USACE should mitigate for all impacts to essential fish habitat and continue to coordinate with the Service and NMFS when developing water control structure operational plans that might lead to increased impacts.

Wildlife

Through coordination of USACE the Service and NMFS, direct impacts to habitat from the construction of the Proposed Action have been minimized. Wildlife will likely be disturbed during levee construction. The majority of impacts would be removal of plant life of wildlife habitat animals that do not vacate construction areas. Wildlife will likely return to areas post construction but will face the loss and fragmentation of linear strips of habitat. Full recovery of affected areas may take several years due to the slow repopulation rates of some species.

Threatened and Endangered Species

The USACE is responsible for determining whether the Proposed Action is likely (or not likely) to adversely affect any listed species and/or critical habitat, and for requesting the Service's concurrence with that determination. If USACE determines that the selected alternative is likely to adversely affect listed species and/or critical habitat, a request for formal consultation in accordance with Section 7 of the ESA should be submitted to the Service. That request should also include USACE's rationale supporting their determination.

Migratory Bird Treaty Act (MBTA) and Bald and Eagle Protection Act (BGEPA)

During project construction, the Service recommends that on-site contract personnel be informed of the need to identify nesting bald eagles and colonial nesting birds and their nests and should avoid affecting them during the breeding season.

At-Risk Species and Gulf Coast Joint Venture

Through coordination of USACE the Service and NMFS, direct impacts to habitat from the construction of the Proposed Action have been minimized. The project is not expected to have long term benefits or negative impacts to Gulf Coast Venture species. But there will be some level of habitat destruction and fragmentation that will impact species' historic feeding, resting and nesting habits.

FWS Concerns

The Aragon Road proposed borrow pit delineated area includes forested habitat. Those areas should be avoided if possible and only used for borrow material they have been environmentally cleared and any mitigation necessary has been quantified.

Material from dredging or borrow pits should not be piled outside of the ROW. If it becomes necessary to use borrow sources other than the previously proposed environmentally cleared sites, the Service recommends USACE begin investigating potential borrow sources in coordination with the Service. Borrow sites to be considered should have minimal impacts to fish and wildlife resources. The Service identified a priority selection process and list for borrow sites in our November 15, 2023, Planning-aid letter to USACE (Appendix 1). That prioritization process should be utilized if additional borrow sites are needed (please contact Cathy Breaux (337)291-3122 for more information).

The President's Council on Environmental Quality defined the term "mitigation" in the National Environmental Act regulations to include:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensation for the impact by replacing or providing substitute resources or environments.

The Service's Mitigation Policy (Federal Register, Vol. 46, pp. 7644-7663, January 23, 1981) has designated four resource categories which are used to ensure that the level of mitigation recommended will be consistent with the fish and wildlife resources involved. The mitigation planning goals, and associated Service recommendations, should be based on those four resource categories, as follows:

- Resource Category 1 – Habitat to be impacted is of high value for evaluation species and is unique and irreplaceable on a national basis or in the ecoregion section. The mitigation goal for this Resource Category is that there should be no loss of existing habitat value.
- Resource Category 2 – Habitat to be impacted is of high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section. The mitigation goal for habitat placed in this category is that there should be no net loss of in-kind habitat value.
- Resource Category 3 – Habitat to be impacted is of high to medium value for evaluation species and is relatively abundant on a national basis. The Service's mitigation goal here is that there be no net loss of habitat value while minimizing loss of in-kind habitat value.
- Resource Category 4 – Habitat to be impacted is of medium to low value for evaluation species. The mitigation goal is to minimize loss of habitat value.

Coastal marshes and forested wetlands are considered by the Service to be Resource Category 2, the mitigation goal for which is no net loss of in-kind habitat value. These habitats are considered to be aquatic resources of national importance due to their increasing scarcity and high habitat value for fish and wildlife within Federal trusteeship (i.e., migratory waterfowl, wading birds, other migratory birds, threatened and endangered species, and interjurisdictional fisheries). The Service should be consulted in the development of plans and specifications for mitigation of unavoidable losses to these habitats

Mitigation sites have been identified by the Service and the USACE.

To avoid unplanned shortfalls in mitigation acreage, the Service recommends that the target marsh acreage be calculated to exclude any internal borrow areas used for construction of the marsh creation area containment dikes. Internal borrow areas for containment dike construction often never vegetate. Hence all the acreage within the containment dikes does not become marsh and a shortfall in created marsh may occur. Marsh creation projects must provide at least the required acreage within 3 years of project implementation to be considered as having achieved the intended mitigation. This will depend on achieving a settled disposal area elevation conducive to growth of marsh vegetation.

With the new definition of the Waters of the United States (WOTUS, published Aug 29, 2023) all enclosed (protected side) wetlands may be redefined as non-jurisdictional wetlands because of the MTG project, thus impacting all enclosed wetlands. There is concern that this would increase developmental pressures on enclosed wetlands. The Service recommends the USACE coordinates with us once they receive guidance on how they will implement that new rule to ensure protection of enclosed wetlands. Enclosed wetlands will still be connected hydrologically and thus will still be tidally influenced via the planned major structures (i.e., floodgates) and any additional environmental structures and/or culverts, etc. For this reason, it is the Service's and the NMFS's opinion that the enclosed wetlands in question should be exempt from redefinition implications.

SERVICE POSITION AND RECOMMENDATIONS

1. Coastal marshes and forested wetlands are considered by the Service to be aquatic resources of national importance due to their increasing scarcity and high habitat value for fish and wildlife within Federal trusteeship (i.e., migratory waterfowl, wading birds,

other migratory birds, threatened and endangered species, and interjurisdictional fisheries). The Service's mitigation policy (Federal Register, Volume 46, Number 15, pages 7656-7663, January 23, 1991) provides guidance to help ensure that the level of mitigation recommended by the Service is consistent with the value and scarcity of the fish and wildlife resources involved. In keeping with that policy, the Service usually recommends that losses of high-value habitats which are becoming scarce be avoided or minimized to the greatest extent possible. Unavoidable losses of such habitats should be fully compensated by replacement of the same kind of habitat value; this is called "in-kind" mitigation. The Service should be consulted in the development of plans and specifications for mitigation of unavoidable impacts to coastal marshes and forested wetlands.

2. Construction of levees and surrounding right of way (ROW) is expected to directly impact marsh and BLH habitat. Note that the BLH impacts are subject to change based on an interagency habitat evaluation team (HET) review that could not be conducted by the time this report was submitted. Once any habitat impacts are revised they should be included in the final FWCA report, FONSI, and ROD.
3. If soils must be removed prior to levee construction, those soils should be used to create or restore emergent wetlands to the greatest extent possible or be used for levee construction as suggested by USACE.
4. Care should be taken to avoid impacts to bald eagles and their nesting habitat. Prior to and during any project construction, on-site personnel should be informed of the possible presence of nesting bald eagles in the vicinity of the project boundary, and should identify, avoid, and immediately report any such nests to this office. Prior to construction, the Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nests during the nesting season (October through mid-May). If a bald eagle nest occurs or is discovered within 1,500 feet of the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line using the Service's guidance and determination tool. Any take should be reported to this office and the LDWF. Bald eagle nest (active, inactive, or seemingly abandoned) should be protected, and no large trees should be removed.
5. During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. For more detail on avoiding contact with manatee contact this office. Should a proposed action directly or indirectly affect the West Indian manatee, consultation with this office will be necessary.
6. Avoid adverse impacts to nesting wading bird colonies through careful design of project features and timing of construction. The Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nesting colonies during the nesting season (September 1 through February 15).

7. Avoid adverse impacts to alligator snapping turtle by minimizing disturbance and alteration of nesting habitat, particularly in the nesting season (April-June), including minimizing the removal of log jams in streams.
8. The impacts to Essential Fish Habitat should be discussed with the NMFS to determine if the project complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Magnuson-Stevens Act; P.L. 104-297, as amended) and its implementing regulations.
9. Disturbed areas should be revegetated with native plant species, including species of nectar-producing plants and milkweed endemic to the area; we recommend consultation with state botanists to determine appropriate species where possible
10. Access roads across existing wetlands should be avoided if possible and secondary impacts to wetland hydrology should be prevented or reduced. To avoid changes to hydrology the Service recommends appropriately sized culverts (minimum 24-inch culverts) be installed and maintained every 250 feet across access roads through wetlands with additional culverts placed at stream crossings and drainage features. Alternatively, upon completion of construction activities, access roads should be degraded to restore natural hydrology.
11. To the greatest extent possible, design (e.g. implementation of "T"-walls, sheet-pile, and/or cement floodwall in levee designs) and position flood protection features so that destruction of forested and emergent wetlands is avoided or minimized.
12. Please include this office in future considerations of programmatic features and any planned levee lifts as additional consultation will likely be necessary.
13. To avoid unplanned shortfalls in mitigation acreage, the Service recommends that the target marsh acreage be calculated to exclude any internal borrow areas used for construction of the marsh creation area containment dikes.
    a. Marsh creation projects must provide at least the required acreage within 3 years of project implementation to be considered as having achieved the intended mitigation. This will depend on achieving a settled disposal area elevation conducive to growth of marsh vegetation.
14. With the new definition of the Waters of the United States (WOTUS, published Aug 29, 2023) all enclosed (protected side) wetlands may be redefined as non-jurisdictional wetlands because of this project, thus impacting all enclosed wetlands. There is concern that this would increase developmental pressures on enclosed wetlands The Service recommends the USACE coordinates with us once they receive guidance on how they will implement that new rule to ensure protection of enclosed wetlands. Enclosed wetlands will still be connected hydrologically and thus will still be tidally influenced via the planned major structures (i.e., floodgates) and any additional environmental structures and/or culverts, etc. For this reason, it is the Service's and the NMFS's opinion that the enclosed wetlands in question should be exempt from redefinition implications.
15. To minimize impacts to fisheries, flood protection water control structures in any watercourse should maintain pre-project cross section in width and depth to the maximum extent practicable. Water control structures within a waterway should include shoreline baffles and/or ramps (e.g., rock rubble, articulated concrete mat) that slope up to the structure to enhance organism passage. Various ramp designs should be considered. Please coordinate with the NMFS, Craig Gothreaux (craig.gothreaux@noaa.gov) on this issue.

16. Material from dredging or borrow pits should not be piled outside of the ROW.
17. The Aragon Road proposed borrow pit delineated area includes forested habitat. Those areas should be avoided if possible and only used for borrow material they have been environmentally cleared and any mitigation necessary has been quantified.
18. If it becomes necessary to use borrow sources other than the previously proposed environmentally cleared sites, the Service recommends USACE begin investigating potential borrow sources in coordination with the Service. Borrow sites to be considered should have minimal impacts to fish and wildlife resources. The Service identified a priority selection process and list for borrow sites in our November 15, 2023, Planning-aid letter to USACE (Appendix 1). That prioritization process should be utilized if additional borrow sites are needed (please contact Cathy Breaux (337) 291-3122 for more information).
19. The Service recommends that the USACE contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made and or finalized.

LITERATURE CITED

Flores, R.E., and W.R. Eddleman. 1995. California black rail use of habitat in southwestern Arizona. The Journal of Wildlife Management 59:357–363.

Paille, R.F. 1997. Lower Atchafalaya Basin Re-Evaluation Study: a Planning Aid Report on Freshwater Inflows to the Terrebonne Basin. U.S. Fish and Wildlife Service, Ecological Services, Lafayette, LA. 28 pp.

Turner, R.E. 1977. Intertidal vegetation and commercial yields of penaeid shrimp. Trans. Am. Fish. Soc. 106:411-416,

Turner, R.E. 1982. Wetland losses and coastal fisheries: an enigmatic and economically significant dependency, Pages 112 - 120. *In* Boesch, D.F., ed. 1982. Proceedings of the conference on coastal erosion and wetland modification in Louisiana: causes, consequences, and options. U.S. Fish and Wildlife Service, Biological Service Program, Washington, D.C. FWS/OBS-82/59. 256 pp.

APPENDIX A

United States Department of the Interior

FISH AND WILDLIFE SERVICE
200 Dulles Drive
Lafayette, Louisiana 70506

November 15, 2023

Colonel Cullen Jones
District Commander
U.S. Army Corps of Engineers
New Orleans District
7400 Leake Avenue
New Orleans, LA 70118-3651

Dear Colonel Jones:

As you know, the U.S. Fish and Wildlife Service (Service) is assisting the U.S. Army Corps of Engineers (USACE) in assessing impacts of, and mitigation requirements for, borrow sites which are needed to complete authorized improvements, and to construct Federal and non-Federal hurricane/flood protection levees in southern Louisiana. This planning-aid letter is provided in accordance with the Endangered Species Act of 1973 (ESA, 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Fish and Wildlife Coordination Act (FWCA, 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and the Migratory Bird Treaty Act (MBTA, 40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), but it does not constitute the final report of the Secretary of the Interior as required by Section 2(b) of the Fish and Wildlife Coordination Act.

Identification of borrow areas are needed to complete multiple flood risk reduction projects. To first avoid and then minimize impacts to wetlands and fish and wildlife resources, the Service recommends the use of a protocol that prioritizes selection of borrow sites. In previous projects, such as the Hurricane and Storm Damage Risk Reduction System (HSDRRS) a protocol for borrow was developed which prioritized site selection in the following order: (1) existing commercial pits, (2) upland sources, (3) previously disturbed/manipulated wetlands within a levee system, and (4) low-quality wetlands outside a levee system. The Service supports the use of such protocols to avoid and minimize impacts to wetlands and bottomland hardwoods within project areas. Avoidance and minimization of those impacts helps to provide consistency with restoration strategies and compliments the authorized hurricane/flood protection efforts. Such consistency is also required by Section 303(d)(1) of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA).

Accordingly, the Service recommends that prior to utilizing borrow sites, every effort should be made to reduce impacts by using sheet-pile and/or floodwalls to increase levee heights wherever feasible. In addition, the Service recommends that the following protocol be adopted and utilized to

identify borrow sources in descending order of priority:

1. First consider permitted commercial sources, authorized borrow sources for which environmental clearance and mitigation have been completed, or non-functional levees after newly constructed adjacent levees are providing equal protection.

2. Next consider areas under forced drainage that are protected from flooding by levees, and that are:
    a. non-forested (e.g., pastures, fallow fields, abandoned orchards, former urban areas) and non-wetlands;
    b. wetland forests dominated by exotic tree species (i.e., Chinese tallow-trees) or nonforested wetlands (e.g., wet pastures), excluding marshes; or,
    c. disturbed wetlands (e.g., hydrologically altered, artificially impounded).

3. Third, consider sites that are outside a forced drainage system and levees, and that are:
    a. non-forested (e.g., pastures fallow fields, abandoned orchards, former urban areas) and non-wetlands;
    b. wetland forests dominated by exotic tree species (i.e., Chinese tallow-trees) or nonforested wetlands (e.g., wet pastures), excluding marshes; or,
    c. disturbed wetlands (e.g., hydrologically altered, artificially impounded).

The Service offers the following additional recommendations for reducing borrow site impacts on fish and wildlife resources and, where feasible, enhancing those resources. However, these additional recommendations should not be implemented if they would result in the expansion of existing borrow pits or construction of new borrow pits in wetlands or bottomland hardwoods.

1. A minimum of 30 percent of the borrow pit's edge should slope no greater than 5 horizontal (H):1 vertical (V), starting from the water line down to a depth of approximately 5 feet.

2. Most of the woody vegetation removed during clearing and grubbing should be placed into the deepest parts of the borrow pits, and the remaining debris should be placed in the water along the borrow pit shorelines, excluding those areas where the 5H:1V slope, per recommendation 1, have been constructed.

3. Following construction, perimeter levees (if constructed) around each borrow pit should be gapped at 25-foot intervals with an 8-foot-wide breach, the bottom elevation of which should be level with the adjacent natural ground elevation.

When avoidance and minimization of bottomland hardwood and wetland impacts is not practicable, all unavoidable net losses of those habitats should be fully offset via compensatory mitigation. Such compensatory mitigation should be sited within the watershed and/or hydrologic unit where the impact occurred, and should be completed concurrently with borrow operations, or as soon as possible thereafter.

To assist in expediting the identification of borrow sites that potentially meet the protocol, the

Service has utilized a Geographic Information System to develop a map identifying potential borrow areas (Attached). A National Resource Conservation Service soils database was combined with a National Oceanic and Atmospheric Administration land classification database for the parishes where Federal hurricane protection projects exists. Only those soils and land use categories having the highest probability of providing soils suitable for levee construction while minimizing impacts to fish and wildlife resources were identified. The Service realizes that those databases may contain errors or that conditions could have changed since the databases were developed. Therefore, some identified sites may not meet the borrow protocol, and site inspections would be necessary. The Service also recognizes that other factors may also limit the use of the identified sites, such as prior land use and size. Nonetheless, the Service recommends that the USACE investigate all borrow areas identified on the attached map and maintain a record for each site including site conditions and reasons for rejecting a site. Prior to investigating wetlands as a potential borrow source the Service recommends that a review of those records be conducted with the Service and other natural resource agencies. However, such a review would not automatically result in the Service's agreement that due diligence to avoid wetlands has been achieved and that other areas not indicated on the map should not be investigated. The Service is willing to assist in the site assessment of the borrow areas.

The combined need for borrow necessary to complete authorized improvements to and construction of Federal and non-Federal hurricane/flood protection levees, and the potential construction of levees capable of withstanding a category 5 hurricane, will require substantial amounts of borrow. It is highly likely such amounts would exceed local availability. In the case of ongoing hurricane/flood protection projects (e.g., Morganza to the Gulf, West Shore Lake Pontchartrain, Saint Tammany Parish, Upper Barataria Basin, etc.) the search for levee-building material has been conducted primarily on project-by-project basis. In the context of such project-by-project searches for borrow material, the least-expensive and easiest sources of borrow material are usually located within wetlands and/or bottomland hardwoods, adjacent to the proposed levee. Such on-site sources, however, often involve adverse impacts to wetlands, thus exacerbating the overall wetland loss problem in all coastal basins, especially those in the deltaic plain of southeast Louisiana. In short, while such on-site sources are relatively inexpensive, they will frequently be inconsistent with coastal restoration efforts and, to the extent that wetlands will be adversely impacted, use of those sites will be counterproductive with respect to minimizing wetland impacts and attaining the goal of increasing non-structural hurricane protection within a sustainable ecosystem.

Large-scale, off-site borrow sources could have the potential to reduce environmental impacts from levees and expedite project-by-project environmental review. Such potential "programmatic" borrow sources could include uplands along the Mississippi River, beneficial use of sediments dredged for navigation purposes (including the mining of disposal sites), the Mississippi River, and offshore deposits (e.g., Ship Shoal). As part of the planning process, we recommend that the USACE begin investigating the practicability of various large-scale, off-site borrow sources and actively involve all resource agencies with the Regional Planning and Environment Division, South (RPEDS) Office's Borrow Team efforts.

Programmatic planning would be essential to identify borrow sites of acceptable quantity and quality, while avoiding and/or minimizing adverse environmental impacts. We therefore recommend that a plan be developed that integrates borrow resources, uses, and needs for various programs and activities. Guiding principles should be developed to identify borrow resources,

borrow-site designs, and prioritize uses to avoid competing for resources, maximize benefits with those resources, and avoid adverse environmental impacts.

We appreciate the opportunity to provide this planning-aid letter and would be pleased to assist your agency in further identification of potential borrow sources. Should you or your staff have any questions regarding this letter, please contact Cathy Breaux (337/291-3122) of this office.

Sincerely,

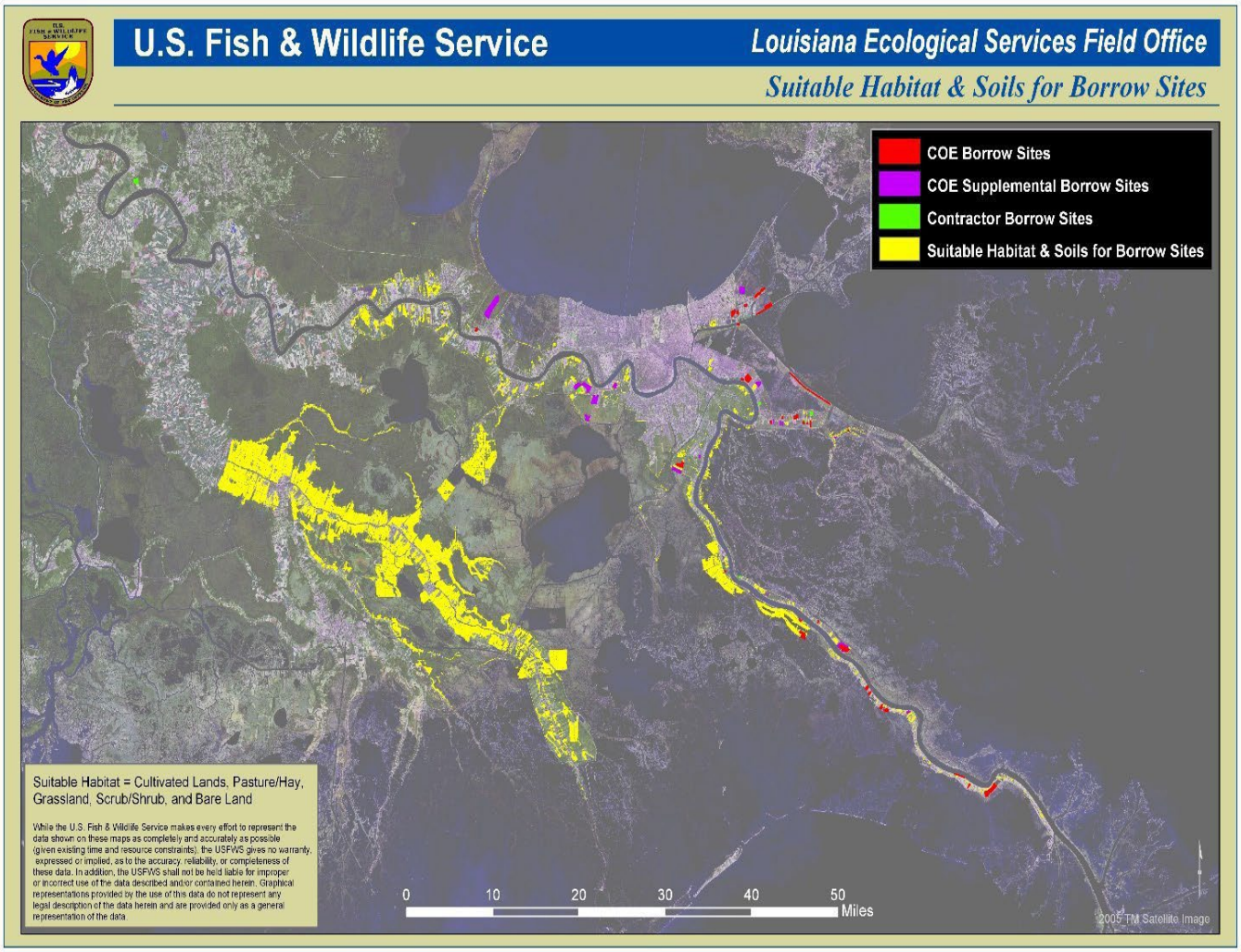
Brigette D. Firmin

Brigette D. Firmin
Field Supervisor
Louisiana Ecological Services Office

Enclosure

cc: National Marine Fisheries Service, Baton Rouge, LA EPA, Dallas, TX
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources, CMD, Baton Rouge, LA
CPRA, Baton Rouge, LA

ENCLOSURE: Map of suitable habitat and soils for borrow sites.



CEMVN's Responses to FWCAR Recommendations:

Compliance with the United States Fish and Wildlife Coordination Act (FWCA) Draft recommendations: The USFWS supports the construction of the Proposed Action (MTG Reach F Modified PACR alignment) provided that the following fish and wildlife recommendations are carried out concurrently with project implementation:

1. Coastal marshes and forested wetlands are considered by the Service to be aquatic resources of national importance due to their increasing scarcity and high habitat value for fish and wildlife within Federal trusteeship (i.e., migratory waterfowl, wading birds, other migratory birds, threatened and endangered species, and interjurisdictional fisheries). The Service's mitigation policy (Federal Register, Volume 46, Number 15, pages 7656-7663, January 23, 1991) provides guidance to help ensure that the level of mitigation recommended by the Service is consistent with the value and scarcity of the fish and wildlife resources involved. In keeping with that policy, the Service usually recommends that losses of high-value habitats which are becoming scarce be avoided or minimized to the greatest extent possible. Unavoidable losses of such habitats should be fully compensated by replacement of the same kind of habitat value; this is called "in-kind" mitigation. The Service should be consulted in the development of plans and specifications for mitigation of unavoidable impacts to coastal marshes and forested wetlands.

CEMVN Response: Concur. CEMVN has and will continue to consider measures that would avoid and/or minimize impacts to high-value habitats as is demonstrated by the Proposed Action being constructed on top of an already built levee alignment. For the currently unavoidable habitat impacts, a compensatory mitigation plan has been developed and is discussed in Section 2.2.6 of the DSEA and Appendix F. CEMVN will continue to coordinate with USFWS and NMFS during development of the P&S for in-kind mitigation projects.

2. Construction of levees and surrounding right of way (ROW) is expected to directly impact marsh and BLH habitat. Note that the BLH impacts are subject to change based on an interagency habitat evaluation team (HET) review that could not be conducted by the time this report was submitted. Once any habitat impacts are revised, they should be included in the final FWCA report, FONSI, and ROD.

CEMVN Response: Concur. A HET meeting has since been conducted on 20 July 2024 and 22 October 2024. CEMVN will continue to coordinate with the HET during finalization of the WVAs. The final impact numbers will be included in the Reach F FONSI.

3. If soils must be removed prior to levee construction, those soils should be used to create or restore emergent wetlands to the greatest extent possible or be used for levee construction as suggested by USACE.

CEMVN Response: CEMVN will work with USFWS to determine the feasibility of this recommendation prior to construction.

4. Care should be taken to avoid impacts to bald eagles and their nesting habitat. Prior to and during any project construction, on-site personnel should be informed of the possible presence of nesting bald eagles in the vicinity of the project boundary, and should identify, avoid, and immediately report any such nests to this office. Prior to construction, the Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nests during the nesting season (October through mid-May). If a bald eagle nest occurs or is discovered within 1,500

feet of the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line using the Service's guidance and determination tool. Any take should be reported to this office and the LDWF. Bald eagle nest (active, inactive, or seemingly abandoned) should be protected, and no large trees should be removed.

CEMVN Response: Concur. CEMVN biologists will re-survey the project area the nesting season before construction to ensure impacts to bald eagles and their nesting habitat are avoided to the extent possible. Reference Appendix C for the discussion on avoidance measures.

5. During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. For more detail on avoiding contact with manatee contact this office. Should a proposed action directly or indirectly affect the West Indian manatee, consultation with this office will be necessary.

CEMVN Response: Concur. CEMVN will ensure that all personnel including contractors are informed regarding the potential presence of manatees, speed zones and collision avoidance to avoid injury to manatees. Reference Appendix C for the discussion on avoidance measures.

6. Avoid adverse impacts to nesting wading bird colonies through careful design of project features and timing of construction. The Service and the LDWF recommend that a qualified biologist inspect the proposed work site for the presence of undocumented nesting colonies during the nesting season (September 1 through February 15).

CEMVN Response: Concur. No active colonial nesting water bird rookeries were identified within 1,000 feet of the Proposed Action by CEMVN biologists. Verification of this condition would be conducted by CEMVN biologists before construction commences. Reference Section 3.2.5 of the DSEA and Appendix C for the discussion on nesting wading bird colonies.

7. Avoid adverse impacts to alligator snapping turtle by minimizing disturbance and alteration of nesting habitat, particularly in the nesting season (April-June), including minimizing the removal of log jams in streams.

CEMVN Response: Concur. Reference Section 3.2.5 of the DSEA and Appendix C for discussion on alligator snapping turtles.

8. The impacts to Essential Fish Habitat should be discussed with the NMFS to determine if the project complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Magnuson-Stevens Act; P.L. 104-297, as amended) and its implementing regulations.

CEMVN Response: NMFS has a "finding" with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for Federal civil works projects through the review and comment on NEPA documents prepared for those projects. This DSEA will be provided to NMFS at the start of

the 30-day public review and coordination requirements will be completed through the NEPA process.

9. Disturbed areas should be revegetated with native plant species, including species of nectar-producing plants and milkweed endemic to the area; we recommend consultation with state botanists to determine appropriate species where possible

CEMVN Response: Partially concur. Reach F levees would be planted with grass species that will ensure the integrity of the levee. All staging and access areas will be restored to pre-existing conditions. Utilized borrow pits would remain in the condition that exists after excavation.

10. Access roads across existing wetlands should be avoided if possible and secondary impacts to wetland hydrology should be prevented or reduced. To avoid changes to hydrology the Service recommends appropriately sized culverts (minimum 24-inch culverts) be installed and maintained every 250 feet across access roads through wetlands with additional culverts placed at stream crossings and drainage features. Alternatively, upon completion of construction activities, access roads should be degraded to restore natural hydrology.

CEMVN Response: Concur. The proposed action does not include constructing access roads in existing wetlands.

11. To the greatest extent possible, design (e.g. implementation of “T”-walls, sheet-pile, and/or cement floodwall in levee designs) and position flood protection features so that destruction of forested and emergent wetlands is avoided or minimized.

CEMVN Response: Concur. There would be no flood protection features for this effort other than the earthen levee.

12. Please include this office in future considerations of programmatic features and any planned levee lifts as additional consultation will likely be necessary.

CEMVN Response: Concur. CEMVN has and will continue to coordinate with the resource agencies, including USFWS, regarding future levee lifts.

13. To avoid unplanned shortfalls in mitigation acreage, the Service recommends that the target marsh acreage be calculated to exclude any internal borrow areas used for construction of the marsh creation area containment dikes. a. Marsh creation projects must provide at least the required acreage within 3 years of project implementation to be considered as having achieved the intended mitigation. This will depend on achieving a settled disposal area elevation conducive to growth of marsh vegetation.

CEMVN Response: Concur. Mitigation plans include at least a 35% contingency to address potential variation in meeting elevation requirements during construction to ensure satisfaction of mitigation requirements. The Mitigation Plan is discussed further in Appendix F.

14. With the new definition of the Waters of the United States (WOTUS, published Aug 29, 2023) all enclosed (protected side) wetlands may be redefined as non-jurisdictional wetlands because of this project, thus impacting all enclosed wetlands. There is concern that this would increase developmental pressures on enclosed wetlands The Service recommends the USACE coordinates with us once they receive guidance on how they will implement that new rule to ensure protection of

enclosed wetlands. Enclosed wetlands will still be connected hydrologically and thus will still be tidally influenced via the planned major structures (i.e., floodgates) and any additional environmental structures and/or culverts, etc. For this reason, it is the Service's and the NMFS's opinion that the enclosed wetlands in question should be exempt from redefinition implications.

CEMVN Response: The USACE will continue to work closely with the Service on this project and coordinate regarding implementation of the Proposed Action. Should there be additional impacts beyond what has been disclosed in this SEA, a supplemental NEPA document would be prepared as appropriate prior to construction.

15. To minimize impacts to fisheries, flood protection water control structures in any watercourse should maintain pre-project cross section in width and depth to the maximum extent practicable. Water control structures within a waterway should include shoreline baffles and/or ramps (e.g., rock rubble, articulated concrete mat) that slope up to the structure to enhance organism passage. Various ramp designs should be considered. Please coordinate with the NMFS, Craig Gothreaux (craig.gothreaux@noaa.gov) on this issue.

CEMVN Response: Concur. The proposed action does not include any flood protection features other than the earthen levee.

16. Material from dredging or borrow pits should not be piled outside of the ROW.

CEMVN Response: Concur.

17. The Aragon Road proposed borrow pit delineated area includes forested habitat. Those areas should be avoided if possible and only used for borrow material if they have been environmentally cleared and any mitigation necessary has been quantified.

CEMVN Response: Concur. CEMVN has and will continue to coordinate with the USFWS regarding borrow sources. Impacts to high quality forested habitat would be avoided and minimized to the maximum extent practicable. All unavoidably impacted habitats would be mitigated.

18. If it becomes necessary to use borrow sources other than the previously proposed environmentally cleared sites, the Service recommends USACE begin investigating potential borrow sources in coordination with the Service. Borrow sites to be considered should have minimal impacts to fish and wildlife resources. The Service identified a priority selection process and list for borrow sites in our November 15, 2023, Planning-aid letter to USACE (Appendix 1). That prioritization process should be utilized if additional borrow sites are needed (please contact Cathy Breaux (337) 291-3122 for more information).

CEMVN Response: Concur. CEMVN has and will continue to coordinate with the USFWS regarding borrow sources. CEMVN is utilizing the Service's priority selection process for borrow sources.

19. The Service recommends that the USACE contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made and or finalized.

CEMVN Response: Concur. CEMVN will continue to coordinate with the resource agencies, including USFWS, if the proposed project changes in scope or location; new information becomes available that affects listed species or their designated habitat; the action is modified in a manner that causes effects to listed species or if new species become listed or new critical habitat is designated.