

2019

Lake Pontchartrain and Vicinity GRR Environmental Compliance – Appendix G



U.S. Army Corps of Engineers,
New Orleans District

Non-Federal Sponsor: Coastal
Protection and Restoration Authority
Board

11/22/2019

THIS PAGE IS INTENTIONALLY BLANK

Environmental Compliance Appendix

TABLE OF CONTENTS

1	CLEAN WATER ACT – 404(B)1 EVALUATION.....	2
2	ENDANGERED SPECIES ACT COMPLIANCE	3
3	COASTAL ZONE MANAGMENT ACT COMPLIANCE.....	31
4	CLEAN AIR ACT COMPLIANCE	52

1 CLEAN WATER ACT – 404(B)1 EVALUATION

The 404(1)1 Evaluation will be completed and provided during public review of final report.

2 ENDANGERED SPECIES ACT COMPLIANCE

2.1 NATIONAL MARINE FISHERIES SERVICE CONSULTATION



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO ATTENTION OF:
Regional Planning and Environmental Division North
Environmental Compliance Section (CEMVP-PD-C)

2 December 2019

SUBJECT: Informal Endangered Species Act Section 7 Consultation for the Lake Pontchartrain and Vicinity, Louisiana General Re-evaluation Report

Mr. David Bernhart
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
Southeastern Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

Dear Mr. Bernhart:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN), is preparing the Lake Pontchartrain and Vicinity (LPV), Louisiana General Re-evaluation Report to re-evaluate the performance of the LPV system (Figure 1) given the combined effects of consolidation, settlement, subsidence, and sea level rise over time and to determine if additional actions are recommended to address the economic and life safety risks associated with flooding due to hurricanes and coastal storms. The following evaluates the potential impacts to threatened and endangered species associated with project features (Figure 2). The measures that have been identified as part of the proposed action include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations, and construction access dredging for placement of foreshore protection.

The CEMVN has determined that the proposed project may affect but is not likely to adversely affect (NLAA) federally-listed species and their designated critical habitat, as described below, and is therefore requesting concurrence with our determinations pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402.

Pursuant to our request for informal consultation, CEMVN is providing, enclosing, or otherwise identifying the following information:

- A description of the action to be considered;
- A description of the action area;

- A description of any listed species or designated critical habitat (DCH) that may be affected by the action; and
- An analysis of the potential routes of effect on any listed species or DCH

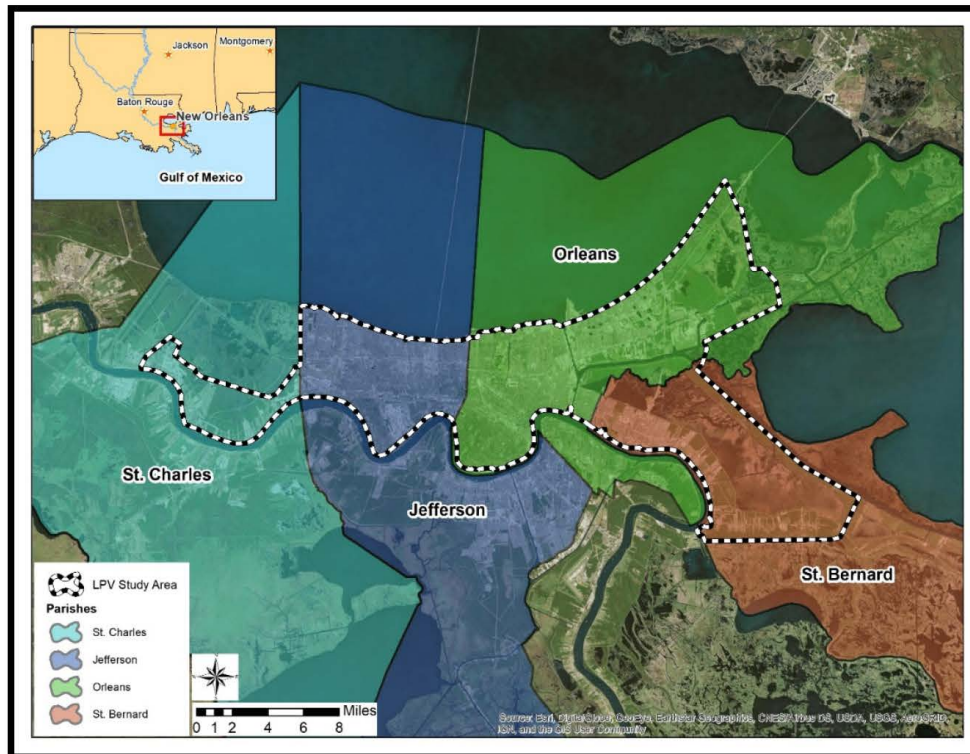


Figure 1. Study Area Location.

PROPOSED ACTION

Description of the Proposed Action. The LPV project includes features in four parishes (St. Charles, Jefferson, Orleans, and St. Bernard) located in the greater New Orleans area on the east bank of the Mississippi River. Currently, LPV contains a total of approximately 126.5 miles of levees and floodwalls. There are approximately 83 miles of armored perimeter levees and floodwalls and approximately 43.5 miles of interior levees and floodwalls. The project is in a high-density residential and commercial area. The proposed action would include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations along the shore of Lake Pontchartrain, and construction access dredging for placement of foreshore protection.

The proposed levee lifts would occur along the alignment of the existing levees. The proposed floodwall increases would occur within the existing floodwall footprints. The proposed foreshore protection would also be placed within the existing footprint of the foreshore protection along the Lake Pontchartrain shoreline. Construction access dredging and adjacent temporary stockpiling would be required to provide adequate depth for construction equipment to reach the Lake Pontchartrain shoreline. Construction access channels and adjacent stockpile locations would be returned to pre-construction elevations subsequent to construction completion. See Figure 2 for feature locations.

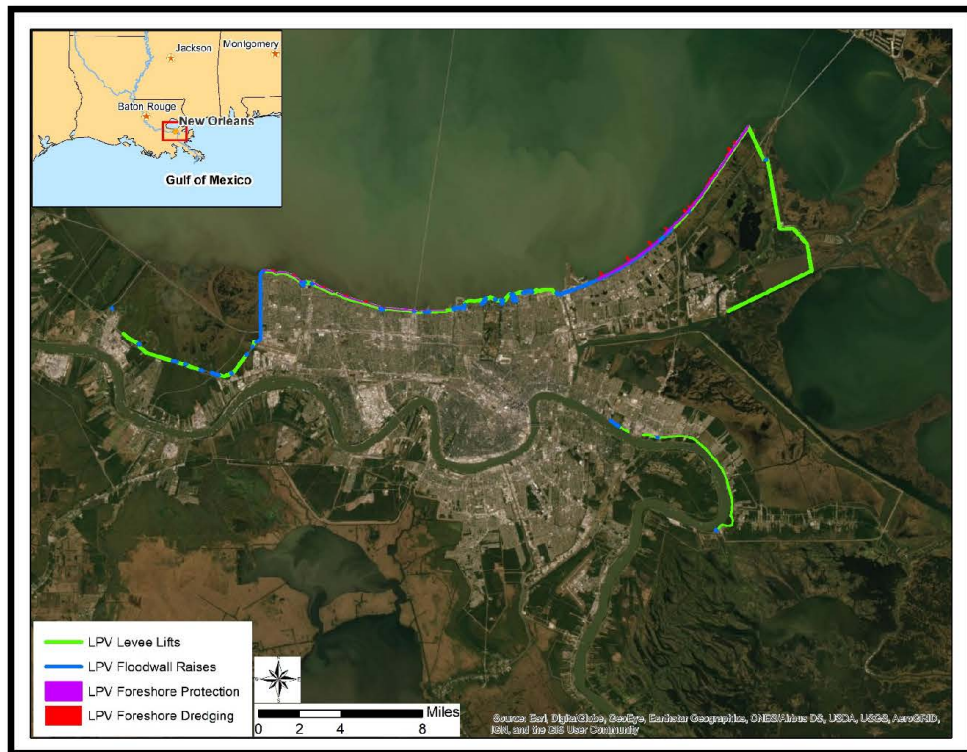


Figure 2. Proposed Action feature locations.

Construction would not be expected to commence until 2021 at the earliest and would be dependent upon congressional authorization and appropriations. Levee lifts would be conducted in multiple lifts over the course of the 50-year period of analysis. Lift schedules would vary by location and by the corresponding rates of subsidence. Floodwall lifts would only occur once per location but the timing would vary.

Placement of the stone foreshore protection along the shoreline of Lake Pontchartrain would result in filling approximately 75.1 acres of aquatic habitat. However, the stone would be placed on the existing foreshore protection footprint to bring it back up to the required elevation. Stone would be transported by barge to the project area. Stone would be placed by crane-operated skip-pan, dragline bucket, clamshell, rock-bucket, hydraulic excavator, trackhoe, or other similar equipment.

Construction access dredging and associated temporary stockpiling would impact approximately 212.5 acres of aquatic habitat. This impact would be temporary as areas would be returned to pre-project conditions after construction. Material would be dredged from the bed of Lake Pontchartrain with a bucket dredge. Construction access channels would consist of parallel

channels at the shoreline in areas where rock would be placed as well as perpendicular access channels to allow access to the shoreline channels (see Figure 2). The dimensions required for barge access channels would be approximately -7 feet depth with 100-foot bottom width. Perpendicular access channels would begin at the elevation -7 foot contour of the lake and extend 400 to 1600 ft. Adjacent dredged material stockpile sites would be 150 feet wide. Potential impacts to SAV in Lake Pontchartrain would be avoided. Pre-construction surveys would be required to delineate existing SAV to facilitate avoidance of impacts.

Description of the Project Purpose. Southeast Louisiana, including the Greater New Orleans area, is generally characterized by weak soils, general subsidence, and the global incidence of sea level rise that will cause levees and floodwalls to require future lifts to sustain performance. The proposed action would provide the 1% level of risk reduction over the 50-year period of analysis.

Description of Minimization Measures.

- Silt curtains and other best management practices would be employed during construction
- Gulf Sturgeon and sea turtle protection measures would be followed
- A bucket dredge would be used for dredging
- The bucket drop procedure would be used
- Dredging would only occur May through September
- Pre-construction surveys would be conducted to delineate existing SAV to facilitate avoidance of impacts.

ACTION AREA

For the purposes of this consultation, the CEMVN has defined the action area to include the immediate vicinity of the proposed project features as depicted in Figure 3 below. The action area includes portions of Lake Pontchartrain, Lake Borgne, and the Mississippi River as well as numerous bayous and canals in the Greater New Orleans area.

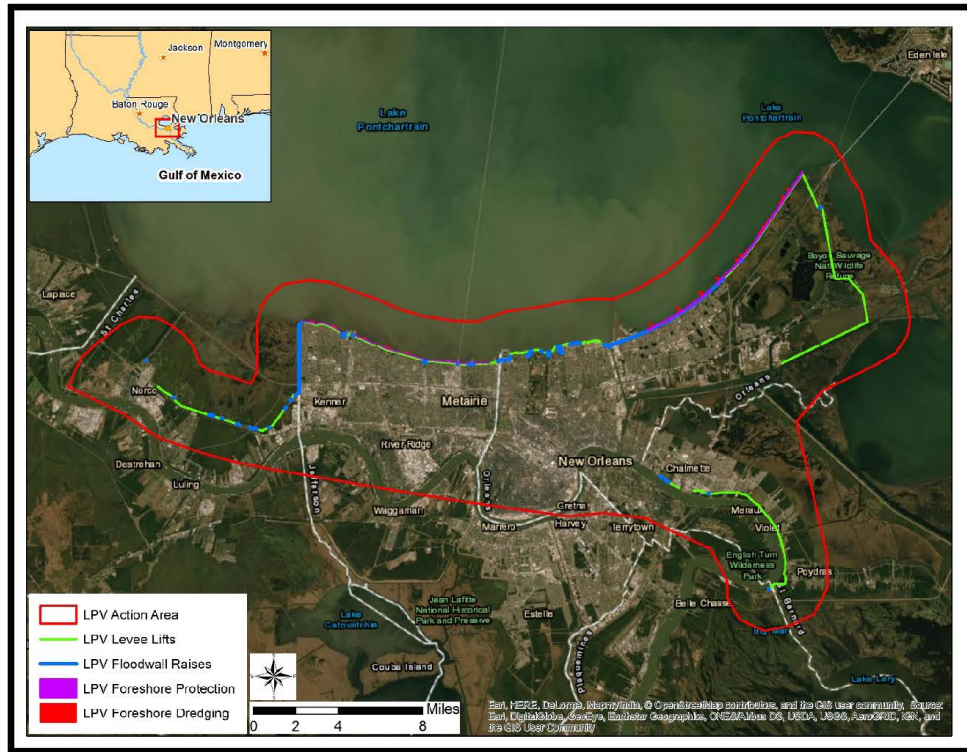


Figure 3. LPV Action Area.

AFFECTED SPECIES/HABITAT

Project activities have the potential to affect listed species, as shown in Table 1 below, and their DCH, as shown in Table 2. Table 3 provides the species use of the action area and details on the DCH.

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

Table 1. Species in the action area.

Species	ESA Listing Status	Listing Rule/Date	Most Recent recovery plan date	USACE Effect Determination (Species)
Green sea turtle ¹	T	81 FR 20057/ April 6, 2016	October 1991	NLAA
Kemp's ridley sea turtle	E	35 FR 18319/ December 2, 1970	September 2011	NLAA
Leatherback sea turtle	E	35 FR 8491/ June 2, 1970	April 1992	NLAA
Loggerhead sea turtle ²	T	76 FR 58868/ September 22, 2011	January 2009	NLAA
Hawksbill sea turtle	E	35 FR 8491/ June 2, 1970	December 1993	NLAA
Gulf sturgeon	T	56 FR 49653/ September 30, 1991	September 1995	NLAA

Table 2. DCH in the action area.

Species	DCH in the Action Area	DCH Rule/Date	USACE Effect Determination (DCH)
Gulf sturgeon	Unit 8	68 FR 13370/ March 19, 2003	NLAA

Table 3. Species use of the action area.

Species	Habitat	Potential to Occur in Study Area
Sea turtles	No breeding habitat; juvenile and adult feeding habitat in near shore, open water of Lake Pontchartrain, Lake Borgne, and MRGO	Lakes Pontchartrain and Borgne, and MRGO

¹ North Atlantic and South Atlantic DPS

² Northwest Atlantic Ocean DPS

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

Gulf sturgeon	Winter foraging habitat in Lakes Pontchartrain and Borgne, IHNC, and GIWW; Primary Constituent Elements present in Unit 8 include: abundant prey items; water quality and sediment quality necessary for normal behavior, growth, and viability of all life stages; and safe and unobstructed migratory pathways	Lakes Pontchartrain and Borgne, IHNC, and GIWW; known to occur in Lake Pontchartrain through sampling by LDWF and USFWS
----------------------	--	---

ROUTES OF EFFECT TO SPECIES

Gulf Sturgeon

Direct minor, short-term, impacts on water quality from construction activities may include decreased dissolved oxygen levels in the waters immediately surrounding the construction site, increased turbidity, and increased water body temperature due to increased suspended solids produced during construction that could absorb incident solar radiation. Temporary, minor water quality impacts could occur due to increased nutrient loading, miscellaneous debris, and accidental spills from construction equipment. Water quality impacts in the project area would be temporary during project construction and would be minimized by the movement of the tides and the use of silt curtains and other best management practices. Water quality in the project area would return to normal after construction completion. Water quality impacts are expected to be insignificant because they will be temporary and minimized by the use of silt curtains and other best management practices.

A temporary loss of benthic invertebrates would occur with the dredging of the construction access channels and the disposal of this material in adjacent stockpile sites. All access channels would be backfilled upon project completion. Sites would be encircled by silt curtains in an effort to contain the dredged material to the maximum extent practicable. Total benthic habitat temporarily disturbed in Lake Pontchartrain from project construction would be approximately 212.5 acres. Total benthic habitat temporarily disturbed in critical habitat from project construction would be approximately 178.2 acres. A permanent loss of benthic invertebrates would occur with the construction of foreshore protection. Total benthic habitat permanently destroyed in Lake Pontchartrain from project construction would be approximately 75.1 acres. Total benthic habitat permanently destroyed in critical habitat would be approximately 24.3 acres. These impacts are expected to be insignificant due to their relatively small size in comparison to the 400,000 acres of available habitat and 195,000 acres of available critical habitat in Lake Pontchartrain and due to the water depths in the impacted area being shallower than the preferred Gulf Sturgeon habitat.

In an effort to avoid direct impacts to Gulf Sturgeon that may possibly use the project area during project construction a bucket dredge would be used for construction access excavation. The bucket drop procedure developed by USFWS would be employed to encourage any Gulf Sturgeon in the vicinity to leave the project area. Dredging would only occur May through September in order to avoid impacts to Gulf Sturgeon that may use Lake Pontchartrain as winter foraging habitat. Potential impacts to SAV in Lake Pontchartrain would be avoided. Pre-

construction surveys would be required to delineate existing SAV to facilitate avoidance of impacts.

Sea Turtles

All five species of sea turtle have the potential to use Lake Pontchartrain as juvenile or adult foraging habitat. Construction-related water quality impacts could affect the foraging ability of sea turtles, but these impacts would be minor and short-term and sea turtles could avoid the impacted areas. Water quality impacts are expected to be insignificant because they will be temporary and minimized by the use of silt curtains and other best management practices.

Construction activities could potentially cause direct injury or mortality to sea turtles by equipment or propeller strikes. However, there are no reported takes of sea turtles by a bucket dredge. Further, the likelihood of sea turtles being struck by the transit and anchoring of equipment and vessels at the project site is discountable due to the species' mobility. In order to minimize the potential for construction activities to impact sea turtles, construction conditions recommended by NMFS would be followed. These include the following:

All personnel associated with the project would be instructed of the potential presence of sea turtles and the need to avoid collisions with sea turtles. All construction personnel would be responsible for observing water-related activities for the presence of these species. All construction personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing sea turtles, which are protected under the Endangered Species Act of 1973. Siltation barriers would be made of materials in which sea turtles cannot become entangled, would be properly secured, and would be regularly monitored to avoid protected species entrapment. All vessels associated with the construction project would operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels would preferentially follow deepwater routes (e.g. marked channels) whenever possible. If a sea turtle is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions would be implemented to ensure its protection. These precautions would include the cessation of operation of any moving equipment within 50 feet of a sea turtle. Activities would not resume until the protected species has departed the project area of its own volition. Any collision with and/or injury to a sea turtle would be reported immediately to the NMFS Protected Resources Division and the local authorized sea turtle stranding/rescue organization.

ROUTES OF EFFECT TO CRITICAL HABITAT

The project is located in Gulf Sturgeon critical habitat unit 8. The following primary constituent elements (PCEs) are present in Unit 8: abundant prey items; water quality and sediment quality necessary for normal behavior, growth, and viability of all life stages; and safe and unobstructed migratory pathways. We believe prey abundance, water quality, and sediment quality may be affected by the proposed action.

- 1) Abundant prey items within riverine habitats for larval and juvenile life stages, and within estuarine and marine habitats for juvenile, sub-adult, and adult life stages.

The proposed action would not affect any riverine critical habitat.

The proposed action would temporarily decrease the amount of prey species available in the estuarine areas that are being dredged for access channels, as well as those areas acting as temporary stockpile sites for the dredged material. These areas would, however, quickly re-colonize with the benthic species important to the diet of the various stages of Gulf Sturgeon using the area upon backfilling at the end of construction. This impact is expected to be insignificant.

The proposed action would permanently decrease the amount of Gulf Sturgeon prey species available in the estuarine areas in the proposed location of the foreshore protection. Fox et al. (2002) found in their investigations of the estuarine and nearshore marine habitats used by Gulf Sturgeon in the Choctawhatchee Bay and nearshore Gulf of Mexico that Gulf Sturgeon were typically found in water depths of 2-4 meters. The depths along the foreshore protection alignment in Lake Pontchartrain are shallower than 1 meter in depth. As such, the CEMVN believes these areas are rarely, if ever, used by Gulf Sturgeon foraging for prey species and the impact is, therefore, expected to be insignificant.

- 2) Water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.

Direct minor, short-term, impacts on water quality from construction activities may include decreased dissolved oxygen levels in the waters immediately surrounding the construction site, increased turbidity, and increased water body temperature due to increased suspended solids produced during construction that could absorb incident solar radiation. Temporary, minor water quality impacts could occur due to increased nutrient loading, miscellaneous debris, and accidental spills from construction equipment. Water quality impacts in the project area would be temporary during project construction and would be minimized by the movement of the tides and the use of silt curtains and other best management practices. Any Gulf Sturgeon in the area would be free to relocate during construction since the project area encompasses only a small section of shoreline of a 400,000-acre estuarine/brackish lake. Water quality in the project area would return to normal after construction completion. Water quality impacts are expected to be insignificant because they will be temporary and minimized by the use of silt curtains and other best management practices.

- 3) Sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.

The proposed action would result in localized sediment disturbance at the project area associated with the dredging of the construction access channels. However, the sediments disturbed from the dredging of the access channel would be returned to their original location upon project completion. The removal of sediments from the access and floatation channels would not impact the texture and other chemical characteristics necessary for the normal behavior, growth, and viability of Gulf Sturgeon life stages because the type of sediment presently occurring in the project area (silty sand) would not change with the depth of the material being removed. Sediment quality impacts are expected to be insignificant.

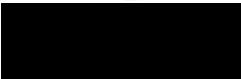
DETERMINATION

The CEMVN has reviewed the proposed project for its impacts to federally listed species and their DCH. The Corps has concluded the project may affect but is not likely to adversely affect the species and DCH listed in tables 1 and 2. This analysis was prepared based on the best scientific and commercial data available.

The CEMVN is requesting NMFS written concurrence with these determinations. The CEMVN appreciates your cooperation in completing this informal section 7 consultation by concurring with the effect determination(s) in a timely manner. If NMFS disagrees with the effect determination(s) and requests formal Section 7 consultation, please contact the below referenced Environmental Manager to discuss suggested modifications to the action to avoid potential adverse effects and NMFS' additional information needs. The CEMVN will continue to coordinate with NMFS office via email to provide the requested information and, if warranted, a revised effects determination.

If you have questions, please contact the Environmental Manager, Kip Runyon, at 314-331-8396 or kip.r.runyon@usace.army.mil.

Sincerely,



Brian Johnson
Chief, Environmental Compliance Branch
Regional Planning and Environmental Division North

Literature Cited

Fox, D., Hightower, J., & Parauka, F. (2002). Estuarine and Nearshore Marine Habitat Use by Gulf Sturgeon from the Choctawhatchee River System, Florida. *American Fisheries Society Symposium* (pp. 19-34). American Fisheries Society.

2.2 NMFS RESPONSE LETTER

Pending

2.3 U.S. FISH AND WILDLIFE SERVICE CONSULTATION



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO ATTENTION OF:
Regional Planning and Environmental Division North
Environmental Compliance Section (CEMVP-PD-C)

2 December 2019

SUBJECT: Informal Endangered Species Act Section 7 Consultation for the Lake Pontchartrain and Vicinity, Louisiana General Re-evaluation Report

Mr. Joseph A. Ranson
Field Supervisor
Louisiana Ecological Services Office
U.S. Fish and Wildlife Service
200 Dulles Drive
Lafayette, Louisiana 70506

Dear Mr. Ranson,

The U.S. Army Corps of Engineers, New Orleans District (CEMVN), is preparing the Lake Pontchartrain and Vicinity (LPV), Louisiana, General Re-evaluation Report to re-evaluate the performance of the LPV system (Figure 1) given the combined effects of consolidation, settlement, subsidence, and sea level rise over time, and determine if additional actions are recommended to address the economic and life safety risks associated with flooding due to hurricanes and coastal storms. The following evaluates the potential impacts to threatened and endangered species associated with project features (Figure 2). The measures that have been identified as part of the proposed action include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations, and construction access dredging for placement of foreshore protection.

The CEMVN has determined that the proposed project may affect but is not likely to adversely affect (NLAA) federally-listed species and their designated critical habitat, as described below, and is therefore requesting concurrence with our determinations pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1536), and the consultation procedures at 50 C.F.R. Part 402.

Pursuant to our request for informal consultation, CEMVN is providing, enclosing, or otherwise identifying the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species or designated critical habitat (DCH) that may be affected by the action; and

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

- An analysis of the potential routes of effect on any listed species or DCH

The CEMVN has reviewed the proposed project for its impacts to federally listed species. The CEMVN has concluded the project may affect but is not likely to adversely affect the West Indian manatee and pallid sturgeon. Gulf Sturgeon and five species of sea turtle also have potential to occur in the project area. CEMVN has requested the National Marine Fisheries Service to review and concur with the determination of not likely to adversely affect for those species. No West Indian manatee or pallid sturgeon designated critical habitat exists within the study area. This analysis was prepared based on the best scientific and commercial data available.

The CEMVN is requesting U.S. Fish and Wildlife Service (USFWS) written concurrence with these determinations. The CEMVN appreciates your cooperation in completing this informal section 7 consultation by concurring with the effect determinations in a timely manner. If USFWS disagrees with the effect determinations and requests formal Section 7 consultation, please contact the below-referenced Environmental Manager to discuss suggested modifications to the action to avoid potential adverse effects and additional information needs. The CEMVN will continue to coordinate with the USFWS via email to provide the requested information and, if warranted, a revised effects determination.

If you have questions, please contact the Environmental Manager, Kip Runyon, at 314-331-8396 or kip.r.runyon@usace.army.mil.

Sincerely,

A large black rectangular redaction box covering the signature of the sender.

✓
Brian Johnson
Chief, Environmental Compliance Branch
Regional Planning and Environmental Division North

PROPOSED ACTION

Description of the Project Purpose

Southeast Louisiana, including the Greater New Orleans area, is generally characterized by weak soils, general subsidence, and the global incidence of sea level rise that will cause levees and floodwalls to require future lifts to sustain performance. The proposed project purpose would be to provide the 1% level of risk reduction over the 50-year period of analysis within the Lake Pontchartrain and Vicinity study area (Figure 1).

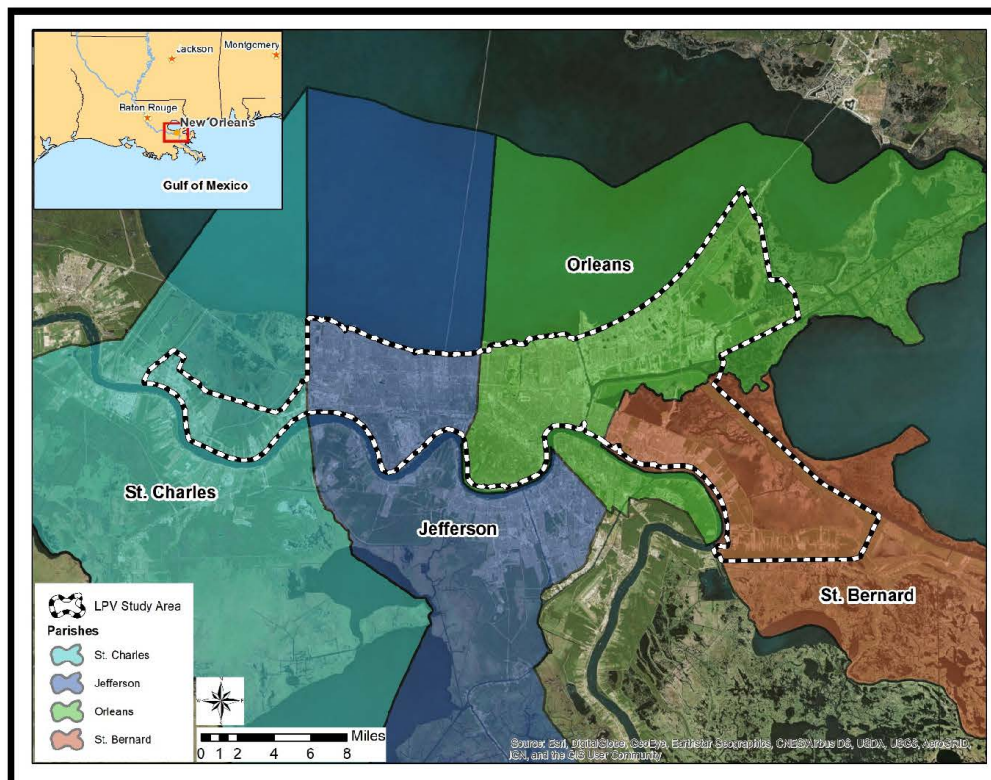


Figure 1. Study area location.

Action Area. For the purposes of this consultation, the CEMVN has defined the action area to include the immediate vicinity of the proposed project features as depicted in Figure 2 below. The action area includes portions of Lake Pontchartrain, Lake Borgne, and the Mississippi River as well as numerous bayous and canals in the Greater New Orleans area.

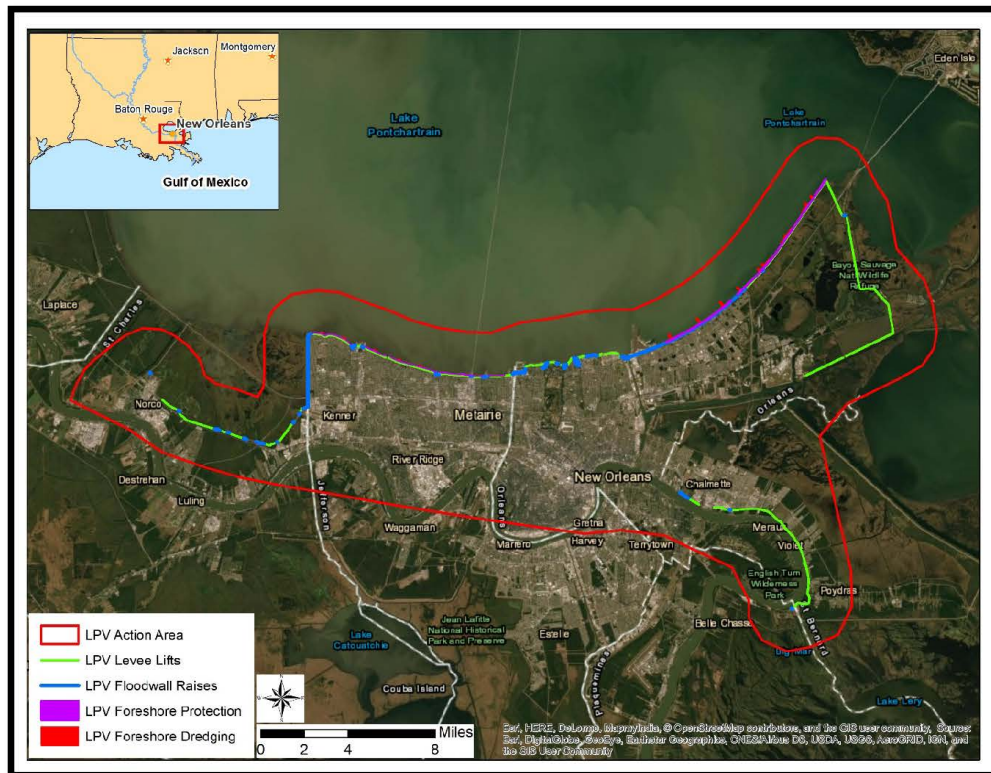


Figure 2. LPV Action Area and features.

Description of the Proposed Action. The LPV project includes features in four parishes (St. Charles, Jefferson, Orleans, and St. Bernard) located in the greater New Orleans area on the east bank of the Mississippi River. Currently, LPV contains a total of approximately 126.5 miles of levees and floodwalls. There are approximately 83 miles of armored perimeter levees and floodwalls and approximately 43.5 miles of interior levees and floodwalls. The project is in a high-density residential and commercial area. The proposed action would include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations along the shore of Lake Pontchartrain, and construction access dredging for placement of foreshore protection.

The proposed floodwall increases would occur within the existing floodwall footprints. The proposed foreshore protection would also be placed within the existing footprint of the foreshore protection along the Lake Pontchartrain shoreline. Construction access dredging and adjacent temporary stockpiling would be required to provide adequate depth for construction equipment to reach the Lake Pontchartrain shoreline. Construction access channels and adjacent stockpile locations would be returned to pre-construction elevations subsequent to construction.

completion. Most of the proposed levee lifts would occur along the alignment of the existing levees. However, for the Mississippi River levee expansions, initial design estimates indicate an additional 25 feet would be required on the flood side for construction. These floodside levee shifts would impact approximately 26.9 acres of bottomland hardwood-wet habitat. The exact quantity of fill, acres, and locations would be refined through feasibility level of design.

Construction would not be expected to commence until 2021 at the earliest and would be dependent upon congressional authorization and appropriations. Levee lifts would be conducted in multiple lifts over the course of the 50-year period of analysis. Lift schedules would vary by location and by the corresponding rates of subsidence. Floodwall lifts would only occur once per location but the timing would vary.

MEASURES TAKEN TO MINIMIZE IMPACTS TO LISTED SPECIES

The following conservation measures shall be implemented to avoid and minimize impacts to listed species:

- Silt curtains and other best management practices would be employed during construction
- Manatee protection measures would be followed

AFFECTED SPECIES AND HABITAT

The CEMVN requested the official species list via the ECOS-IPaC website (<http://ecos.fws.gov/ipac/>), dated 23 September 2019. USFWS provided a list of federally threatened and endangered species that could potentially be found in the study area (St. Charles, Jefferson, Orleans, and St. Bernard Parishes). The species, federal protection status and habitat can be found in Table 1. No critical habitat for these species has been designated in the study area. The CEMVN is consulting with the NMFS for potential effects on Gulf Sturgeon and sea turtles and further analysis is not included here.

Table 1. Federally listed species potentially occurring in the action area

Species	Status	Listing Rule/ Date	Habitat	Potential to Occur in the Study Area
MAMMALS				
West Indian manatee (<i>Trichechus manatus</i>)	Threatened	82 FR 16668/ April 5, 2017	Freshwater, brackish, and saltwater warm water environments. Large, slow-moving rivers, river mouths, and shallow coastal areas	Lakes Pontchartrain and Borgne, Bayou Dupre, Bayou Bienvenue, GIWW, and IHNC
FISHES				

Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	55 FR 36641 36647/ September 6, 1990	Large river obligate fish inhabiting the Missouri and Mississippi rivers and some tributaries	Mississippi River
---	------------	---	--	----------------------

ROUTES OF EFFECT TO SPECIES

The following section includes a status description of each species and how it might be affected by project elements as well as the determination of effects for each species. The effects determination took into account implementation of the conservation measures listed above.

West Indian Manatee

Status. The West Indian Manatee is listed as threatened under the Endangered Species Act. The manatee is also protected at the Federal level under the Marine Mammal Protection Act of 1972. Manatees are herbivores found in marine, brackish, and freshwater environments. They prefer large, slow-moving rivers, river mouths, and shallow coastal areas. The manatee often rests suspended just below the water's surface with only the snout above water. Historically, manatees were hunted for their flesh, bones, and hide. Hunting is thought to be largely responsible for the initial decline of this species; however, hunting is no longer allowed. Today, the greatest threat is collisions with boats and loss of warm water habitat. Flood gates and canal locks can kill manatees either by crushing them or drowning them¹.



Sightings in Louisiana, which have been uncommon and sporadic, have included occurrences in Lake Pontchartrain and surrounding water bodies. Between 1997 and 2000, 16 manatee sightings were reported in the Lake Pontchartrain area with a general increase in the number of manatees per sighting (Abadie, Brantley, Mickal, & Shively, 2000). Sightings of the manatee in the Lake Pontchartrain Basin have increased in recent years, and in late July 2005, 20 to 30 manatees were observed in the lake during aerial surveys (Powell & Taylor, 2005).

Effects Determination. Direct minor, short-term, impacts on water quality from construction activities in Lake Pontchartrain may include increased turbidity and increased water body temperature due to increased suspended solids produced during construction that could absorb incident solar radiation. Temporary, minor water quality impacts could occur due to increased nutrient loading, miscellaneous debris, and accidental spills from construction equipment. Water quality impacts in the project area would be temporary during project construction and would be minimized by the movement of the tides and the use of silt curtains and other best management practices. Water quality in the project area would return to normal after construction completion. Water quality impacts are expected to be insignificant because they

¹ USFWS (2008). West Indian Manatee Fact Sheet. USFWS. Available online at <https://www.fws.gov/endangered/esa-library/pdf/manatee.pdf> Accessed online 5 September 2019.

will be temporary and minimized by the use of silt curtains and other best management practices.

In an effort to avoid impacts to manatees that may possibly use the project area during project construction, manatee protection measures would be implemented. These measures include, but are not limited to, reducing vessel traffic speed, posting signs of the potential presence of manatees, and halting construction activities in the event a manatee is observed in the area.

We conclude the proposed Lake Pontchartrain and Vicinity project may affect, but is not likely to adversely affect, West Indian manatee.

Pallid Sturgeon

Status. Pallid sturgeon are a federally listed endangered large river fish species that is found in the Mississippi River. They are bottom dwelling, slow growing fish that feed primarily on small fish and immature aquatic insects. Their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars of large rivers. The riverine habitat for the pallid sturgeon has been altered due to impoundment, channelization, and environmental contamination leading to species decline².

Effects Determination. Minor, short-term adverse effects from implementing the proposed project are anticipated. The proposed actions along the Mississippi River are not expected to directly affect the pallid sturgeon due to the use of land-based construction. Less than significant direct impacts to the bottomland hardwood habitat adjacent to the Mississippi River levees are anticipated at this time. The proposed activities may result in indirect, temporary short-term effects due to increases in turbidity during construction; however, best management practices would be implemented to reduce impacts to water quality and would result in less than significant impacts.

We conclude the proposed Lake Pontchartrain and Vicinity project may affect, but is not likely to adversely affect, pallid sturgeon.



Photo by South Dakota Game, Fish and Parks; Sam Stukel

² USFWS (2019). Pallid Sturgeon Fact Sheet. USFWS. Available online at https://www.fws.gov/midwest/endangered/fishes/PallidSturgeon/pallid_fc.html Accessed 5 September 2019.

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

Prepared By:
Kip Runyon
Environmental Planning
U.S. Army Corps of Engineers
Regional Planning and Environmental Division North
1222 Spruce Street
St. Louis, MO 63103

Works Cited

Abadie, S., Brantley, C., Mickal, S., & Shively, S. (2000). Distribution of the Manatee (*Trichechus manatus*) in the Lake Pontchartrain Estuarine System. *Basics of the Basin Research Symposium*.

Powell, J., & Taylor, C. (2005). Newsletter of the IUCN/SSC Sirenia Specialist Group. Number 44.

2.4 USFWS RESPONSE LETTER

Pending

2.5 OFFICAL SPECIES LIST: 23 SEPT 2019



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
646 Cajundome Boulevard, Suite 400
Lafayette, LA 70506-4290
Phone: (337) 291-3100 Fax: (337) 291-3139



In Reply Refer To:

September 23, 2019

Consultation Code: 04EL1000-2019-SLI-0612

Event Code: 04EL1000-2019-E-01464

Project Name: Lake Pontchartrain and Vicinity General Re-Evaluation Report

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered and candidate species, as well as designated and proposed critical habitat that may occur within the boundary of your proposed project and may be affected by your proposed project. The Fish and Wildlife Service (Service) is providing this list under section 7 (c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Changes in this species list may occur due to new information from updated surveys, changes in species habitat, new listed species and other factors. Because of these possible changes, feel free to contact our office (337/291-3126) for more information or assistance regarding impacts to federally listed species. The Service recommends visiting the ECOS-IPaC site or the Louisiana Ecological Services website (www.fws.gov/lafayette) at regular intervals during project planning and implementation for updated species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

09/23/2019

Event Code: 04EL1000-2019-E-01464

2

affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected (e.g. adverse, beneficial, insignificant or discountable) by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the “Endangered Species Consultation Handbook” at <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF> or by contacting our office at the number above.

Bald eagles have recovered and were removed from the List of Endangered and Threatened Species as of August 8, 2007. Although no longer listed, please be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 *et seq.*). The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute “disturbance,” which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: <http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf>. Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. On-site personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest occurs or is discovered within or adjacent to 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 at: <http://www.fws.gov/southeast/es/baldeagle>. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting any necessary consultation. Should you need further assistance interpreting the guidelines or performing an on-line project evaluation, please contact this office.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g. cellular, digital television, radio and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> ; <http://www.towerkill.com>; and <http://fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Activities that involve State-designated scenic streams and/or wetlands are regulated by the Louisiana Department of Wildlife and Fisheries and the U.S. Army Corps of Engineers, respectively. We, therefore, recommend that you contact those agencies to determine their interest in proposed projects in these areas.

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

09/23/2019

Event Code: 04EL1000-2019-E-01464

3

Activities that would be located within a National Wildlife Refuge are regulated by the refuge staff. We, therefore, recommend that you contact them to determine their interest in proposed projects in these areas.

Additional information on Federal trust species in Louisiana can be obtained from the Louisiana Ecological Services website at: www.fws.gov/lafayette or by calling 337/291-3100.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Louisiana Ecological Services Field Office
646 Cajundome Boulevard, Suite 400
Lafayette, LA 70506-4290
(337) 291-3100

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

09/23/2019

Event Code: 04EL1000-2019-E-01464

2

Project Summary

Consultation Code: 04EL1000-2019-SLI-0612

Event Code: 04EL1000-2019-E-01464

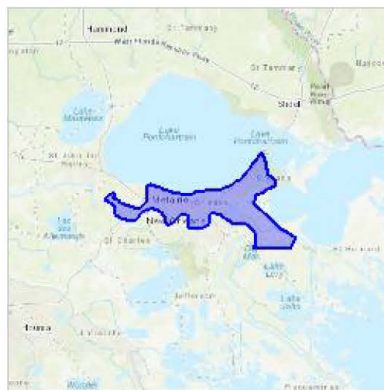
Project Name: Lake Pontchartrain and Vicinity General Re-Evaluation Report

Project Type: STREAM / WATERBODY / CANALS / LEVEES / DIKES

Project Description: The U.S. Army Corps of Engineers, New Orleans District (CEMVN), is preparing the Lake Pontchartrain and Vicinity (LPV), Louisiana General Re-evaluation Report to re-evaluate the performance of the LPV system given the combined effects of consolidation, settlement, subsidence, and sea level rise over time, and determine if additional actions are recommended to sustain the current 1% level of risk reduction for coastal storms. The measures that have been identified as part of the proposed action include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations, and construction access dredging for placement of foreshore protection.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/30.000621499999465N90.09144511498975W>



Counties: Jefferson, LA | Orleans, LA | Plaquemines, LA | St. Bernard, LA | St. Charles, LA

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
West Indian Manatee <i>Trichechus manatus</i> There is final critical habitat for this species. Your location is outside the critical habitat. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

Fishes

NAME	STATUS
Atlantic Sturgeon (gulf Subspecies) <i>Acipenser oxyrinchus (=oxyrhynchus) desotoi</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/651	Threatened
Pallid Sturgeon <i>Scaphirhynchus albus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered

Lake Pontchartrain & Vicinity General Re-Evaluation Report

DRAFT

09/23/2019

Event Code: 04EL1000-2019-E-01464

4

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Atlantic Sturgeon (gulf Subspecies) <i>Acipenser oxyrinchus</i> (=oxyrhynchus) <i>desotoi</i> https://ecos.fws.gov/ecp/species/651#crithab	Final

3 COASTAL ZONE MANAGMENT ACT COMPLIANCE

3.1 INTRODUCTION

Section 307 of the Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et. seq. requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In accordance with Section 307, a Consistency Determination has been prepared for the proposed Lake Pontchartrain and Vicinity General Reevaluation Report. The USACE is preparing the study under the authority of Section 3017 of WRRDA 2014. Public Law 115-123 (Bipartisan Budget Act of 2018) funded the study as a new start. The proposed action is located in St. Charles, Jefferson, Orleans, and St. Bernard parishes in southeast Louisiana (Figure 1).

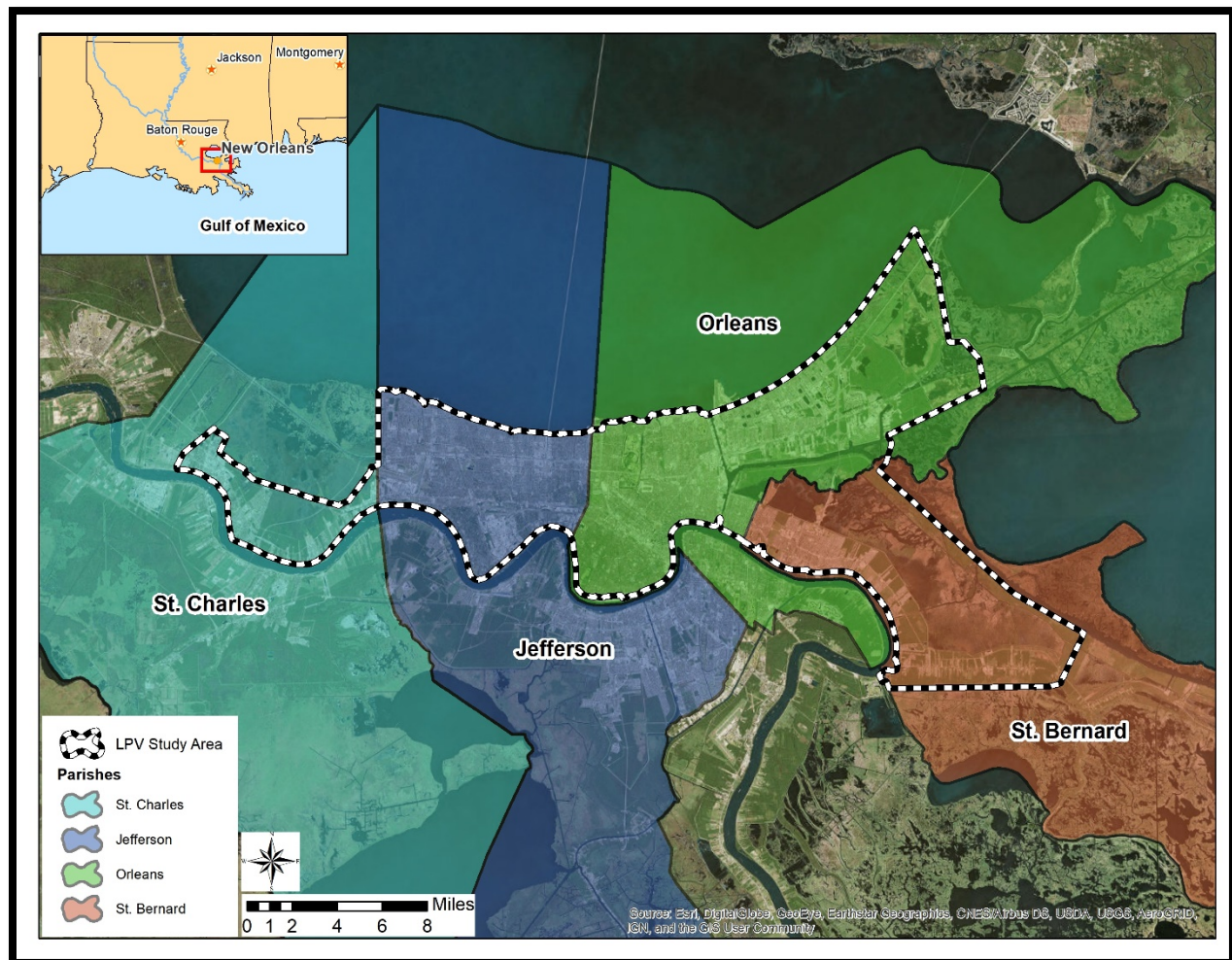


Figure 1. Location of the Study Area in relation to parishes.

3.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Southeast Louisiana, including the Greater New Orleans area, is generally characterized by weak soils, general subsidence, and the global incidence of sea level rise that will cause levees to require future lifts to sustain performance of the system. The project authority did not provide for future lifts. Absent future levee lifts to offset consolidation, settlement, subsidence, and sea level rise, risk to life and property in the Greater New Orleans area will progressively increase. The LPV study seeks to determine if the work necessary to sustain the 1% level of risk reduction is technically feasible, environmentally acceptable, and economically justified. A positive determination would make construction of future levee lifts eligible for future budget requests.

3.3 DESCRIPTION OF THE PROPOSED ACTION

The LPV project includes features in four parishes (St. Charles, Jefferson, Orleans, and St. Bernard) located in the greater New Orleans area on the east bank of the Mississippi River. Currently, LPV contains a total of approximately 126.5 miles of levees and floodwalls. There are approximately 83 miles of armored perimeter levees and floodwalls and approximately 43.5 miles of interior levees and floodwalls. The project is in a high-density residential and commercial area. The proposed action would include lifts to existing levees, raising of existing flood walls, placement of foreshore protection in existing foreshore protection locations along the shore of Lake Pontchartrain, and construction access dredging for placement of foreshore protection.

The proposed levee lifts would occur along the alignment of the existing levees. The proposed floodwall increases would occur within the existing floodwall footprints. The proposed foreshore protection would also be placed within the existing footprint of the foreshore protection along the Lake Pontchartrain shoreline. Construction access dredging and adjacent temporary stockpiling would be required to provide adequate depth for construction equipment to reach the Lake Pontchartrain shoreline. Construction access channels and adjacent stockpile locations would be returned to pre-construction elevations subsequent to construction completion. See Figure 2 for feature locations.

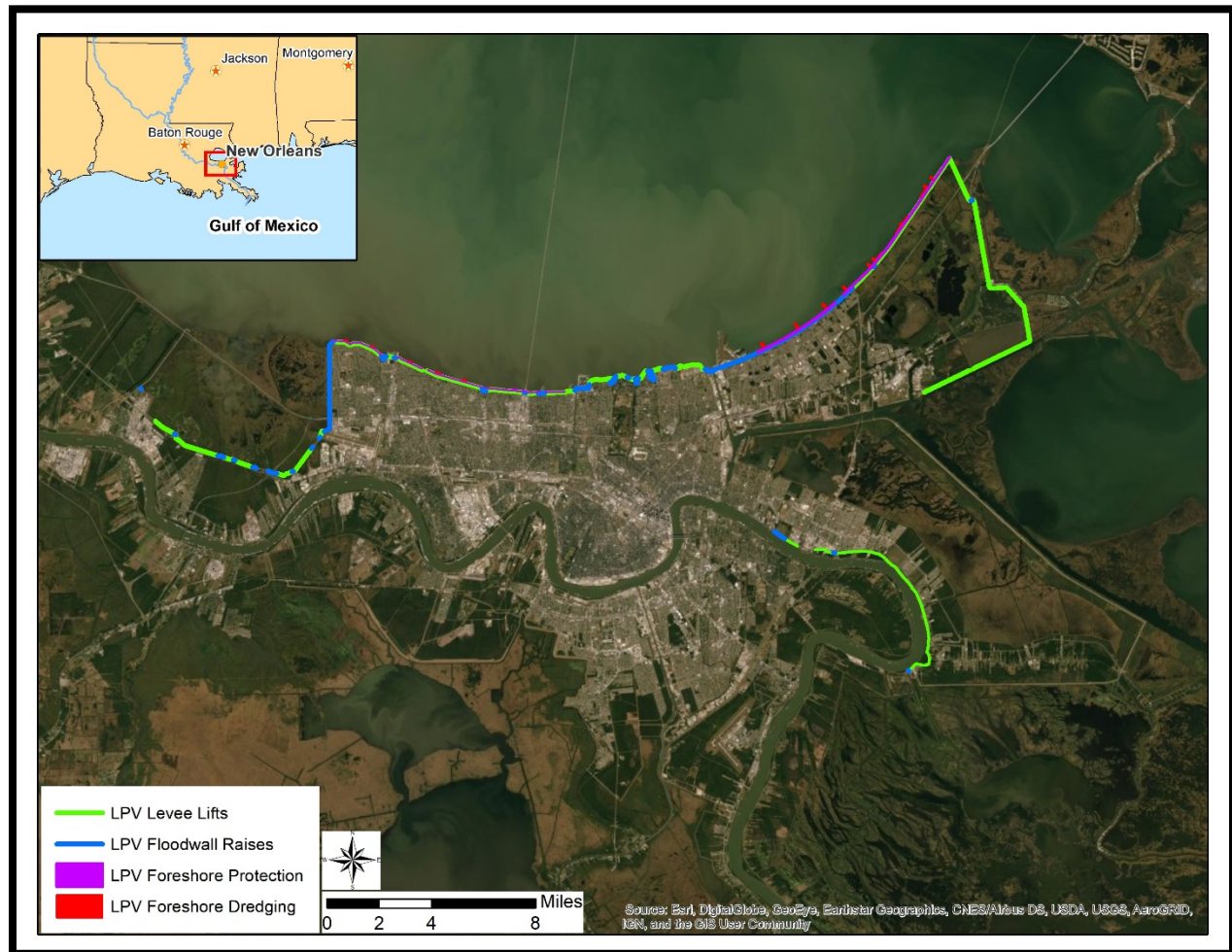


Figure 2. Proposed Action feature locations.

Construction would not be expected to commence until 2021 at the earliest and would be dependent upon congressional authorization and appropriations. Levee lifts would be conducted in multiple lifts over the course of the 50-year period of analysis. Lift schedules would vary by location and by the corresponding rates of subsidence. Floodwall lifts would only occur once per location but the timing would vary.

Placement of the stone foreshore protection along the shoreline of Lake Pontchartrain would result in filling approximately 75.1 acres of aquatic habitat. However, the stone would be placed on the existing foreshore protection footprint to bring it back up to the required elevation. Stone would be transported by barge to the project area. Stone would be placed by crane-operated skip-pan, dragline bucket, clamshell, rock-bucket, hydraulic excavator, trackhoe, or other similar equipment.

Construction access dredging and associated temporary stockpiling would impact approximately 212.5 acres of aquatic habitat. This impact would be temporary as areas would be returned to pre-project conditions after construction. Material would be dredged from the bed of Lake Pontchartrain with a bucket dredge. Construction access channels would consist of parallel

channels at the shoreline in areas where rock would be placed as well as perpendicular access channels to allow access to the shoreline channels (see Figure 2). The dimensions required for barge access channels would be approximately -7 feet depth with 100-foot bottom width. Perpendicular access channels would begin at the elevation -7 ft contour of the lake and extend 400 to 1600 ft. Adjacent dredged material stockpile sites would be 150 ft wide.

3.4 GUIDELINES APPLICABLE TO ALL USES

Guideline 1.1 The guidelines must be read in their entirety. Any proposed use may be subject to the requirements of more than one guideline or section of guidelines and all applicable guidelines must be complied with.

Guideline 1.2 Conformance with applicable water and air quality laws, standards and regulations, and with those other laws, standards and regulations which have been incorporated into the coastal resources program shall be deemed in conformance with the program except to the extent that these guidelines would impose additional requirements.

Guideline 1.3 The guidelines include both general provisions applicable to all uses and specific provisions applicable only to certain types of uses. The general guidelines apply in all situations. The specific guidelines apply only to the situations they address. Specific and general guidelines should be interpreted to be consistent with each other. In the event there is an inconsistency, the specific should prevail.

Guideline 1.4 These guidelines are not intended to nor shall they be interpreted so as to result in an involuntary acquisition or taking of property.

Guideline 1.5 No use or activity shall be carried out or conducted in such a manner as to constitute a violation of the terms of a grant or donation of any lands or water-bottoms to the State or any subdivision thereof. Revocations of such grants and donations shall be avoided.

Guideline 1.6 Information regarding the following general factors shall be utilized by the permitting authority in evaluating whether the proposed use is in compliance with the guidelines.

- a) type, nature and location of use.
- b) elevation, soil and water conditions and flood and storm hazard characteristics of site.
- c) techniques and materials used in construction, operation and maintenance of use.
- d) existing drainage patterns and water regimes of surrounding area including flow, circulation, quality, quantity and salinity; and impacts on them.
- e) availability of feasible alternative sites or methods – for implementing the use.
- f) designation of the area for certain uses as part of a local program.
- g) economic need for use and extent of impacts of use on economy of locality.
- h) extent of resulting public and private benefits.
- i) extent of coastal water dependency of the use.
- j) existence of necessary infrastructure to support the use and public costs resulting from use.
- k) extent of impacts on existing and traditional uses of the area and on future uses for which the area is suited.

- l) proximity to, and extent of impacts on important natural features such as beaches, barrier islands, tidal passes, wildlife and aquatic habitats, and forest lands.
- m) the extent to which regional, state and national interests are served including the national interest in resources and the siting of facilities in the coastal zones as identified in the coastal resources program.
- n) proximity to, and extent of impacts on, special areas, particular areas, or other areas of particular concern of the state program or local programs.
- o) likelihood of, and extent of impacts of, resulting secondary impacts and cumulative impacts.
- p) proximity to and extent of impacts on public lands or works, or historic, recreational or cultural resources.
- q) extent of impacts on navigation, fishing, public access, and recreational opportunities.
- r) extent of compatibility with natural and cultural setting.
- s) extent of long term benefits or adverse impacts.

Guideline 1.7 It is the policy of the coastal resources program to avoid the following adverse impacts. To this end, all uses and activities shall be planned, sited, designed, constructed, operated and maintained to avoid to the maximum extent practicable significant:

- a) reductions in the natural supply of sediment and nutrients to the coastal system by alterations of freshwater flow.
- b) adverse economic impacts on the locality of the use and affected governmental bodies.
- c) detrimental discharges of inorganic nutrient compounds into coastal waters.
- d) alterations in the natural concentration of oxygen in coastal waters.
- e) destruction or adverse alterations of streams, wetland, tidal passes, inshore waters and waterbottoms, beaches, dunes, barrier islands, and other natural biologically valuable areas or protective coastal features.
- f) adverse disruption of existing social patterns.
- g) alterations of the natural temperature regime of coastal waters.
- h) detrimental changes in existing salinity regimes.
- i) detrimental changes in littoral and sediment transport processes.
- j) adverse effects of cumulative impacts.
- k) detrimental discharges of suspended solids into coastal waters, including turbidity resulting from dredging.
- l) reductions or blockage of water flow or natural circulation patterns within or into an estuarine system or a wetland forest.
- m) discharges of pathogens or toxic substances into coastal waters.
- n) adverse alteration or destruction of archaeological, historical, or other cultural resources.
- o) fostering of detrimental secondary impacts in undisturbed or biologically highly productive wetland areas.
- p) adverse alteration or destruction of unique or valuable habitats, critical habitat for endangered species, important wildlife or fishery breeding or nursery areas, designated wildlife management or sanctuary areas, or forestlands.
- q) adverse alteration or destruction of public parks, shoreline access points, public works, designated recreation areas, scenic rivers, or other areas of public use and concern.

- r) adverse disruptions of coastal wildlife and fishery migratory patterns.
- s) land loss, erosion and subsidence.
- t) increases in the potential for flood, hurricane or other storm damage, or increases in the likelihood that damage will occur from such hazards.
- u) reductions in the long-term biological productivity of the coastal ecosystem.

Guideline 1.8 In those guidelines in which the modifier "maximum extent practicable" is used, the proposed use is in compliance with the guideline if the standard modified by the term is complied with. If the modified standard is not complied with, the use will be in compliance with the guideline if the permitting authority finds, after a systematic consideration of all pertinent information regarding the use, the site and the impacts of the use as set forth in guideline 1.6, and a balancing of their relative significance, that the benefits resulting from the proposed use would clearly outweigh the adverse impacts resulting from non-compliance with the modified standard and there are no feasible and practical alternative locations, methods and practices for the use that are in compliance with the modified standard and:

- a) significant public benefits will result from the use, or;
- b) the use would serve important regional, state or national interests, including the national interest in resources and the siting of facilities in the coastal zone identified in the coastal resources program, or;
- c) the use is coastal water dependent.

The systematic consideration process shall also result in a determination of those conditions necessary for the use to be in compliance with the guideline. Those conditions shall assure that the use is carried out utilizing those locations, methods and practices which maximize conformance to the modified standard; are technically, economically, environmentally, socially and legally feasible and practical and minimize or offset those adverse impacts listed in guideline 1.7 and in the guideline at issue.

Guideline 1.9 Uses shall to the maximum extent practicable be designed and carried out to permit multiple concurrent uses which are appropriate for the location and to avoid unnecessary conflicts with other uses of the vicinity.

Guideline 1.10 These guidelines are not intended to be, nor shall they be, interpreted to allow expansion of governmental authority beyond that established by La. R.S. 49:213.1 through 213.21, as amended; nor shall these guidelines be interpreted so as to require permits for specific uses legally commenced or established prior to the effective date of the coastal use permit program nor to normal maintenance or repair of such uses.

Response: These guidelines are acknowledged and have been addressed through the preparation of responses to the guidelines contained within the specific use categories below.

3.5 GUIDELINES FOR LEVEES

Guideline 2.1 The leveeing of unmodified or biologically productive wetlands shall be avoided to the maximum extent practicable.

Response: The project involves raising existing levees and floodwalls. Construction activities would occur along the alignment of existing levees and floodwalls. As a result, most impacts to

wetlands would be avoided. However, potential wetland impacts would occur with lifts associated with Mississippi River levees due to the necessity to expand the levees to the flood side, thereby impacting bottomland hardwood-wet habitat (Figure 3). These impacts would be avoided to the maximum extent practicable but would be unavoidable in some locations due to infrastructure on the protected side of the levees. Jurisdictional wetlands would be avoided when designating borrow sites and as a result no impacts to wetlands are anticipated.

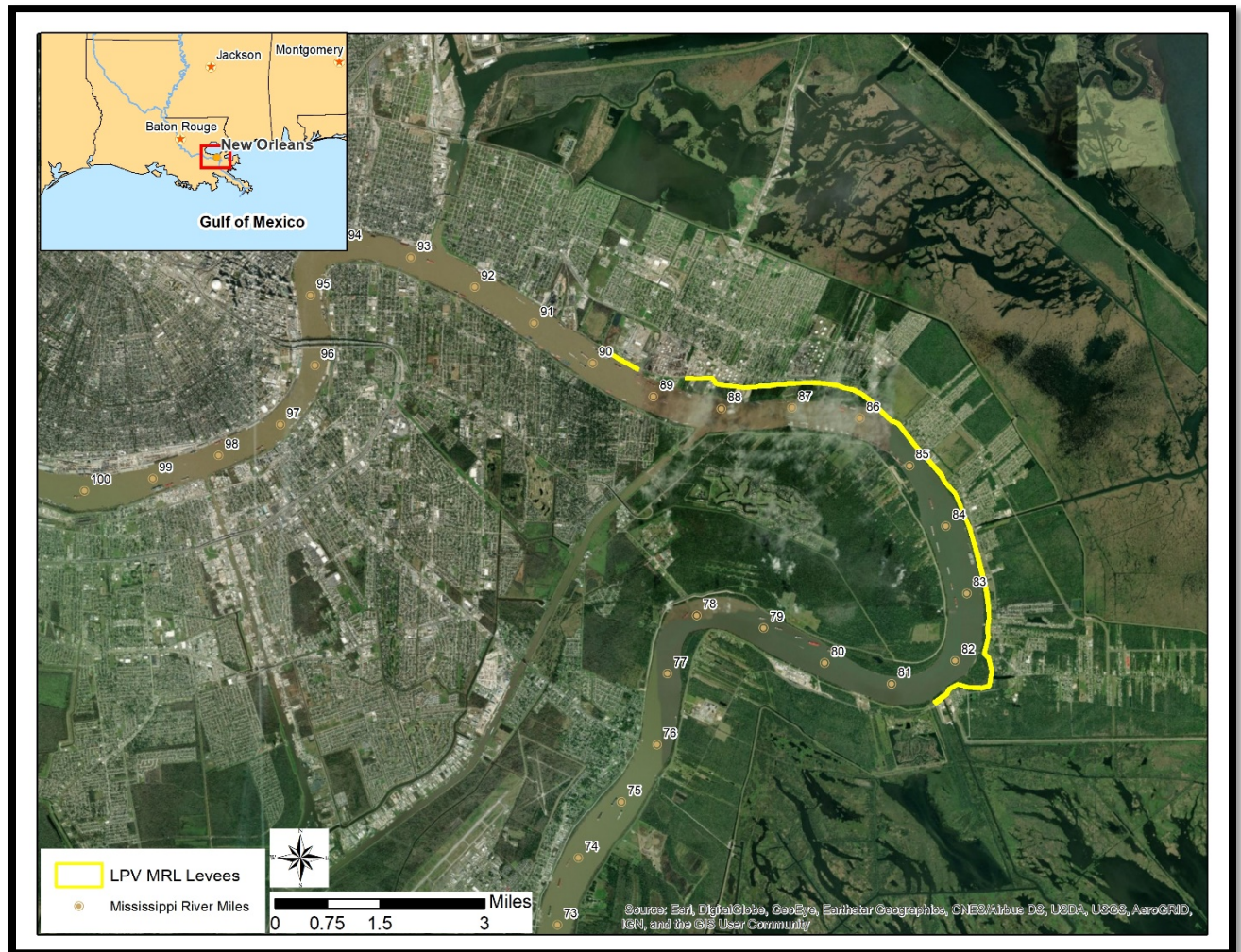


Figure 3. Location of Mississippi River levee lifts.

Guideline 2.2 Levees shall be planned and sited to avoid segmentation of wetland areas and systems to the maximum extent practicable.

Response: The project involves raising existing levees and floodwalls. Construction activities would occur along the alignment of existing levees and floodwalls and as a result no new segmentation of wetland areas and systems is anticipated.

Guideline 2.3 Levees constructed for the purpose of developing or otherwise changing the use of a wetland area shall be avoided to the maximum extent practicable.

Response: The project involves raising existing levees and floodwalls to maintain the authorized level of coastal storm risk reduction. Large sections of the project area are heavily developed for urban and industrial uses, but undeveloped wetlands are abundant in some areas. Wetlands that remain within the project area are subject to local, state, and federal permitting and zoning requirements including the Coastal Zone Management Program and the regulatory procedures of the Clean Water Act. Local, state, and federal interests would be responsible for regulating land development and, therefore, for defining mitigation requirements. Development and change of use would be regulated through these programs.

Guideline 2.4 Hurricane and flood protection levees shall be located at the non-wetland/wetland interface or landward to the maximum extent practicable.

Response: The project involves raising existing levees and floodwalls. Construction activities would occur along the alignment of existing levees and floodwalls and as a result no new impacts to wetlands are anticipated in the footprint of the levees or floodwalls or associated construction areas. In areas where an expansion of the levee footprint is required, wetland impacts would be avoided to the maximum extent practicable. In some areas of Mississippi River levees, a floodside shift and associated wetland impacts are unavoidable (Figure 3).

Guideline 2.5 Impoundment levees shall only be constructed in wetland areas as part of approved water or marsh management projects or to prevent release of pollutants.

Response: Not applicable

Guideline 2.6 Hurricane or flood protection levee systems shall be designed, built and thereafter operated and maintained utilizing best practical techniques to minimize disruptions of existing hydrologic patterns, and the interchange of water, beneficial nutrients and aquatic organisms between enclosed wetlands and those outside the levee system.

Response: The project involves raising existing levees and floodwalls to maintain the authorized level of coastal storm risk reduction. Construction activities would occur along the alignment of existing levees and floodwalls and no changes to existing hydrologic patterns or the interchange of water, beneficial nutrients, or aquatic organisms are anticipated.

3.6 GUIDELINES FOR LINEAR FACILITIES

Guideline 3.1 Linear use alignments shall be planned to avoid adverse impacts on areas of high biological productivity or irreplaceable resource areas.

Response: The project involves raising existing levees and floodwalls to maintain the authorized level of coastal storm risk reduction and, therefore, would utilize existing linear corridors for construction. No impacts to areas of high biological productivity or irreplaceable resources are anticipated.

Guideline 3.2 Linear facilities involving the use of dredging or filling shall be avoided in wetland and estuarine areas to the maximum extent practicable.

Response: The project involves raising existing levees and floodwalls to maintain the authorized level of coastal storm risk reduction and, therefore, would utilize existing linear corridors for levee construction. However, water-based construction would be required for construction of the foreshore protection along the shore of Lake Pontchartrain. In order to allow construction equipment to access the shoreline, construction access channels would be dredged and dredged material would be temporarily stockpiled adjacent to the channels. Construction access channels and stockpile areas would be brought back to original elevations subsequent to completion of construction activities. In addition, rock foreshore protection would be placed on top of existing foreshore protection in Lake Pontchartrain to bring the stone back up to the required elevation for proper levee protection. See Figures 4 and 5 below for foreshore protection and construction access dredging areas.



Figure 4. Foreshore protection placement and construction access dredging areas.

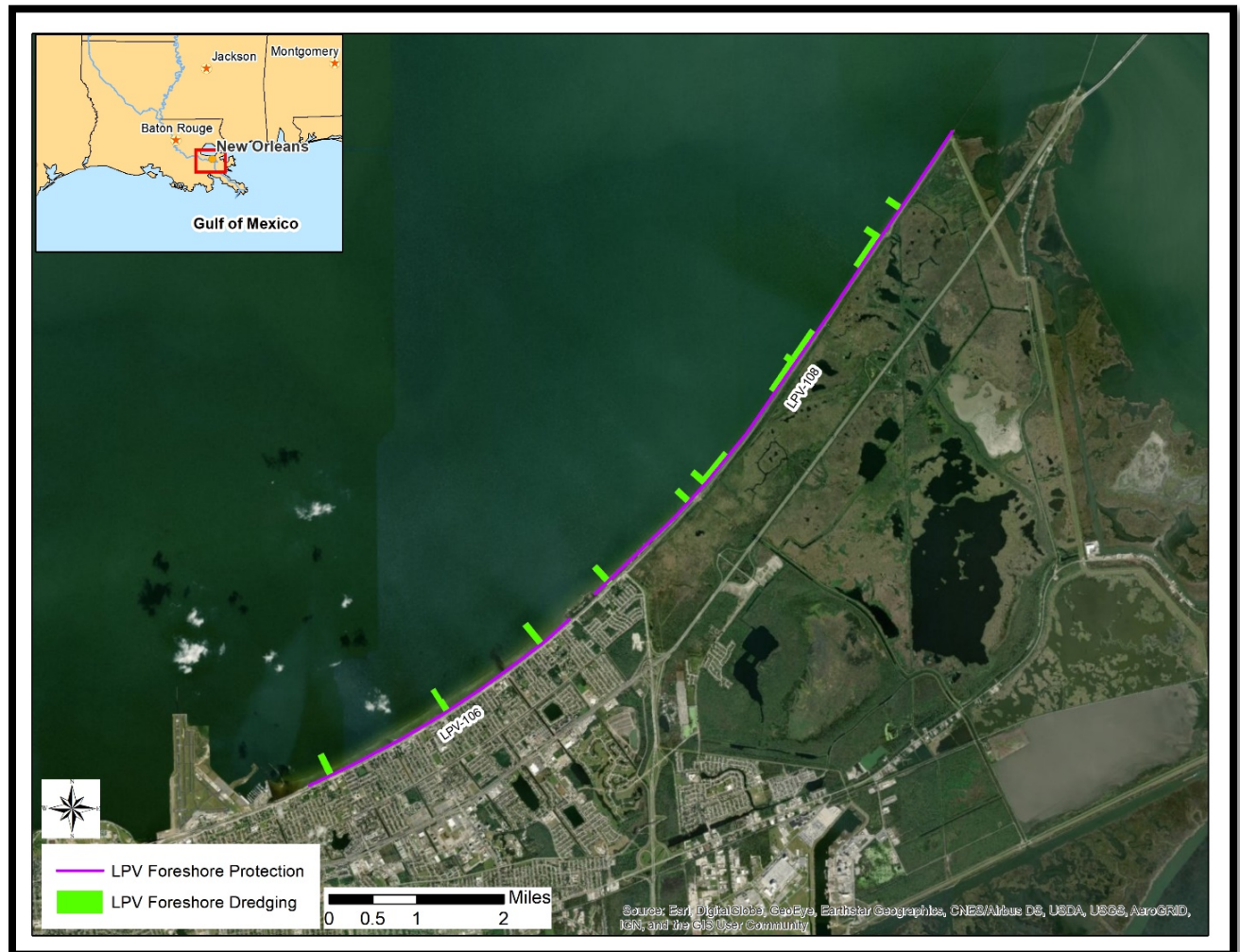


Figure 5. Foreshore protection placement and construction access dredging areas.

Guideline 3.3 Linear facilities involving dredging shall be of the minimum practical size and length.

Response: Dredging to provide access for construction activities along the Lake Pontchartrain shoreline would be of the minimum practical size and length to allow barge and tow access to the shoreline.

Guideline 3.4 To the maximum extent practicable, pipelines shall be installed through the "push ditch" method and the ditch backfilled.

Response: Not applicable.

Guideline 3.5 Existing corridors, rights-of-way, canals, and streams shall be utilized to the maximum extent practicable for linear facilities.

Response: The use of existing corridors and rights-of-way has been and would continue to be implemented throughout the design and construction process.

Guideline 3.6 Linear facilities and alignments shall be, to the maximum extent practicable, designed and constructed to permit multiple uses consistent with the nature of the facility.

Response: Existing linear corridors would be used and would be designed and constructed to permit multiple uses consistent with the existing nature of the facilities.

Guideline 3.7 Linear facilities involving dredging shall not traverse or adversely affect any barrier island.

Response: Not applicable.

Guideline 3.8 Linear facilities involving dredging shall not traverse beaches, tidal passes, protective reefs or other natural gulf shoreline unless no other alternative exists. If a beach, tidal pass, reef or other natural gulf shoreline must be traversed for a non-navigation canal, they shall be restored at least to their natural condition immediately upon completion of construction. Tidal passes shall not be permanently widened or deepened except when necessary to conduct the use. The best available restoration techniques which improve the traversed area's ability to serve as a shoreline shall be used

Response: Not applicable.

Guideline 3.9 Linear facilities shall be planned, designed, located and built using the best practical techniques to minimize disruption of natural hydrologic and sediment transport patterns, sheet flow, and water quality, and to minimize adverse impacts on wetlands.

Response: The project involves raising existing levees and floodwalls to maintain the authorized level of coastal storm risk reduction and, therefore, would utilize existing linear corridors for construction. The project also involves placement of foreshore protection and associated construction access dredging in Lake Pontchartrain. Minor, short-term, impacts on water quality from construction activities may include decreased dissolved oxygen levels in the waters immediately surrounding the construction site, increased turbidity due to construction runoff and sedimentation, and increased water body temperature due to increased suspended solids produced during construction that could absorb incident solar radiation. Temporary, minor water quality impacts could occur due to increased nutrient loading, miscellaneous debris, and accidental spills from construction equipment. Impacts would be minimized by use of silt curtains and other best management practices. Prior to construction, the National Pollutant Discharge Elimination System (NPDES) permit process would be completed and a General Stormwater Permit would be required. Contractors would need a site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) in place prior to the start of construction. After construction, conditions would be expected to stabilize and return to conditions similar to pre-construction. No new impacts to wetlands are anticipated in the footprint of the levees or floodwalls or associated construction areas. However, potential wetland impacts would occur with lifts associated with Mississippi River levees due to the necessity to expand the levees to the flood side, thereby impacting bottomland hardwood-wet habitat (Figure 3). These impact would be avoided to the maximum extent practicable but would be unavoidable in some locations due to infrastructure on the protected side of the levees.

Guideline 3.10 Linear facilities shall be planned, designed, and built using the best practical techniques to prevent bank slumping and erosion, saltwater intrusion, and to minimize the potential for inland movement of storm-generated surges. Consideration shall be given to the use of locks in navigation canals and channels which connect more saline areas with fresher areas.

Response: The levees and floodwalls of the existing system and the proposed levee and floodwall raises are designed to protect against storm events, specifically storm generated surges and related saltwater intrusion and are designed using best practical techniques to prevent bank slumping and erosion. No modifications to navigation locks are proposed.

Guideline 3.11 All non-navigation canals, channels, and ditches which connect more saline areas with fresher areas shall be plugged at all waterway crossings and at intervals between crossings in order to compartmentalize them. The plugs shall be properly maintained.

Response: Not applicable.

Guideline 3.12 The multiple use of existing canals, directional drilling, and other practical techniques shall be utilized to the maximum extent practicable to minimize the number and size of access canals, to minimize changes of natural systems and to minimize adverse impacts on natural areas and wildlife and fisheries habitat.

Response: Not applicable.

Guideline 3.13 All pipelines shall be constructed in accordance with parts 191, 192, and 195 of Title 49 of the Code of Federal Regulations, as amended, and in conformance with the Commissioner of Conservation's Pipeline Safety Rules and Regulations and those safety requirements established by La. R. S. 45:408, whichever would require higher standards.

Response: Not applicable.

Guideline 3.14 Areas dredged for linear facilities shall be backfilled or otherwise restored to the pre-existing conditions upon cessation of use for navigation purposes to the maximum extent practicable.

Response: Construction access channels and stockpile areas in Lake Pontchartrain would be brought back to original elevations subsequent to completion of construction activities.

Guideline 3.15 The best practical techniques for site restoration and re-vegetation shall be utilized for all linear facilities.

Response: Re-vegetation through the establishment of turf is required for all levee and floodwall reaches. Along levee and floodwall alignments, vegetation-free zones and root-free zones are maintained to ensure that safety, structural integrity, and functionality are retained and accessibility for maintenance, inspection, monitoring, and flood-fighting are retained per Engineering Technical Letter No. 1110-2-583: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures.

Guideline 3.16 Confined and dead end canals shall be avoided to the maximum extent practicable. Approved canals must be designed and constructed using the best practical techniques to avoid water stagnation and eutrophication.

Response: Not applicable.

3.7 GUIDELINES FOR DREDGED MATERIAL DEPOSITION

Guideline 4.1 Spoil shall be deposited utilizing the best practical techniques to avoid disruption of water movement, flow, circulation and quality.

Response: Impacts would be minimized by use of silt curtains and other best management practices. Prior to construction, the National Pollutant Discharge Elimination System (NPDES) permit process would be completed and a General Stormwater Permit would be required. Contractors would need a site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) in place prior to the start of construction. After construction, conditions would be expected to stabilize and return to conditions similar to pre-construction.

Guideline 4.2 Spoil shall be used beneficially to the maximum extent practicable to improve productivity or create new habitat, reduce or compensate for environmental damage done by dredging activities, or prevent environmental damage. Otherwise, existing spoil disposal areas or upland disposal shall be utilized to the maximum extent practicable rather than creating new disposal areas.

Response: Temporary dredged material stockpile areas would be located immediately adjacent to dredged construction access channels. Construction access channels and stockpile areas would be brought back to original elevations subsequent to completion of construction activities.

Guideline 4.3 Spoil shall not be disposed of in a manner which could result in the impounding or draining of wetlands or the creation of development sites unless the spoil deposition is part of an approved levee or land surface alteration project.

Response: Acknowledged.

Guideline 4.4 Spoil shall not be disposed of on marsh, known oyster or clam reefs or in areas of submersed vegetation to the maximum extent practicable.

Response: Construction access channels and temporary dredged material stockpile areas would not impact marsh, oyster reefs, or clam reefs. Submerged aquatic vegetation is limited along the south shore of Lake Pontchartrain. Construction access channels and associated stockpile areas would be located so as to avoid any potential impacts. Pre-construction surveys would be required to delineate existing SAV to facilitate avoidance of impacts. SAV surveys and avoidance of impacts would be included in construction contract solicitation language.

Guideline 4.5 Spoil shall not be disposed of in such a manner as to create a hindrance to navigation or fishing, or hinder timber growth.

Response: Acknowledged.

Guideline 4.6 Spoil disposal areas shall be designed and constructed and maintained using the best practical techniques to retain the spoil at the site, reduce turbidity, and reduce shoreline erosion when appropriate.

Response: Impacts would be minimized by use of silt curtains and other best management practices. Prior to construction, the National Pollutant Discharge Elimination System (NPDES) permit process would be completed and a General Stormwater Permit would be required. Contractors would need a site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) in place prior to the start of construction. After construction, conditions would be expected to stabilize and return to conditions similar to pre-construction.

Guideline 4.7 The alienation of state-owned property shall not result from spoil deposition activities without the consent of the Department of Natural Resources.

Response: Acknowledged.

3.8 GUIDELINES FOR SHORELINE MODIFICATION

Guideline 5.1 Non-structural methods of shoreline protection shall be utilized to the maximum extent practicable.

Guideline 5.2 Shoreline modification structures shall be designed and built using best practical techniques to minimize adverse environmental impacts.

Guideline 5.3 Shoreline modification structures shall be lighted or marked in accordance with U.S. Coast Guard regulations, not interfere with navigation, and should foster fishing, other recreational opportunities, and public access.

Guideline 5.4 Shoreline modification structures shall be built using best practical materials and techniques to avoid the introduction of pollutants and toxic substances into coastal waters.

Guideline 5.5 Piers and docks and other harbor structures shall be designed and built using best practical techniques to avoid obstruction of water circulation.

Guideline 5.6 Marinas, and similar commercial and recreational developments shall to the maximum extent practicable not be located so as to result in adverse impacts on open productive oyster beds, or submersed grass beds.

Guideline 5.7 Neglected or abandoned shoreline modification structures, piers, docks, mooring and other harbor structures shall be removed at the owner's expense, when appropriate.

Guideline 5.8 Shoreline stabilization structures shall not be built for the purpose of creating fill areas for development unless part of an approved surface alteration use.

Guideline 5.9 Jetties, groins, breakwaters and similar structures shall be planned, designed and constructed so as to avoid to the maximum extent practicable downstream land loss and erosion.

Response to Guidelines for Shoreline Modification: The proposed foreshore protection features along the Lake Pontchartrain shoreline are designed to protect project features from

erosion and wave impacts and would be designed and built using the best practical techniques to minimize adverse environmental impacts and to avoid introduction of pollutants.

3.9 GUIDELINES FOR SURFACE ALTERATIONS

Guideline 6.1 Industrial, commercial, urban, residential, and recreational uses are necessary to provide adequate economic growth and development. To this end, such uses will be encouraged in those areas of the coastal zone that are suitable for development. Those uses shall be consistent with the other guidelines and shall, to the maximum extent practicable, take place only:

- a) on lands five feet or more above sea level or within fast lands; or
- b) on lands which have foundation conditions sufficiently stable to support the use, and where flood and storm hazards are minimal or where protection from these hazards can be reasonably well achieved, and where the public safety would not be unreasonably endangered; and
 - 1) the land is already in high intensity of development use, or
 - 2) there is adequate supporting infrastructure, or
 - 3) the vicinity has a tradition of use for similar habitation or development

Response: Acknowledged

Guideline 6.2 Public and private works projects such as levees, drainage improvements, roads, airports, ports, and public utilities are necessary to protect and support needed development and shall be encouraged. Such projects shall, to the maximum extent practicable, take place only when:

- a) they protect or serve those areas suitable for development pursuant to Guideline 6.1; and
- b) they are consistent with the other guidelines; and
- c) they are consistent with all relevant adopted state, local and regional plans.

Response: Acknowledged. The project protects the Greater New Orleans Area, an area with significant existing urban and commercial development.

Guideline 6.3 BLANK (Deleted)

Guideline 6.4 To the maximum extent practicable wetland areas shall not be drained or filled. Any approved drain or fill project shall be designed and constructed using best practical techniques to minimize present and future property damage and adverse environmental impacts.

Response: Potential wetland impacts would occur with lifts associated with Mississippi River levees due to the necessity to expand the levees to the flood side, thereby impact bottomland hardwood-wet habitat (Figure 3). These impact would be avoided to the maximum extent practicable but would be unavoidable in some locations due to infrastructure on the protected side of the levees. Impacts would be mitigated as appropriate through compensatory mitigation. Borrow areas would be designed and constructed using the best practical techniques and would avoid wetland impacts.

Guideline 6.5 Coastal water dependent uses shall be given special consideration in permitting because of their reduced choice of alternatives.

Response: Acknowledged

Guideline 6.6 Areas modified by surface alteration activities shall, to the maximum extent practicable, be re-vegetated, refilled, cleaned and restored to their predevelopment condition upon termination of the use.

Response: Project implementation would restore foreshore protection areas to their previous elevation to provide adequate protection for levees. Construction access channels and stockpile areas would be brought back to original elevations subsequent to completion of construction activities.

Guideline 6.7 Site clearing shall to the maximum extent practicable be limited to those areas immediately required for physical development.

Response: Throughout the design and construction process, construction areas and temporary work sites would be minimized to limit impacts beyond what would be required to construct project features.

Guideline 6.8 Surface alterations shall, to the maximum extent practicable, be located away from critical wildlife areas and vegetation areas. Alterations in wildlife preserves and management areas shall be conducted in strict accord with the requirements of the wildlife management body.

Response: Acknowledged

Guideline 6.9 Surface alterations which have high adverse impacts on natural functions shall not occur, to the maximum extent practicable, on barrier islands and beaches, isolated cheniers, isolated natural ridges or levees, or in wildlife and aquatic species breeding or spawning areas, or in important migratory routes.

Response: Acknowledged. Construction activities would be coordinated with state and federal resource agencies to ensure impacts are avoided to the maximum extent practicable. Project activities with potential impacts to threatened or endangered species are being coordinated with USFWS and NMFS. Impacts to threatened and endangered species and their critical habitat would be avoided to the maximum extent practicable. Project activities with potential impacts to Essential Fish Habitat are being coordinated with NMFS. Project activities with potential impacts to colonial nesting water birds are being coordinated with Louisiana Department of Wildlife and Fisheries. Pre-construction bird surveys would be conducted to ensure impacts to colonial nesting water birds are avoided to the maximum extent practicable and construction buffers and season limitations would be employed as necessary. Pre-construction surveys would be required to delineate existing SAV to facilitate avoidance of impacts. SAV surveys and avoidance of impacts would be included in construction contract solicitation language.

Guideline 6.10 The creation of low dissolved oxygen conditions in the water or traps for heavy metals shall be avoided to the maximum extent practicable.

Response: Acknowledged. Prior to construction, the National Pollutant Discharge Elimination System (NPDES) permit process would be completed and a General Stormwater Permit would be required. Contractors would need a site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) in place prior to the start of construction.

Guideline 6.11 Surface mining and shell dredging shall be carried out utilizing the best practical techniques to minimize adverse environmental impacts.

Response: Not applicable.

Guideline 6.12 The creation of underwater obstructions which adversely affect fishing or navigation shall be avoided to the maximum extent practicable.

Response: Acknowledged

Guideline 6.13 Surface alteration sites and facilities shall be designed, constructed, and operated using the best practical techniques to prevent the release of pollutants or toxic substances into the environment and minimize other adverse impacts.

Response: Acknowledged

Guideline 6.14 To the maximum extent practicable only material that is free of contaminants and compatible with the environmental setting shall be used as fill.

Response: Acknowledged. Potential borrow sites would be screened for potential contaminant issues per USACE regulations. Only material meeting physical and contaminant criteria would be approved for use in levee construction.

3.10 GUIDELINES FOR HYDROLOGIC AND SEDIMENT TRANSPORT MODIFICATIONS

Guideline 7.1 The controlled diversion of sediment-laden waters to initiate new cycles of marsh building and sediment nourishment shall be encouraged and utilized whenever such diversion will enhance the viability and productivity of the outfall area. Such diversions shall incorporate a plan for monitoring and reduction and/or amelioration of the effects of pollutants present in the freshwater source.

Guideline 7.2 Sediment deposition systems may be used to offset land loss, to create or restore wetland areas or enhance building characteristics of a development site. Such systems shall only be utilized as part of an approved plan. Sediment from these systems shall only be discharged in the area that the proposed use is to be accomplished.

Guideline 7.3 Undesirable deposition of sediments in sensitive habitat or navigation areas shall be avoided through the use of the best preventive techniques.

Guideline 7.4 The diversion of freshwater through siphons and controlled conduits and channels, and overland flow to offset saltwater intrusion and to introduce nutrients into wetlands shall be encouraged and utilized whenever such diversion will enhance the viability and productivity of the outfall area. Such diversions shall incorporate a plan for monitoring and reduction and/or amelioration of the effects of pollutants present in the freshwater source.

Guideline 7.5 Water or marsh management plans shall result in an overall benefit to the productivity of the area.

Guideline 7.6 Water control structures shall be assessed separately based on their individual merits and impacts and in relation to their overall water or marsh management plan of which they are a part.

Guideline 7.7 Weirs and similar water control structures shall be designed and built using the best practical techniques to prevent "cut arounds," permit tidal exchange in tidal areas, and minimize obstruction of the migration of aquatic organisms.

Guideline 7.8 Impoundments which prevent normal tidal exchange and/or the migration of aquatic organisms shall not be constructed in brackish and saline areas to the maximum extent practicable.

Guideline 7.9 Withdrawal of surface and ground water shall not result in saltwater intrusion or land subsidence to the maximum extent practicable.

Response to Guidelines for Hydrologic and Sediment Transport Modifications: Not applicable.

3.11 GUIDELINES FOR DISPOSAL OF WASTES

Guideline 8.1 The location and operation of waste storage, treatment, and disposal facilities shall be avoided in wetlands to the maximum extent practicable, and best practical techniques shall be used to minimize adverse impacts which may result from such use.

Guideline 8.2 The generation, transportation, treatment, storage and disposal of hazardous wastes shall be pursuant to the substantive requirements of the Department of Natural Resources adopted pursuant to Act 334 of 1978 and approved pursuant to the Resource Conservation and Recovery Act. of 1976 P. O. 94-580, and of the Office of Conservation for injection below surface.

Guideline 8.3 Waste facilities located in wetlands shall be designed and built to withstand all expectable adverse conditions without releasing pollutants.

Guideline 8.4 Waste facilities shall be designed and constructed using best practical techniques to prevent leaching, control leachate production, and prevent the movement of leachate away from the facility.

Guideline 8.5 The use of overland flow systems for non-toxic, biodegradable wastes, and the use of sump lagoons and reservoirs utilizing aquatic vegetation to remove pollutants and nutrients shall be encouraged.

Guideline 8.6 All waste disposal sites shall be marked and, to the maximum extent practicable, all components of waste shall be identified.

Guideline 8.7 Waste facilities in wetlands with identifiable pollution problems that are not feasible and practical to correct shall be closed and either removed or sealed, and shall be properly re-vegetated using the best practical techniques.

Guideline 8.8 Waste shall be disposed of only at approved disposal sites.

Guideline 8.9 Radioactive wastes shall not be temporarily or permanently disposed of in the coastal zone.

Response to Guidelines for Disposal of Wastes: Not applicable.

3.12 GUIDELINES FOR USES THAT RESULT IN THE ALTERATION OF WATERS DRAINING INTO COASTAL WATERS

Guideline 9.1 Upland and upstream water management programs which affect coastal waters and wetlands shall be designed and constructed to preserve or enhance existing water quality, volume, and rate of flow to the maximum extent practicable.

Guideline 9.2 Runoff from developed areas shall to the maximum extent practicable be managed to simulate natural water patterns, quantity, quality and rate of flow.

Guideline 9.3 Runoff and erosion from agricultural lands shall be minimized through the best practical techniques.

Response to Guidelines for Uses that Result in the Alteration of Water Draining into Coastal Waters: Not applicable.

3.13 GUIDELINES FOR OIL, GAS, AND OTHER MINERAL ACTIVITIES

Guideline 10.1 Geophysical surveying shall utilize the best practical techniques to minimize disturbance or damage to wetlands, fish and wildlife and other coastal resources.

Guideline 10.2 To the maximum extent practicable, the number of mineral exploration and production sites in wetland areas requiring flotation access shall be held to the minimum number, consistent with good recovery and conservation practices and the need for energy development, by directional drilling, multiple use of existing access canals and other practical techniques.

Guideline 10.3 Exploration, production and refining activities shall, to the maximum extent practicable, be located away from critical wildlife areas and vegetation areas. Mineral operations in wildlife preserves and management areas shall be conducted in strict accordance with the requirements of the wildlife management body.

Guideline 10.4 Mineral exploration and production facilities shall be to the maximum extent practicable designed, constructed and maintained in such a manner to maintain natural water flow regimes, avoid blocking surface drainage, and avoid erosion.

Guideline 10.5 Access routes to mineral exploration, production and refining sites shall be designed and aligned so as to avoid adverse impacts on critical wildlife and vegetation areas to the maximum extent practicable.

Guideline 10.6 Drilling and production sites shall be prepared, constructed, and operated using the best practical techniques to prevent the release of pollutants or toxic substances into the environment.

Guideline 10.7 All drilling activities, supplies, and equipment shall be kept on barges, on drilling rigs, within ring levees, or on the well site.

Guideline 10.8 Drilling ring levees shall to the maximum extent practicable be replaced with smaller production levees or removed entirely.

Guideline 10.9 All drilling and production equipment, structures, and storage facilities shall be designed and constructed utilizing best practical techniques to withstand all expectable adverse conditions without releasing pollutants.

Guideline 10.10 Mineral exploration, production and refining facilities shall be designed and constructed using best practical techniques to minimize adverse environmental impacts.

Guideline 10.11 Effective environmental protection and emergency or contingency plans shall be developed and complied with for all mineral operations.

Guideline 10.12 The use of dispersants, emulsifiers and other similar chemical agents on oil spills is prohibited without the prior approval of the Coast Guard or Environmental Protection Agency on-Scene Coordinator, in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan.

Guideline 10.13 Mineral exploration and production sites shall be cleared, re-vegetated, detoxified and otherwise restored as near as practicable to their original condition upon termination of operations to the maximum extent practicable.

Guideline 10.14 The creation of underwater obstructions which adversely affect fishing or navigation shall be avoided to the maximum extent practicable.

Response to Guidelines for Oil, Gas, and Other Mineral Activities: Not applicable.

3.14 CONSISTENCY DETERMINATION

The Coastal Use Guidelines are acknowledged. The proposed action has been evaluated for consistency with the Coastal Use Guidelines. The proposed action has been planned and designed and would be constructed, operated, and maintained to avoid, to the maximum extent practicable, the significant impacts outlined in Guideline 1.7 of this document. The proposed action would provide a 1% level of risk reduction which would decrease the risk of hurricane and storm surge induced flooding compared to what would be provided without implementation. The project would also decrease the potential for discharge of toxic substances into coastal waters. The proposed action would provide significant public benefit and would serve important regional, state, and national interest, and the benefits resulting from the proposed action clearly outweigh the adverse impacts. While some data gaps do remain, the cumulative impact analysis for the project indicates that impacts are minor to moderate for the majority of affected resources.

Where practicable and through project feature design, implementation of best management practices, and the implementation of environmental design commitments, adverse impacts have been avoided or reduced. Since the project would largely be constructed in the footprint of the existing system, impacts to human and natural resources would be minimized.

Lake Pontchartrain & Vicinity General Re-Evaluation Report
DRAFT

Hazardous, Toxic, and Radioactive Waste assessments would be conducted for all construction areas and borrow sites prior to their use. Unsuitable areas would be avoided and as a result the release of pollutants or toxic substances into the environment would be avoided.

Based on this evaluation, the U. S. Army Corps of Engineers, New Orleans District, has determined that the proposed action is consistent, to the maximum extent practicable, with the State of Louisiana's Coastal Resources Program.

Enclosure: Mitigation Plan

4 CLEAN AIR ACT COMPLIANCE

4.1 AIR QUALITY CONFORMITY ANALYSIS

The U.S. Environmental Protection Agency (USEPA) Office of Air Quality Planning and Standards has set National Ambient Air Quality Standards (NAAQS) for six principal pollutants, called “criteria” pollutants. They are carbon monoxide, nitrogen dioxide, ozone, lead, particulates of 10 microns or less in size (PM-10 and PM-2.5), and sulfur dioxide (SO₂). The Clean Air Act General Conformity Rule (58 FR 63214, November 30, 1993, Final Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans) dictates that a conformity review be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS. A conformity assessment would require quantifying the direct and indirect emissions of criteria pollutants caused by the Federal action to determine whether the proposed action conforms to Clean Air Act requirements and any State Implementation Plan (SIP).

The general conformity rule was designed to ensure that Federal actions do not impede local efforts to control air pollution. It is called a conformity rule because Federal agencies are required to demonstrate that their actions “conform with” (i.e., do not undermine) the approved SIP for their geographic area. The purpose of conformity is to (1) ensure Federal activities do not interfere with the air quality budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS.

St. Bernard Parish was designated by the Environmental Protection Agency as a sulfur dioxide (SO₂) non-attainment area under the 1-hour standard effective October 4, 2013. This classification is the result of area-wide air quality modeling studies, and the information is readily available from Louisiana Department of Environmental Quality, Office of Environmental Assessment and Environmental Services.

Federal activities proposed in St. Bernard Parish may be subject to the State’s general conformity regulations as promulgated under LAC 33:III.14.A, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. A general conformity applicability determination is made by estimating the total of direct and indirect SO₂ emissions caused by the construction of the project. Prescribed *de minimis* levels of 100 tons per year per pollutant are applicable in St. Bernard Parish. Projects that would result in discharges below the *de minimis* level are exempt from further consultation and development of mitigation plans for reducing emissions.

With implementation of the proposed action, on-site construction activities are expected to produce less than 9.0 tons per year of SO₂ emissions (which is markedly less than the *de minimis* level of 100 tons per year per pollutant). Thus, the ambient air quality in St. Bernard Parish would not noticeably change from current conditions, and the status of attainment for the parish would not be altered.

Lake Pontchartrain & Vicinity General Re-Evaluation Report
DRAFT

St. Bernard Parish LPV Levee Enlargement

Chalmette, Meraux, Violet, and Poydras, St. Bernard Parish, LA

Table 1 Combustible Emissions

Assumptions for Combustible Emissions					
Type of Construction Equipment	Number of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Diesel Compactor	1	70	4	96	26,880
Diesel Bull Dozer	2	110	10	9	19,800
Diesel Grader	2	165	5	64	105,600
Diesel Dump Truck	16	350	8	96	4,300,800
Diesel Crane	1	263	10	64	168,320
Water Truck	3	180	3	9	14,580
Diesel Tractor	1	110	8	64	56,320
Hydro-Mulch Water Truck	1	180	8	56	80,640
Stakebed Truck	2	200	2	64	51,200

Table 2 Emission Factors

Type of Construction Equipment	SO ₂ g/hp-hr	SO ₂ lbs/hp-hr
Diesel Compactor	1.0728	0.0024
Diesel Bull Dozer	1.0728	0.0024
Diesel Grader	1.0728	0.0024
Diesel Dump Truck	1.0728	0.0024
Diesel Crane	1.0729	0.0024
Water Truck	1.0728	0.0024
Diesel Tractor	1.0728	0.0024
Hydro-Mulch Water Truck	1.0728	0.0024
Stakebed Truck	1.0728	0.0024

Emission Factors derived from the EPA's NONROAD2010 model

Table 3 Annual VOC and NOx Emissions Totals

Total Calculated Emissions	
Type of Construction Equipment	SO2 lbs/hp-hr
Diesel Compactor	0.032256
Diesel Bull Dozer	0.02376
Diesel Grader	0.12672
Diesel Dump Truck	5.16096
Diesel Crane	0.201984
Water Truck	0.017496
Diesel Tractor	0.067584
Hydro-Mulch Water Truck	0.096768
Stakebed Truck	0.06144
TOTALS	5.788968

NOTE: The listed equipment is the type and number of equipment that may typically be used at a levee enlargement project.

Arabi to Chalmette T-walls

Arabi & Chalmette, St. Bernard Parish, LA

Table 4 Combustible Emissions

Assumptions for Combustible Emissions					
			Hrs/day	Days/yr	

Lake Pontchartrain & Vicinity General Re-Evaluation Report
DRAFT

Type of Construction Equipment	Number of Units	HP Rated			Total hp-hrs
Diesel Crane	1	130	10	96	124,800
Diesel Crane	2	225	10	9	40,500
Diesel Crane	3	245	10	64	470,400
Diesel Concrete Truck	1	210	10	96	201,600
Diesel Dump Truck	3	350	10	64	672,000
Diesel Vibratory Pile Driver	1	185	10	9	16,650
Diesel Pile Extractor	1	176	10	64	112,640
Diesel Hammer Pile Driver	1	185	10	56	103,600
Diesel Excavator	1	176	10	64	112,640

Table 5 Emission Factors

Type of Construction Equipment	SO2 g/hp-hr	SO2 lbs/hp-hr
Diesel Crane	1.0728	0.0024
Diesel Crane	1.0728	0.0024
Diesel Crane	1.0728	0.0024
Diesel Concrete Truck	1.0728	0.0024
Diesel Dump Truck	1.0729	0.0024
Diesel Vibratory Pile Driver	1.0728	0.0024
Diesel Pile Extractor	1.0728	0.0024
Diesel Hammer Pile Driver	1.0728	0.0024
Diesel Excavator	1.0728	0.0024

Emission Factors derived from the EPA's NONROAD2010 model

**Table 6 Annual VOC and NOx Emissions
Totals**

Total Calculated Emissions		
Type of Construction Equipment		SO2 lbs/hp-hr
Diesel Crane		0.14976
Diesel Crane		0.0486
Diesel Crane		0.56448
Diesel Concrete Truck		0.24192
Diesel Dump Truck		0.8064
Diesel Vibratory Pile Driver		0.01998
Diesel Pile Extractor		0.135168
Diesel Hammer Pile Driver		0.12432
Diesel Excavator		0.135168
TOTALS		2.225796

NOTE: The listed equipment is the type and number of equipment that may typically be used at a concrete levee wall demolition/construction project.