2019

West Bank & Vicinity GRR Environmental Compliance – Appendix G

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

Non-Federal Sponsor: Coastal Protection and Restoration Authority Board

12/05/2019

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ENVIRONMENTAL COMPLIANCE APPENDIX

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1 CLEAN WATER ACT COMPLIANCE – 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 OFFICIAL SPECIES LIST: 3 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 03, 2019
Consultation Code: 04EL1000-2019-SLI-0131
Event Code: 04EL1000-2019-E-01288
Project Name: West Bank & Vicinity General Re-Evaluation Report Study

Subject: Updated 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 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.

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

Project Summary

Consultation Code: 04EL1000-2019-SLI-0131

Event Code: 04EL1000-2019-E-01288

Project Name: West Bank & Vicinity General Re-Evaluation Report Study

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

Project Description: West Bank & Vicinity (WBV), LA, GRR Coastal Storm Risk Management studies was authorized by Section 3017 of WRRDA 2014 and funded as a new start under Public Law 115-123 (Supplemental Appropriation). After the devastation of the 2005 hurricane season, the U.S. embarked on one of the largest civil works projects ever undertaken, at an estimated cost of $14 billion, with restoration, accelerated construction, improvements, and enhancements of various risk reduction projects within southeastern Louisiana, including the the West Bank and Vicinity, Louisiana Project (WBV), jointly referred to as the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS). The completion of the levees, floodwalls, gates, and pumps that together form the HSDRRS brought 100-year level of hurricane and storm damage risk reduction to the areas within WBV.

The HSDRRS levee systems were designed to address the 1% storm event which is made up of the 1% annual exceedance stillwater elevation, 1% annual exceedance wave height, and 1% annual exceedance wave period, while assuming simultaneous occurrence of maxima of surge level and wave characteristics (hereafter referred to the 1% event, 1% design or 1% level of risk reduction). The systems are currently accredited by FEMA for the 1% level of risk reduction, utilizing guidelines specific to the HSDRRS systems.

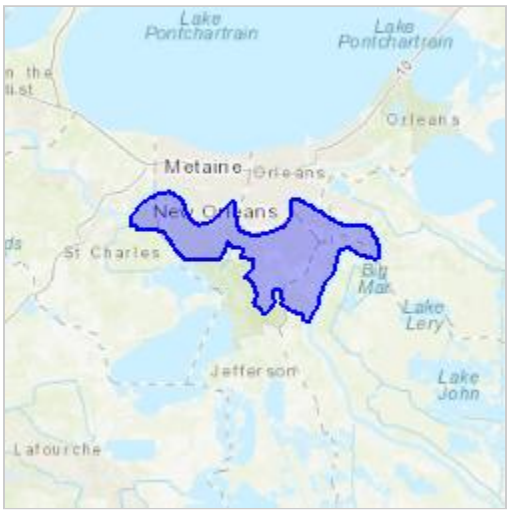
Southeast Louisiana, including the Greater New Orleans area, is generally characterized by weak soils, general subsidence, and the global incidence of sea level rise that will cause levees to require future lifts to sustain performance of the HSDRRS. The HSDRRS project authority did not provide for future lifts. Engineering analysis indicates the HSDRRS will no longer provide 1% level of risk reduction as early as 2023. 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. USACE will notify FEMA once the system no longer provides the 1 percent level of risk reduction, which may result in the loss of accreditation required for participation in the NFIP. This study seeks to determine if the work necessary to sustain the 1% level of risk

reduction is technically feasible, environmentally acceptable, and economically justified. The study will also consider other levels of risk reduction. A positive determination would make construction of future levee lifts eligible for future budget requests.

The WBV study is located in Lake Cataouatche, Harvey-Westwego, Algiers-Gretna, and Belle Chase parishes. The potential project footprint resulting from this study is not known at this time but the most likely recommendation of levee lifts would not likely increase the existing footprint. Non-structural features would be located within the systems.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/29.873305499999468N90.0584976360436W



Counties: Jefferson, LA | Orleans, LA | Plaquemines, 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 Fisheries[1], 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.

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

Fishes

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

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

2.2 14 NOV 2019: GULF STURGEON NO EFFECT DETERMINATION LETTER

Department of the Army
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

November 14, 2019

Regional Planning and Environmental
Division South (RPEDS)

Craig Gothreaux
Southeast Region, Habitat Conservation Division NOAA Fisheries
5757 Corporate Blvd., Suite 375
Baton Rouge, LA 70808

Dear Mr. Gothreaux,

The U.S. Army Corps of Engineers, New Orleans District (CEMVN), is preparing the West Bank and Vicinity (WBV), Louisiana General Re-evaluation Report to re-evaluate the performance of the existing WBV 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 non-Federal sponsor is the Louisiana Coastal Protection and Restoration Authority.

The purpose of this letter is to inform you the District made a No Effect determination in accordance with the Endangered Species Act, Section 7 for potential impacts to the endangered species, Gulf Sturgeon.

The District recently narrowed its list of feasible alternatives. Based on costs versus flood risk management benefits, the tentatively selected plan includes lifts to existing levees, raising of existing flood walls, and placement of foreshore protection in existing foreshore protection locations.

Enclosed for your information is the District's endangered species No Effect determination & documentation. This documentation provides a brief project description, relevant background information, study area location, and species information.

If the project changes or if additional information on the distribution of listed or proposed species becomes available, the District will reconsider its No Effect determination and coordinate any change in it as soon as possible.

While the NOAA Fisheries is under no obligation to respond to this letter, we welcome any comments, concerns, or new information that may change our determination. You may provide written comments/concurrence 30 days from date of letter. We look forward to working with your agency on

this project and appreciate the working relationship thus far. If you have any questions or would like to discuss in more detail, please contact Dr. Kat McCain, Environmental Project Lead (Kathryn.mccain@usace.army.mil; 314-331-8047).

Sincerely,

[redacted]

Brian Johnson
Environmental Compliance Branch Chief

Enclosure

NO EFFECT DETERMINATION & DOCUMENTATION

1.0. INTRODUCTION

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, requires, "Each Federal agency shall, in consultation with and with the assistance of the secretary, insure any action authorized, funded, or carried, out by such agency…. Is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species…."

"No effect" is the appropriate conclusion if the proposed action will not affect listed species/critical habitat. The project and all effects are outside the range of listed species, Gulf Sturgeon (*Acipenser oxyrhynchus desotoi*) and critical habitat covered by FWS. Therefore, the project will have No Effect on Gulf Sturgeon or designated critical habitat.

The US Army Corps of Engineers, New Orleans District (District), prepared this No Effect documentation evaluating the District's proposed measures to reduce coastal storm damage risks in study area (Figure 1). The District is currently preparing the West Bank and Vicinity General Re-Evaluation Report with Integrated Environmental Impact Statement. The District is coordinating their No Effect determination with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NFMS). The non-Federal sponsor is the Louisiana Coastal Protection and Restoration Authority.

Under the ESA, Section 7, the USFWS is not obligated to concur to this No Effect determination. Similarly, the NFMS reviewed its consultative responsibilities under ESA, 16 U.S.C. § 1536, and associated regulations at 50 C.F.R. part 402. Based on this review, the NMFS is not required to provide formal written responses to requests for concurrence with a federal action agency's determination its actions will not affect any ESA-listed species or designated critical habitat ("no effect" determination).

In cases where the USFWS or NMFS disagree with the federal action agency's "no effect" determination, they may offer to provide the above-referenced technical assistance and may urge the federal action agency to engage in ESA Section 7 consultation.

This No Effect documentation provides the information required pursuant to the ESA and implementing regulation (50 CFR 402.14), to comply with the ESA. Additional jurisprudence includes the National Environmental Policy Act of 1969, 42 U.S.C. section 4321, et seq.; the Fish and Wildlife Coordination Act of 1958 (PL 85-624; 16 U.S.C. 661 et seq.); the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.

The No Effect documentation provides an assessment of the effects of the project on the protected species in the vicinity of the project. Because this project will not be constructed in the next year, the District will initiate an updated threatened and endangered species review with USFWS and NMFS no more than a year before construction begins. If the project changes or if additional information on the distribution of listed or proposed species becomes available, the District will reconsider its No Effect determination and coordinate any change in it as soon as possible.

Figure 1. The West Bank & Vicinity Study Area

1.1. Consultation to Date. Table 1 describes the ongoing project ESA coordination to date.

Table 1. Consultation to Date

Event	Date	Results
Initial agency informational meeting, New Orleans, LA	November 6, 2018	The PDT described the project's purpose and need, coordination requirements, and schedule.
iPAC unofficial species list	September 3, 2019	The iPAC provided, among other information, a list of threatened and endangered species (table 2)
Public Meeting	April 30, 2019	Open house style to discuss project measures and path forward
Webinars	October 24, 2018 November 13, 2019	Communication concerning possible project measures and related potential environmental impacts.
Weekly PDT meetings	Ongoing	The PDT meetings were open to USFWS and NOAA to attend

2.0 PURPOSE AND NEED FOR THE PROJECT

The Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. The purpose of the study with integrated Environmental Impact Statement (EIS), is to analyze alternatives to reduce flood risk within the WPV study area. The study will evaluate and compare the benefits, costs, and impacts (positive or negative) of alternatives including the No Action Alternative. The study will identify whether a National Economic Development (NED) plan exists to reduce life safety risk and economic damages due to the combined effects of subsidence, settlement, consolidation, sea level rise and new datum on the WBV levee systems. The integrated report includes assessment of the environmental effects of a reasonable range of potential alternatives or actions designed by the USACE, including the no action plan, prior to decision making.

3.0. PROJECT DESCRIPTION AND LOCATION

This General Re-Evaluation Report (GRR) with integrated Environmental Impact Statement presents the results of a U.S. Army Corps of Engineers (Corps) coastal storm risk management study for the West Bank and Vicinity project located in New Orleans, Louisiana. This study is authorized by Section 3017 of the Water Resources Reform and Development Act of 2014.

The District's Tentatively Selected Plan includes system levee lifts to the project 1% Annual Exceedance Probability Event at 2073. At this time, the tentatively selected plan includes lifting existing levees, raising existing floodwalls, and placing foreshore protection on top of existing foreshore protection locations (Figure 2). The project life is 50 years (2023-2073)

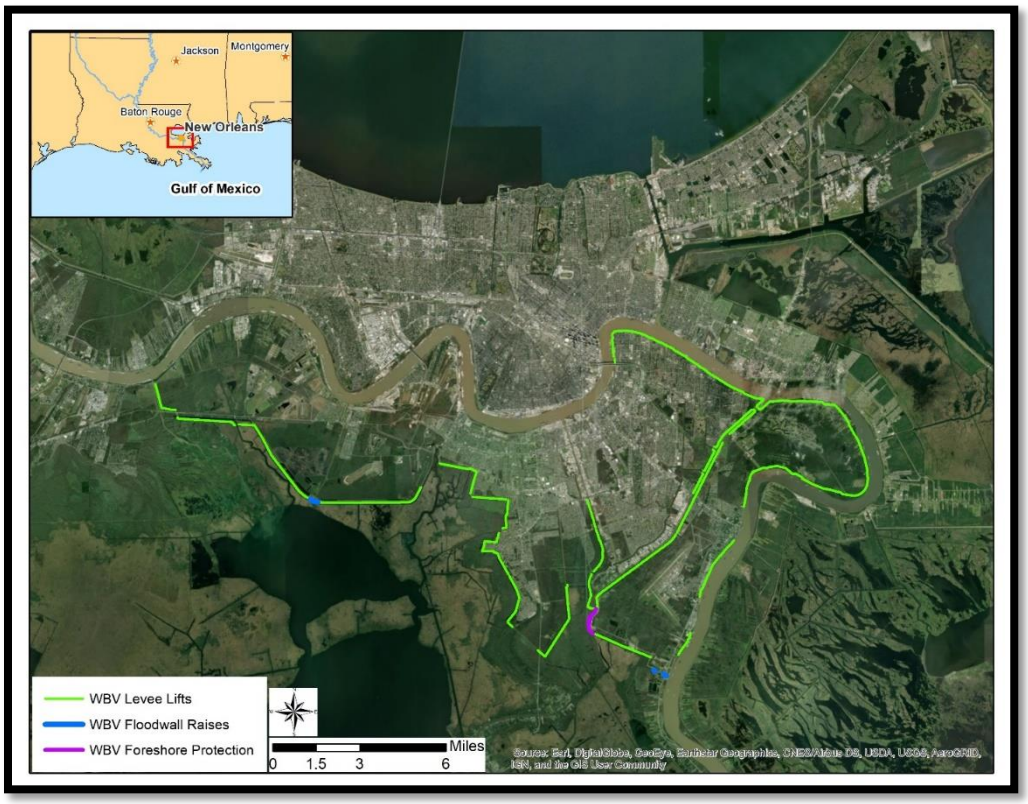

Figure 2. Tentatively Selected Plan

4.0. PROPOSED ACTION

4.1. 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 above. The action area includes the Bayou aux Carpes 404(c) area, portions of Lake Cataouatche and the Mississippi River, as well as numerous bayous and canals in the Greater New Orleans area.

Description of the Proposed Action. The WBV project includes features in four parishes (St. Charles, Jefferson, Orleans, and Plaquemines) located in the greater New Orleans area on the west bank of the Mississippi River. Currently, WBV contains a total of approximately 47 miles of perimeter levees and floodwalls and 26 miles of interior risk reduction structures. 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, and placement of foreshore protection in existing foreshore protection areas along the Gulf Intracoastal Waterway (GIWW) and Hero Canal (Figure 2).

The proposed floodwall increases would also occur within the existing floodwall footprints. The proposed foreshore protection would also be placed within the existing footprint of the foreshore protection along the GIWW and Hero Canal shoreline. Most of the proposed levee lifts would occur along the alignment of the existing levees. However, for the Mississippi River Levee (MRL) levee lifts, initial design estimates indicate an additional 25 feet would be required on the flood side of the levees for construction. These flood side levee shifts would impact approximately 63 acres of bottomland hardwood-wet habitat and these impacts would be offset through the CEMVN mitigation plan. 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.

Placement of the stone foreshore protection along the shoreline of the GIWW and Hero Canal would result in placing approximately 5.6 acres of rock on top of existing foreshore protection in reaches WBV-90 and WBV-12 (Figure 3). 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.

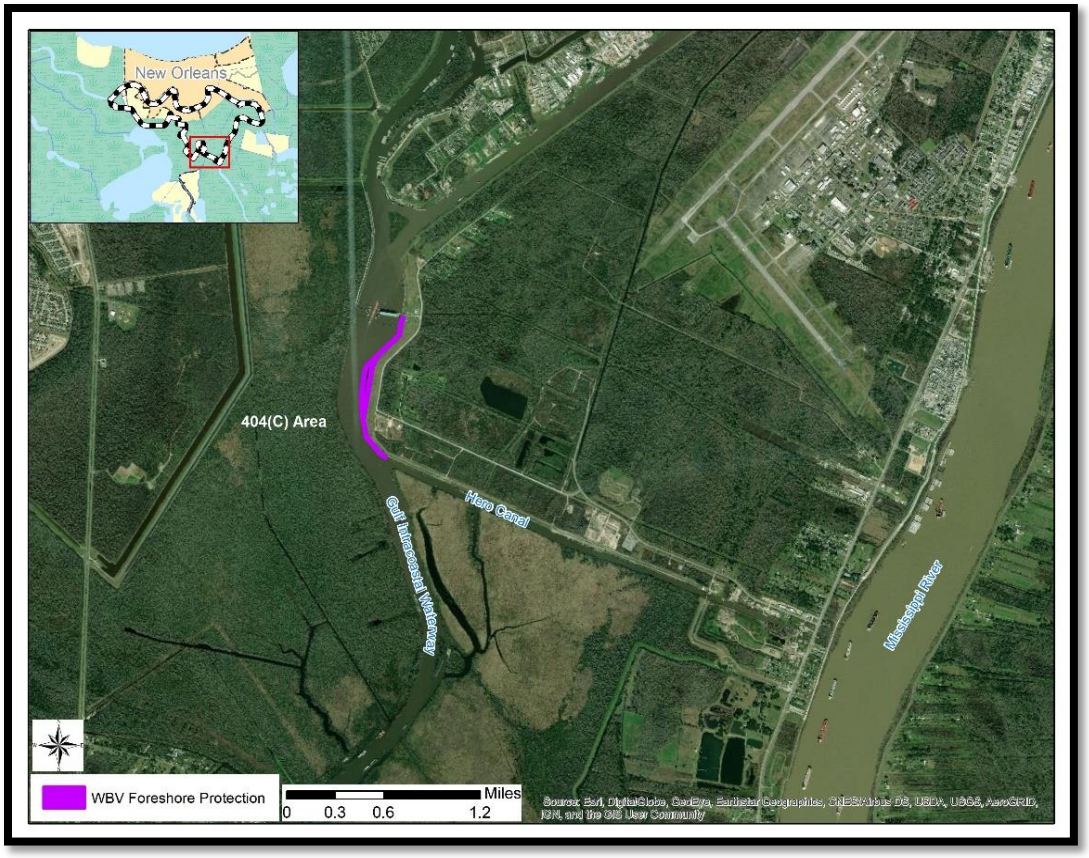

Figure 3. Location of Proposed Foreshore Protection

5.0. THREATENED, ENDANGERED, PROPOSED THREATENED OR PROPOSED ENDANGERED SPECIES

The CEMVN requested the official species via the ECOS-IPaC website (http://ecos.fws.gov/ipac/), dated 3 September 2019. U.S. Fish and Wildlife Service (USFWS) provided a list of 3 Federally threatened and endangered species that could potentially be found in the study area (Jefferson, Orleans, Plaquemines, and St. Charles Parishes). The 3 species, Federal protection status and habitat can be found in Table 2. No critical habitat has been designated in the study area. The CEMVN is consulting with USFWS for potential effects on the West Indian Manatee and Pallid Sturgeon and further effects analyses are not included here.

Table 2. Threatened, Endangered, Proposed Threatened, or Proposed Endangered Species

Species	Status	Listing Rule/ Date	Habitat	Potential to Occur in the Study Area
FISHES				
Gulf Sturgeon (*Acipenser oxyrhynchus desotoi*)	Threatened	56 FR 49653/ September 30, 1991	Gulf of Mexico marine environments and freshwater river systems. Winter foraging habitat in GIWW.	Plaquemines Parish, GIWW & Mississippi River

Species	Status	Listing Rule/ Date	Habitat	Potential to Occur in the Study Area
Pallid Sturgeon (*Scaphirhynchus albus*)	Endangered	55 FR 36641 36647/ September 6, 1990	Large river obligate fish inhabiting the Missouri and Mississippi rivers and some tributaries	Mississippi River
MAMMALS				
West Indian manatee (*Trichechus manatus*)	Threatened	82 FR 16668/ April 5, 2017	Freshwater, brackish, and saltwater warm water environments. Large, slow-moving rivers, river mouths, and shallow coastal areas	GIWW, canals

5.1. Critical Habitat. No critical habitat has been designated within the study area. Therefore, the proposed West Bank and Vicinity project would have ***no effect*** **on Gulf Sturgeon critical habitat.**

5.2 Gulf Sturgeon

Status. The Gulf Sturgeon is a federally listed threatened anadromous fish. It migrates from marine environments to freshwater river systems to spawn in the spring. Historically, Gulf sturgeons were exploited for their meat and caviar. The species was further impacted by construction of dams on the fresh water rivers, which blocked them from reaching their historical spawning sites. Water pollution and loss of habitat have also had an adverse impact on this fish[1]. Critical habitat has been designated for Gulf sturgeon in Lake Pontchartrain, which is outside of the West Bank and Vicinity study area.


Photo by Paul Lang

Effects Determination. The proposed actions along the Mississippi River would have less than significant impacts to Gulf Sturgeon due to land-based construction of levees and floodwalls. No direct impacts to the open water habitat adjacent to the levees and floodwalls are anticipated at this time. Gulf sturgeon is listed in Plaquemines Parish; however, its range does not extend west of the Mississippi River. Therefore, it is not likely to occur in the proposed construction area of the foreshore protection.

We conclude the proposed West Bank and Vicinity project would have ***no effect on Gulf Sturgeon.***

[1] USFWS (2018). Gul Sturgeon Fact Sheet. USFWS. Available online at https://www.fws.gov/panamacity/resources/SturgeonFactS08.pdf Accessed online 5 September 2019.

7.0 EFFECTS OF THE PROPOSED ACTION

7.1 Direct Effects. Direct effects, as they apply to ESA Section 7 analyses, are those effects caused by or will result from implementation of the proposed action. The District does not anticipate any Project negative direct effects on Gulf Sturgeon

7.2. Indirect Effects. Indirect effects, as they apply to ESA Section 7 analyses, are those effects caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. The District does not anticipate any Project negative indirect effects on Gulf Sturgeon.

7.3 Cumulative Effects. Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to the ESA, Section 7.

The District does not anticipate any additional secondary and/or accelerated commercial development, farming, or other activities to occur within or adjacent to the action area as a result of the proposed Project. Therefore, the District does not anticipate any Project adverse cumulative effects to Gulf Sturgeon.

8.0. CONCLUSION AND DETERMINATION OF EFFECTS FOR EACH PROTECTED RESOURCE

Table 3 identifies the District's Determination of effects and rationale for each determination.

Table 3. Determination of Effects

Specie	Determination	Rationale
Gulf Sturgeon	No Effect	This project would not impact Gulf Sturgeon habitat in the Mississippi River.

9.0. PREPARER

Preparer: Kat McCain, 314-331-8047

Kathryn.McCain@usace.army.mil

Corps of Engineers, St. Louis CEMVP-PD-P
1222 Spruce Street
St. Louis MO 63103

2.3 2 DEC 2019 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 West Bank and Vicinity, Louisiana General Re-evaluation Report

Mr. Joseph A. Ranson
Field Supervisor
Louisiana Ecological Service 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 West Bank and Vicinity (WBV), Louisiana, General Re-evaluation Report to re-evaluate the performance of the WBV 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, and placement of foreshore protection in existing foreshore protection locations.

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 of DCH

The CEMVN has reviewed the proposed project for its impacts to federally listed species. The Corps has concluded the project may affect but is not likely to adversely affect the West Indian Manatee and Pallid Sturgeon. The other listed species is the Gulf Sturgeon and CEMVN has determined no effect for this species. No 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 determination(s) in a timely manner. If USFWS 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 USFWS 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 Planning Branch
Regional Planning and Environmental Division North

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 West Bank and Vicinity study area (Figure 1).

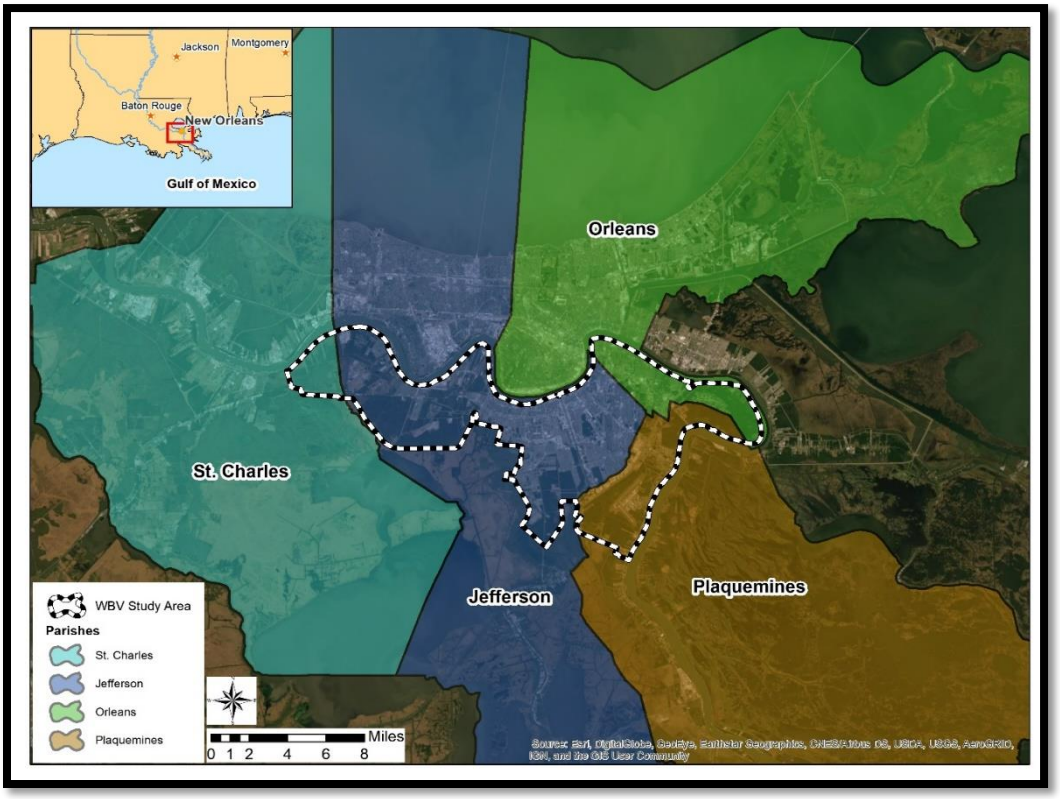

Figure 1. Study Area Location

PROPOSED ACTION

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 the Bayou aux Carpes 404(c) area, portions of Lake Cataouatche and the Mississippi River, as well as numerous bayous and canals in the Greater New Orleans area.

Description of the Proposed Action. The WBV project includes features in four parishes (St. Charles, Jefferson, Orleans, and Plaquemines) located in the greater New Orleans area on the west bank of the Mississippi River. Currently, WBV contains a total of approximately 47 miles of perimeter levees and floodwalls and 26 miles of interior risk reduction structures. 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, and placement of foreshore protection in existing foreshore protection areas along the Gulf Intracoastal Waterway (GIWW) and Hero Canal (Figure 2).

Figure 2. WBV Action Area & Proposed Feature Locations

The proposed floodwall increases would also occur within the existing floodwall footprints. The proposed foreshore protection would also be placed within the existing footprint of the foreshore protection along the GIWW and Hero Canal shoreline. Most of the proposed levee lifts would occur along the alignment of the existing levees. However, for the Mississippi River Levee (MRL) levee lifts, initial design estimates indicate an additional 25 feet would be required on the flood side of the levees for construction. These flood side levee shifts would impact approximately 63 acres of bottomland hardwood-wet habitat and these impacts would be offset through the CEMVN mitigation plan. The exact quantity of fill, acres, and locations would be refined through feasibility level of design and environmental compliance documents will be updated accordingly prior to final report.

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 the GIWW and Hero Canal would result in placing approximately 5.6 acres of rock on top of existing foreshore protection in reaches WBV-90 and WBV-12 (Figure 3). 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.

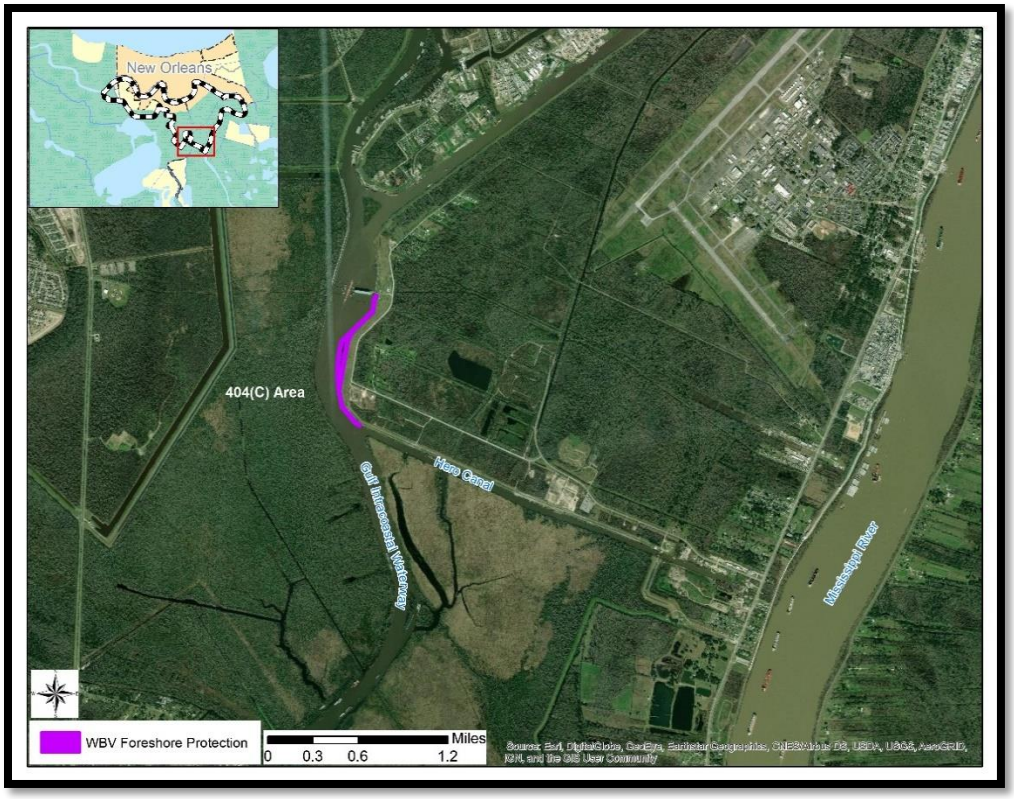

Figure 3. Location of proposed foreshore protection

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 via the ECOS-IPaC website (http://ecos.fws.gov/ipac/), dated 3 September 2019. USFWS provided a list of 3 federally threatened and endangered species that could potentially be found in the study area (Jefferson, Orleans, Plaquemines, and St. Charles Parishes). The 3 species, federal protection status and habitat can be found in Table 1. No critical habitat has been designated in the study area. The CEMVN is consulting with the NMFS for potential effects on Gulf Sturgeon and further effects 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 (*Trichechus manatus*)	Threatened	82 FR 16668/ April 5, 2017	Freshwater, brackish, and saltwater warm water environments. Large, slow-moving rivers, river mouths, and shallow coastal areas	GIWW, canals
FISHES				
Pallid Sturgeon (*Scaphirhynchus albus*)	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 will 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 them[1].

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).

[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.

Effects Determination. Less than significant direct, minor, and short-term adverse effects from construction activities along the GIWW, and Hero Canal are anticipated due increased turbidity and water body temperatures related to increased suspended solids produced during construction that could absorb incident solar radiation. Temporary, minor, less than significant water quality impacts could occur due to increased nutrient loading, miscellaneous debris, and accidental spills from construction equipment. Water quality in the project area would return to normal after construction completion. The proposed actions along the Mississippi River would have no effect the West Indian Manatee due to land-based construction of levees and floodwalls. No direct impacts to the open water habitat adjacent to the levees and floodwalls are anticipated at this time. Water quality impacts are expected to be less than significant because they 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 manatee, and halting construction activities in the event a manatee is observed in the area.

We conclude the proposed West Bank 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 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 bar of large rivers. The riverine habitat for the pallid sturgeon has been altered due to impoundment, channelization, and environmental contamination leading to species decline[2].

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

Effects Determination. Less than significant, minor, short-term, adverse direct effects from implementing the proposed project are anticipated due to increased turbidity during construction. The proposed actions along the Mississippi River are not expected to effect the pallid sturgeon due to land-based construction of levees and floodwalls. Less than significant direct impacts to the open water habitat adjacent to the levees and floodwalls are anticipated at this time. Best management practices would be implemented to reduce impacts to water quality and would result in less than significant impacts.

We conclude the proposed West Bank and Vicinity project ***may affect, but not likely to adversely affect Pallid Sturgeon.***

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

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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

3 COASTAL ZONE MANAGEMENT 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 West Bank 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 extends from eastern St. Charles Parish to northern Plaquemines Parish along the right descending bank of the Mississippi River in southeast Louisiana (Figure 3-1). The area includes the sub-basins (polders) Lake Cataouatche, Harvey-Westwego, Gretna-Algiers, and Belle Chasse (Figure 3-2).

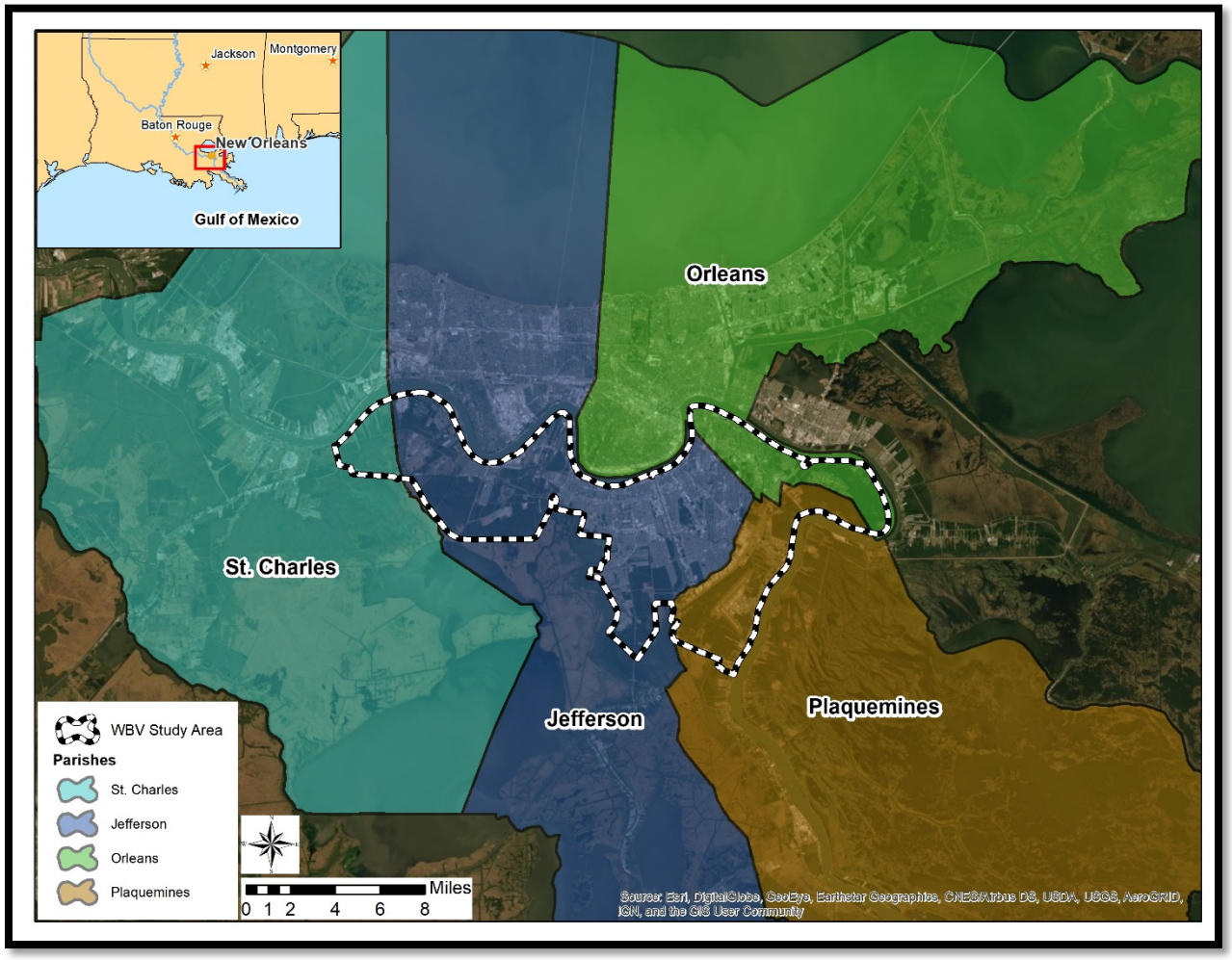

Figure 3-1. Study Area in Relation in Parishes

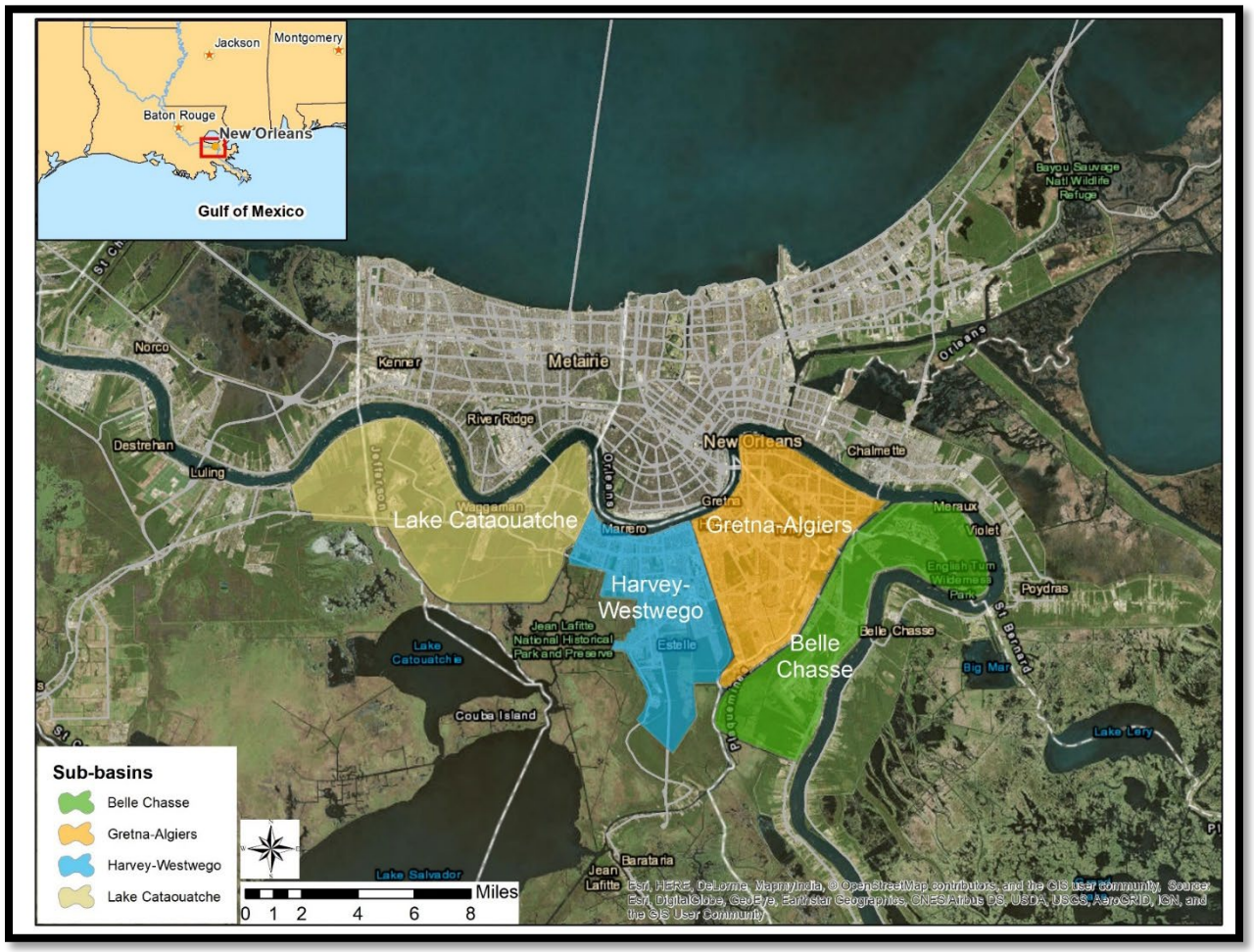

Figure 3-2 Study Area in Relation to Sub-Basins

3.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. The purpose of the study with integrated EIS is to analyze alternatives to reduce flood risk within the WBV study area. The study will evaluate and compare the benefits, costs, and impacts (positive or negative) of alternatives including the No Action Alternative. The study will identify whether an NED plan exists to reduce life safety risk and economic damages due to the combined effects of subsidence, settlement, consolidation, sea level rise, and new datum on the WBV levee systems. The integrated report includes assessment of the environmental effects of a reasonable range of potential alternatives or actions designed by USACE, including the no action plan, prior to decision making.

3.3 DESCRIPTION OF THE PROPOSED ACTION

Alternative 2 is the TSP which includes system levee lifts to the projected 1% Annual Exceedance Probability (AEP) event at 2073. Construction of the TSP would generally occur in the same footprint as the existing WBV project and existing MRL levees. Project features consist of 65.6 miles of levee lifts along the existing levee alignment to be constructed as-needed before the combined effects of consolidation, settlement, subsidence, and sea level rise reduce the levee elevations in each levee reach below the required design elevation. In some reaches, levee lifts may need to occur more than once during the period of analysis. Additionally, the TSP includes 0.8 miles of floodwall modifications and replacements along the existing alignment to be constructed as-needed prior to the combined effects causing the design requirements to be exceeded for each structure. Figure 3-3 depicts the location of features included in the TSP.

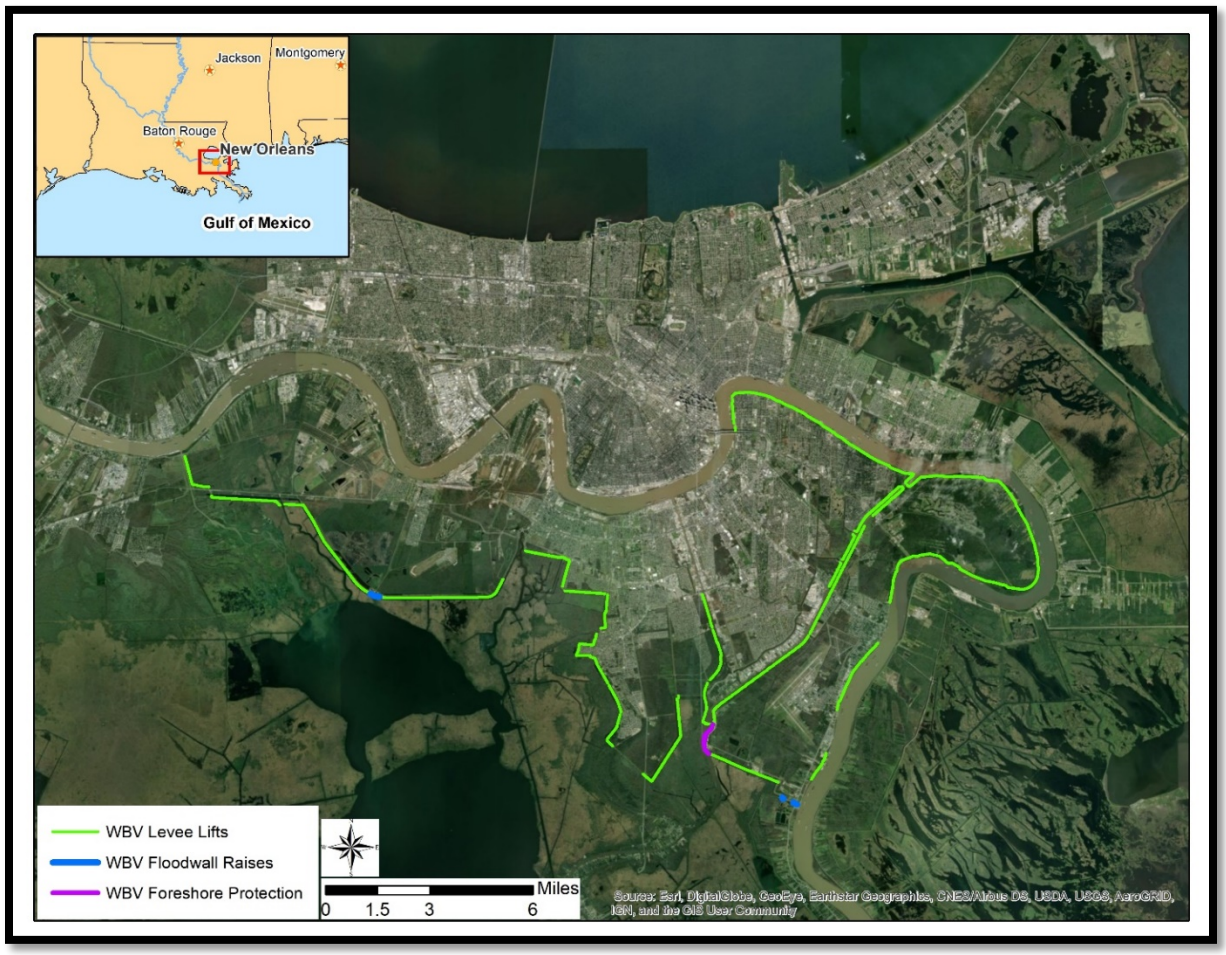

Figure 3-3. Proposed Action Feature Locations

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 the GIWW and Hero Canal would result in filling approximately 5.6 acres of aquatic habitat (Figure 3-4). 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.

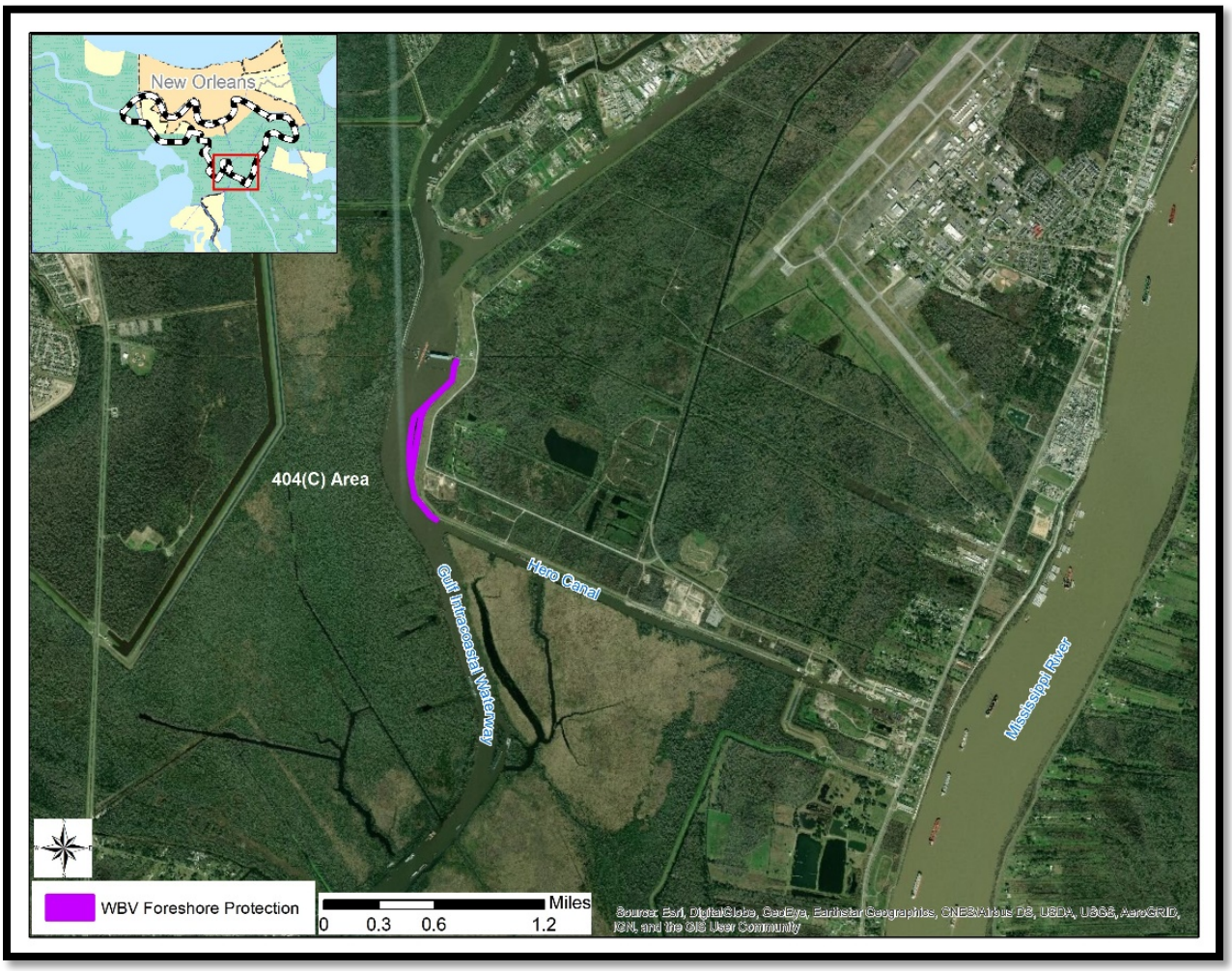

Figure 3-4. Location of Proposed Foreshore Protection

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 will 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. Jurisdictional wetlands will be avoided when designating borrow sites and as a result no impacts to wetlands are anticipated.

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 will 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 will 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.

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 will 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, will 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, will utilize existing linear corridors for construction. No dredging will be required.

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

Response: No access dredging is required.

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 will 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: Not applicable.

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, will utilize existing linear corridors for construction. 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. 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.

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 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 again 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: Not applicable.

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: 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 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: Acknowledged.

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: Acknowledged.

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: The levees and floodwalls of the existing system and the proposed levee and floodwall raises are designed and maintained to meet all applicable USACE specifications.

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 GIWW and Hero Canal shoreline are designed to protect project features from erosion and wave impacts and will 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: Any unavoidable impacts to wetlands and dry bottomland hardwood forest will require compensatory mitigation.

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: Acknowledged

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 will be minimized to limit impacts beyond what is 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 will 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. 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 will be conducted to ensure impacts to colonial nesting water birds are avoided to the maximum extent practicable and construction buffers and season limitations will be employed as necessary.

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 will be completed and a General Stormwater Permit will be required. Contractors will 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 will be screened for potential contaminant issues per USACE regulations. Only material meeting physical and contaminant criteria will 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. 0. 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 will 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 be constructed in the footprint of the existing system, impacts to human and natural resources would be minimized.

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