United States Department of the Interior

FISH AND WILDLIFE SERVICE
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May 29, 2009

Colonel Alvin B. Lee
District Engineer
U.S. Army Corps of Engineers
Post Office Box 60267
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Dear Colonel Lee

Please reference the Individual Environmental Report #6 (IER #6). That study was conducted in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law instructed the U.S. Army Corps of Engineers (Corps) to proceed with engineering, design, and modification (and construction where necessary) of the Lake Pontchartrain and Vicinity and the West Bank and Vicinity Hurricane Protection Projects so those projects would provide 100-year hurricane protection. Procedurally, project construction has been authorized in the absence of the report of the Secretary of the Interior that is required by Section 2(b) of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). In this case, the authorization process has prevented our agencies from following the normal procedures for fully complying with the FWCA. The FWCA requires that our Section 2(b) report be made an integral part of any report supporting further project authorization or administrative approval. Therefore, to fulfill the coordination and reporting requirements of the FWCA, the Service will be providing a 2(b) report for each IER. This report contains a description of the existing fish and wildlife resources of the project area, discusses future with and without project habitat conditions, identifies fish and wildlife-related impacts of the proposed project, and provides recommendations to minimize project impacts on those resources.

This draft report incorporates and supplements our FWCA Reports that addressed impacts and mitigation features for the Lake Pontchartrain and Vicinity Hurricane (dated July 25, 1984, and January 17, 1992) Protection projects, and a November 26, 2007, draft programmatic FWCA report that addressed the overall 100 year hurricane protection project.

This report constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA. This report has been provided to the Louisiana Department of Wildlife and Fisheries and the National Marine Fisheries Service and their comments have been incorporated into our final report.

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DESCRIPTION OF THE STUDY AREA

The study area is located in the northern part of Orleans Parish, Louisiana. The area includes part of the southern shore of Lake Ponchartrain to the north and is bounded by the city of New Orleans to the south (Figure 1). The narrow study area is bounded by the Lakefront Airport to the west and Paris Road to the east. The project area includes the Lake Pontchartrain and Vicinity Hurricane protection levee, rock foreshore protection, and parts of the rim and bottom of the generally oligohaline (0.5 ppt to 5.0 ppt) Lake Pontchartrain. The habitat types are mowed pasture (levee), developed (road and railway), sand beach, shallow open water and small areas of brackish marsh vegetation (saltmeadow cordgrass, smooth cordgrass and some common reed).

FISH AND WILDLIFE RESOURCES

The Service's November 2007, report contains a thorough discussion of the significant fish and wildlife resources (including habitats) that occur within the entire 100 year levee protection study area. For brevity, that discussion is incorporated by reference herein. For the specific area of the IER 6 study, resources in the area consist of aquatic animals such as oligohaline fishes (e.g. red drum, mullet), crustaceans (e.g. blue crab), and bivalve mollusks(e.g. road clam, stout razor clam). Avian wildlife includes gulls, pelicans, and various shorebirds. Small mammals, reptiles, and amphibians also inhabit the area between the levee and the lake. The Service provided information about threatened and endangered species that may occur in the area in letters dated December 6, 2007 and January 30, 2009. The Gulf sturgeon and the West Indian manatee were identified as potentially occurring in the study area.

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297) set forth a new mandate for NOAA's National Marine Fisheries Service (NMFS), regional fishery management councils (FMC), and other Federal agencies to identify and protect important marine and anadromous fish habitat. The Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Act support one of the nation's overall marine resource management goals- maintaining sustainable fisheries. Essential to achieving this goal is the maintenance of suitable marine fishery habitat quality and quantity. Detailed information on federally managed fisheries and their EFH is provided in the 1999 generic amendment of the Fishery Management Plans (FMP) for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council (GMFMC). The generic FMP subsequently was updated and revised in 2005 and became effective in January 2006 (70 FR 76216). NMFS administers EFH regulations.

EFH includes all waters and substrates within estuarine boundaries, outside of the hurricane protection levee, including the subtidal vegetation (SAVs, seagrasses and algae) and adjacent tidal vegetation (marshes). The forested wetland areas and supra-tidal wetlands (i.e., those located on levee berms) within the project ROW are not likely to be suitable habitat for any of the managed species (e.g., shrimp, red drum).

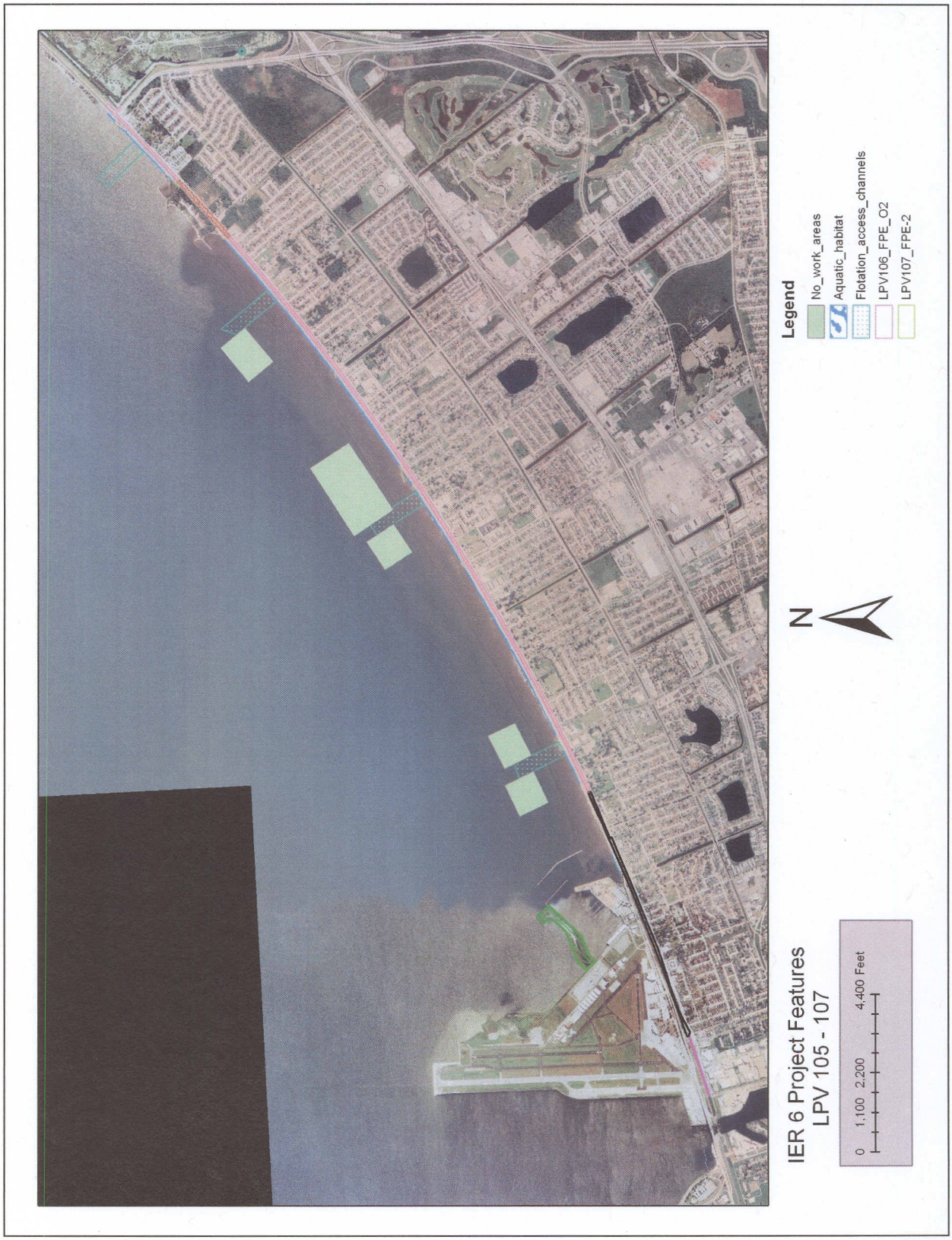

Figure 1. IER 6 study area.

Future fish and wildlife resources with and without the project are expected to be approximately equal. Without construction of the proposed plan, rock foreshore protection, floodgates, floodwalls and the levee would still be improved to meet the previously authorized elevation and current design criteria. During construction, some terrestrial and mobile aquatic animals would be temporarily displaced, but are expected to return to the area because the project plans call for returning the area essentially to its preconstruction conditions. Some animals, especially benthic invertebrates, may be killed, but recolonization of the impacted area is expected.

DESCRIPTION OF SELECTED PLAN

The purpose of the proposed plan is to provide the 100-year level of protection for the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) for New Orleans East. The term "100-year level of risk reduction," as it is used throughout this document, refers to a level of protection which reduces the risk of hurricane surge and wave driven flooding that the New Orleans Metropolitan area has a 1 percent chance of experiencing each year. Elevations of the existing floodwalls and levees within three reaches of the Lake Pontchartrain and Vicinity (LPV) project (reaches 105, 106, and 107 which comprise the Citrus Lakefront Levee project), a component of the HSDRRS, are below 100-year design elevations and do not meet the New Orleans District Corps design criteria. The proposed plan results from a defined need to reduce flood risk and storm damage to residences, businesses, and other infrastructure from hurricanes (100-year storm events) and other high water events. The completed HSDRRS would lower the risk of harm to citizens, and damage to infrastructure during a storm event.

Various alternative alignments and structures (*i.e.*, floodwalls and levees) were evaluated for each of the three Citrus Lakefront Levee project reaches. Based upon a detailed analysis that included evaluating risk and reliability; construction schedule; cost; right-of-way requirements; environmental impacts; and operations and maintenance needs, the following alignments and structures were chosen as the proposed project for LPV 105, 106 and 107.

Earthen levees in southern Louisiana settle over time due to the type of soils and geology present in the area. Because of this settlement, levees are maintained over the project life (50 years) by a process of multiple lifts. The Corps has determined that a base elevation for the levees would allow the levee to be certified into the National Flood Insurance Program (NFIP). This base elevation plus some overbuild is what the Corps is proposing to construct as discussed below for each reach. Because settlement is an issue in this location, the Corps proposed plan includes initially overbuilding the levees to an elevation that has been determined to allow the levee to settle for 10 years, but would still be above the height required to be eligible for certification into the NFIP. After 10 years, an additional lift would be required to maintain the levee above the required NFIP elevation.

In the western portion of LPV 105 (west of the Alabama Street-Hayne Boulevard Intersection), the current I-wall type floodwall alignment is 2,715 linear feet and is located within the New Orleans Lakefront Airport runway protection zone (Figure 2). The current alignment includes

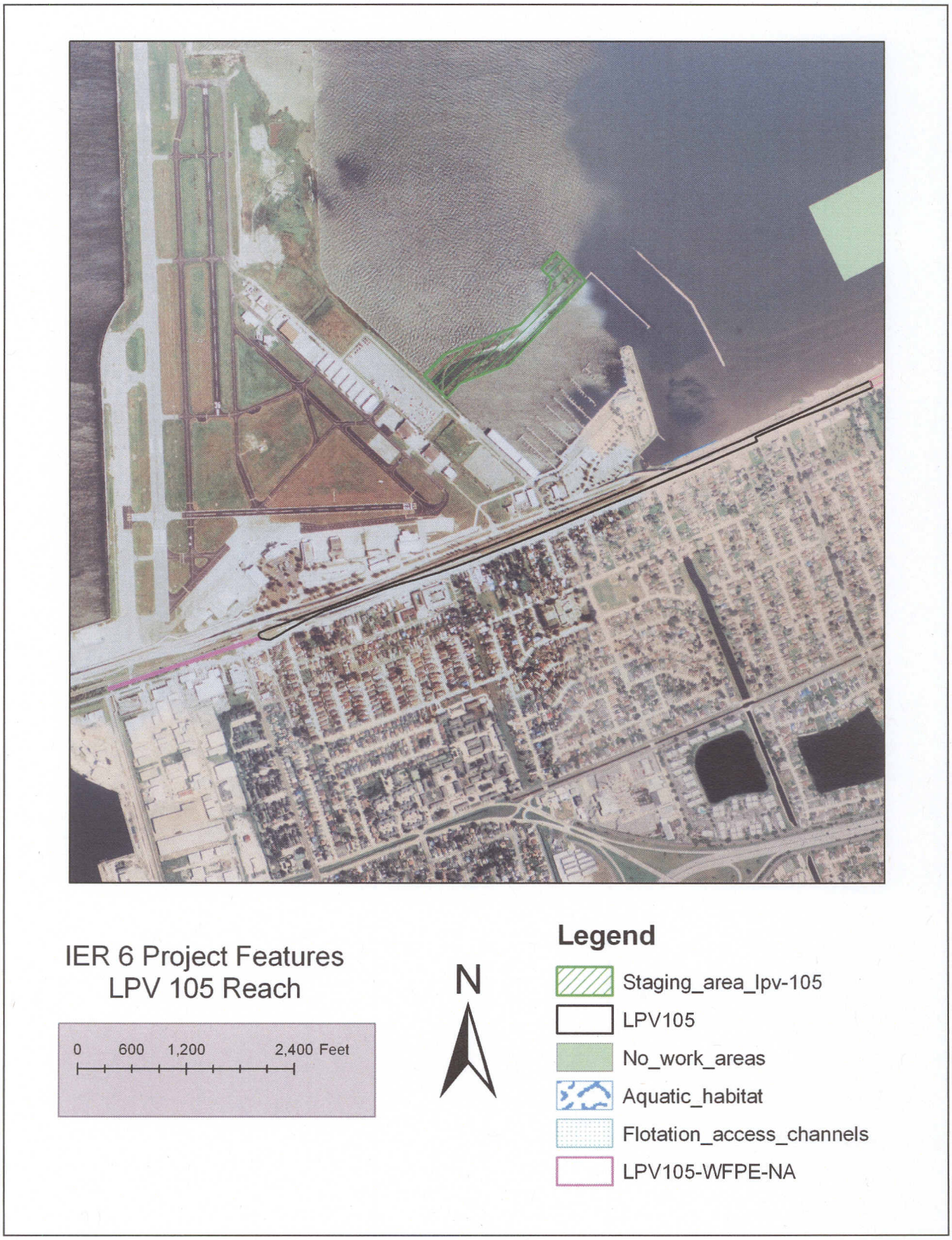

Figure 2. IER 6 project features of LPV 105 levee section.

one railroad and four vehicular floodgates. The existing elevations of the levees and floodwalls vary, but range from +11.0 to +14.0 feet as referenced to the North American Vertical Datum (NAVD) 88. To provide the 100-year level of risk reduction, a new 1,780-foot long T-wall (floodwall) would be constructed 300 feet south of the current floodwall alignment (south of the Norfolk Southern Railroad [NSRR]) to a height of +15.5 feet NAVD 88. This would require construction of a new 80-foot-wide floodgate at the floodwall's crossing of Downman Road. The existing I-wall and floodgates (railroad and vehicular) associated with the current I-wall alignment would not be improved. Additional drainage improvements may be necessary and accommodations would be incorporated for the design life of the project.

The eastern portion of LPV 105 (east of the Alabama Street-Hayne Boulevard intersection), comprises 7,338 linear feet of I-wall and earthen levee. Within its current alignment, 5,473 linear feet of I-wall and levee would be demolished in phases and replaced with a T-wall type floodwall at a height of +15.5 feet NAVD 88. Also, 1,915 linear feet of existing levee (from east of Lamb Road to west of Danube Road) would be raised to an elevation that would not settle below a net grade of approximately +13.5 feet NAVD 88 in 10 years. No floodgate construction would be required.

The LPV 106 reach includes 4.18 linear miles of levee improvements (Figure 3). The earthen levee has an average existing crest elevation of +13.0 feet NAVD with two gate structures and sheetpiling (to prevent seepage and reduce the piezometric conditions in the upper silty soil layer) that isolate the Citrus and Jahncke pump stations from Lake Pontchartrain. The existing levee crown would be lowered initially to create a flat, stable working platform for construction equipment and a seepage cutoff wall would be constructed. The preferred option would be to construct a sheet pile seepage cutoff wall at the flood side toe of the levee to a depth of -17 feet below ground surface (bgs). However, one of several different types of cutoff walls may be constructed and include deep soil mixing, cement-bentonite and soil-cement bentonite; the material and method for cutoff wall construction would be determined during final design. After completion of the cutoff wall construction, the levee elevation would be raised to an elevation with appropriate side slopes that would not settle below a net grade of approximately +13.5 feet NAVD 88 in 10 years. An approximately 1-foot high cement curb would be constructed at the toe of the levee adjacent to Hayne Boulevard.

Two gated structures bounded by I-walls that isolate Citrus and Jahncke pump stations from Lake Pontchartrain would be reconstructed. At the pump stations, the levee crest would be lowered to +11.5 feet NAVD 88 on the flood side and +12.5 feet NAVD 88 on the protected side and the T-wall along the levee would protrude 4.0 feet above the crest, providing risk reduction to +15.5 feet NAVD 88. The base of the T-wall would be approximately 24.5 feet wide, with the bottom side of the pile cap constructed at an elevation of +3.0 feet NAVD 88. The T-wall would be supported by three rows of battered H-piles on the flood side of levee centerline, and two rows of battered H-piles on the protected side of levee centerline. A steel sheet pile cut off wall would be constructed beneath the T-Wall, except in the area of the pump station culverts. The sheet pile wall would provide protection against seepage and reduce the possibility of piping of coarse-

Figure 3. IER 6 project features for the LPV 106 and 107 levee sections.

grained material in the foundation. All work would be within the existing levee footprint.

Riprap foreshore protection along Lake Pontchartrain would be raised to reduce erosion and wave impact on the new T-wall, and a concrete slab would be constructed along the existing flood side of the levee slope, adjacent to the NSRR tracks. Approximately 80,000 cubic yards of riprap would be required to raise levee foreshore protection to an elevation that would not settle below a net grade of approximately +14 feet NAVD 88 in 10 years. It is anticipated that riprap would be transported to the Lake Pontchartrain shoreline by barges and would be put in place from equipment stationed on the barges in the lake and from trucks and equipment accessing the foreshore protection area from the shoreline. The placement of foreshore protection would permanently fill approximately 7.0 acres of Lake Pontchartrain. To provide barge access, channels would be dredged in Lake Pontchartrain perpendicular to the shoreline. It is proposed that four access channels perpendicular to the Lake Pontchartrain shoreline would be constructed to allow the tug boats and barges to approach the construction area. Channel dimensions would be approximately 10 feet deep, 100 feet wide at the channel bottom and between 1,448 and 1,940 feet long with a 2:1 slope on both sides of the channel. The dredging operation would excavate approximately 130,000 cubic yards of material. Dredged material (tailings) would be placed within a 178-foot wide stockpile area located on one side of and parallel to the new dredged channel. The width of the channel and dredged material placement area would create a 400-foot wide footprint, which includes a 178-foot wide dredged material stockpile area, a channel with a top width of 140-feet and a bottom width of 100-feet, and the space between the stockpile and channel. The new channels and material stockpile areas would directly impact approximately 53.4 acres of lakebed. After construction activities have been completed, dredged stockpiled materials for the access channels would be used to backfill the dredged channels.

The proposed plan in the LPV 107 reach is to replace existing I-walls and earthen levees with an earthen levee along a new alignment at an elevation that would not settle below net grade of approximately +13.5 feet NAVD 88 (Figure 3). The existing levee and floodwall alignment would be shifted approximately 12 feet south (further away from the NSRR embankment), aligning 1,472 linear feet of new levee with the LPV 106 alignment. The earthen levee would be constructed with the appropriate side slopes and a mechanically stabilized earth wall (*i.e.,* retaining wall) at locations on the protected side of the levee along Hayne Boulevard. Improvements to subgrade soils below the new levee would be accomplished through deep soil mixing. The existing floodgate would be replaced with a new floodgate in the new location to provide access to the Lincoln Beach area.

The proposed project would increase the elevation of structures to meet the 100-year level of flood protection. All T-walls would be approximately 2-feet wide, supported by a 12- to 17-foot wide, 3-foot high concrete slab connected to battered H-piles (driven to a depth of approximately -85 feet bgs, and a continuous sheetpile cutoff wall (constructed to depths ranging from -45 to -60 feet bgs) for further stabilization and seepage control. It is anticipated that T-walls would be cast-in-place; however, consideration would be given to using precast concrete for T-wall foundations and wall stems.

Construction materials would be transported to staging areas and then to active construction from a supply chain dock constructed at the Inner Harbor Navigational Canal (IHNC) and Hayne Boulevard, or shipped directly from contractors in the region. Staging areas would be located both within the construction corridor and within previously developed areas adjacent to the project corridor (*e.g.*, Lakefront Airport parking area, and vacant lots south of Hayne Boulevard) (Figure 1). Temporary closure of sections of both westbound lanes of Hayne Boulevard would occur during the construction process to allow for offloading of construction materials. Additional traffic impacts would occur throughout the project due to the transport of earthen material to the project sites. It is estimated that approximately 98,800 cubic yards or 6,600 loads of earthen material would be transported to the construction site from borrow sites in the New Orleans East area.

As part of construction, electrical services, gas lines, telephone poles and lines, storm drainpipes, subdrain lines, and storm drain catch basins, would be avoided, removed or relocated as needed. Heavy equipment that would likely be used during demolition and construction activities includes haulers, excavators, pile drivers (vibratory and hammer), dozers, graders, cranes, backhoes, and water trucks. Construction of all three reaches is anticipated to require approximately 2 years. It is anticipated that demolition of I-walls would be staged so that areas degraded or demolished during hurricane season would be replaced within 48 hours to provide area hurricane and storm damage risk reduction should a tropical event pose a threat to the area.

ALTERNATIVES UNDER CONSIDERATION

Including the no action alternative, two alternatives to the proposed action were considered in detail for LPV 105, LPV 106, and LPV 107.

LPV 105

No Action. CEQ's regulations and the Corps' ER 200-2-2 for implementing NEPA require that a no action alternative be evaluated. Under the no action alternative, floodgates, floodwalls and levee would be improved or constructed within the current alignment to meet the previously authorized elevation and current design criteria. Maintenance of structures would continue.

Alternative 1: Replace I-Wall with T-Wall Along Current Alignment. This alternative would replace approximately 2,715 linear feet of I-walls in the western portion of LPV 105 with T-walls at an elevation of +15.5 feet NAVD 88 in their current alignment. This would require replacement of five existing floodgates within the western portion of the LPV 105 reach. The eastern portion of LPV 105 (east of Alabama Street) would be constructed as described by the proposed action.

LPV 106

No Action. Under the no action alternative, foreshore protection, gate structures, floodwalls and levee would be improved or constructed to meet the previously authorized elevation and current design criteria. Maintenance of structures would continue.

Alternative 1: Combination T-wall and Earthen Levee Along Current Alignment. Under this alternative, the existing levee crest elevation would be lowered from +13 feet NAVD 88 to +11 feet NAVD 88 to accommodate a new T-wall cap constructed at an elevation of +15.5 feet NAVD 88. The base of the T-wall would be approximately 9.5 feet wide, with the pile cap at an elevation of +8.5 feet NAVD 88. The concrete T-wall structure would be supported by two rows of battered steel H-piles to protect against overtopping and erosion. A steel sheetpile cut off wall would be constructed underneath the centerline of the T-Wall to -20 feet bgs to provide protection against seepage and reduce the possibility of piping of coarse-grained material in the foundation. The two gate structures that isolate the Citrus and Jahncke pump stations would be reconstructed as part of the T-wall placement.

LPV 107

No Action. Under the no action alternative, a floodgate, floodwalls and levee would be improved to meet the previously authorized elevation and current design criteria. Maintenance of structures would continue.

Alternative 1: Replace I-Wall and Floodgate with Composite Levee/T-wall Along Proposed Action Alignment. This alternative would replace the existing I-wall with a composite levee/T-wall 12 feet south of the current alignment (the same alignment as described by the proposed action). The levee would be constructed at an elevation of +10.0 feet NAVD 88 with 3:1 (horizontal:vertical) side slopes; a pile supported concrete T-wall would be constructed on top of the levee from +10.0 feet to +15.5 feet NAVD 88. Sheetpile cutoff walls would be constructed to -20 feet bgs under the centerline of the composite levee/T-wall for seepage protection. The floodgate at Lincoln Beach would be reconstructed as described by the proposed action.

EVALUATION OF SELECTED PLAN AND ALTERNATIVES

The features of the proposed plan and the alternatives, including the no action alternative, are very similar. Impacts to fish and wildlife resources of all the plans would be minimal and there would be no differential acreages impacted among them. The Service, therefore, did not prepare a quantitative comparative habitat analysis for this project.

PROJECT IMPACTS OF SELECTED PLAN

Much of the physical disturbance of the selected plan would affect only the existing protection levee and foreshore rock protection. Impacts to fish and wildlife habitat would be mostly restricted to the LPV 106 reach where rock foreshore protection expansion (7.03 acres) and temporary access channels (61.1 acres) would result in the loss of marsh habitat (4 acres) and cause mortality of some benthic organisms. These channels would be refilled to their prior elevation following project completion and would be expected to be recolonized by benthic invertebrates. The proposed plan could potentially impact the West Indian manatee; however, the Corps has incorporated protective measures, as recommended in letters dated December 6,

2007 and January 30, 2009, into their construction contracts. The Service concurred that the proposed project is not likely to adversely affect the manatee.

FISH AND WILDLIFE CONSERVATION MEASURES

The Service has determined that the proposed project would not significantly impact fish and wildlife resources; however, conservation measures, whenever practicable, should always be considered. Part of the proposed plan is to excavate channels perpendicular to the Lake Pontchartrain shoreline for access to the foreshore protection. Following project completion, these channels are to be refilled with the excavated material back to the original bottom elevation. The Service proposes the beneficial use of any material that may be determined to be in excess of what is required for refilling the channels. That material could be placed on the lakeside edge of the foreshore protection feature to hasten the establishment of emergent marsh habitat.

SAVs may be directly impacted by dredging of access channels and indirectly by turdidity increases resulting for erosion of disposed access channel material stockpiled in Lake Pontchartrain. Prior to construction and following backfilling of the access channels, the Corps should survey for SAVs in Lake Pontchartrain along the shoreline adjacent to the IER 6 project area. Surveys should be taken at 1,000 feet intervals along the shoreline out to the 3 foot depth contour with samples taken every 20 feet. SAV should be replanted, if needed, to minimize project impacts. The need to replant would be determined through coordination with the Service, NMFS, and other interested natural resource agencies.

COMPENSATORY MITIGATION MEASURES

The non vegetated open water habitat impacted is not of high value to fish and wildlife, and is not scarce. This habitat type is actually increasing due to the rapid conversion of wetlands to open water in coastal region of Louisiana. The proposed project would impact approximately 4 acres of wetlands; however, the Corps previously provided compensatory mitigation for these impacts as part of the Lake Pontchartrain and Vicinity Hurricane Protection Project.

SERVICE POSITION AND RECOMMENDATIONS

The proposed improvements to the LPV flood protection levee would provide greater storm protection for people and property in the New Orleans area. Service does not object to the construction of the proposed project provided the following fish and wildlife conservation recommendations are implemented concurrently with project implementation:

1. The Service shall be provided an opportunity to review and submit recommendations on the draft plans and specifications for all levee work addressed in this report.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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May 22, 2009

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

Dear Colonel Lee:

The U.S. Fish and Wildlife Service (Service) has reviewed the April 24, 2009, draft Individual Environmental Report #6 (IER#6), "Lake Pontchartrain and Vicinity (LPV), New Orleans East Citrus Lakefront Levee, Orleans Parish, Louisiana", transmitted to our office via a letter from Ms. Joan M. Exnicios, Acting Chief of your Environmental Planning and Compliance Branch. That study addresses impacts resulting from the construction of levee improvements and repairs to increase hurricane protection within the Greater New Orleans area located in southeast Louisiana. Work associated with that IER is being conducted in response to Public Law 109-234, Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (Supplemental 4). That law authorized the U.S. Army Corps of Engineers (Corps) to upgrade two existing hurricane protection projects (i.e., Westbank and Vicinity of New Orleans and Lake Pontchartrain and Vicinity) in the Greater New Orleans area to provide protection against a 100-year hurricane event. The Service submits the following comments in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and the National Environmental Policy Act of 1969 (83 Stat. 852, as amended; 42 U.S.C. 4321- 4347).

The IER #6 is well written and provides a good description of fish and wildlife resources in the project area and project impacts on those resources. Wetlands in the project area provide important habitat for several Federal trust species including wading birds, neotropical migrants, and resident and migratory waterfowl. The proposed project would impact approximately 4 acres of wetlands; however, the Corps has previously provided compensatory mitigation for these impacts as part of the Lake Pontchartrain and Vicinity Hurricane Protection Project.

The Service thus far does not object to the proposed features in IER #6 Hurricane Protection Project. Thank you for the opportunity to provide comments on the draft IER. If you or your staff has any questions regarding our comments, please contact David Castellanos at (337) 291-3112.

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Sincerely,

James F. Boggs
Supervisor
Louisiana Field Office

cc: Ms. Laura Lee Wilkinson, CEMVN, New Orleans, LA
EPA, Dallas, TX
NMFS, Baton Rouge, LA
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD/CRD), Baton Rouge, LA