



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

DEPT. OF NATURAL RESOURCES

DEC 20 2007

DEC 27 2007

FINDING OF NO SIGNIFICANT IMPACT

OFFICE OF THE SECRETARY

To All Interested Agencies and Public Groups:

In accordance with the environmental review guidelines of the Council on Environmental Quality at 40 Code of Federal Regulations Part 1500, the U. S. Environmental Protection Agency (EPA) has performed an Environmental Assessment (EA) of the following proposed action under the authority of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) of November 1990, House Document 646, 101st Congress (Public Law 101-646).

Project Name: Mississippi River Sediment Delivery System (BA-39).

Sponsors: U. S. Environmental Protection Agency, Region 6
Louisiana Department of Natural Resources.

Total Estimated Funding	\$ 28,881,365.00
Phase 1 (Engineering and Design Funding)	\$ 2,731,221.00
Phase 2 (Construction ¹ Funding)	\$ 26,150,144.00

Location: The proposed project is located in Plaquemines and Jefferson Parishes, Louisiana approximately 3.7 miles northwest of Myrtle Grove and 1.4 miles west of Ironton within the Barataria Basin, Coast 2050 Region 2, in the East Central Louisiana Coastal USGS Cataloging Unit (08090301) and the subsegment of Wilkinson Canal and Wilkinson Bayou (020904). The marsh creation sites are centered at approximate coordinates of 29° 38' 59" north latitude and 90° 0' 57" west longitude, and 29°39' 4" north latitude and 90° 0' 26" west longitude. The proposed sediment borrow site 2, is located west of the Mississippi River navigation canal between river miles 63.4 and 65.0.

Proposed Action: The proposed project would create approximately 493 acres of sustainable marsh using sediment from the Mississippi River. The sediment would be transported by pipeline into the project area consisting of 448 acres (ac) of open water and 45 ac of remnant brackish marsh in the vicinity of Bayou Dupont. The proposed project would rebuild about 493 ac of marsh platform in two cells. Cell 1 consists of 295 ac of open water/broken marsh, and Cell 2 consists of 198 ac of open water/remnant brackish marsh. The project area would be enhanced through the addition of sediment pumped from the Mississippi River and deposited to a

¹ Phase 2, construction of the project, includes project and contract management, supervision and inspection, post-construction biological monitoring, operation, maintenance, repair, replacement, and rehabilitation (OMRRR), and the purchase of real estate.

height of approximately +2.0 feet (ft) NAVD88 to allow for settling and compaction to intertidal marsh elevation. The preferred project location has the advantage of 23,915 ft of existing low dikes surrounding the two cells that will be enhanced to serve as containment for the sediment.

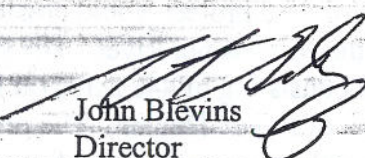
CWPPRA provides federal funds for planning and implementing projects that create, protect, restore and enhance wetlands in coastal Louisiana. Under CWPPRA, the project cost must be shared between the federal sponsoring agency and the State of Louisiana. Pursuant to approval of the Louisiana Coastal Wetlands Conservation Plan, the federal government will provide 85 percent of the project cost and the Louisiana Department of Natural Resources (LDNR) would provide the remaining 15 percent non-federal share. Phase 1 funding for the proposed Mississippi River Sediment Delivery System Project was approved for funding on January 16, 2003, and is included on the CWPPRA 12th Priority Project List.

The proposed Mississippi River Sediment Delivery System Project is part of and consistent with the Louisiana Coastal Wetlands Conservation and Restoration Task Force, and the Wetlands Conservation and Restoration Authority Region 2 ecosystem strategy to help stabilize the Barataria Basin Landbridge and protect freshwater marsh of the upper basin from increased marine/tidal influence. Construction of the recommended action is authorized as soon as compliance with the appropriate environmental laws and regulations is achieved and the project plans and specifications are complete.

Finding: On the basis of the EA for the proposed project, EPA Region 6 has determined that the proposed project is not a major Federal action significantly or adversely affecting the quality of the human environment, and that the preparation of an Environmental Impact Statement (EIS) is not warranted. Comments regarding this preliminary decision not to prepare an EIS may be submitted to the U.S. Environmental Protection Agency, Office of Planning and Coordination (6EN-XP), 1445 Ross Avenue, Dallas, Texas 75202-2733.

This preliminary Finding of No Significant Impact (FNSI) will become final after the 30-day comment period expires if no new information is provided to alter this finding. No administrative action will be taken on this decision during the 30-day comment period. Copies of the EA and requests for review of the Administrative Record containing the information supporting this decision may be requested in writing at the above address, or by telephone at (214) 665-8150.

Responsible Official,


John Blevins
Director
Compliance Assurance and
Enforcement Division

ENVIRONMENTAL ASSESSMENT
for the
COASTAL WETLANDS PLANNING, PROTECTION and RESTORATION ACT
BAYOU DUPONT (BA-39)
MISSISSIPPI RIVER SEDIMENT DELIVERY SYSTEM PROJECT
JEFFERSON and PLAQUEMINES PARISHES, LOUISIANA

Summary of Environmental Assessment

Project Name: Mississippi River Sediment Delivery System – Bayou Dupont (BA-39)

Location: The proposed project is located in Plaquemines and Jefferson Parishes, Louisiana approximately 3.7 miles northwest of Myrtle Grove and 1.4 miles west of Ironton within the Barataria Basin, Coast 2050 Region 2, in the East Central Louisiana Coastal USGS Cataloging Unit (08090301) and the subsegment of Wilkinson Canal and Wilkinson Bayou (020904). The marsh creation sites are centered at approximate coordinates of 29° 38' 59" north latitude and 90° 0' 57" west longitude, and 29°39' 4" north latitude and 90° 0' 26" west longitude. The proposed sediment borrow site 2, is located west of the Mississippi River navigation canal between river miles 63.4 and 65.0.

Sponsors: U.S. Environmental Protection Agency (EPA), Region 6;
Louisiana Department of Natural Resources (LDNR).

<u>Total Estimated Funding</u>	\$ 28,881,365.00
Phase 1 (Engineering and Design Funding)	\$ 2,731,221.00
Phase 2 (Construction ¹ Funding)	\$ 26,150,144.00

Land Rights: River Rest, L.L.C. and The Livaudais Company, L.L.C.

Project Purpose: The proposed BA-39 project would nourish and extend existing scattered marsh habitat in the area by reconstructing a marsh platform to provide important wetlands habitat and bolster the storm buffering effects to inlands. Approximately 493 acres (ac) of sustainable emergent brackish marsh would be created in the Barataria Basin to stabilize the Barataria Basin Landbridge and protect the freshwater marsh of the upper basin from increased marine/tidal influence. The project as proposed is consistent with the 1998 Coast 2050 plan, Region 2 ecosystem strategy and is not expected to cause adverse environmental impacts requiring compensatory mitigation.

Dredged Material: Approximately 3.5 million cubic yards of Mississippi River sediment.

¹ Phase 2 construction includes project and contract management, inspection and post-construction biological monitoring, operation, maintenance, repair, replacement and rehabilitation, and real estate purchase.

Wetlands: Open Water and Remnant Brackish Marsh

Threatened and Endangered Species: The West Indian manatees (*Trichechus manatus*), bald eagles (*Haliaeetus leucocephalus*), brown pelicans (*Pelecanus occidentalis*), and pallid sturgeon (*Scaphirhynchus albus*) may occur in the vicinity of the proposed project. The proposed project is not expected to adversely impact these species.

Cultural

Resources: There are no known cultural or historic sites in the proposed project area.

Permits and

Compliance: Construction of the project is authorized to begin as soon as the applicable environmental laws and regulations are met, project plans finalized, necessary land rights acquired, U.S. Army Corps of Engineers (USACE) 404 permit issued, and approval of the Louisiana Coastal Wetlands Conservation and Restoration Task Force², established in 1990 under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)³.

1.0 INTRODUCTION

Coastal land loss in Louisiana has proceeded at catastrophic rates for many decades and may represent 80 percent of the coastal wetland loss in the US. Losses of emergent wetlands in the project area were estimated by the US Geological Survey to be 2.5 percent per year from 1978-1990. The Bayou Dupont project area has experienced larger land loss rates than surrounding areas and is estimated to have approximately 102 ac of emergent marshes remaining.

According to in-land loss data provided by the USACE during the Wetland Valuation Assessment (October 2002), no loss rate could be detected during the 1983-1990 period for the project area, most probably because most of the area had already converted to open water, with only minimal ac of emergent vegetation remaining. The next most recent USACE land loss rate is the 1974-1990, at 2.94 percent per year. This rate is consistent with the long term 1956-1993 loss rate of 2.59 percent per year).

The loss of wetland has been attributed to sea level rise, subsidence, sediment deprivation, canalization, saltwater intrusion, and hydrologic modifications. Past land loss rates in coastal Louisiana have been estimated to range from 20 to 35 square miles per year. Prior to

²The Task Force is comprised the Natural Resources Conservation Service (NRCS), the U.S. Army Corps of Engineers (USACE), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), and the EPA. The Governor of Louisiana represents the State, with LDNR providing the primary source of the non-Federal funding.

³Concern over the loss of coastal wetlands led to the enactment of CWPPRA in 1990, to provide funding for the planning, design and construction of coastal restoration projects in Louisiana. An annual Priority Project List is developed through the participation of local, State and Federal CWPPRA partners. Projects are selected and assigned to specific CWPPRA Task Force member federal agencies for funding by CWPPRA and the State of Louisiana. The BA-39 project was funded as part of the 12th priority project list.

the hurricane season of 2005, the estimated annual Louisiana coastal land loss was 10 square miles per year from 2000 to 2050. Hurricanes *Katrina* and *Rita* in 2005, resulted in the conversion of an additional 217 square miles of marsh to open water.

Sediment replenishment projects are needed for protection and restoration of the Louisiana coastal landscape. The BA-39 project will rebuild 493 ac of emergent marsh and help demonstrate the feasibility of using Mississippi River sediment as a resource in the restoration of marsh communities and transporting the sediment by pipeline. Other wetland restoration projects, including sediment delivery and river diversions in the vicinity could benefit significantly through the restoration efforts of this project. The proposed project will begin a gradual process of re-creating marsh in an area that has experienced a high rate of wetland loss.

Construction authorization is contingent on several factors including: compliance with appropriate environmental laws and regulations; complete project plans and specifications; and, availability of funding. Under CWPPRA, the project must be cost-shared between the federal sponsoring agency and the State of Louisiana. Pursuant to the requirements of the Louisiana Coastal Wetlands Conservation Plan, the federal government provides 85 percent of the project cost and the State of Louisiana contributes the remaining 15 percent.

2.0 PURPOSE AND NEED FOR ACTION

Historically, the wetlands in the Barataria Basin were nourished by the fresh water, sediment and nutrients delivered by the Mississippi River and the many distributary channels. Anthropogenic activities, such as the construction of flood protection levees, have cut-off fresh water and sediments from the Mississippi River. Additionally, the closure of Bayou Lafourche has also prevented further inflow from the Mississippi River and exacerbated the emergent marsh loss conditions within the Barataria Basin. Data suggest that from 1932 to 1990, the basin lost over 245,000 ac of marsh, and from 1978 to 1990, this area has experienced the highest rate of wetland loss along the entire coast.

The purpose of the proposed project is to create approximately 493 ac of sustainable marsh using sediment from the Mississippi River and transporting the sediment by pipelines into 448 ac of open water containing 45 ac of remnant brackish marsh. The proposed project will rebuild the marsh platform in two cells (Fig.1). Cell 1 consists of approximately 295 ac of open water/broken marsh, while Cell 2 consists of 198 ac of open water/remnant brackish marsh in cell 2. The existing habitat for the project footprint consists largely of open water, 1 to 2 ft deep, with occasional remnants of broken marsh. The project area will be enhanced through the addition of sediment pumped from the Mississippi River which will be deposited to a height of approximately +2.0 ft NAVD 88 to allow for settling and compaction to a healthy elevation. After 10 years, the newly created marsh is expected to settle to a marsh height of +1.3 ft NAVD88. The revised project location has the advantage of 23,915 ft of existing spoil banks surrounding the two cells that will act as containment for the sediment.

3.0 PROPOSED ACTION AND ALTERNATIVES

Three design alternatives and six pipeline corridor alternatives were considered for this project. The design alternatives include the No Action Alternative and the Preferred Alternative.

The Preferred Alternative and Alternative 3 are very similar, but it has more shallow bathymetric elevations and existing low containment levees. Both alternatives are in need of restoration and accessible for delivery of sediment from the Mississippi River by pipeline.

3.1 Design Alternatives.

3.1.1 Alternative 1 - No-Action Alternative. Under this alternative, no action would be taken to create marsh in shallow open water within the project area. The shallow open water conditions resulting from past marsh loss would persist, and no storm buffering or ecosystem stabilizing effects would be added to Barataria Basin.

3.1.2 Alternative 2 (Preferred Alternative) - Creation of Two Marsh Areas Using Renewable Sediment Resources. The BA-39 project will help demonstrate the feasibility of using renewable sediment sources to create two marsh areas. A hydraulic cutter-head dredge is anticipated to be used to excavate an estimated 3,502,655 yd³ of sediment from Borrow Area 2, located west of the Mississippi River navigation channel, between river miles 63.4 and 65.0 (Fig.1). Borrow Area 1 (Fig.2) was determined to not be suitable for this project due to the insufficient amount of sediment available and restrictive depths for excavation.

Mississippi River sediment will be transported by pipeline approximately 4.7 miles to the two marsh creation areas (Fig.2) using Corridor F Alternative as described in Section 3.2.6. The marsh creation areas will be filled to an elevation of +2.0 ft NAVD88, with a maximum vertical elevation tolerance of ± 0.3 ft. Spoil banks on the west, east and south of the marsh creation areas, created previously during the construction of oil field canal will nearly meet containment requirements for the fill sediment. A new containment dike will be required on the southern edge of marsh creation area 2 (Fig.1). Figure 3, illustrates the cross sectional design of the new containment dike. Of the estimated total of 26,821 linear ft of marsh containment required, approximately 23,915 linear ft will be the enhancement of existing spoil banks, while approximately 2,906 linear ft will constitute new containment.

After initial settlement, the marsh is estimated to be inundated 25 percent of the time. Ultimately, 493 ac of marsh will be created in an area that is mostly open water (448 ac). The containment dikes will be degraded to marsh elevation upon completion of the project construction. The newly constructed marsh platforms will be reviewed one year after construction to determine if vegetative plantings are necessary.

3.1.3 Alternative 3 – Marsh Creation and Nourishment at Location South of the Preferred Alternative Site. This site lies approximately 4,000 ft south of the Preferred Alternative site, and consists largely of open water abutting the Plaquemines Parish back levee. The original proposal was to create 538 ac of marsh and approximately 17,600 linear ft of earthen containment. LDNR was unable to obtain rights to the 538 ac site and it was decided to find a similar alternate site in the vicinity which was the Preferred Alternative site. The open water areas selected for marsh creation within Alternative 3 were determined to be 2 to 3 ft deep and would require a minimum of 6,800,000 yd³ of dredged material for marsh creation and containment. By comparison, the Preferred Alternative has 493 ac of marsh creation and would require approximately 3,502,655 yd³ of sediment. Considering the limited availability of borrow area sediment, costs and the difficult land rights issues, the Preferred Alternative would be the more favorable option.

3.2 Pipeline Corridor Alternatives.

3.2.1 Corridor A Alternative. Corridor A Alternative may be the shortest route to the marsh creation site. However, railroad activity in the area is only about 10 ft from the toe of the Mississippi River levee, and would require that a pipe rack to be built over the railroad. Additionally, the barges associated with the Alliance Refinery and grain elevator present a significant problem in the placement of a dredge pipeline. Borrow Area 1 is located between Mississippi River Miles 60.0 and 61.3, and was initially intended to be the only borrow area for BA-39. However, it contains only approximately 1,170,000 yd³ of available sediment and does not meet the sediment requirements for this project, which requires a total of 3,502,655 yd³ of sediment.

3.2.2 Corridor B Alternative. Placement of the sediment transportation pipeline at this location would interfere with the barge traffic associated with the grain elevator. The pipeline would also interfere with barge traffic in the Mississippi River. Additionally, the wooded area between the railroad and LA 23 would have to be cleared for placement of the pipeline and maintenance, and an existing LA 23 culvert would have to be utilized for delivery of the sediment. As noted under Corridor A Alternative, Borrow Area 1 would not meet the sediment requirements for this project and an additional source of sediment would have to be identified.

3.2.3 Corridor C Alternative. Since Borrow Area 1 does not contain a sufficient amount of sediment for this project, Borrow Area 2 was identified and Corridor C Alternative was identified in order to utilize Borrow Areas 1 and 2. The location of the Alliance Refinery and grain elevator results in the frequent mooring of barges along the batture in this area, presenting significant problems to the placement of a dredge pipeline. In addition to the barge traffic, there are numerous pipeline crossings in this stretch of the river that would need to be negotiated. Also, the additional pumping distance would not be cost effective.

3.2.4 Corridor D Alternative. The shortest distance between Borrow Area 2 and the marsh creation sites would be Corridor D. The pipeline would cross the railroad and LA 23 in the Plaquemines parish tract of land near the Naomi siphons. The topography of this transect would include setting the pipeline in an existing marsh area. It would also be more cost-effective to use only land based equipment to place the pipeline as opposed to both land and marsh equipment.

3.2.5 Corridor E Alternative. This alternative is located along LA 23 and would be readily accessible for equipment delivery. However, because this alignment is along LA 23, the pipeline would need to be placed behind power lines, fire hydrants, and other utilities to prevent disruption in services for the community. Several private homes are also located along LA 23 and would prevent the selection of this alternative due to safety and egress considerations.

3.2.6 Corridor F Alternative (Preferred Corridor Alternative). The preferred corridor alternative would use Borrow Area 2 as the sediment source, and traverse the Plaquemines parish tract of land near the Naomi Siphon. At the Mississippi River levee, a crossing would be built in accordance with USACE requirements. A steel 36-inch casing or other designed housing would be installed underneath the railroad and LA 23, to New Orleans and Gulf Coast Railway Company and the Louisiana Department of Transportation and Development specifications. The pipeline would be placed along a dirt road through the pasture west of LA 23, to West Ravenna Road. At this point Ravenna Road will be excavated to place the pipeline underneath a layer of

crushed aggregate sufficient for vehicle crossings. The pipeline will then be placed along the southern side of West Ravenna Road to the Plaquemines Parish flood protection levee. After crossing this levee, the pipeline would discharge into marsh creation areas 1 and 2.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

Emergent marsh will provide the organic matter that is the basis for the coastal food web, and will provide high primary production and essential fish habitat for many fish and shellfish species of the area. The emergent marsh systems lying further to the north in the upper Barataria Basin will receive some added protection from the rebuilt Bayou Dupont marshes, and, together with similar project in the area will provide additional storm buffering capacity. Aside from the loss of shallow open brackish waters which various fish and wildlife may use as habitat, no adverse impacts are expected. There is no lack of shallow water habitat in coastal Louisiana and this type of habitat is increasing as land loss continues.

4.1 Hydrology. Historically, the hydrology of the Barataria Basin was dominated by springtime flooding of the Mississippi River and its distributary channels maintaining a stable fresh water regime in the upper basin, gradually changing through intermediate, brackish and ultimately to intertidal salt marsh in the lower basin. However, the hydrologic/tidal connections between the upper basin and lower basin are no longer buffered by the inflow of freshwater and gradation of healthy marsh. Hence, the increased salinity is evident up through the central basin probably as a result of the increased tidal connectivity. Bayou Dupont, for which the project is named, is hardly discernable in the project vicinity due to the loss of defining land forms because the marshes have subsided and converted to open water.

There is very limited and largely artificial influence from the Mississippi River on the basin at the project area, including freshwater diversion projects such as the Naomi Outfall Management project (BA-03c). The BA-03c project involves the construction of eight parallel siphons to divert water from the Mississippi River, over the levee, and into the adjacent wetlands near Naomi, Louisiana. The maximum discharge of the siphons is 2,100 cfs, which will potentially deliver up to 150,000 yd³ of river sediment into the wetlands annually.

4.2 Soils. The soil in the marsh fill project area is Lafitte muck, described as very deep, very poorly drained, moderately rapidly permeable organic soils formed in herbaceous plant remains over mineral sediments. Soils of this series are typical of intermediate and brackish marshes and have a thick or moderately thick mucky layer and clayey underlying material. The marsh deposits were found to be composed of very soft organic clays and peat with relatively high water contents. Interdistributary deposits, approximately 30 ft thick, underlie the marsh deposits and are composed of very soft to soft clays with silt and shells. Beneath the interdistributary deposits are prodelta deposits which are characterized by medium stiff to stiff clays and extend to an unknown depth.

4.2.1 Borrow Area No Action Alternative. Under this alternative, the existing soils in the marsh creation sites would remain under open water and the sediment resources of the river would not be utilized.

4.2.2 Borrow Area 1 Alternative. Field investigations of the sediments from Borrow Area 1 were completed in September 2006. Three borings were taken at a water depth of 40 ft and were

found to contain a mixture of sand, silt and clay representative of channel deposits. A settling column test was completed for material obtained from Boring 1 and was found to be characterized as clayey silt and sand comprising approximately 48 percent silt; 42 percent clay and 10 percent sand. The percentage of sand content increased toward the north end of the borrow site.

4.2.3 Borrow Area 2 Alternative (Preferred Alternative). Sediment from Borrow Area 2 is considered most likely to be free of contaminants and would be used in the marsh fill area. The area was tested to establish its suitability as source of sediment and was determined to be predominately sand. Consideration was also given to determine the need for testing of the borrow area sediment. According to the Evaluation of Dredged Material Proposed for Discharge in Waters of the US-Testing Manual (1998), the decision to forgo testing is based on the type of material to be dredged and/or its potential to be contaminated. Therefore, the need to provide additional sediment testing was determined not to be needed. No adverse impacts are expected.

4.3 **Water Quality and Ground Water Conditions.** The Louisiana Department of Environmental Quality (LDEQ) is responsible for assessing water quality conditions in the surface waters of the State, identifying water bodies that fail to meet State water quality standards, and measuring progress towards achieving water quality goals for the State. The LDEQ has defined the eight designated uses for surface waters as primary contact recreation, secondary contact recreation, fish and wildlife propagation, drinking water supply, shellfish propagation, agriculture, outstanding natural resource, and limited aquatic and wildlife use.

The Wilkinson Canal and Wilkinson Bayou subsegment (020904), was found to be supportive of primary contact recreation, secondary contact recreation and fish and wildlife propagation, but not supportive of shellfish propagation. Shellfish propagation was set as the criteria for maintaining biological systems supportive of economically important species so that their productivity is preserved and human health is protected

Potential Impacts.

303(d) Listed Waters. Under section 303(d) of the Clean Water Act, each state must prepare a list of waters that are not meeting their water quality standards. These lists must be submitted to EPA for review and approval every April of even years (e.g., 1996, 1998). Total Maximum Daily Loads (TMDLs) are then established from the most recently approved list. For Wilkinson Canal and Wilkinson Bayou, ID LA-020904-2006, the parameter of concern is fecal coliform. A TMDL will be required to be developed for this subsegment. The proposed construction of this project would not adversely affect fecal coliform levels and would not threaten shellfish propagation.

No Action Alternative. The No Action Alternative would continue to allow the conversion of fresh and brackish marsh habitats into more saline estuarine conditions. As a result, a higher salinity tidal exchange would encroach further into the upper reaches of the Barataria Basin causing additional losses of emergent vegetation, land erosion and potential storm buffering capabilities. The continued deterioration of the existing marshes could also potentially contribute to an increase in turbidity.

Alternative 2 - Preferred Alternative. The preferred alternative would have no long term adverse impact on present conditions. However, short-term adverse temporary impacts due to increased turbidity from placement of material could occur during project construction. The slurry discharge site can contain suspended silt, clay and organic matter, which could temporarily degrade the water quality in a dredge plume. These impacts are minor and would be limited to the construction phase of the project. It is expected that turbidity levels would return to normal shortly after construction ended.

4.4 Vegetation. According to the Naomi Outfall Management Monitoring Plan of 1949, the marshes in the proposed project area were classified as fresh and dominated by *Scirpus americanus* (3 cornered grass). Hydrologic modifications to the project area have steadily affected salinities and energies in these marshes and much of the area has undergone conversion to higher salinity marsh types, and eventual loss. Project areas occupied by fresh and intermediate marsh communities in 1968 consisted more than half of brackish marsh dominated by *Spartina patens* (marsh cordgrass) and *Spartina olneyi* (olney bulrush) by 1988. Preliminary field investigations performed in 1997 indicated that *S. patens* was the dominant vegetative species in the project area. Submerged aquatic vegetation occurred along the edges of ponds and broken marsh. At present, the project area marshes are classified as brackish.

Potential Impacts.

No Action Alternative. Without implementation of the project, the area will continue to convert to open water and increase the potential for continued vegetation loss in surrounding areas.

Alternative 2 - Preferred Alternative. By re-establishing the marsh platform at an elevation conducive to the establishment of marsh vegetation, the life of the wetlands should be increased by providing an additional 493 ac of emergent wetlands over the 20-year life of the project.

4.5 Fisheries. As reported in the Dedicated Dredging on the Barataria Basin Landbridge (BA-36) EA, this area supports a diverse assemblage of estuarine-dependent fishes and shellfishes, and species presence is largely dictated by salinity levels and season. During low-salinity periods species such as Gulf menhaden, blue crab, white shrimp, and striped mullet are present in the project area. During high-salinity periods, more salt-tolerant species such as spotted seatrout, black drum, red drum, Atlantic croaker, sheepshead, southern flounder, and brown shrimp may move into the project area. Wetlands throughout the project area also support small resident fishes and shellfish such as least killifish, sheepshead minnow, sailfin molly, grass shrimp and others. Those species are typically found along marsh edges or among submerged aquatic vegetation, and provide forage for a variety of fish and wildlife.

Potential Impacts.

No Action Alternative. Under the no action alternative, the area would continue to provide nursery habitat and associated food resource for small resident fishes. However, continued land loss will lead to increasing water depth and the value of the area as a food source and nursery will decline.

Alternative 2 - Preferred Alternative. The creation of healthy marsh habitat would provide a greater diversity of foraging, breeding, spawning, and cover habitat for a greater variety of adult

and juvenile fish and shellfish species. The marsh would contribute nutrients and detritus would be added to the existing food web, providing a positive benefit to local area fisheries.

4.6 Essential Fish Habitat. The project is located within an area identified as Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The 1998 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council identifies EFH in the project area to be estuarine emergent wetlands, submerged aquatic vegetation, estuarine water column, and mud substrates. Under the MSFCMA, wetlands and associated estuarine waters in the project area are identified as EFH for postlarval/juvenile and subadult brown shrimp; postlarval/juvenile and subadult white shrimp; and postlarval/juvenile, subadult, and adult red drum. Table 2 provides a more detailed description of EFH within the project area.

Potential Impacts.

No Action Alternative. The project area contains approximately 448-ac of open water and 102-ac of estuarine marsh. Under the no action alternative, the estuarine marsh areas would continue to convert to shallow open water. Although an increase in some types of EFH (i.e. mud bottom and estuarine water column) could occur, adverse impacts would occur to more productive types of EFH (i.e., estuarine emergent wetlands). The loss of estuarine emergent wetlands would result in negative impacts to postlarval/juvenile and subadult brown shrimp; postlarval/juvenile and subadult white shrimp; and postlarval/juvenile red drum.

Alternative 2 - Preferred Alternative. With the preferred alternative, the creation of estuarine emergent wetlands would result in the loss of mud bottom and estuarine water column. However, emergent marsh would replace those habitat types. Loss of mud bottom EFH could result in negative impacts to subadult brown shrimp and postlarval/juvenile, red drum. Although adverse impacts would occur to some types of EFH, more productive types of EFH (i.e., estuarine emergent wetlands) would be created under the preferred alternative. Coverage of submerged aquatic vegetation, another important type of EFH, is not projected to occur within the project area under the preferred alternative. Therefore, the preferred alternative would result in a net positive benefit to all managed species that occur in the project area.

4.7 Wildlife. Although emergent wetlands in the immediate project vicinity have suffered great decline, important habitat is still utilized by a number of species of wildlife, including waterfowl, wading birds, shorebirds, mammals, reptiles and amphibians. According to the FWS, the project area provides wintering habitat for migratory puddle ducks including gadwall, blue-winged teal, green-winged teal, American widgeon, and northern shoveler. Diving duck species which utilize the project area include lesser scaup and ring-necked ducks. Other resident and migratory waterfowl that use this habitat include the red-breasted merganser and mottled duck, which nests in fresh to brackish marshes. Nesting areas on the project site are virtually not existent but will be restored when the project is complete.

Great blue heron, green heron, tricolored heron, great egret, snowy egret, yellow-crowned night-heron, black-crowned night-heron, and white ibis are common wading birds that use or would use this area. Mudflats and shallow-water areas provide habitat for numerous species of shorebirds and seabirds, although current conditions within the project area are not optimum, due to the water depth and lack of marsh edge habitat. Shorebirds include the American avocet,

willet, black-necked stilt, dowitchers, common snipe, and various species of sandpipers. FWS reported seabirds including the white pelican, black skimmer, herring gull, laughing gull, and several species of terns.

While virtually no emergent marsh currently exists on the project site, non-game birds expected to use emergent marsh in the area include species such as the boat-tailed grackle, red-winged blackbird, seaside sparrow, northern harrier, belted kingfisher, and marsh wrens. Important gamebirds that are expected to use the restored marsh include the clapper rail, sora rail, Virginia rail, American coot, common moorhen, and common snipe.

Nutria, muskrat, mink, river otter, and raccoon, all of which are commercially important furbearers occur in the area. Increased availability of low-salinity brackish marshes will benefit reptiles and amphibians that are fairly common in the low-salinity brackish marshes in the project vicinity. Reptiles include the American alligator, western cottonmouth, water snakes, speckled kingsnake, rat snake, and eastern mud turtle. Typically, bullfrog, southern leopard frog, and Gulf coast toad would occur in healthy brackish marshes in this vicinity.

Potential Impacts.

No Action Alternative. Under the no action alternative, any eminent danger to the wildlife resources in the area would not take place. However, there is a continual prolonged risk as the marsh and wetland habitat continues to degrade. As the limited amount of existing marsh habitat decreases to open water over time, a diminished habitat value for all wildlife species would occur.

Alternative 2 - Preferred Alternative. The newly created marsh would provide improved habitat conditions for several species of wildlife such as migratory and resident waterfowl, shorebirds, wading birds, and furbearers. Intertidal marsh and marsh edge will also provide increased foraging opportunities for shorebirds and wading birds. The preferred alternative would protect existing marsh, create vegetated wetlands, reduce future land loss and increase the diversity of habitat for a greater variety of wildlife species.

4.8 Threatened and Endangered Species. Section 7 of the Endangered Species Act (ESA) ensures that activities authorized by federal agencies consider potential impacts to threatened or endangered species and their critical habitat. In order to comply with the ESA, consultation with the FWS is required. The FWS has indicated that the West Indian manatees (*Trichechus manatus*), bald eagles (*Haliaeetus leucocephalus*), brown pelicans (*Pelecanus occidentalis*), and pallid sturgeon (*Scaphirhynchus albus*) may occur in the proposed project vicinity.

4.8.1 West Indian manatee (*Trichechus manatus*)

Federal Status. The West Indian manatee was originally listed as an endangered species in 1967, and listed again in December 1970 by the amended Appendix A of 50 CFR 17 which added names to the list of foreign endangered species. West Indian manatees in the United States are also protected under federal law by the Marine Mammal Protection Act of 1972. The Florida Manatee Sanctuary Act of 1978 also states that, "(i)t is unlawful for any person, at any time, intentionally or negligently, to annoy, molest, harass, or disturb any manatee."

Description. The West Indian manatee is a large, herbivorous, aquatic mammal with an average adult length of three meters, and weight of 1,000 kilograms. Manatees are older at maturity and have a relatively low rate of reproduction and a potentially life span of up to 60 years in the wild. Females are generally larger than males and give birth every 2 to 5 years. They can have 12-14 calves in her lifetime. Manatees vary in color from gray to brown, have no hindlimbs and their forelimbs are modified flippers similar to those of seals. Manatees feed mainly on seagrasses and other submerged vegetation.

Habitat. Manatees tolerate a wide salinity range and thus live in a variety of habitats including canals, rivers, estuaries, saltwater bays and even marine coastlines. However, they do require access to a freshwater drinking source even when residing in estuarine and marine environments. They seem to prefer water depths from 3-7 ft and avoid extremely shallow waters because of their large size. Still, they are rarely found at depths greater than 20 ft. Their range is most restricted by temperature and 20°C (68°F) is likely the minimum suitable water temperature due to other extremely low metabolism and high thermal conductance. Manatees wintering in colder waters are highly susceptible to cold-related mortality and many animals seek warm water refuge in the winter. Warm water outfalls from industrial facilities and warm-water springs in Florida often support large aggregations of manatees.

Critical Habitat. Critical habitat for the Florida manatee was designated in 1976 and is confined to Florida sites. There is no mention of additional critical habitat in Louisiana. In addition, manatees have been rarely reported to have been observed in the Mississippi River within the project area.

Distribution. The West Indian manatee has two subspecies that may be present in the United States, the Florida subspecies (*Trichechus manatus latirostris*) and the Antillean manatee (*Trichechus manatus manatus*). The Florida subspecies is generally restricted to peninsular Florida throughout the year but does disperse in the coasts of neighboring states of Georgia, South Carolina, North Carolina, Virginia, Alabama, Louisiana, and Texas during the months of March through November. The Antillean manatee is found in South America and Mexico but may migrate as far north as Texas so the subspecies of Texas manatees is sometimes unclear. Manatees sighted on the Louisiana coast are likely of the Florida subspecies (BA 2007).

West Indian manatees occasionally enter Lakes Pontchartrain and Maurepas and associated coastal waters and streams during the months of June through September. There have been over 350 reported sightings of manatees in the Gulf of Mexico west of Florida since the early 1900s. Fifty-eight manatee sightings were noted in Louisiana from 1995 to 2001 and manatees have been reported in the Lake Pontchartrain area since 1943, with the number of occurrences increasing since the mid-1990's. Unfortunately, there is currently very limited data on the specific number of manatees, habitats used or their foraging habits in Lake Pontchartrain.

Reasons for Decline. The increasing number of humans along the coasts has led to the destruction of many habitats. Wetlands, which support manatees and hundreds of other species, are drained to construct housing. Natural and chemical fertilizers, pesticides, and herbicides often contaminate the water resources that remain. Habitat destruction has a dramatic affect on manatees because they are vegetarian and require up to 15 percent of their body weight in food per day.

Impact Analysis of BA-39 on West Indian Manatee. Manatees' only natural defense is avoidance and collisions with watercraft are a serious threat to the species. When manatees detect approaching vessels, they generally respond by increasing their swimming speed and retreating to deeper water. Entanglement, floodgates and canal locks do not kill as many manatees as watercraft collisions but they still pose a significant problem to manatees. The FWS believes that reasonable and prudent measures are necessary to minimize any potential effects to the West Indian Manatee from BA-39 from possible collision with any potential service vessels associated with the construction and maintenance activities.

Given the rare occurrence of manatees and lack of critical habitat within the project area, no collision fatalities or entrapment issues are expected. The potential for a "Take" as a result of construction or implementing BA-39 is highly unlikely, and any potential adverse effects to manatees will be avoided or minimized. Therefore, BA-39 is not likely to adversely affect the West Indian Manatee.

Proposed Mitigation. Controls will be implemented to ensure that the project activities are conducted first to avoid, and otherwise minimize, the potential effects on manatees. The following precautions will be implemented from May to October, when manatees have the greatest potential for entering the project area:

- All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s).
- All personnel associated with the project shall be instructed about the possible presence of manatees and the need to avoid collisions with and injury to manatees. Any sighting of, collision with, or injury to a manatee shall be immediately reported to the FWS and the LDWF, Natural Heritage Program.

The following special operating conditions shall be implemented upon the sighting of a manatee within 100 yards of the active work zone:

- No operation of moving equipment within 50 ft of a manatee;
- All vessels shall operate at no wake/idle speeds within 100 yards of the work area; and
- Siltation barriers, if used, shall be re-secured and monitored.

4.8.2 Bald Eagles (*Haliaeetus leucocephalus*).

Federal Status. Although the bald eagle was officially removed from the List of Endangered and Threatened Species as of August 8, 2007, they continue to be protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Both federal laws prohibit "taking" (i.e., killing, selling or otherwise harming eagles, their nests or eggs).

Description. According to the National Bald Eagle Management Guidelines, juvenile bald eagles have mottled brown and white plumage, gradually acquiring their dark brown and distinctive white head and tail as they mature. Bald eagles generally attain adult plumage by 5 years of age. Most are capable of breeding at 4 or 5 years of age, but in healthy populations they may not start breeding until much older. Bald eagles may live 15 to 25 years in the wild. Adults

weigh 8 to 14 pounds and have wingspans of 5 to 8 ft. Those in the northern range are larger than those in the south, and females are larger than males.

Habitat. The FWS has noted that bald eagles occupy "territories" that they will typically defend against intrusion by other eagles, and that they likely return to each year. A territory may include one or more alternate nest that are built and maintained by the eagles, but which may not be used for nesting in a given year. Potential nest trees within a nesting territory may, therefore, provide important alternative bald eagle nest sites. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest, which may weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Shoreline trees or snags located near large water bodies provide the visibility and accessibility needed to locate aquatic prey. Bald eagles are most vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding (roughly the first 12 weeks of the nesting cycle). Disturbance during this critical period may lead to nest abandonment, cracked and chilled eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

Distribution. Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. In Louisiana, eagles typically nest in bald cypress trees near fresh to intermediate marshes or open water in the southeastern Parishes. Areas with high numbers of nests include the Lake Verret Basin south to Houma, the southern marsh/ridge complex from Houma to Bayou Vista, the north shore of Lake Pontchartrain, and the Lake Salvador area. Eagles also winter and infrequently nest near large lakes in central, southwestern and northern Louisiana. FWS records have indicated that there are no known nesting locations within 1,500 ft of the BA-39 project area.

Reasons for Decline. The most dramatic declines in bald eagle populations nationwide resulted from environmental contaminants. Beginning in 1947, reproductive success in many areas of the country declined sharply, and remained at very low levels through the early 1970's. After several years of study, the low reproduction of bald eagles and many other birds was linked to widespread use of insecticides used extensively in agriculture and forestry. Dieldren was found to be responsible for several eagle mortality events. DDT was sprayed on croplands and its residues were washed into lakes and streams, becoming part of the aquatic food chain. It was stored as dichloro-diphenyl-dichloroethylene (DDE) in the fatty tissue of fish and waterfowl. As eagles and other birds of prey fed on these animals, they accumulated DDE in their systems. Although occasionally causing death, DDE mainly affected reproduction. Some birds affected by the chemical failed to lay eggs, and many produced thin eggshells that broke during incubation. Eggs that did not break were often addled or contained dead embryos, and the young that hatched often died. In 1972, the EPA banned the use of DDT in the United States. Since the ban, DDE residues in bald eagle eggshells have dropped significantly, and a slow recovery of eagle productivity has occurred. Most populations appear to be producing chicks at the expected rate.

Habitat loss over the past 200 years is the most consistent factor associated with declines in bald eagle populations. A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed, or raise young. The accelerated pace of development along the coast and near inland rivers and waterways is a primary cause of

habitat loss. Shooting has long been recognized as a major human-caused factor in the decline of bald eagles. Although bald eagles are primarily fish and carrion eaters, eagles were thought to be a major threat to chickens, livestock, and game animals. As a consequence, many were killed by farmers, ranchers, and hunters. Activities such as logging, oil exploration and extraction, construction, and recreational activity certainly do disturb eagles in some instances. However, the impact of these disturbances is highly variable, depending on the activity, its frequency and duration, its proximity to areas used by eagles, the extent to which the activity modifies the habitat or its use, and timing in relation to the reproductive cycle. Also, some birds are more tolerant of disturbance than others, with adults generally less tolerant than immature birds. Despite this variability, disturbance near nests has caused nesting failures.

Impact Analysis of BA-39 on Bald Eagles. BA-39 is consistent with the National Bald Eagle Management Guidelines and is not likely to have an adverse effect on the bald eagle.

Proposed Mitigation. FWS has indicated that no known bald eagle nest locations are currently within 1,500 ft of the proposed project area. In the event any new nests are observed in the area, and should the proposed project or associated work activities encroach within 1,500 ft of an eagle nest during the nesting season of October through mid-May, further coordination with the FWS will be required. Additionally, construction activities will ensure that bald eagle nest trees are not adversely affected, including their root systems through soil compaction or disturbance.

4.8.3 Brown Pelicans (*Pelecanus occidentalis*).

Federal Status. The brown pelican was listed as endangered on the listed of Threatened and Endangered Species in 1970.

Description. The brown pelican is a large water bird with a massive bill and huge throat pouch. Its wings and body are mostly grayish-brown and its head is white in front and dark brown behind. During the breeding season, the white plumage turns a vibrant yellowish-gold color. Typically, the brown pelican weighs about 9 pounds and has a 6-foot wingspan. The brown pelican's diet consists of menhaden and mullet fish. Pelicans live up to over 30 years and will lay 2 to 4 white eggs during breeding season.

Habitat. The brown pelican habitat is predominately a coastal species and is rarely seen inland or far out to sea. Mostly, the brown pelican feeds in shallow estuarine waters, and less often, up to 40 miles from shore. For nocturnal roosting and daily loafing, the brown pelican utilizes sand spits, offshore sand bars and islets. Some roosting sites may eventually become nesting areas.

Distribution. Brown pelican nesting colonies are currently known to exist on Raccoon Point on Isles Dernieres, as well as Queen Bess Island, Plover Island (Baptiste Collette), Wine Island, Rabbit Island in Calcasieu Lake, and islands in the Chandeleur chain. Pelicans change nesting sites as habitat changes occur; thus, they may also be found nesting on mud lumps at the mouth of South Pass (Mississippi River Delta) and on small islands in St. Bernard Parish. In spring and summer, nests are built in mangrove trees or other shrubby vegetation, although occasional ground nesting may occur. Brown pelicans feed along the Louisiana coast in shallow estuarine waters, using sand spits and offshore sand bars as rest and roost areas

Reasons for Decline. According to the FWS, the following reasons for decline of the species include chemical pollutants, colony site erosion, disease, and human disturbance.

Impact Analysis of BA-39 on Brown Pelicans. Although records have illustrated that no known nesting locations are within BA-39's project area, brown pelicans could utilize the area for foraging and/or loafing. Potential project related effects to brown pelicans would include temporary displacement from suitable foraging and loafing sites during project construction.

Proposed Mitigation. The FWS has indicated that there are no known nesting locations in the BA-39 project area. However, brown pelicans have utilized the area for foraging and/or loafing. The proposed activities would not permanently displace pelicans or prevent them from utilizing the area, and the FWS has determined that the project would not be likely to adversely affect the brown pelican.

4.8.4 Pallid Sturgeon (*Scaphirhynchus albus*)

Federal Status. The pallid sturgeon (*Scaphirhynchus albus*) was listed as an endangered species on September 6, 1990.

Description. The pallid sturgeon has a flattened, shovel-shaped snout, long slender tail, and five lengthwise rows of bony plates. They are very similar in appearance to the shovelnose sturgeon. Like other sturgeon, the pallid has a toothless mouth that is positioned under the snout for sucking small fish and invertebrates from the river bottom. Pallid sturgeons may weigh up to 80 pounds and reach lengths of six ft.

Habitat. Pallid sturgeons prefer deep river areas ranging from 23-69 ft with low bottom slopes and sand substrates. Their preferred habitat occurs in natural river systems which have meandering, braided channels, sand bars, islands, and gravel bars. The species has adapted to living close to the bottom of large rivers with high turbidity and a natural rate of flow. This habitat is almost non-existent as it has been altered by dams and channeling

Distribution. Current range of the pallid sturgeon in Louisiana is in the Mississippi River out to the Gulf of Mexico, and in the Atchafalaya River, with known concentrations in the vicinity of the Old River Control Structure Complex. It may also be found in the Red River.

Reasons for Decline. Man has adversely affected all of the 3,350 miles of riverine habitat within the pallid sturgeon's range. Approximately 28 percent has been impounded, which has created unsuitable lake-like habitat; 51 percent has been channelized into deep, uniform channels; and the remaining 21 percent is downstream of dams, which have altered the river's hydrograph, temperature and turbidity. Commercial fishing and environmental contaminants may have also played a role in the pallid sturgeon's decline. Sturgeons are not only harvested commercially but are usually sought out for their valuable eggs from which caviar is made. Their populations continue to decline as they are cut off and separated by dams.

Impact Analysis of BA-39 on pallid sturgeon. Implementation of the FWS recommendations; the project BA-39 would not be likely to adversely affect the pallid sturgeon.

Proposed Mitigation. To ensure protection of the pallid sturgeon all personnel associated with the project will be informed of the potential presence of the pallid sturgeon and take actions to induce them to leave the immediate work area prior to dredging regardless of water depth or time of year. The FWS has recommended the following actions to help prevent any potential project related direct or indirect effects to the pallid sturgeon:

- The cutterhead shall remain completely buried in the bottom material during dredging operations.
- If pumping water through the cutterhead is necessary to dislodge material, or to clean the pumps or cutterhead, etc., the pumping rate shall be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased.
- During dredging, the pumping rates shall be reduced to the slowest speed feasible while the cutter head is descending to the channel bottom.

4.9 Recreation. Recreation in the area is generally oriented towards hunting and fishing. The natural and recreational resources of the project area provide wide and varied opportunities for outdoor enjoyment. Recreational activities taking place in Bayou Dupont and adjacent marshes may include boating, hunting, fishing and natural and cultural study. The project area is an area of vital importance as a fishery nursery ground, waterfowl wintering and hunting area. Recreational fishing is by far the most popular activity in the project area because of the access to water bodies, bayous, and the marsh. Small game hunting is also popular due to abundance of habitat and the wide range of species available to the hunter.

Potential Impacts.

No Action Alternative. Recreational use within the project area would continue at its present level. The marshes surrounding the project area provide numerous areas for hunting and fishing opportunities. However, over time these marshes would erode and subside, converting to more open water areas. Continued marsh loss translates into less edge and estuarine marsh habitat available to fish. Lost nursery and breeding grounds would result in less productive fishing in the future.

Alternative 2 - Preferred Alternative. The recreational environment in and around the project area would experience limited short-term disruption imposed by the physical size and working activities of the construction phase of the project. Dredging activities would increase the turbidity in the area of work and in the vicinity of the discharge pipes. This turbidity may disrupt water-oriented recreational activity occurring within the vicinity; however, these adverse impacts would be temporary. Positive long-term benefits would be the creation of the marsh and the added benefits of providing shelter and habitat for wildlife.

5.0 OTHER ENVIRONMENTAL CONSIDERATIONS

5.1 Cultural Resources. The State Historic Preservation Officer of Louisiana, has determined that there are no known cultural or historic sites in the Bayou Dupont project area.

5.2 Socio-Economic and Environmental Justice (EJ). According to a basic EJ analysis performed for the Bayou Dupont area, there is no significant EJ issue for the 1 square mile or 50 square mile area.

5.3 Coastal Zone Management, Prime Farmlands, and Floodplains.

5.3.1 Coastal Zone Management (CZM). In compliance with CZM requirements, the project will need a Coastal Use Permit (CUP) prior to construction. Applications for the CUP and USACE 404 permits have been submitted. A Joint Public Notice for both permits will be issued upon completion of this EA.

5.3.2 Floodplains: The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps delineate the 100 year Special Flood Hazard Areas, designated "A" or "V" zones. A-zone Special Flood Hazard Areas are areas that have a 1 percent chance of experiencing a 100 year level flood in any given year. Coastal zone areas are designated "V" zones in which structures are subject to damage from both flooding and significant wave action. The proposed project area is designated a "V" zone area. The proposed project would not have a negative affect on the floodplain.

5.3.3 Prime Farmland/Overgrazing. According to NRCS, the proposed project will not impact any prime, unique or statewide important farmlands, and there are no livestock currently grazing in the area, nor is there a potential for grazing once the project is installed.

5.4 Hazardous, Toxic and Radioactive Waste (HTRW). Federal databases at the EPA and state databases at the LDEQ were reviewed to determine the location of any hazardous material sites and to identify any potential hazardous materials sites within the study area. None of the federal or state databases searched located any potential hazardous materials sites along the alternative alignments or project area, including the borrow area.

5.5 Cumulative Impacts. Potential cumulative impacts would be the aggregate impacts to the environment resulting from the proposed action in combination with other ongoing actions, and actions being considered within the reasonably foreseeable future. No significant adverse cumulative impacts are expected. The proposed action is part of an effort under CWPPRA to create, protect, restore and enhance wetlands in coastal Louisiana. CWPPRA provides federal funds for planning and implementation of such projects. Other projects located near the proposed BA-39 project are included in the Table 2.

5.6 Unavoidable Adverse Effects. The primary unavoidable adverse effects are the immediate impacts from construction related sediment excavation and deposition on the non-mobile benthic organisms in areas adjacent to specific project features, minor and temporary disturbance to adjacent wetlands, water and air quality. Any effects on air quality and the noise generated by the proposed project will be of a temporary nature

5.7 Relationship between Local, Short-term Use of the Environment and the Maintenance/Enhancement of Long Term Beneficial Uses. All structural and non-structural alternatives have short-term localized impacts during construction, but offer significant long-term environmental benefits. No long-term adverse impacts to wetlands water quality, threatened or endangered species, species managed by the Gulf of Mexico Fishery Management

Council or their essential habitat, other fish and wildlife resources, recreational or socio-economic resources, or cultural resources are expected.

5.8 Irreversible and Irretrievable Commitment of Resources. The irreversible and irretrievable commitment of resources would be labor, materials, wear on machinery, monies spent, and energy expended for implementation of the restoration action.

6.0 FIGURES, TABLES AND CONSULTATION LETTERS

Coordination has been maintained with each of the CWPPRA Task Force agencies and the LDNR. Consultation has been conducted with the FWS and LDWF, in accordance with the Endangered Species Act of 1973 and the Fish and Wildlife Coordination Act. The EA has been prepared in coordination with NMFS in determining categories of EFH and associated fisheries species within the project vicinity. Submittal of the EA is provided to initiate formal federal consultation requirements pertaining to EFH under the MSFCMA. Federal, State, Tribal and local agencies, as well as other interested stakeholders, will receive a copy of this EA. Consultation has also been conducted with the SHPO in accordance with the National Historic Preservation Act of 1966, and Archaeological and Historic Preservation Act of 1974. Responses from the respective agencies with regard to the proposed action are included in Appendix C.

The public recognizes that the continued loss of coastal wetlands can ultimately result in and the displacement of entire communities, the loss of occupational and recreational opportunities, and ultimately, the forfeiture of a unique culture and way of life. Passage of the Louisiana constitutional amendment establishing the Coastal Wetlands Conservation and Restoration Fund clearly demonstrated the public's overwhelming support to effectively address the State's coastal land loss problem. This statutorily dedicated fund has provided a state funding mechanism for cost sharing this project. Public involvement was achieved through the public meetings conducted during the project development and selection stages under CWPPRA, and involved input from the public and local, state and federal agencies. The project concept and overview was originally proposed to the public at a nomination meeting held in 2002.

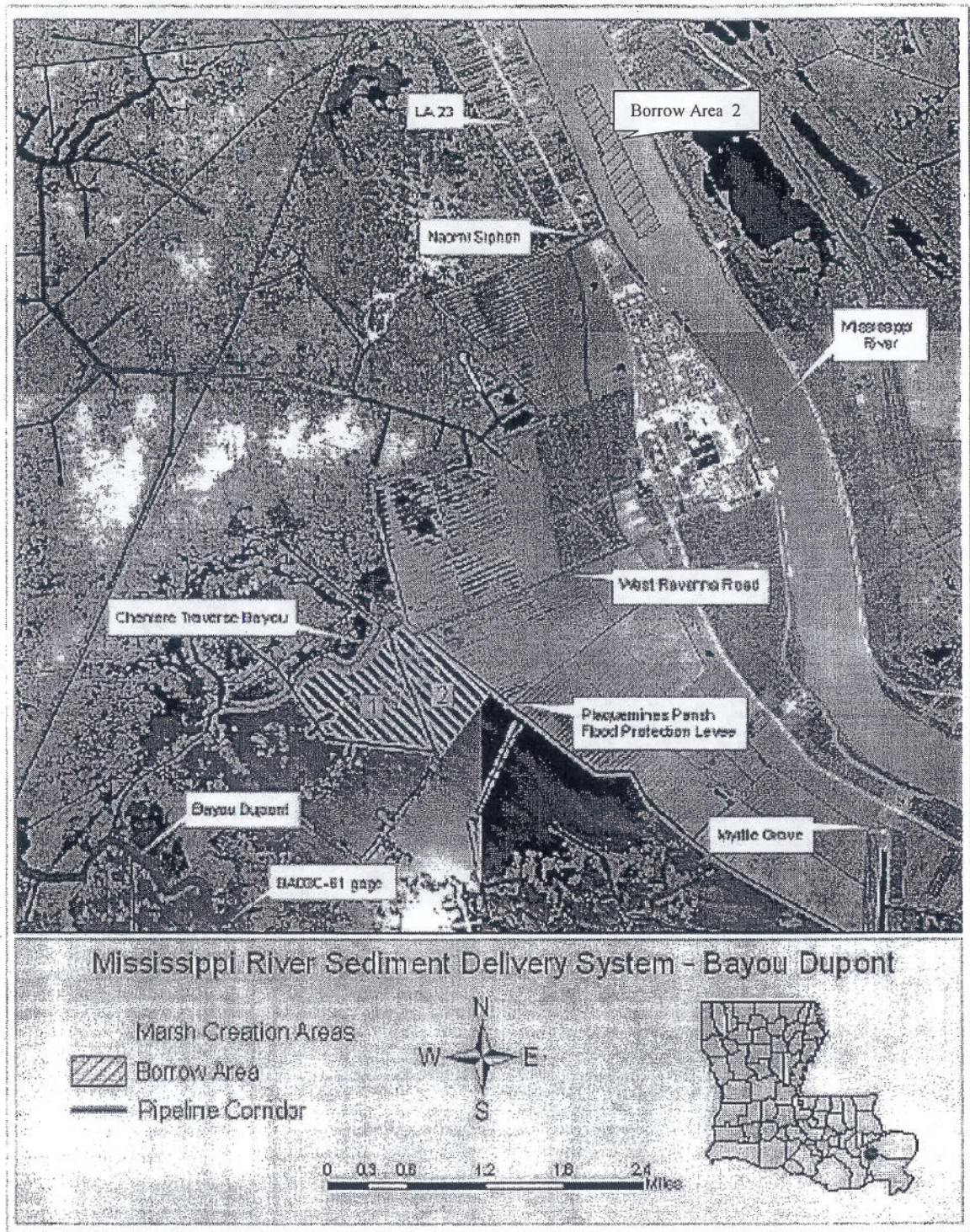


Figure 1. Preferred Project Alternative and Area Features

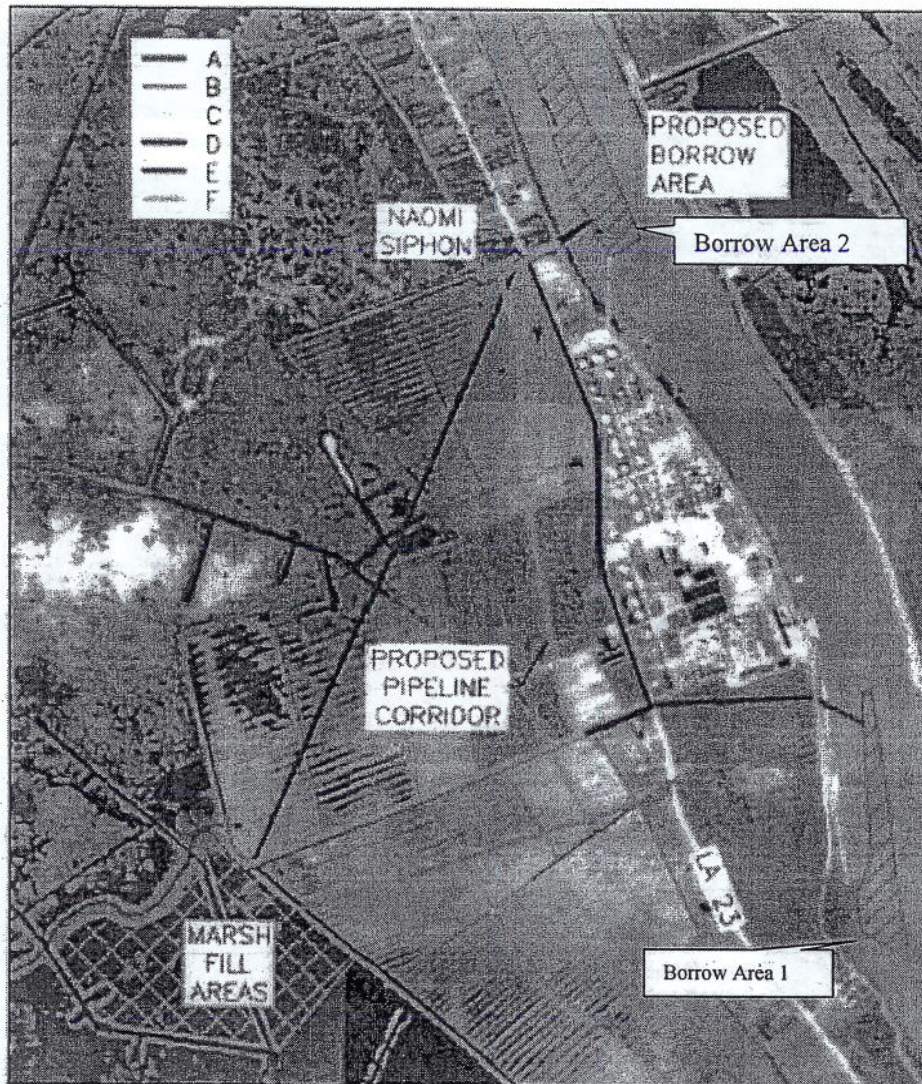


Figure 2: Pipeline Corridor Alternatives

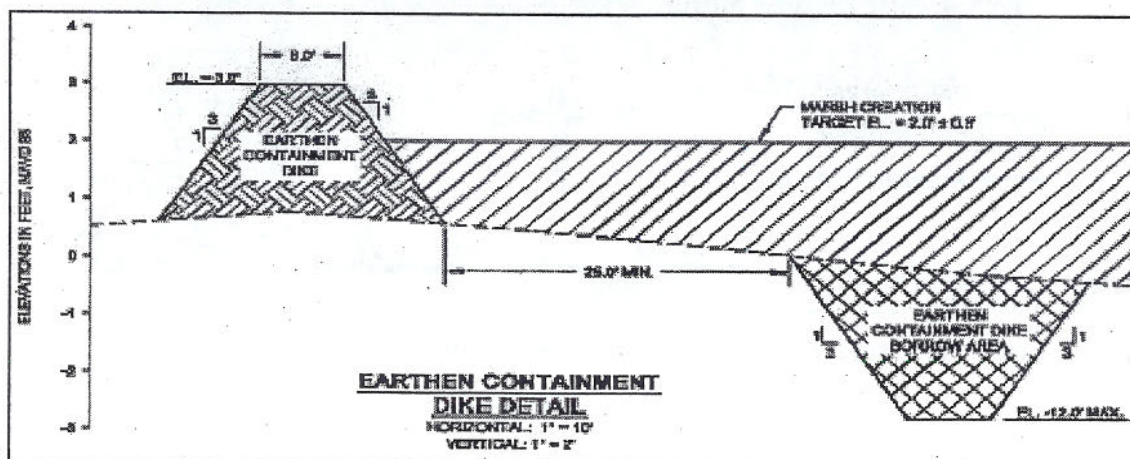


Figure 3. Details of earth containment dike borrow area (Thompson 2007)

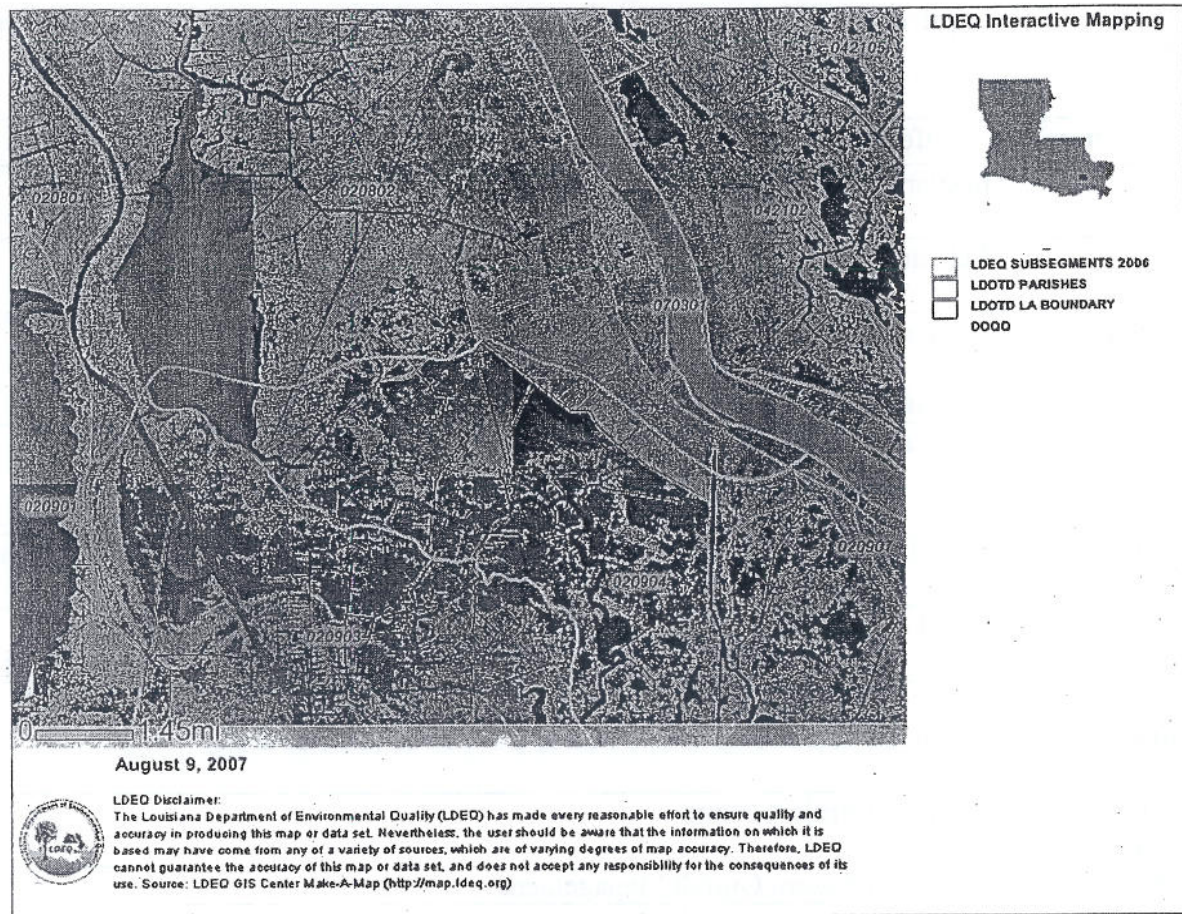


Figure 4. Project marsh creation sites (illustrated by the red mark) located within LDEQ subsegment 020904, Wilkinson Canal and Wilkinson Bayou. (LDEQ 2007)

Table 1. EFH Requirements for Managed Species that Occur in the Project Area. (Croom 2005)

Species	Life Stage	Essential Fish Habitat	Occurrence in Project Area
Brown shrimp	postlarval/juvenile	marsh edge, SAV, tidal creeks, inner marsh	All habitats are found throughout the project area
	Subadult	mud bottoms, marsh edge	All habitats are found throughout the project area
White shrimp	postlarval/juvenile subadult	marsh edge, SAV, marsh ponds, inner marsh, oyster reefs	All habitats are found throughout the project area (excluding oyster reefs)
Red drum	postlarval/juvenile	SAV, estuarine mud bottoms, marsh/water interface	All habitats are found throughout the project area
	Subadult	mud bottoms, oyster reefs	Mud bottoms are found within open water areas
	Adult	Gulf of Mexico & estuarine mud bottoms, oyster reefs	Estuarine mud bottoms are found within open water areas

Table 2. Projects Constructed/Authorized under CWPPRA (LDNR 2007)

Project Number	Lead Agency	Project Name
BA-03c	NRCS	Naomi Outfall Management
BA-01	NRCS	Naomi Outfall Management
BA-23	NRCS	Barataria Bay Waterway West Side Shoreline Protection
BA-24	NMFS	Myrtle Grove Siphon
BA-26	NRCS	Barataria Bay Waterway East Side Shoreline Protection
BA-33	ACE	Delta Building Diversion at Myrtle Grove
BA-41	NRCS	South Shore of The Pen Shoreline Protection and Marsh Creation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

FEB 06 2007

Mr. Duke Rivet
Louisiana Office of Cultural Development
Division of Archeology
P O Box 44247
Baton Rouge, LA 70804-4247

Date: <u>3-1-07</u>
No known archaeological sites or historic properties will be affected by this undertaking. This effect determination could change should new information come to our attention.
Pam Breaux: <u>Pam Breaux</u> State Historic Preservation Officer

Dear Mr. Rivet:

I am writing to request that you confirm clearance from your office for the project described on the enclosed project fact sheet. We had sent a letter to Dr. Watson (copy furnished) during the early planning phase of this project, and received no indication of issues related to cultural issues.

As Brad Miller, Louisiana Department of Natural Resources, and I discussed with you during a visit to your office last year, the project has been shifted from its original location to the position described on the enclosed fact sheet. The new project site is in the same vicinity, but lies about 4,000 ft. north of the originally proposed project.

Further project details, including plans for dredging sediment from the MS River and conveying this material via pipeline to the marsh restoration site is generally described in the enclosed fact sheet.

Should you require any further information in your review of this revised project, please do not hesitate to call or email me at (214) 665-2151, Ethridge.Beverly@epa.gov. The project description at the Coastal Wetlands Planning Protection and Restoration website still contains the original project description, and is listed under 'projects' as BA-39, Mississippi River Sediment Delivery System.

Thanks for your input on this coastal restoration effort.

Sincerely,

Beverly Ethridge
Life Scientist 6WQ-EM

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 25% Postconsumer)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

July 6, 2005

F/SER46/RH:jk
225/389-0508

Ms. Sharon F. Parish, Chief
Marine and Wetlands Section
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave., Suite 1200
Dallas, Texas 75202-2733

Dear Ms. Parish:

NOAA's National Marine Fisheries Service (NMFS) has received your letter dated June 10, 2005, regarding the Mississippi River Sediment Delivery System-Bayou Dupont wetland restoration project funded under the auspices of the Coastal Wetlands Planning, Protection and Restoration Act. The proposed project entails the dredging of sediment from the Mississippi River and pumping that sediment via pipeline slurry into tidally influenced subsiding wetlands and shallow water areas to elevations suitable for marsh establishment. In your letter, you requested information pertaining to essential fish habitat (EFH) in the project area as established under provisions of the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Aquatic and tidally influenced wetland habitats in the marsh creation area consist of EFH for postlarval/juvenile and subadult life stages of white shrimp, brown shrimp and red drum. Categories of EFH in the project area include estuarine emergent wetlands; mud, sand and shell substrates; estuarine water column; and submerged aquatic vegetation (SAV). Detailed information on federally-managed fisheries and their EFH is provided in the 1998 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council (GMFMC). The generic amendment was prepared as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act, P.L. 104-297).

To fully address EFH and estuarine dependent fisheries in the project area, NMFS recommends any Environmental Assessment (EA) for the project include sections titled "Essential Fish Habitat" and "Marine Fishery Resources" that describe the potential adverse impacts and benefits of undertaking the various alternatives to re-create wetland elevations in the Bayou Dupont area. These recommended sections of the document should describe and quantify the potential beneficial and adverse impacts of the proposed alternatives on the sub-categories (e.g., marsh edge, marsh ponds, mud bottoms, SAV) of EFH within the project area. In addition, this section should describe the potential benefits and adverse impacts of the proposed project on the utilization of these sub-categories of EFH by each federally managed fishery species and life stage identified above.



In addition to being designated as EFH for the species listed above, waterbodies and wetlands in the project area provide nursery and foraging habitats supportive of a variety of economically important marine fishery species, such as striped mullet, Atlantic croaker, gulf menhaden, spotted and sand seatrout, southern flounder, black drum, and blue crab. Some of these species also serve as prey for other fish species managed under the Magnuson-Stevens Act by the GMFMC (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e.g., billfishes and sharks). We recommend the EA fully describe the use of the project area by these species and evaluate the potential impacts and benefits of project implementation on marine fishery utilization of wetlands and open water habitats within the project area.

We appreciate the opportunity to provide scoping comments on this project. If you have any questions regarding our recommendations, please contact Richard Hartman at (225) 389-0508, extension 203.

Sincerely,



for Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER46, Ruebsamen
Files



United States Department of the Interior

FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.
Suite 400
Lafayette, Louisiana 70506

March 6, 2007

Ms. Beverly J. Ethridge
Project Manager
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Dear Ms. Ethridge:

Please reference your February 5, 2007, letter requesting our review of the U.S. Environmental Protection Agency's (EPA) proposed Mississippi River Sediment Delivery System - Bayou Dupont (BA-39) project, in Jefferson and Plaquemines Parishes, Louisiana. The proposed project would involve dredging and pumping sediment from the Mississippi River for replenishment of approximately 400 acres of marsh in the Barataria Basin. The location of the project has shifted approximately 4,000 feet to the north of its originally proposed location as described in EPA's June 2005 request for information. That project has been authorized by the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA). The U.S. Fish and Wildlife Service (Service) has reviewed the information you provided, and offers the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 384, as amended; 16 U.S.C. 1531 et seq.), and the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.).

Federally listed as an endangered species, West Indian manatees (*Trichechus manatus*) occasionally enter Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatees have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of Louisiana. They have also been occasionally observed elsewhere along the Louisiana Gulf coast. The manatee has declined in numbers due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution. Cold weather and outbreaks of red tide may also adversely affect these animals. Manatees are rarely found in the Mississippi River within the proposed project area. However, should any manatees be observed in the project area during dredging operations, this office (337/291-3100) should be contacted immediately for further consultation.

Federally listed as a threatened species, bald eagles (*Haliaeetus leucocephalus*) nest in Louisiana from October through mid-May. Eagles typically nest in bald cypress trees near fresh to intermediate marshes or open water in the southeastern Parishes. Areas with high numbers of nests include the Lake Verret Basin south to Houma, the southern marsh/ridge complex from Houma to Bayou Vista, the north shore of Lake Pontchartrain, and the Lake Salvador area. Eagles also winter and infrequently nest near large lakes in central, southwestern, and northern

Louisiana. Major threats to the species include habitat alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead).

Breeding bald eagles occupy "territories" that they will typically defend against intrusion by other eagles, and that they likely return to each year. A territory may include one or more alternate nests that are built and maintained by the eagles, but which may not be used for nesting in a given year. Potential nest trees within a nesting territory may, therefore, provide important alternative bald eagle nest sites. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that may weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Shoreline trees or snags located near large waterbodies provide the visibility and accessibility needed to locate aquatic prey. Bald eagles are most vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding (roughly the first 12 weeks of the nesting cycle). Disturbance during this critical period may lead to nest abandonment, cracked and chilled eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

Our records indicate that no known bald eagle nest locations are currently within 1,500 feet of the proposed project areas. However, should any new nests be observed in the area, and should the proposed project or associated work activities encroach within 1,500 feet of an eagle nest during the nesting season (October through mid-May), further consultation with this office will be necessary. We further caution that the proposed project should not damage any portion of bald eagle nest trees, including their root systems (i.e., through soil compaction or disturbance).

Federally listed as an endangered species, brown pelicans (*Pelecanus occidentalis*) are currently known to nest on Raccoon Point on Isles Dernieres, as well as Queen Bess Island, Plover Island (Baptiste Collette), Wine Island, Rabbit Island in Calcasieu Lake, and islands in the Chandeleur chain. Pelicans change nesting sites as habitat changes occur; thus, they may also be found nesting on mud lumps at the mouth of South Pass (Mississippi River Delta) and on small islands in St. Bernard Parish. In spring and summer, nests are built in mangrove trees or other shrubby vegetation, although occasional ground nesting may occur. Brown pelicans feed along the Louisiana coast in shallow estuarine waters, using sand spits and offshore sand bars as rest and roost areas. Major threats to this species include chemical pollutants, colony site erosion, disease, and human disturbance.

Although our records indicate that there are no known nesting locations in proximity to the proposed project areas, brown pelicans utilize the areas for foraging and/or loafing. Potential project-related effects to brown pelicans would include temporary displacement from suitable foraging and loafing sites during project construction. Because the proposed activities would not permanently displace pelicans or prevent them from utilizing the area, the Service has determined that the proposed project is not likely to adversely affect the brown pelican.

The pallid sturgeon (*Scaphirhynchus albus*) is an endangered fish found in both the Mississippi and Atchafalaya Rivers (with known concentrations in the vicinity of the Old River Control Structure Complex); it is possibly found in the Red River as well. The pallid sturgeon is adapted


to large, free-flowing, turbid rivers with a diverse assemblage of physical characteristics that are in a constant state of change. Detailed habitat requirements of this fish are not known, but it is believed to spawn in Louisiana. Habitat loss through river channelization and dams has adversely affected this species throughout its range.

If a hydraulic dredge would be used, the Service recommends that the following conditions be implemented to minimize any potential project-related direct or indirect effects to the pallid sturgeon:

- All dredged material disposed of in the river shall be discharged at the surface, with the use of a baffle plate.
- The cutterhead shall remain completely buried in the bottom material during dredging operations.
- If pumping water through the cutterhead is necessary to dislodge material, or to clean the pumps or cutterhead, etc., the pumping rate shall be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased. During dredging, the pumping rates shall be reduced to the slowest speed feasible while the cutterhead is descending to the channel bottom.

We appreciate the opportunity to provide comments on the proposed CWPPRA project. If you have any questions or require additional information, please contact Brigitte Firmin (337/291-3108) of this office.

Sincerely,


James F. Boggs (Acting for)
Acting Supervisor
Louisiana Field Office

cc: LDWF, Natural Heritage Program, Baton Rouge, LA

7.0 REFERENCES

- Biological Assessment (BA). 2007. *Impacts of Lake Borgne Shoreline Protection Project (PO-30) on the Endangered West Indian manatee (Trichechus manatus)*.
- Boggs, James F., Acting Supervisor Louisiana Field Office, FWS (Lafayette, LA: March 6 2007), letter to US EPA Region 6.
- Croom, Miles M., Assistant Regional Administrator Habitat Conservation Division, NOAA NMFS (St. Petersburg, FL: July 6 2005), letter to US EPA Region 6.
- CWPPRA Environmental Work Group (CWPPRA EWG). October 2002. *(BA-39) Bayou Dupont Sediment Delivery System Project Information Sheet for Wetland Value Assessment*. EPA.
- Environmental Assessment (EA), Dedication Dredging on the Barataria Basin Landbridge (BA-36). 2004. Jefferson Parish, Louisiana.
- Eustis Engineering Company, Inc. September 2006. *Geotechnical Investigation*. Contract No. 2503-05-46, Metairie, LA.
- Lafitte Series. August 2007. Natural Resource Conservation Service. .
- Landers, Timothy. June 2003. Lake Borgne Presentation to Saint Bernard Parish Council, Louisiana. US EPA Region 6, Dallas, TX.
- LCWC&RTF and WC&RA, 1998. *Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority*. 1998. *Coast 2050: Toward a Sustainable Coastal Louisiana*. Louisiana Department of Natural Resources. Baton Rouge, LA.
- LCWC&TF and WC&RA, 1999. *Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority*. 1999. *Coast 2050: Toward a Sustainable Coastal Louisiana*. Louisiana Department of Natural Resources. Baton Rouge, LA.
- Lindquist, David C. 2007. *Ecological Review: Mississippi River Sediment Delivery System – Bayou Dupont*. LDNR CRD, Baton Rouge, LA.
- Louis J. Capozzoli & Associates, Inc. July 2007. *Geotechnical Engineering Report Bayou Dupont Restoration Project Plaquemines and Jefferson Parishes, LA*. Contract No. 2503-05-44. Baton Rouge, LA.
- Louisiana Department of Environmental Quality. 2002. *Louisiana Water Quality Inventory, Section 305(b) Report*. Baton Rouge, LA.
- Louisiana Department of Natural Resources. SONRIS. July 2007. <<http://dnr.louisiana.gov>>.

Louisiana Department of Natural Resources Coastal Restoration Division (LDNR CRD). 2003. Monitoring Plan for Naomi Outfall Management (BA-03c) Barataria Bay Waterway East Side Shoreline Protection (BA-26). Baton Rouge, LA.

National Marine Fisheries Service, Habitat Conservation Division, Southeast Regional Office (NMFS). March 2006. *Essential Fish Habitat: A Marine Fish Habitat Conservation Mandate for Federal Agencies, Gulf of Mexico Region*. St. Petersburg, FL.

NatureServe Explorer. August 2007. Comprehensive Reports.
<<http://www.natureserve.org/explorer/>>

Stead, Mark. August 2007. US EPA Region 6. Personal Communication.

Texas Parks and Wildlife. July 2007. <<http://www.tpwd.state.tx.us/>>

Thomas, William A. December 2006. *Review of Mississippi River Sediment Delivery System – Bayou Dupont (BA-39)*. Clinton, MS.

Thompson, Whitney C. July 2007. *Preliminary Design Report Mississippi River Sediment Delivery System Bayou Dupont (BA-39)*. Louisiana Department of Natural Resources Coastal Engineering Division, Baton Rouge, LA.

US Army Corps of Engineers, EM 1110-2-5025. March 1983. *Engineering and Design-Dredging and Dredged Material Disposal*. Washington, DC.

US Environmental Protection Agency, Office of Water and Department of the Army, US Army Corps of Engineers. February 1998. *Evaluation of Dredged Material Proposed for Discharge in Waters of the US – Testing Manual (Inland Testing Manual)*. Washington, DC.

US Fish and Wildlife Service. October 2007. <<http://www.fws.gov/>>

US Fish and Wildlife Service (FWS). May 2007. *National Bald Eagle Management Guidelines*.

DEPARTMENT OF
NATURAL RESOURCES
2008 JAN -2 AM 11:16
CONTRACTS & GRANTS
MANAGEMENT
DIVISION