

**Project Plan and  
Environmental Assessment  
for  
Barataria Basin Landbridge Shoreline Protection Project  
Phase 4 (BA-27d)  
Jefferson Parish, Louisiana**

**United States Department of Agriculture  
Natural Resources Conservation Service**

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# **Barataria Basin Landbridge Shoreline Protection Project Phases 4 (BA-27d)**

## **Project Plan and Environmental Assessment**

### **ABSTRACT**

This document describes the proposed project and evaluates potential impacts attributed to shoreline protection measures along Bayou Rigolettes in Jefferson Parish, Louisiana. The recommended plan consists of constructing about 28,000 feet of shoreline protection (rock revetment) along the east bank of Bayou Rigolettes. Planning, engineering, design, pre-construction monitoring, construction, operation and maintenance, and post-construction monitoring of the project are funded under authorization of Public Law 101-646 (Eleventh Priority Project List) as a project entitled Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d). The Louisiana Department of Natural Resources (LDNR) will provide the non-federal share of the total cost of the project. No significant long term environmental impacts are anticipated as a result of project implementation. Construction activities will result in the direct loss of 7 acres of emergent marsh and localized destruction of some non-motile benthic organisms and their habitat (17 acres of waterbottom), as well as short-term impacts to waterbottoms and water quality degradation, such as a localized increase in turbidity. Project implementation is expected to prevent the net loss of 249 acres of emergent marsh over 20 years and maintain aquatic vegetation. The project will produce net long-term benefits to project area resources. This document is intended to fulfill the requirements of the National Environmental Policy Act for the project.

Prepared under the authority of the Coastal Wetlands Planning, Protection, and Restoration Act of November 1990, House Document 646, 101st Congress.

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## SUMMARY OF PROJECT PLAN AND ENVIRONMENTAL ASSESSMENT

Project Name: Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d)

Parish: Jefferson

State: Louisiana

Federal Sponsor: U.S.D.A. Natural Resources Conservation Service

Non-federal Sponsor: Louisiana Department of Natural Resources

Description of Recommended Plan:

The proposed project consists of about 28,000 feet of shoreline protection (rock revetment) along the east bank of Bayou Rigolettes. Planning, engineering, design, pre-construction monitoring, construction, operation and maintenance, and post-construction monitoring of the project are funded under authorization of Public Law 101-646 (Eleventh Priority Project List) as a project entitled Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d).

Resource Information:

|                      |                   |
|----------------------|-------------------|
| Size of Project      | 766 Acres         |
| Land Ownership       |                   |
| Private              | 100%              |
| Habitat Types (2000) |                   |
| Intermediate Marsh   | 593 Acres (77.4%) |
| Fresh Marsh          | 15 Acres (2.0%)   |
| Open Water           | 129 Acres (16.8%) |
| Upland Scrub-Shrub   | 8 Acres (1.1%)    |
| Other                | 21 Acres (2.8%)   |

Threatened and Endangered Species

Two inactive bald eagle nests occur in the project area. The project is not anticipated to adversely affect these sites or any potential nest trees. No other threatened and endangered species presently occur within the project area.

Essential Fish Habitat

The essential fish habitats that occur in the project area include estuarine emergent wetlands, submerged aquatic vegetation, mud and shell substrates, and estuarine water column.

### Cultural Resources

There are two known cultural resource site located in the project area. These sites will not be affected by project activities.

### Problem Identification:

Loss of vegetated wetlands and associated functions due to:

Wind-generated waves, boat wakes, and tidal energy

Hydrologic modifications, including elimination of overbank flooding of the Mississippi River, closure of Bayou Lafourche, and dredging of the Gulf Intracoastal Waterway, Barataria Bay Waterway, Harvey Cutoff, and oilfield access channels

Subsidence

Sea level rise

### Alternative Plans Considered:

No Action

Shoreline Protection

### Project Objective:

Reduce or eliminate bankline erosion for a portion of Bayou Rigolettes.

### Principle Project Measures:

About 28,000 feet of shoreline protection (rock revetment)

Seven historical and/or manmade channels will be left open to allow continued aquatic organism ingress and egress, and adequate discharge of surface water flow.

### Project Benefits:

Prevent the net loss of 249 acres of emergent marsh.

### Potential Adverse Impacts:

No significant long-term adverse impacts to wetlands, water quality, threatened or endangered species, species managed by Gulf of Mexico Fishery Management Council or their essential habitat, other fish and wildlife resources, recreational or socio-economic resources, or cultural resources are anticipated. Construction activities will result in the direct loss of 7 acres of emergent marsh and localized destruction of some non-motile benthic organisms and their habitat (17 acres of waterbottom), as well as short-term impacts to waterbottoms and water quality degradation, such as a localized increase in turbidity.

## INTRODUCTION

The objective of the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d) is to reduce or eliminate bankline erosion for a portion Bayou Rigolettes in Jefferson Parish, Louisiana. The proposed project consists of about 28,000 feet of shoreline protection along the east bank of Bayous Rigolettes.

Federal funds to be used for planning and implementing projects which create, protect, restore, and enhance wetlands in coastal Louisiana are provided by the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) of 28 November 1990, House Document 646, 101st Congress. The Act calls for formation of the Louisiana Coastal Wetlands Conservation and Restoration Task Force (LCWCRTF) to consist of the Secretary of the Army, the Administrator of the Environmental Protection Agency (EPA), the Governor of Louisiana, the Secretary of Interior, the Secretary of Agriculture, and the Secretary of Commerce. The Louisiana Department of Natural Resources (LDNR) typically serves as the local cost share partner for projects.

Planning, engineering, design, pre-construction monitoring, construction, maintenance, and post-construction monitoring of the project are funded by the LCWCRTF under the authority of CWPPRA.

Under CWPPRA specifications, the project must be cost-shared between the federal sponsoring agency and the State of Louisiana. Pursuant to approval 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. The United States Department of Agriculture (USDA), through the Natural Resources Conservation Service (NRCS), acts as the federal sponsor for this project, and the State of Louisiana has indicated its willingness to cost-share on the total cost of the project.

This Project Plan/Environmental Assessment (Plan/EA) has been prepared to fulfill the requirements of the National Environmental Policy Act of 1969 (NEPA). This Plan/EA describes problems affecting the area, significant resources, alternatives, the recommended alternative and its impacts, and public participation.

## PROJECT SETTING

### Location

The Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d) is located in Jefferson Parish, Louisiana, central to a point approximately 1.5 miles south of Lafitte, along the east bank of Bayou Rigolettes, (Figure 1). The project area encompasses approximately 766 acres of intermediate marsh, fresh marsh, upland shrub-scrub, and open water habitat in all or parts of Sections 6, 26, 27, 34, and 35 of T16S-R23E, and Sections 1, 2, 10, and 11 of

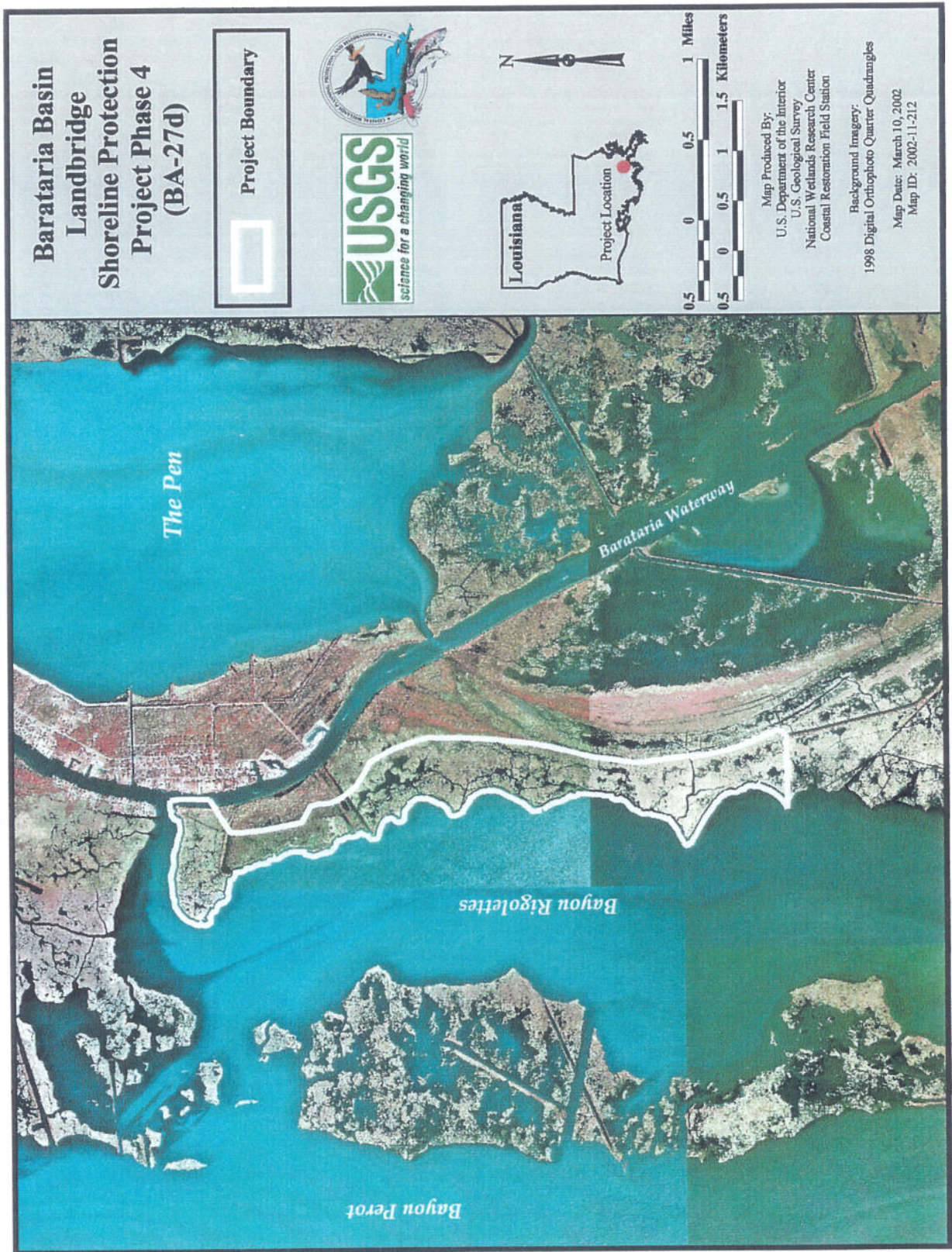


Figure 1. Project area map.



T17S-R23E. This project area was identified by the CWPPRA Environmental Work Group (EnvWG) and represents the acreage that, without the project over 20 years, would be lost directly to shoreline erosion, as well as additional acreage that would be affected by increased tidal exchange, coalescence of interior ponds, and deepening of interior ponds throughout the project life.

### **Climate**

While summers in the project area tend to be long, hot, and humid, gulf breezes frequently cool the area. Winters are generally mild with cooler air brought in from the north with the passage of cold fronts. Average annual precipitation is 59 inches, coming in rains occurring throughout the year. Prevailing wind is from the southeast with an average wind speed of 10 mph (USDA-SCS 1983).

### **Geology and Soils**

The project site lies in a triangular-shaped area surrounded by, but outward from the outer limits of, three Mississippi River deltas depicted by Kolb and Van Lopik (1958). The project is flanked on the northwest by the Cocodrie Complex, which is believed to have been active between about 4,600 and 3,600 years before present; on the east by the St. Bernard Complex, which is believed to have been active between about 2,500 and 1,700 years before present; and on the southwest by the Lafourche Complex, which is believed to have been active between about 2,000 and 700 years before present. Located between the natural levee ridges of Bayou Lafourche and that of Bayou des Familles/Bayou Baratavia, project area marshes formed through a combination of vegetative growth, peat accumulation, and alluvial processes. Hence, the project area marsh soils consist of decomposed herbaceous plant material (peat), herbaceous material (roots and root mats), and underlying clayey alluvium. Lafitte-Clovelly Association soils (Appendix A) occur throughout the entire project area. These soils are generally found in brackish marshes and are level with very poor drainage, resulting in flooded or ponded conditions most of the time. Lafitte soils usually occur in broad basins between natural streams. These soils are characterized by a thick surface layer of semifluid, saline muck and underlying material of semifluid, saline clay and silty clay loam. Clovelly soils usually occur on submerged ridges along natural streams. They are characterized by a moderately thick surface layer of semifluid, saline muck with semifluid, saline clay as the underlying material. While this soil association is not well suited to crops, pasture, woodland, or urban uses, it is well suited for recreation, wetland wildlife habitat, and nursery areas for estuarine and marine organisms found in the Gulf of Mexico (USDA-SCS 1983).

### **Emergent Marsh Vegetation**

O'Neil (1949) classified the project area as "floating three-cornered grass" (*Schoenoplectus americanus*) marsh. Vegetative type maps for 1968 (Chabreck et al. 1968) and 1978 (Chabreck and Linscombe 1978) indicated that the entire project area consisted of brackish marsh. Based on data from Chabreck and Linscombe (1988), USGS and LDNR (2001)

determined that the 1988 habitat distribution was 76% brackish marsh, 11% intermediate marsh, 11% open water, and 1% scrub-shrub. The vegetative type map for 1997 (Chabreck et al, Undated) indicated that the entire project area consisted of intermediate marsh. USGS (2004) determined that the 2000 habitat distribution was 77% intermediate marsh, 2% fresh marsh, 17% open water, and 1% scrub-shrub (Figure 2).

The intermediate marsh of the project area is dominated by marshhay cordgrass (*Spartina patens*), bulltongue (*Sagittaria falcata*), marsh morningglory (*Ipomoea sagittata*), deer pea (*Vigna repens*), and Olney bulrush (*Schoenoplectus americanus*).

Canal spoil banks are vegetated with eastern baccharis (*Baccharis halimifolia*), black willow (*Salix nigra*), palmetto (*Sabal minor*), and Chinese tallow (*Triadica sebifera*).

### **Open Water and Submerged Aquatic Vegetation**

USGS (2004) determined that, in 2000, 129 Acres (17%) of the project area was open water. Of this acreage, the CWPPRA EnvWG (2004) estimated that about 102 acres were interior open water; it is this open water acreage that was analyzed CWPPRA Wetland Value Assessment (WVA). The remaining open water acreage (27 acres) is part of Bayou Rigolettes.

As part of the WVA for this project, the CWPPRA EnvWG (2004) estimated that about 50 percent of the interior open water within the project area contains submerged aquatic vegetation. Common species include Eurasian watermilfoil (*Myriophyllum spicatum*), coontail (*Ceratophyllum demersum*), wigeongrass (*Ruppia maritima*), water-celery (*Valisineria americana*), and pondweed (*Potamogeton* sp.).

### **Fish and Wildlife Resources**

Emergent wetlands and open water in the project area provide important habitat for a multitude of ecologically, recreationally, and commercially important fish and wildlife species. The dynamic and highly productive ecosystems of coastal marshes provide valuable detrital material and nutrients that nourish primary producers, zooplankton, benthic organisms, and nekton, which are crucial to the food web. Shallow open water areas provide nursery habitat for a variety of aquatic organisms. Wetland wildlife species are afforded food, cover, nesting, and resting habitat by emergent marsh and open water areas.

Project area wetlands provide suitable habitat for estuarine-dependent fishes and shellfish such as brown shrimp (*Farfantepenaeus aztecus*), white shrimp (*Litopenaeus setiferus*), Atlantic croaker (*Micropogonias undulatus*), Gulf menhaden (*Brevoortia patronus*), blue crab (*Callinectes sapidus*), southern flounder (*Paralichthys lethostigma*), black drum (*Pogonias cromis*), red drum (*Scianops ocellatus*), striped mullet (*Mugil cephalus*), and spotted seatrout (*Cynoscion nebulosus*) (Gosselink 1984, Conner and Day 1987). Recreational fishing activity in the project area is centered on spotted seatrout, red drum, Atlantic croaker, southern

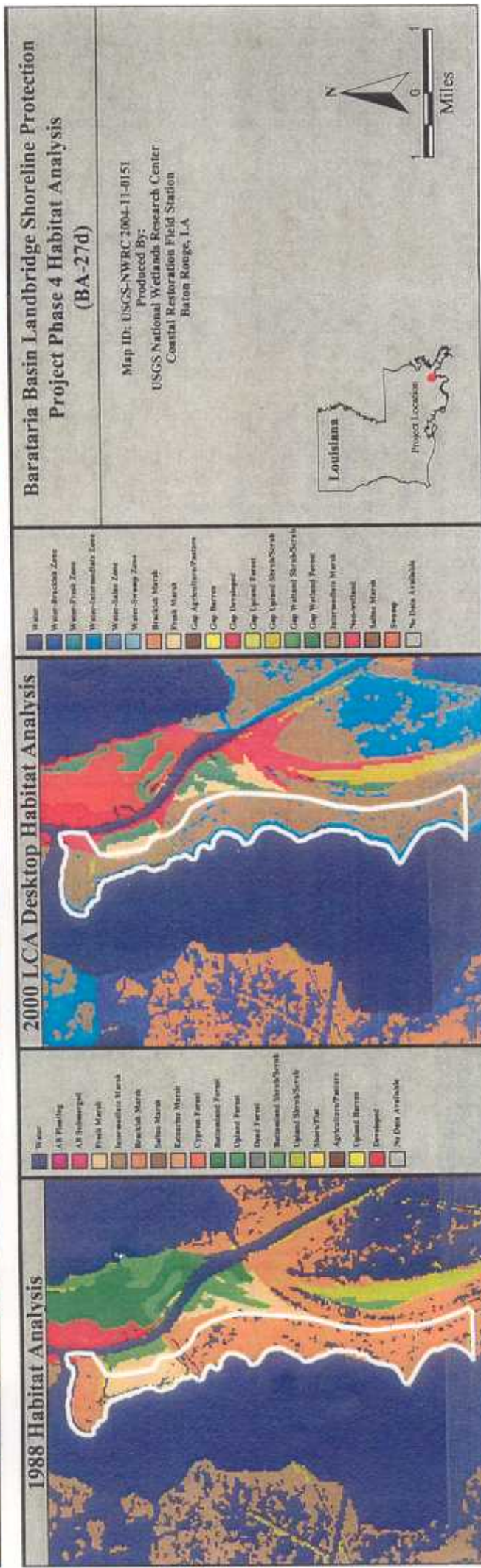
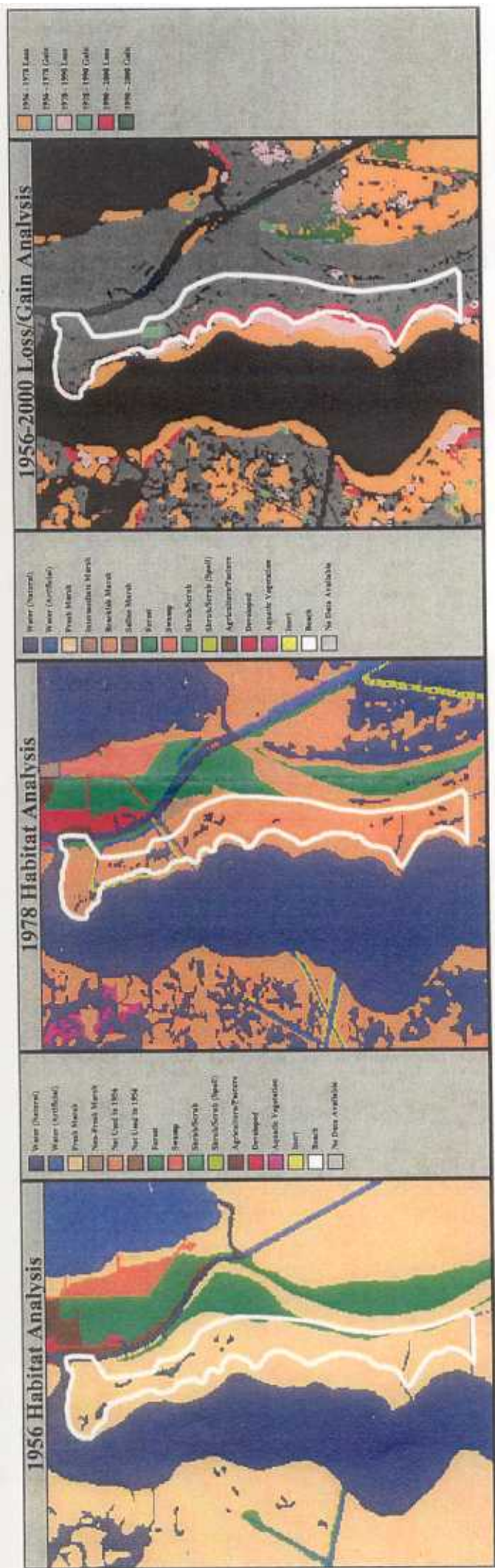


Figure Historical habitat and land loss information.

flounder, white shrimp, brown shrimp, and blue crab (Hankla 1982, Gosselink 1984, Conner and Day 1987).

Intermediate marshes, such as those within the project boundaries, provide high value winter habitat to gadwall (*Anas strepera*), green-winged teal (*Anas creca*), blue-winged teal (*Anas discors*), ring-necked duck (*Aythya collaris*), and lesser scaup (*Aythya affinis*), and provide year-round habitat for mottled ducks (*Anas fulvigula*) (Williams and Chabreck 1986). Levees and spoil banks, which are often vegetated with woody plants, provide crucial habitat for neotropical migrants to rest and refuel during spring and fall migration (Gosselink 1984, Bettinger and Hamilton 1985).

Marshes such as those found in the project area provide habitat for a number of furbearers, including muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), mink (*Mustela vison*), otter (*Lutra canadensis*), and nutria (*Myocaster coypus*) (O'Neil 1949, Palmisano 1972, Linscombe and Kinler 1985).

Alligator (*Alligator mississippiensis*) nest production is highest in intermediate marsh with an average of 78 acres per nest (McNease et al. 1994).

In accordance with Executive Order 13186 this project will have no adverse impact on migratory bird habitat.

### ***Threatened and Endangered Species***

A 2003 consultation with the U.S. Fish and Wildlife Service (USFWS) revealed that two inactive bald eagle nests occur in the project area (Appendix C). No other threatened and endangered species presently occur within the project area.

### ***Essential Fish Habitat***

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, the Gulf of Mexico Fishery Management Council (Council) has identified essential fish habitat for those species managed under its fishery management plans (Gulf of Mexico Fishery Management Council, 1998). Project area wetlands provide habitat for a number of managed species - white shrimp juveniles and subadults (year round), brown shrimp juveniles and subadults (year round), and red drum juveniles, subadults, and adults (year round). Additionally, Council-managed species (such as mackerels, red drum, snappers, and groupers) and highly migratory species (such as billfish and sharks) feed upon estuarine-dependent species (such as spotted seatrout, gulf menhaden, striped mullet, and blue crab) that are also supported by the project area wetlands. The essential fish habitats that occur in the project area include estuarine emergent wetlands, submerged aquatic vegetation, mud and shell substrates, and estuarine water column.

## **Cultural Resources**

A review of the archaeological records housed at the Louisiana Department of Culture, Recreation, and Tourism (LDCRT) indicates that there are two known cultural resource sites located within the project area. Site 16JE88 is not eligible for the National Register of Historic Places. The eligibility of Site 16JE17 has not been determined.

## **Economic Resources**

The coastal wetlands of Jefferson Parish produce furbearers, alligators, freshwater and estuarine-dependent fish, can support domestic livestock, and provide both consumptive and non-consumptive recreational opportunities. Jefferson Parish marshes and wetlands are responsible for producing many freshwater and estuarine-dependent fisheries species that are commercially and recreationally important. While the recreational value is unknown, the value of 2002 commercial landings for Jefferson Parish include \$58,073 for freshwater fisheries, \$29,463,128 for marine fisheries, \$5,360 for fur animals and \$141,735 for wild alligators (Louisiana State University Agricultural Center and Louisiana Cooperative Extension Service 2003).

## **PROBLEMS, FORECASTED CONDITIONS, AND OPPORTUNITIES**

### **Form and Extent of Historic and Forecasted Emergent Marsh Loss**

#### ***Shoreline Erosion***

An analysis by USGS (2001) for the period of 1971-1998 yielded a shoreline erosion rate estimate of 26.2 feet per year for 85% of the shoreline length and 3.5 feet per year for 15% of the shoreline length. As part of the CWPPRA WVA for this project, the CWPPRA EnvWG (2004) forecasted that, without the project, 13 acres of emergent marsh in the project area would be lost to shoreline erosion each year for a total of about 260 acres over the 20-year project life.

#### ***Interior Marsh Loss***

While shoreline erosion is the more significant form of marsh loss, some interior marsh loss does occur. Calculated pursuant to Britsch and Dunbar (1996), about 46 acres of interior marsh was lost in the project area from 1932 to 1990. As part of the CWPPRA WVA for this project, the CWPPRA EnvWG (2004) forecasted that without the project, over 20 years, about 12 acres of interior marsh loss would occur.

## **Causes of Historic Emergent Marsh Loss**

Factors contributing to the excessive marsh loss in this area include elimination of overbank flooding of the Mississippi River; the closure of Bayou Lafourche at the Mississippi River; other hydrologic modifications including the dredging of the Gulf Intracoastal Waterway, Barataria Bay Waterway, Harvey Cutoff, and oilfield access channels; physical erosion due to wind-generated waves, boat wakes, and tidal energy; subsidence; and sea level rise. The deep organic soils have rendered this area particularly susceptible to marsh loss. While one can partially chronicle certain events using historical maps and photographs, the exact sequence, relative contribution, and the cause and effect relationships of the above referenced factors has not, and probably can not, be determined.

## **The “Landbridge” Concept and Opportunity**

The Barataria Basin is approximately 90 miles long, bounded on the north and east by the Mississippi River, on the west by Bayou Lafourche, and on the south by the Gulf of Mexico. The upper portion of the Barataria Basin is largely a freshwater-dominated system of natural levee ridges, baldcypress (*Taxodium distichum*) - water tupelo (*Nyssa aquatica*) swamps, and fresh marsh habitats. The lower portion of the basin is dominated by marine/tidal processes, with barrier islands, saline marsh, brackish marshes, tidal channels, and large bays and lakes. Historically, a small meandering Bayou Perot, and the longer, narrower Bayou Dupont-Bayou Barataria-Bayou Rigolettes/Bayou Villars channels provided limited hydrologic connection between the upper and lower basin. The hydrologic connections between upper and lower basin are much greater today due to the Barataria Bay Waterway, Bayou Segnette Waterway, Harvey Cutoff, and the substantial erosion and interior marsh loss along and between the now-enlarged Bayou Perot and Bayou Rigolettes. Fortunately, there still exists a landmass, albeit deteriorating, that extends southwest to northeast across the basin, roughly between Lake Salvador and Little Lake; this landmass can be referred to as the “Barataria Basin Landbridge”.

Many concepts and potential projects have been discussed for this general area, including a) shoreline protection along the west bank of Bayou Perot, the north shore of Little Lake, the east/south bank of Bayous Rigolettes and Perot, and along each bank of Harvey Cutoff (i.e., Barataria Basin Landbridge Shoreline Protection Project Phases 1, 2, and 3); b) shoreline protection for the east and west banks of both Bayou Perot and Bayou Rigolettes; c) restoration of the peninsula between these two bayous; d) closure or constriction of Harvey Cutoff; e) a lock on Barataria Bay Waterway; and f) constriction of Bayou Perot near Little Lake. The proposed Barataria Basin Landbridge Shoreline Protection Project Phase 4 is an extension to shoreline protection that was identified as a consensus of a local-state-federal-academic work group as to what measures should be implemented first in addressing this critical Barataria Basin area. The proposed project does not represent a complete solution for this area.

## **SCOPE OF THE PROJECT PLAN/EA**

### **Scoping of Concerns**

Development of the proposed project, selection of the project for funding, and development of this Plan/EA resulted from the recognition of, and efforts to address, the concerns specific to the “Barataria Basin Landbridge” area.

During the scoping process, a range of environmental, economic, and social concerns was analyzed. The concerns determined to be highly significant to decision making are loss of marsh, condition of open water areas, loss of fish and wildlife habitat, protection of social and economic infrastructure, maintenance of threatened and endangered species, protection of cultural resources, and public acceptance. Each of these concerns was considered in the analysis of all alternatives. Other factors that might be impacted by alternative solutions were identified, including recreational resources, floodwater and drainage, mineral resources, visual resources, maintenance or improvement of water quality, and land use. Factors that were considered, but determined not to be impacted by alternative solutions included groundwater, prime farmland, transportation, employment, and air quality.

Similarly, a range of environmental, economic, and social concerns were analyzed for the Barataria Basin Landbridge Shoreline Protection Project Phases 1, 2, and 3 (USDA-NRCS 2000).

## **FORMULATION, DESCRIPTION, AND COMPARISON OF ALTERNATIVES**

### **Formulation of Alternatives**

In April 1996, a local-state-federal-academic work group was formed to investigate potential conservation and restoration measures that would serve to protect the functional integrity of the “Barataria Basin Landbridge”. Many concepts and potential projects were discussed in considerable detail. Predictive hydrologic and wind-wave models and preliminary cost/benefit ratios were employed to assist the work group in developing a consensus alternative. In May 1997, the work group reached consensus that 72,000 feet of shoreline protection should be the first measure implemented in addressing this critical area of the Barataria Basin. In June 1999, the CWPPRA EnvWG agreed that an additional 4,000 feet of shoreline protection should be added to the original proposal to accomplish the desired level of benefits for the “Barataria Basin Landbridge”, yielding a total of 76,000 feet of shoreline protection that comprise the Barataria Basin Landbridge Shoreline Protection Project Phases 1, 2, and 3.

In 2001, officials from Jefferson Parish, landowners, and nearby residents and business owners nominated and/or expressed strong support for the selection and funding of an

additional 28,000 feet of shoreline protection in the form of the Barataria Landbridge Shoreline Protection Project Phase 4.

## **Description of Alternatives**

### ***No Action Alternative***

The No Action Alternative consists of no treatment for the project area. No structural or non-structural measures would be planned beyond those already in existence.

### ***Shoreline Protection Alternative***

The Shoreline Protection Alternative consists of approximately 28,000 feet of rock revetment (Figure 3). A rock revetment is a shoreline protection structure that is located at the marsh/water interface; about 40 percent of its cross-sectional width is located on the marsh surface and about 60 percent extends into the water and slopes down to the waterbottom (Appendix B). Selection of a rock revetment as the shoreline protection technique for this alternative is based on the following: 1) site-specific geotechnical investigation (Burns Cooley Dennis, Inc. 2003); 2) engineering surveys; 3) knowledge gained from and performance of rock revetment for Construction Unit Two of the Jonathan Davis Wetland Project (BA-20) (Phillips et al. 2001); 4) knowledge gained from and performance of rock revetment for Construction Unit Two of the Barataria Landbridge Shoreline Protection Project Phases 1 and 2 (BA-27) (Phillips et al. 2003); knowledge gained from and performance of Construction Unit One of the Barataria Landbridge Shoreline Protection Project Phases 1 and 2 (BA-27) (LaFleur et al. 2003).

The rock revetment shall be constructed to an elevation of 3.5 feet North American Vertical Datum 1988 (NAVD88), which is about 2.3 feet above average water level. The revetment shall have a top width of 4 feet and side slopes of 3:1 (horizontal:vertical).

To allow continued aquatic organism ingress and egress and adequate discharge of surface water flow, openings in the rock revetment will be left at seven historical and/or manmade channels (Figure 3). The width of the openings will be approximately equal to the controlling width of the existing channel at a point 20 to 50 feet toward the marsh interior from the channel mouth (Appendix B). Each opening will be lined with a minimum thickness of two feet of rock, and the sill elevation of openings will be at or below 2 feet below average water level (-0.8 feet NAVD88).



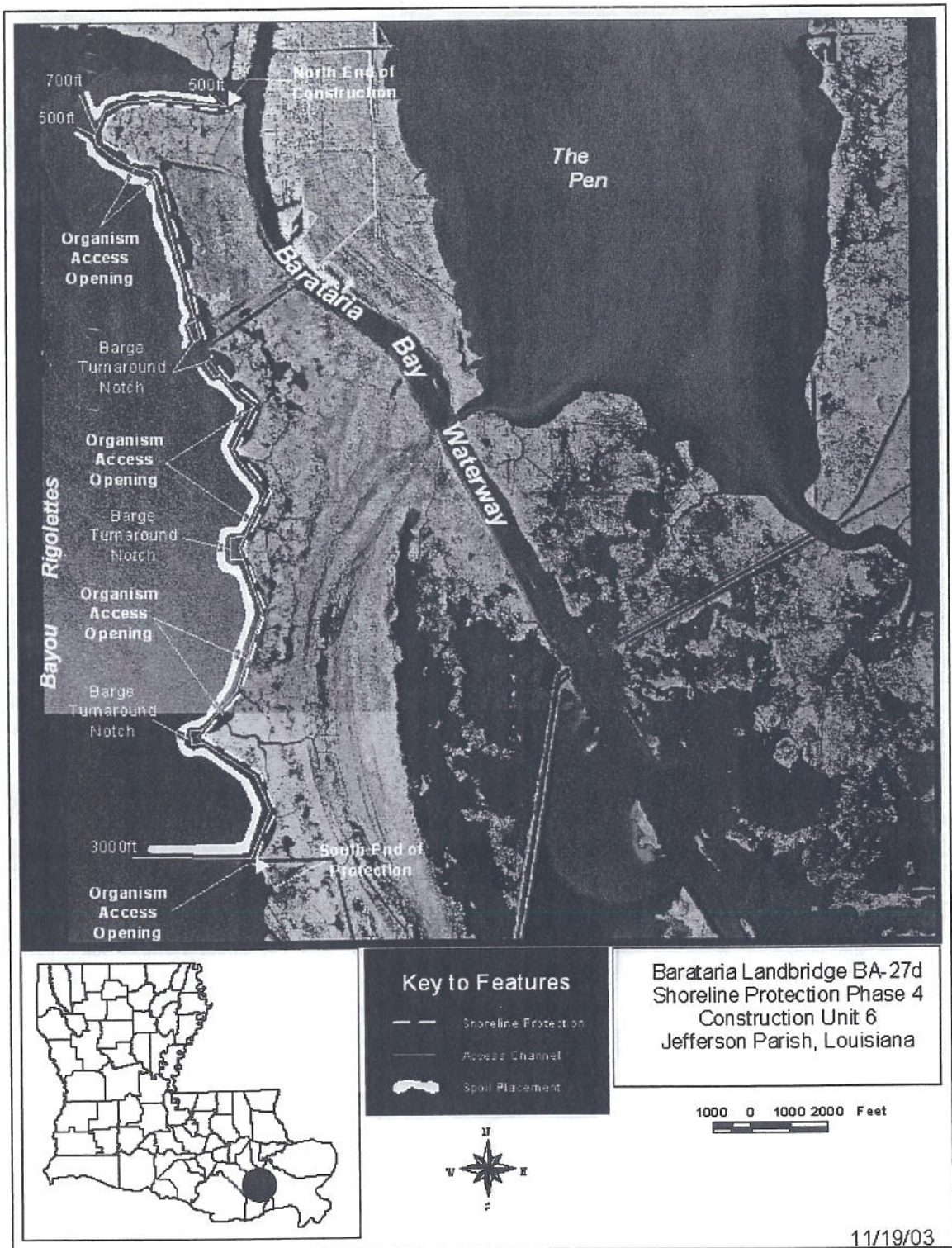


Figure 3. Project features map.

## **Environmental Effects and Comparison of Alternatives**

### ***Emergent Marsh Vegetation***

The No Action Alternative provides no treatment to address the loss of emergent marsh vegetation in the project area. As part of the CWPPRA WVA for this project the CWPPRA EnvWG (2004) forecasted that with no action, over 20 years, about 260 acres of emergent marsh would be lost to shoreline erosion and about 12 acres of interior emergent marsh would be lost to other factors.

With the Shoreline Protection Alternative, the CWPPRA EnvWG (2004) predicted that shoreline erosion would be eliminated, but that about 16 acres of interior marsh loss would occur. This amount of interior loss with the project is four acres greater than without the project because, without the project, shoreline erosion would claim those four acres before they would be lost to factors that affect the marsh interior. Additionally, with selection of a rock revetment as the shoreline protection technique, it is estimated that 7 acres of marsh along the shoreline will be lost to rock placement. Therefore, over 20 years, this alternative would prevent a net loss of 249 acres of emergent marsh.

### ***Open Water and Submerged Aquatic Vegetation***

With no action, the CWPPRA EnvWG (2004) forecasted that open water would increase by 272 acres (260 from shoreline erosion and 12 from interior loss), yielding a total of 374 acres at the end of 20 years at which time about 51 acres (14 percent) would support submerged aquatic vegetation. Water depth is expected to increase and average salinity is not expected to change.

With the Shoreline Protection Alternative, the CWPPRA EnvWG (2004) predicted that open water would increase by 16 acres (all from interior loss), yielding a total of 118 acres at the end of 20 years at which time about 59 acres (50 percent) would support submerged aquatic vegetation. Water depth and average salinity are not expected to change.

The Shoreline Protection Alternative would include the dredging of construction access channels, including about 28,000 feet of channel oriented parallel to the location of the shoreline protection feature, about 5,800 feet of channel oriented perpendicular to the shoreline protection feature, and about 1,200 feet of channel to provide sufficient depth for barge "turn-arounds" (Figure 3). The temporary impact to benthic habitat is estimated at 159 acres -- about 75 acres of bayou bottom would be dredged to allow construction access and dredged material shall be placed over about 84 acres of Bayou Rigolettes waterbottom. This impact is considered temporary because benthic habitat and associated flora and fauna can quickly reestablish itself, and it should be noted that much of this benthic habitat was formerly emergent marsh. Dredged material shall be returned to the access channels upon completion of construction. No dredged material will be placed on emergent marsh. Additional short-term impacts associated with the access channel, dredged material placement, and shoreline protection construction include localized increase in turbidity and suspended solids during construction and localized destruction of some non-motile benthic

organisms. Short-term increases in turbidity are common events in the project area and the flora and fauna are adapted to this, hence no significant impacts are expected. Long-term adverse impacts to open water resources are limited to placement of the rock revetment over approximately 17 acres of Bayou Rigolettes waterbottom.

### *Fish and Wildlife Resources*

Over time, the No Action Alternative would allow a substantial decrease in the project area's fish and wildlife habitat quality and a substantial decrease in the area's potential to provide valuable detrital material and nutrients that nourish primary producers, zooplankton, benthic organisms, and nekton due to the loss of emergent marsh (272 acres). As water depth increases, there would be less shallow open water areas available as nursery habitat for a variety of aquatic organisms. Wetland wildlife species would have less food, cover, nesting, and resting habitat available.

By preventing the net loss of 249 acres of emergent marsh over 20 years, project-area fish and wildlife habitat quality and detrital production will be higher with the Shoreline Protection Alternative. However, because that alternative will not completely eliminate the loss of emergent marsh, there will be a decrease in fish and wildlife habitat quality and detrital production over time, albeit at a much slower rate than with the No Action Alternative. By allowing seven historical and manmade channels to remain open, aquatic organism ingress and egress and adequate discharge of surface water flow will be maintained. Habitat for migratory birds will also be protected under this alternative.

### *Threatened and Endangered Species*

The No Action alternative, by allowing continued shoreline erosion, could adversely affect inactive bald eagle nests or other potential nest trees. The Shoreline Protection Alternative is not anticipated to adversely affect these inactive nests or any potential nest trees, and should protect them from future erosion. If any federally listed threatened or endangered species are discovered in the project area, or if construction is not initiated within one year, further coordination will be initiated with USFWS and/or National Marine Fisheries Service (NMFS).

### *Essential Fish Habitat*

Over time, the No Action Alternative would allow a substantial decrease in the quality of the project area's essential fish habitat due to the loss of emergent marsh (272 acres). The project area's ability to support Council-managed species (white shrimp, brown shrimp, and red drum) would be significantly reduced. Furthermore, the No Action Alternative would adversely impact estuarine-dependent species (such as spotted seatrout, gulf menhaden, striped mullet, and blue crab) that are preyed upon by other Council-managed species (such as mackerels, red drum, snappers, and groupers) and highly migratory species (such as billfish and sharks).

With the Shoreline Protection Alternative, it is estimated that 7 acres of marsh along the shoreline will be lost to rock placement. However, by preventing the net loss of 249 acres of emergent marsh over 20 years, the Shoreline Protection Alternative will significantly protect the quality of the project area's essential fish habitat. The project area will be able to maintain most of its current ability to support Council-managed species (white shrimp, brown shrimp, and red drum), as well as the estuarine-dependent species (such as spotted seatrout, gulf menhaden, striped mullet, and blue crab) that are preyed upon by other Council-managed species (such as mackerels, red drum, snappers, and groupers) and highly migratory species (such as billfish and sharks). Because the Shoreline Protection Alternative will not completely eliminate the loss of emergent marsh, there will be a decrease in the quality of the project area's essential fish habitat over time, albeit at a much slower rate than with the No Action Alternative.

With the Shoreline Protection Alternative, it is estimated that 159 acres of mud substrate will be temporarily disturbed due to access channel dredging and temporary spoil placement. This impact is considered temporary because benthic habitat and associated flora and fauna can quickly reestablish itself, and it should be noted that much of this benthic habitat was formerly emergent marsh. Furthermore, short-term impacts associated with the access channel, dredged material placement, and shoreline protection construction include localized increase in turbidity and suspended solids during construction and localized destruction of some non-motile benthic organisms and their habitat. Short-term increases in turbidity are common events in the project area and the flora and fauna are adapted to this, hence no significant impacts are expected. Long-term adverse impacts to mud substrate are limited to placement of the rock revetment over approximately 17 acres of Bayou Rigolettes waterbottom.

By incorporating openings at seven historical and/or manmade channels, aquatic organism ingress and egress and adequate discharge of surface water flow will be maintained.

### ***Cultural Resources***

With the No Action Alternative, a cultural resource site in the project area may become exposed to erosive forces at some time in the future. With the Shoreline Protection Alternative, the State Historic Preservation Officer (SHPO) and the Chitimacha Tribe of Louisiana have concurred that no archeological or historic properties are located in areas where dredging or construction would occur and that no archeological or historic properties would be affected by this project (Appendix C). It is anticipated that the Shoreline Protection Alternative would help to protect the cultural resource site from erosion in the future. Should any unknown sites be encountered during construction, coordination with appropriate entities, including the SHPO and the Chitimacha Tribe of Louisiana, would be conducted.

## **Risk and Uncertainty**

Project measures are being designed with the intent of eliminating shoreline erosion; it is predicted that the measures will also maintain the extent of submerged aquatic vegetation. Because of the multiple and intertwined causes of wetland loss in coastal Louisiana, the risk of continued wetland loss and associated uncertainties can not be entirely eliminated.

In the general vicinity of the "Barataria Basin Landbridge", geotechnical investigations have revealed the presence of a highly organic soil foundation, raising serious concerns regarding the use of traditional shoreline protection techniques. However, the geotechnical investigations taken specifically in the Barataria Landbridge Shoreline Protection Project Phase 4 area have revealed a soil foundation with a higher mineral content, probably due to the proximity to the natural levee ridge of the former course of Bayou Barataria. The higher mineral content produces a stronger soil foundation which is more capable of supporting a rock shoreline revetment. To reduce risk and uncertainty to the greatest extent possible, design of the rock revetment will account for anticipated initial settlement, construction of the revetment will be phased, and the estimated project budget includes funds for structure maintenance.

## **Rationale for Plan Selection**

The selected plan results from review of available information; expertise of personnel involved in coastal wetlands planning, engineering, and construction; public comments; and consideration of potential impacts of alternatives. This plan addresses the most critical needs of the project area while striving to minimize adverse impacts. The proposed project is not anticipated to cause any long-term, significant, adverse environmental impacts.

## **Civil Rights**

The civil rights policy for the Department of Agriculture and its programs states: "No person or group shall be discriminated against on the basis of race, color, sex, national origin, age, disability, marital or familial status in any employment practice or in any program conducted or assisted by the Department of Agriculture." Under this policy "major civil rights impacts" are those consequences of proposed policy actions which, if implemented, will negatively and disproportionately affect minorities, women, or persons with disabilities who are employees, program beneficiaries, or applicants for employment or program benefits in USDA conducted or assisted programs by virtue of their race, color, sex, national origin, religion, age, disability, marital or familial status.

It has been determined that the Shoreline Protection Alternative would not negatively and disproportionately affect minorities, women, or persons with disabilities who are employees, program beneficiaries, or applicants for employment or program benefits in USDA conducted or assisted programs by virtue of their race, color, sex, national origin, religion, age, disability, marital or familial status.

## CONSULTATION AND PUBLIC PARTICIPATION

During project planning, coordination has been maintained with the following agencies and entities: USFWS, NMFS, EPA, U. S. Army Corps of Engineers, LDCRT, LDNR, Louisiana Governor's Office for Coastal Activities, Jefferson Parish, Crescent Soil and Water Conservation District, and CWPPRA Academic Advisors. Based on consultation with USFWS, it has been determined that no adverse impact to any federally listed threatened or endangered species would occur. Based on consultation with NMFS, it has been determined that there would be no long-term adverse effect on essential fish habitat and that adequate marine organism ingress and egress will be provided. Consultation with LDCRT and the Chitimacha Tribe of Louisiana was performed to ensure that there would be no adverse impacts to cultural resource sites.

Federal, state, and local agencies, as well as other interested parties were given the opportunity to review and comment on a draft of this document. A copy of the mailing list is available upon request. Comments received and responses to substantive comments are provided in Appendix C. Commenting parties will receive a copy of the Finding of No Significant Impact (FONSI) and the Final Plan/EA. Other interested parties will be notified that the FONSI and Final Plan/EA are available upon request.

Project development and selection under the CWPPRA process utilizes input from the public, in addition to local, state, and federal agency input. Public involvement in CWPPRA is achieved through annual public meetings conducted during project development and selection stages. During the development and selection of the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d), public meetings were held in New Orleans, Louisiana, on March 11, 2001, and November 28, 2001. Officials from Jefferson Parish, landowners in the project area, and nearby residents and business owners are in full support of this project.

## RECOMMENDED PLAN

### **Purpose and Summary**

The objective of the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d) is to reduce or eliminate bankline erosion for a portion of Bayou Rigolettes, in Jefferson Parish, Louisiana. The alternatives developed have been analyzed for their ability to meet project objectives and avoid or minimize impacts to critical resources. The selected alternative has been determined to most adequately meet project objectives, while enhancing and protecting area resources.

### **Proposed Measures**

The recommended plan is the Shoreline Protection Alternative which consists of about 28,000 feet of shoreline protection along the east bank of Bayou Rigolettes. Shoreline protection will

consist of a rock revetment (Appendix B). The rock revetment shall be constructed to elevation of 3.5 feet NAVD88, have a top width of 4 feet, and have side slopes of 3:1 (horizontal:vertical).

To allow continued aquatic organism ingress and egress and adequate discharge of surface water flow, openings in the rock revetment will be left at seven historical and/or manmade channels (Figure 3). The width of the openings will be approximately equal to the controlling width of the existing channel at a point 20 to 50 feet toward the marsh interior from the channel mouth. See Appendix B for a typical drawing. Each opening will be lined with a minimum thickness of two feet of rock, and the sill elevation of openings will be at or below 2 feet below average water level (-0.8 feet NAVD88).

### Permits and Compliance

All necessary permits and approvals will be obtained before project construction commences. Applicable federal statutes are shown in Table 1. The proposed action is not expected to cause adverse environmental impacts that would environmental mitigation.

Table 1. Environmental compliance.

| STATUTE   | COMPLIANCE |
|---|------------|
| Archaeological and Historic Preservation Act  | Full       |
| Clean Air Act, as amended   | Full       |
| Coastal Barrier Resources Act (PL 97-348; 1982)   | Full       |
| Coastal Zone Management Act of 1972, as amended   | Full*      |
| Endangered Species Act of 1973, as amended  | Full       |
| Executive Order 11988, Floodplain Management  | Full       |
| Executive Order 11990, Protection of Wetlands   | Full       |
| Farmland Protection Policy Act  | Full       |
| Federal Water Pollution Control Act   | Full*      |
| National Environmental Policy Act of 1969, as amended   | Full*      |
| National Historic Preservation Act of 1966, as amended  | Full       |
| Magnuson-Stevens Fishery Conservation and Management Act  | Full       |
| Subtitle B, Highly Erodible Land Conservation, and Subtitle C, Wetland Conservation, of the Food Security Act of 1985 | Full       |
| Wild and Scenic River Act, as amended   | Full       |

\* Full compliance and applicable documentation will be completed prior to construction.

### Costs, Financing, and Installation

Total project cost was estimated and includes all aspects of planning, engineering, administration, landrights acquisition, construction, inspection, monitoring, and operations

and maintenance. Cost information is provided in Appendix D.

Planning, engineering, design, pre-construction monitoring, construction, maintenance, and post-construction monitoring of the project have been funded under CWPPRA

Due to approval of the Louisiana Coastal Wetlands Conservation Plan on November 30, 1997, the federal government (through USDA-NRCS) will provide 85 percent of the cost and the State of Louisiana will contribute the remaining 15 percent. USDA-NRCS and LDNR have executed a cost-sharing agreement for planning, engineering, design, pre-construction monitoring, construction, maintenance, and post-construction monitoring of the project.

#### **Monitoring and Operation, Maintenance, and Rehabilitation**

Post-construction monitoring will be performed by LDNR via the CWPPRA Coastwide Reference Monitoring System.

Funding for operation, maintenance, and rehabilitation will be made available on a 3-year cycle, over the 20-year project life. Operation, maintenance, and rehabilitation will be administered by LDNR in cooperation with NRCS

### **CONCLUSION**

The United States Department of Agriculture, Natural Resources Conservation Service finds no significant long-term adverse impacts to wetlands, water quality, threatened or endangered species, species managed by Gulf of Mexico Fishery Management Council or their essential habitat, other fish and wildlife resources, recreational or socio-economic resources, or cultural resources associated with the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d). Construction activities will result in the direct loss of 7 acres of emergent marsh and localized destruction of some non-motile benthic organisms and their habitat (17 acres of waterbottom), as well as short-term impacts to waterbottoms and water quality degradation, such as a localized increase in turbidity. Project implementation is expected to prevent the net loss of 249 acres of emergent marsh over 20 years and maintain aquatic vegetation. The project will produce net long-term benefits to project area resources.



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## LIST OF PREPARERS

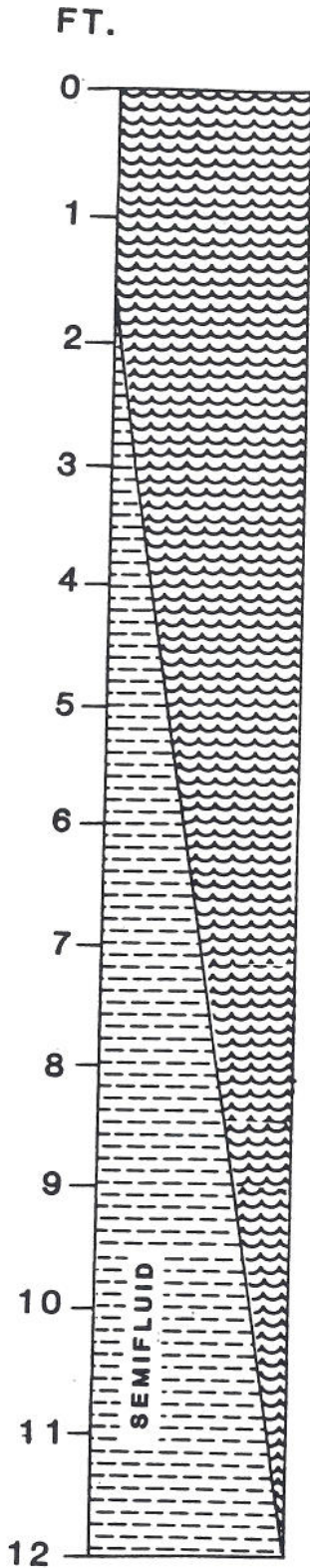
| <u>Name</u>    | <u>Present Position</u>  | <u>Employer</u>                           |
|----------------|--------------------------|---|
| Quin Kinler    | Resource Conservationist | Natural Resources Conservation Service    |
| John Jurgensen | Civil Engineer           | Natural Resources Conservation Service    |
| Cherie LaFleur | Civil Engineer           | Natural Resources Conservation Service    |
| Allen Bolotte  | District Conservationist | Natural Resources Conservation Service    |
| Scotty Windham | Civil Eng. Technician    | Natural Resources Conservation Service    |
| Allison Dees   | GIS Specialist           | Johnson Controls / U.S. Geological Survey |

**APPENDIX A**

**SOIL PROFILE**

SOIL PROFILE

LAFITTE-CLOVELLY



These level, very poorly drained soils have a thick or moderately thick mucky surface layer and clayey underlying material; in brackish marshes.

The soils of this map unit are in brackish marshes that are flooded or ponded most of the time. Elevation ranges from sea level to about 1 foot above sea level. Slope is less than 0.5 percent.

The Lafitte soils are in broad basins between natural streams and have a thick surface layer of semifluid, saline muck and underlying material of semifluid, saline clay and silty clay loam.

The Clovelly soils are on submerged ridges along natural streams. They have a moderately thick surface layer of semifluid, saline muck and underlying material of semifluid, saline clay.

Of minor extent are the very poorly drained Allemands soils in adjacent areas of freshwater marsh and the very poorly drained Scatlake and Timbalier soils in adjacent areas of saline marsh. Many small ponds and perennial streams are in most areas.

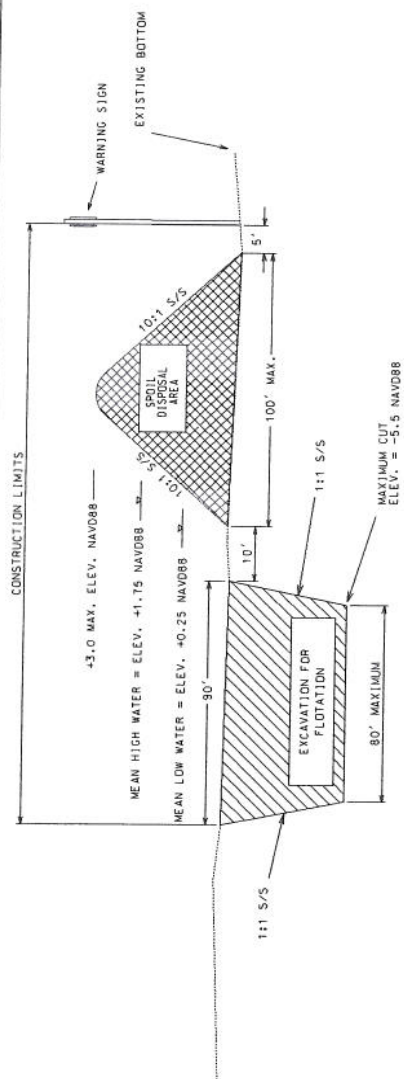
Most of the soils in this unit are in native vegetation and are used for recreation and as habitat for wetland wildlife. A small acreage has oil and gas wells.

These soils are well suited to use as habitat for wetland wildlife. They provide suitable habitat for many species of wetland wildlife. Hunting, fishing, and other outdoor activities are popular in areas of this unit. This unit is part of the estuary that contributes to the support of marine life in the Gulf of Mexico.

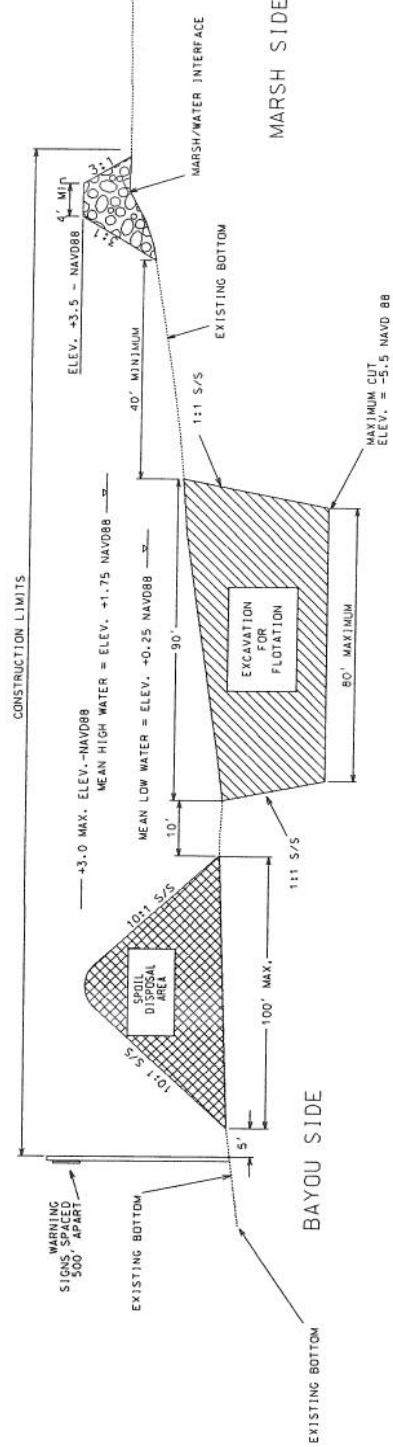
These soils are not suited to crops, pasture, woodland, or urban areas. The limitations of flooding, wetness, salinity, and low strength are too severe for these uses.



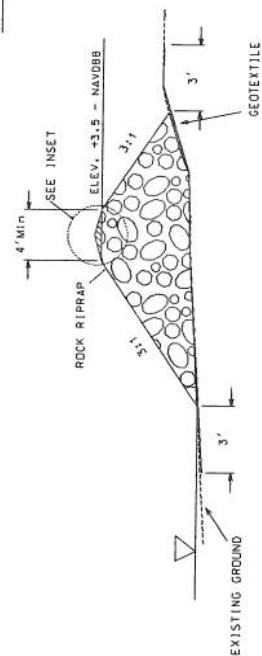
**APPENDIX B**  
**TYPICAL DRAWINGS**



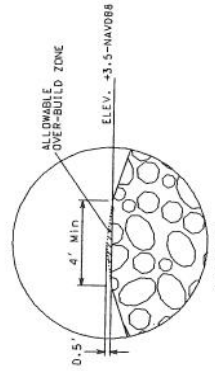
TYPICAL ACCESS CHANNEL EXCAVATION PERPENDICULAR TO SHORELINE



TYPICAL ACCESS CHANNEL EXCAVATION SHORELINE SEGMENT



TYPICAL GEOTEXTILE AND ROCK PLACEMENT



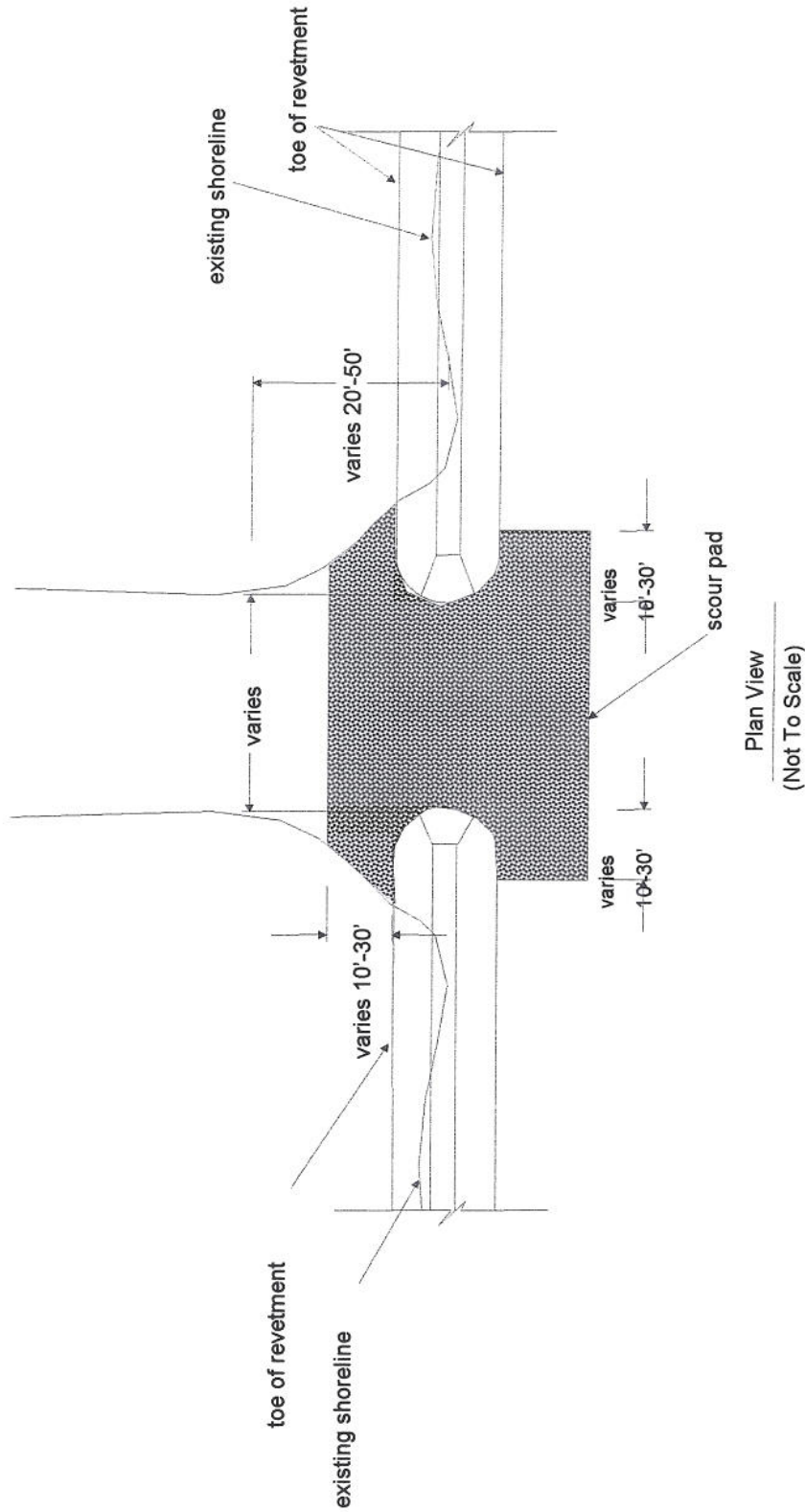
ALLOWABLE OVER-BUILD ZONE INSET ROUNDED TOP SECTION OF ROCK

Typical Rock Revetment  
Barataria Basin Landbridge BA-27d Phase 4  
Construction Unit 6  
Jefferson Parish, Louisiana  
Sheet 2 of 4

NOT TO SCALE



# Typical Marine Organism Access Opening



1. Width of opening shall be approximately equal to width of existing channel 20-50 feet inward from shoreline.
2. Scour pad shall consist of a minimum thickness of 2 feet of rock rip rap and shall not exceed a top elevation of -0.8 NAVD88.

Sheet 4 of 4  
November 19, 2003

Barataria Basin Landbridge BA-27d  
Construction Unit 6  
Jefferson Parish, Louisiana

**APPENDIX C**  
**COMMENTS RECEIVED AND RESPONSES**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.  
Suite 400  
Lafayette, Louisiana 70506

November 3, 2003

Mr. Quin J. Kinler  
Resource Conservationist  
Natural Resources Conservation Service  
Post Office Box 16030  
Baton Rouge, Louisiana 70893

Dear Mr. Kinler:

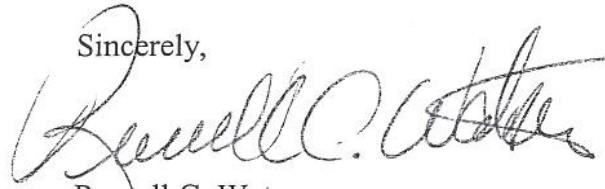
Please reference your October 7, 2003, letter requesting our review of phase 4 of the proposed Barataria Basin Landbridge Shoreline Protection Project in Jefferson Parish, Louisiana. That proposed project is authorized under the Coastal Wetlands Planning, Protection, and Restoration Act, and the Natural Resources Conservation Service is developing the project plan and environmental assessment. 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. 884, as amended; 16 U.S.C. 1531 et seq.).

Our records indicate that two inactive bald eagle nests occur within the proposed project area (Latitude 29.6311, Longitude -90.1075; and Latitude 29.6250, Longitude -90.1086). Bald eagles (*Haliaeetus leucocephalus*), Federally listed as a threatened species, nest in Louisiana from October through mid-May. However, undocumented nests may be present within, or adjacent to, the project area. Eagles typically nest in baldcypress trees near open water, or fresh-to-intermediate marshes in the southeastern parishes. Major threats to this species include habitat alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead). 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 project should not damage any portion of the eagle nest trees, including their root systems (i.e., through soil compaction or disturbance).

Based on the above information, no further consultation will be required unless there are changes in the scope or location of the project, or work has not been initiated within 1 year. If the project has not been initiated within 1 year, follow-up consultation should be accomplished with this office prior to making expenditures for construction. If the scope or location of the proposed work is changed, or undocumented nesting bald eagles are discovered in the project area, consultation should occur as soon as such changes are made, or nesting eagles are found.

We appreciate the opportunity to provide these initial comments in the planning stages of this proposed project, and look forward to reviewing the forthcoming project plan and Environmental Assessment. If you need further assistance, please contact Angela Culpepper (337/291-3137) of this office.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell C. Watson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Russell C. Watson  
Acting Supervisor  
Louisiana Field Office

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



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

646 Cajundome Blvd.

Suite 400

Lafayette, Louisiana 70506

December 18, 2003

Quin Kinler  
USDA-NRCS  
P.O. Box 16030  
Baton Rouge, Louisiana 70893

Dear Mr. Kinler:

Please reference the November 2003 Draft Project Plan and Environmental Assessment (EA) for the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d). That EA evaluates the potential impacts associated with shoreline protection in brackish and intermediate wetlands on the eastern side of Bayou Rigolettes in Jefferson Parish, Louisiana. The U.S. Fish and Wildlife 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.), the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and the National Environmental Policy Act (83 Stat. 852, as amended; 42 U.S.C. 4321-4347).

### **General Comments**

The EA adequately addresses the potential impacts to fish and wildlife resources associated with project implementation. The project area consists of brackish and intermediate marshes and associated open-water habitat, and provides important habitat for Federal trust resources, including waterfowl, shorebirds, wading birds, and estuarine-dependent fishes and shellfishes. The project will protect emergent wetlands from future loss, thereby benefitting numerous fish and wildlife species.

### **Specific Comments**

Page 15, Paragraph 2, Sentence 2 - The word "provide" should be changed to "protect".

Page 16, Paragraph 5, Sentence 2 - The word "species" should be inserted after the word "endangered". We concur that the project is not likely to adversely impact any threatened or endangered species or their critical habitat.

The Service appreciates the opportunity to comment on the draft EA. If you have any questions regarding our comments, please contact Kevin Roy at (337) 291-3120.

Sincerely,



Russell C. Watson  
Supervisor  
Louisiana Field Office

cc: EPA, Baton Rouge, LA  
NMFS, Baton Rouge, LA  
U.S. Army Corps of Engineers, New Orleans, LA  
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA  
LA Dept. of Natural Resources (CRD), Baton Rouge, LA



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southeast Regional Office  
9721 Executive Center Drive North  
St. Petersburg, Florida 33702

December 18, 2003 F/SER44/BH:jk  
225/389-0508

Mr. Quin Kinler  
U.S. Department of Agriculture (USDA-NRCS)  
Natural Resources Conservation Service  
Post Office Box 16030  
Baton Rouge, Louisiana 70893

Dear Mr. Kinler:

The National Marine Fisheries Service (NOAA Fisheries) has received the draft Project Plan and Environmental Assessment (EA) titled "BARATARIA BASIN LANDBRIDGE SHORELINE PROTECTION PROJECT, PHASE 4 (BA-27d); JEFFERSON PARISH, LOUISIANA" transmitted by a letter from William B. Paul dated November 26, 2003. The draft EA evaluates the potential impacts of the construction of 29,500 feet of rock revetment along the east bank of Bayou Rigolettes. This project has been funded under the auspices of the Coastal Wetlands Planning, Protection, and Restoration Act with the Natural Resources Conservation Service acting as the Federal sponsor.

NOAA Fisheries has reviewed the draft EA and found it to contain an adequate assessment of potential project impacts to resources of concern. As such, NOAA Fisheries has no comments to provide on the draft EA. Because the project would help protect habitat supportive of NOAA Fisheries-trust resources, we support project implementation and recommend the project be constructed as soon as possible.

We appreciate the opportunity to review and comment on the draft EA.

Sincerely,

Miles M. Croom  
Assistant Regional Administrator  
Habitat Conservation Division

c:  
FWS, Lafayette  
EPA - Dallas  
LA DNR - Consistency  
F/SER4  
Files



United States Department of Agriculture



Natural Resources Conservation Service  
3737 Government Street  
Alexandria, LA 71302



December 9, 2002

Ms. Laurel Wyckoff  
State Historic Preservation Officer  
Department of Culture, Recreation and Tourism  
P.O. Box 44247  
Baton Rouge, Louisiana 70804

Date: 12-24-02  
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.  
Laurel Wyckoff: *Laurel Wyckoff*  
State Historic Preservation Officer

Dear Ms. Wyckoff:

Re: Coastal Wetlands Planning Protection and Restoration Act  
Barataria Basin Landbridge Project BA-27-d  
Jefferson Parish, Louisiana

The Natural Resources Conservation Service (NRCS) is authorized and funded to construct the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27-d) in Jefferson Parish. Phase 4 would include about 31,500 feet of shoreline protection along the east bank of Bayou Rigolettes. See attached map.

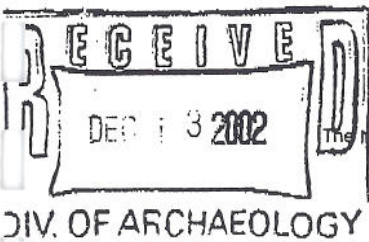
A review of your site files by NRCS personnel revealed that there are two known cultural sites (JE-17 and JE-88) located within the project area. It is our opinion that these known sites are not within the area of potential effect of the proposed shoreline protection measures. We request that your office comment on our determination that no further cultural resource investigations are needed.

Sincerely,

*Donald W. Gohmert*  
Donald W. Gohmert  
State Conservationist

Attachment

cc: Quin Kinler, Soil Conservationist, NRCS, Baton Rouge, LA



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**Quin Kinler**

**From:** W.Kenneth.Derickson@MVN02.USACE.ARMY.MIL  
**Sent:** Tuesday, December 23, 2003 9:23 AM  
**To:** quin.kinler@la.usda.gov  
**Cc:** Melanie.L.Goodman@MVN02.USACE.ARMY.MIL; Gregory.B.Miller@MVN02.USACE.ARMY.MIL; Julie.Z.LeBlanc@MVN02.USACE.ARMY.MIL; Robert.J.Martinson@MVN02.USACE.ARMY.MIL  
**Subject:** Barataria Landbridge, Phase 4 (BA-27d) EA

Quin:

Sorry about the previous E-mail on this. This is the final version of our comments on the subject EA.

We have reviewed the Draft EA for the Barataria Basin Landbridge Shoreline Protection Project, Phase 4(BA-27d). Over all the report was well written and easy to follow.

Specific comments are as follows:

Page 2

Cultural Resources

Indicates one known cultural resource site, but two are indicated on Page 9 under Cultural Resources.

Page 5/6

Data on emergent marsh and open water should be updated to reflect more current data (i.e. 2000 or 2001 maps) and the estimated land and open water percentages as determined by the EnvWG for Target Year 0.

Page 9

Annual shoreline erosion estimates are quite variable and the number chosen by the EnvWG was much lower than all the other estimates. Normally, one would expect a rate that falls within the range of the observations. Since the lay public is not familiar with how the EnvWG operates, it would be useful to explain why a much lower rate of erosion was chosen.

Same thing applies to the interior marsh rate loss.

Page 11

Groundwater, visual resources, prime farmland, transportation, employment and air quality are relevant to the NEPA decision-making process and must be addressed. The project may not have any adverse impacts on these resources, but they should be addressed accordingly.

For clarity, it would be helpful to indicate that the environmental concerns for Phases 1,2, and 3 have been addressed in previous EAs or will be addressed in other EAs. If EAs have been completed on any of these other three phases, include them in the references.

Page 12

2/19/2004

Revetment is a not a common word in the public's vocabulary, so a definition/explanation should be provided. In the explanation, indicate the width of the revetment and how many feet of the rock will be onshore and in the water.

Since everyone in the public may not understand 3.5 NAVD, it would be helpful to indicate the actual height (or range thereof) of the revetment.

#### Page 14

Expand the first sentence in the *Open Water and Submerged Aquatic Vegetation* section to show the breakdown of the 354 acres of open water (339 from erosion of shoreline and 15 from interior marsh losses due to subsidence, etc.) and also the acres of submerged vegetation (50 acres).

In second paragraph in the *Open Water and Submerged Aquatic Vegetation* section, indicate the number of acres of submerged vegetation (61 acres).

In the third paragraph in the *Open Water and Submerged Aquatic Vegetation* section, is the 5,800 feet of channel associated with the work in the tributaries or to bring the barges to the work area, or both? Also, should indicate that material dredged from the channels will be placed to the bayou side of the channel and will cover about 84 acres of benthic habitat. Total up the benthic habitat figures, so that it is easy for reader to understand that 159 acres of benthic habitat will be temporarily impacted and 17 acres of benthic habitat permanently impacted.

#### Page 15

In the first sentence of the first paragraph, just state that the "...production will be higher...". Given the amount of marsh available in the area, 327 acres is a small percentage of the total available marsh and therefore it is questionable that "...production will be much higher...".

Under threatened and endangered species, are no impacts expected because none of the potential and inactive nest trees will be removed during construction of the revetment? Will construction be limited to the non-breeding season if bald eagles are observed at the inactive nest sites or other potential nest trees? Also change "...should provide..." to "...should protect...".

In the next to the last paragraph, please provide more details on why no long-term adverse impacts are anticipated. Over 160 acres of benthic habitat and associated non-motile flora and fauna will be disrupted/eliminated. It would be appropriate to elaborate on why this is not a problem, since one cannot assume that the public understands that: this benthic habitat and associated flora and fauna can quickly reestablish itself; that much of this benthic habitat was formerly marsh; etc. Also, for the public's benefit it would be helpful to explain that short-term increases in turbidity are common events in these areas and the flora and fauna are adapted to this, hence no significant impacts are expected.

#### Page 16

Under Cultural Resources, refer the reader to Appendix C (if this is where agency coordination letters will be located) when discussing the SHPO letter. Also, while it may not be appropriate to disclose the exact location of the cultural resources site(s), it is appropriate to give the reader enough information to know that the site is not located in any areas where revetment will be constructed or where dredging will occur.

Under Risk and Uncertainty, need to be more specific on what "... a soil foundation with a higher mineral content..." means so the lay public can understand that these soils will be firmer and less subsidence is likely.

There is no discussion of Hazardous, Toxic and Radiological Wastes and no follow-up on impacts to economic resources. Also, as indicated earlier need to address the impacts to employment, transportation, ground water, visual resources, prime farmland, and air quality. Environmental justice should also be addressed.

#### Page 16/17

2/19/2004

Under Coordination and Public Participation, refer the reader to Appendix C for USFWS, etc. coordination letters.

#### General Comments

No major issues, however, we need to remember that the EA needs to be a stand-alone document that provides the public with enough information to identify all project-related issues and to ascertain the significance of any associated impacts. Simply stating that there will be no adverse impacts does not meet the intent of the NEPA process. Additionally, it is important to define terminology that it is not part of the day-to-day vocabulary of the lay public. Finally, while most of the CWPPRA projects are providing net environmental resource benefits, it is still important to explicitly identify all potential impacts and to provide sufficient details for the reader to be able to concur or disagree with the conclusions of the EA.

*Ken Derickson, Ph.D.  
Ecological Planning and Restoration Section  
Planning Programs and Project Management Division  
US Army Corps of Engineers  
P.O. Box 0267  
New Orleans, LA 70160-0267*

*Phone: (504) 862-2533  
Fax: (504) 862-1892*

United States Department of Agriculture



Natural Resources Conservation Service  
P.O. Box 16030  
Baton Rouge, LA 70893

Telephone: 225-382-2047  
Fax: 225-382-2042  
email: quin.kinler@la.usda.gov

February 20, 2004

Mr. W. Ken Dickerson  
U.S. Army Corps of Engineers  
P.O. Box 60267  
New Orleans, Louisiana 70160-0267

RE: Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d)  
Response to Comments on Draft Project Plan and Environmental Assessment

Dear Mr. Dickerson:

Reference is made to your electronic mail dated December 23, 2003, which provided comments regarding the Draft Project Plan and Environmental Assessment (Plan/EA) for the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d). Each of your comments has been addressed as described below.

Response to Comment on Page 2: Page 9 is correct. Page 2 was revised.

Response to Comment on Page 5/6: Data on emergent marsh and open water acreages were updated throughout document.

Response to Comment on Page 9: The technique used in Swensen and Kinler (1997) involved manual scaled measurements for three sites using unrectified aerial photographs. USGS (2001) utilized state-of-the-art digital techniques for about 200 sites using geographically rectified imagery. The USGS (2001) estimates are much more accurate and were used for estimating benefits. To reduce confusion to the reader, the Swensen and Kinler reference has been removed.

Response to Comment on Page 11: The second paragraph under Scoping of Concerns was revised and a third paragraph was added as follows:

During the scoping process, a range of environmental, economic, and social concerns was analyzed. The concerns determined to be highly significant to decision making are loss of marsh, condition of open water areas, loss of fish and wildlife habitat, protection of social and economic infrastructure, maintenance of threatened and endangered species, protection of cultural resources, and public acceptance. Each of these concerns was considered in the analysis of all alternatives. Other factors that might be impacted by alternative solutions were identified, including recreational resources, floodwater and drainage, mineral resources, visual resources, maintenance or improvement of water quality, and land use. Factors that were considered, but determined not to be impacted by alternative solutions included groundwater, prime farmland, transportation, employment, and air quality.

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Similarly, a range of environmental, economic, and social concerns were analyzed for the Barataria Basin Landbridge Shoreline Protection Project Phases 1, 2, and 3 (USDA-NRCS 2000).

Response to Comment on Page 12: Response: The following statement was added, “A rock revetment is a shoreline protection structure that is located at the marsh/water interface; about 40 percent of its cross-sectional width is located on the marsh surface and about 60 percent extends into the water and slopes down to the waterbottom (Appendix B).” Also, a reference to average water level was added to improve understanding.

Response to Comment on Page 14: The referenced paragraphs were revised to provide suggested acreage references. Where appropriate, acreages and percentages were updated in accordance with the revised WVA. The third paragraph was edited slightly to improve clarity.

Response to Comment on Page 15: Suggested change to first paragraph was made. Regarding the inactive eagle nest tree or other potential nest trees, no impacts are expected because they are located over 500 feet from the construction zone. If bald eagles are observed, coordination with FWS will be initiated and appropriate action will be taken. Typographical error was corrected.

Suggested changes regarding benthic habitat, its associated flora and fauna, and turbidity were added to Open Water and Submerged Aquatic Vegetation section and to the Essential Fish Habitat subsection.

Response to Comment on Page 16: Changes to Cultural Resources section were made. A statement was added explain the implication of the higher mineral content.

NRCS procedures do not call for Hazardous, Toxic and Radiological Wastes assessment on this project. Regarding impacts to employment, transportation, ground water, visual resources, prime farmland, and air quality, see response to the Page 11 comment. A Civil Rights section was added.

Response to Comment on Page 16/17: Coordination and Public Participation does refer the reader to Appendix C; see second paragraph.

Response to General Comments: With the revisions described above, NRCS views the final EA as a stand-alone document that provides sufficient information to identify and determine the significance of project-related impacts. Additional technical terms are defined to improve the public’s understanding of the document.

Thank you for your comments; they have served to improve the final document.

Sincerely,



Quin J. Kinler  
NRCS Project Manager

**Quin Kinler****From:** Ismail Merhi [ismailm@dnr.state.la.us]**Sent:** Monday, January 05, 2004 3:16 PM**To:** quin.kinler@la.usda.gov**Subject:** DNR's Comments re. Draft Plan and EA Document for BLB CU #6 (BA-27d) Project

Quin,

I received the following feedback from the LDNR project team:

The Draft Plan/EA for the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d) is well written and complete. However, since the 30% Design Review and the revised WVA, there are a few minor inconsistencies. Pages 1, 12, 17, and 19 contain references to total length of the rock revetment being 29,500 feet, when the latest plan calls for about 28,000 feet. Also FWOP land loss is now estimated at 285 acres over 20 years, not 354 acres as stated on pages 9 and 12. Appendix D, Costs, should also be updated. On page 19, Monitoring and Operation, Maintenance, and Rehabilitation, delete the word "maintenance" in the last line of the paragraph.

One minor editorial comment; on page 8, paragraph entitled "Essential Fish Habitat", Line 1: "Magnusun-Stevens Fisheries.." is misspelled: should be "Magnuson-Stevens..."

Thanks for giving us the opportunity to review.

*Ismail*

Ismail N. Merhi, P.E.

DNR Project Manager

Coastal Engineering Division/PM Section

La Department of Natural Resources

Phone (225) 342-4127

Fax (225) 342-9417



STATE OF LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT  
P. O. Box 94245  
Baton Rouge, Louisiana 70804-9245



M. J. "MIKE" FOSTER, JR.  
GOVERNOR

January 15, 2004

KAM K. MOVASSAGHI  
SECRETARY

Mr. Quin Kinler  
USDA-NRCS  
P.O. Box 16030  
Baton Rouge, LA 70893

SUBJECT: Draft Plan and EA for the Barataria Basin LandBridge Shoreline  
Protection Project Phase 4 (BA-27d)

Dear Sir:

This Section has reviewed the above captioned project as it relates to environmental concerns. It is this section's finding that the benefits of slowing coastal erosion far out-weigh the minimal impacts that will occur by construction, the consequences of doing nothing at all are unacceptable. The EA appears to have addressed all environmental concerns and we have no adverse comments at this time.

Sincerely,

*Michele M. Deshotel*

*for* Mr. Vincent Russo, Jr.  
Environmental Engineer Administrator

VGR/MJO/mjo <sup>1/15/04</sup>

**CHITIMACHA**  
TRIBE OF LOUISIANA

CULTURAL DEPARTMENT

February 2, 2004

Mr. Quin Kinler  
USDA-NRCS  
P.O. Box 16030  
Baton Rouge, LA 70893

Re: PL-646  
Barataria Basin Landbridge  
Shoreline Protection Project  
Phase 4 (BA27d)  
Draft Plan and Environmental Assessment  
Jefferson Parish, Louisiana

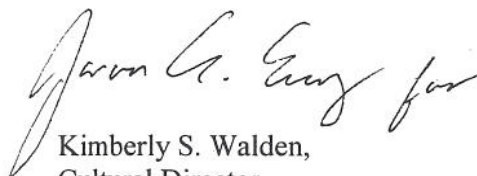
Dear Mr. Kinler:

We are in receipt of your letter, dated December 11, 2003, concerning the above-referenced project. The parish where the proposed project is to take place is part of the aboriginal Chitimacha homeland. That is, historically and prehistorically the Chitimacha Tribe of Louisiana was located in this area. This homeland contains many village sites, religious/sacred sites, and burial sites, which must be taken into account in the planning process.

We concur with your determination that this project will not affect the two known archaeological sites 16JE17 and 16JE88. However, if archaeological remains representing a village site and/or burial site are discovered during the process of construction you should stop and contact the tribe and the State Historic Preservation Office (SHPO) immediately, in order to begin consultation regarding the encountered remains.

Furthermore, we would like to point out that, in the summary of the project only a single site is mentioned. Both sites should be named in the cultural resources section of the EA, indicating their eligibility. Also, please include response letters from the SHPO, and other agencies or tribes concerning cultural resources. The Chitimacha Tribe of Louisiana appreciates your compliance with federal and state laws concerning Native American notification and consultation. Should you have any questions, do not hesitate to contact me at (337) 923-9923.

Sincerely,



Kimberly S. Walden,  
Cultural Director

KW:JE

C-14



United States Department of Agriculture



Natural Resources Conservation Service  
P.O. Box 16030  
Baton Rouge, LA 70893

Telephone: 225-382-2047  
Fax: 225-382-2042  
email: [quin.kinler@la.usda.gov](mailto:quin.kinler@la.usda.gov)

February 20, 2004

Ms. Kimberly S. Walden  
Cultural Director  
Chitimacha Tribe of Louisiana  
P.O. Box 661  
Charenton, Louisiana 70523

RE: Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d)  
Response to Comments on Draft Project Plan and Environmental Assessment

Dear Ms. Walden:

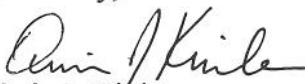
Reference is made to your letter dated February 2, 2004, which provided comments regarding the Draft Project Plan and Environmental Assessment (Plan/EA) for the Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d). The following statements in the Final Plan/EA are intended to address your comments:

Site 16JE88 is not eligible for the National Register of Historic Places. The eligibility of Site 16JE17 has not been determined.

Should any unknown sites be encountered during construction, coordination with appropriate entities, including the SHPO and the Chitimacha Tribe of Louisiana, would be conducted.

Thank you for your comments. Please contact me (225-383-2047) if have any further comments or questions.

Sincerely,

  
Quin J. Kinler  
NRCS Project Manager

cc: Joe Conti, NRCS, Alexandria

# State of Louisiana



Dwight Landreneau  
Secretary

Department of Wildlife & Fisheries  
Post Office Box 98000  
Baton Rouge, LA 70898-9000  
(225) 765-2800

Kathleen Babineaux Blanco  
Governor

February 11, 2004

Mr. Donald W. Gohmert  
Natural Resources Conservation Service  
3737 Government Street  
Alexandria, LA 71302

Re: Proposed Barataria Landbridge Shoreline Protection Project  
Phase 4 (BA-27d Construction Unit 6), Jefferson Parish

Dear Mr. Gohmert:

Personnel of our technical staff reviewed the proposal for the above referenced action and have found that we have no objection to the proposed action.

We appreciate the opportunity to review this proposal.

Sincerely,



Philip E. Bowman  
Assistant Secretary

fod

c: CMD

**APPENDIX D**

**COSTS**

**Barataria Basin Landbridge Shoreline Protection Project Phase 4 (BA-27d)  
Estimate by Fiscal Year**

| Year   | Construction<br>(including Contingency) | S&I            | Federal<br>S&A | State S&A      | COE<br>Management | Monitoring* | Operation &<br>Maintenance |
|--|---|----------------|----------------|----------------|-------------------|-------------|----------------------------|
| 2004   | 8,491,410                               | 158,743        | 250,596        | 291,812        | 364               | 0           |                            |
| 2005   |   | 54,607         | 86,205         | 100,383        | 752               | 0           |                            |
| 2006   |   |                |                |                | 776               | 0           | 4,541.82                   |
| 2007   |   |                |                |                | 801               | 0           | 4,687.16                   |
| 2008   |   |                |                |                | 827               | 0           | 6,612,332.00               |
| 2009   |   |                |                |                | 853               | 0           | 4,991.94                   |
| 2010   |   |                |                |                | 881               | 0           | 5,151.68                   |
| 2011   |   |                |                |                | 909               | 0           | 5,316.54                   |
| 2012   |   |                |                |                | 938               | 0           | 156,418.00                 |
| 2013   |   |                |                |                | 968               | 0           | 5,662.24                   |
| 2014   |   |                |                |                | 999               | 0           | 5,843.43                   |
| 2015   |   |                |                |                | 1,031             | 0           | 6,030.42                   |
| 2016   |   |                |                |                | 1,064             | 0           | 6,223.39                   |
| 2017   |   |                |                |                | 1,098             | 0           | 6,422.54                   |
| 2018   |   |                |                |                | 1,133             | 0           | 6,628.06                   |
| 2019   |   |                |                |                | 1,169             | 0           | 4,263,839.14               |
| 2020   |   |                |                |                | 1,207             | 0           | 7,059.05                   |
| 2021   |   |                |                |                | 1,245             | 0           | 7,284.93                   |
| 2022   |   |                |                |                | 1,285             | 0           | 7,518.05                   |
| 2023   |   |                |                |                | 1,326             | 0           | 7,758.63                   |
| 2024   |   |                |                |                | 1,369             | 0           | 8,006.91                   |
| 2025   |   |                |                |                | 1,412             | 0           | 8,263.13                   |
| <b>TOTAL</b>   | <b>8,491,410</b>                        | <b>213,350</b> | <b>336,801</b> | <b>392,196</b> | <b>22,407</b>     | <b>0</b>    | <b>11,139,979</b>          |
| <b>TOTAL for CONSTRUCTION, OPERATION, AND MAINTENANCE</b>                    |   |                |                |                |                   |             | <b>20,596,143</b>          |
| <b>TOTAL for PLANNING, ENGINEERING, DESIGN , PRE-CONSTRUCTION MONITORING</b> |   |                |                |                |                   |             | <b>2,191,808</b>           |
| <b>PROJECT GRAND TOTAL</b>   |   |                |                |                |                   |             | <b>22,787,951</b>          |