

PPL 16

Regional Planning Team Meetings

Region 4 – January 10, 2006

Region 3 – January 11, 2006

Region 2 – January 12, 2006

Region 1 – January 12, 2006

Initial Fact Sheets and Maps

Region 1 – Pontchartrain Basin

Proposed Project #1

Goose Point Project Extension Project

PPL-16 Project Nominee Fact Sheet
January 12, 2006

Project Name:

Goose Point Project Expansion

Coast 2050 Strategy:

Coastwide strategy: Dedicated dredging to create, restore, or protect wetlands

Regional Strategy 9: Marsh Creation via Dedicated Sediment Delivery

Project Location:

Region 1. Pontchartrain Basin, St. Tammany Parish. The project area is located in open water areas along the northshore near the community of Lacombe and west of the mouth of Bayou Lacombe.

Problem:

This area is located along the northshore and contributes to the integrity of the Lake Pontchartrain/Lake Borgne system. Over 3,600 acres of marsh were lost on the northshore in the past 50 years, and another 15% is expected to be lost over the next 50 years. This area was also in the direct path of Hurricane Katrina, which removed a tremendous amount of marsh and wildlife habitat from the region. In some areas marsh was stacked over nine feet high along the tree line. In order to minimize the adverse habitat and water quality impacts from Hurricane Katrina, it is imperative that marsh restoration occur as soon as possible. St. Tammany Parish Government estimates a loss of between 600-800 acres of intermediate marsh in the Goose Point Area as a result of Katrina.

Proposed Project Features:

This project is essentially an expansion of the existing Goose Point Project (PO-33) approved on PPL 13. Project features include approximately 500 acres of marsh creation via hydraulic dredging and placement of 1.5 million cubic yards of material. The likely borrow location is Lake Pontchartrain. Containment will be semi-confined (lake shore still largely intact) and intermediate vegetation would be planted upon material compaction and settlement.

Goals:

1. Create approximately 500 acres of intermediate marsh.
2. Reduce erosion of adjacent interior marshes.
3. Maintain and support the integrity of the Lake Pontchartrain Shoreline

Preliminary Project Benefits:

- 1) What is the total acreage benefited both directly and indirectly?
500 acres directly reestablished
- 2) How many acres of wetlands will be protected/created over the project life?
1000 acres of created marsh at the end of twenty years.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?
It is anticipated that the loss rate of the adjacent interior marsh would be reduced by 25-49%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.
This project will help fortify the Orleans landbridge by reestablishing marsh located along the northshore. This project expansion will also provide support for the shoreline of Lake Pontchartrain and its natural beach ridge. The area behind the ridge is open water and the ridge is essentially now an island.

5) What is the net impact of the project on critical and non-critical infrastructure?

It is expected that this project will have a net positive impact on non-critical infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

This project contributes to the Coast 2050 and LCA objective to protect the Orleans landbridge. It also is located near the damaged PO-06 Fritchie Marsh and PO-13 Bayou Savage Projects that are working together to reestablish the northshore marshes. This project will work synergistically with these projects to provide additional support to the northshore of Lake Pontchartrain and the Orleans landridge.

Identification of Potential Issues:

There are some pipelines in the area that will require project coordination with the pipeline owners. These pipelines impact the current Goose Point project (PO-33) but will not impact the proposed project expansion. There are no known state-issued oyster leases in the immediate project area. The project is supported by the parish. The property is located on the Big Branch Marsh National Wildlife Refuge and the owner is the Department of the Interior, USFWS.

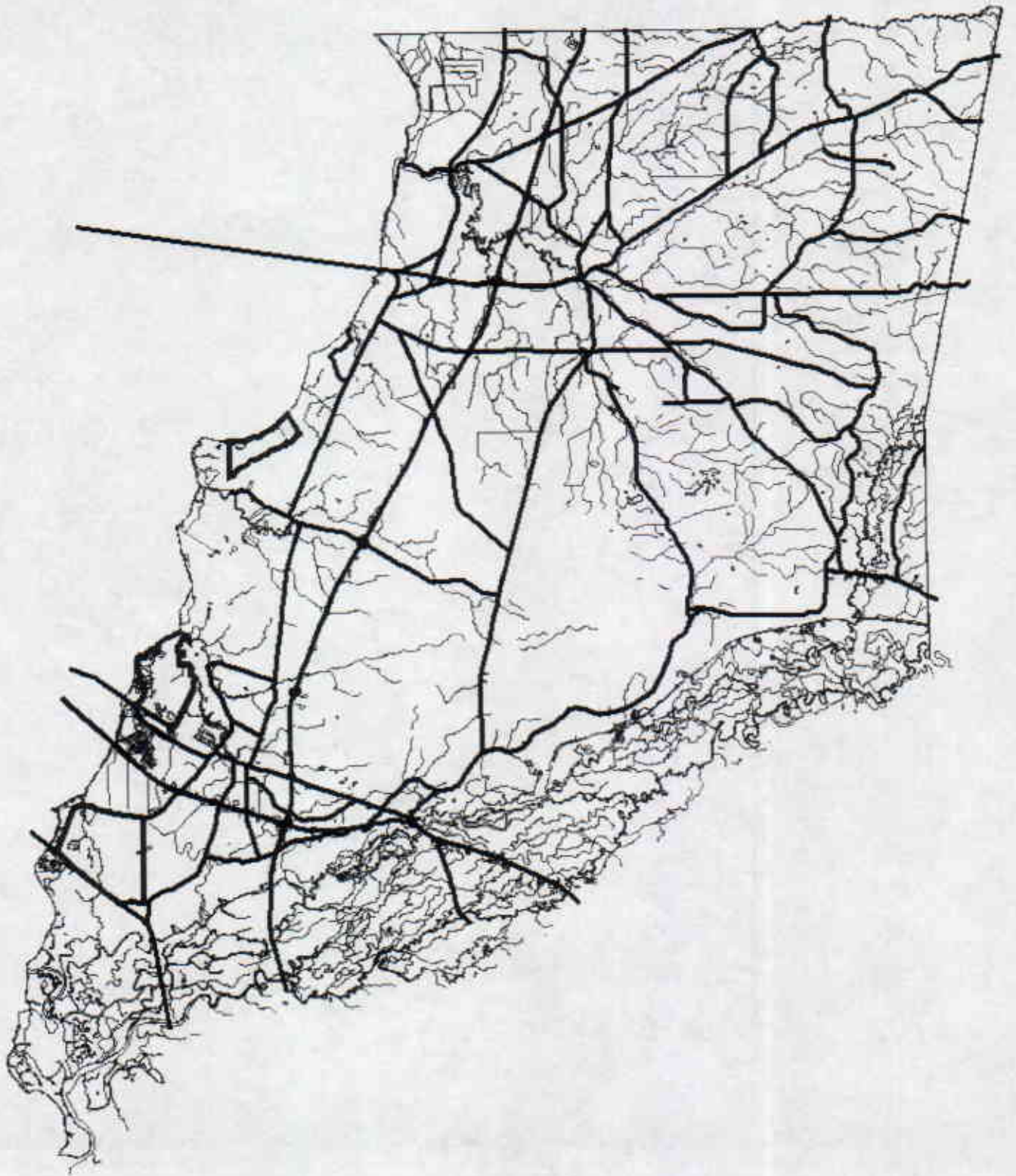
Preliminary Construction Costs:

Preliminary construction cost estimate is \$ 6.5 million. This includes construction, mobilization, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet:

Brian Fortson, St. Tammany Parish, (985) 898-2552

Cheryl Brodnax, NOAA NMFS, (225) 578-7923, cheryl.brodnax@noaa.gov





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Kevin C. Davis,
 President

**Pre Katrina View
 Goose Point North Marsh**

Legend

- Major Roads
- Roads & Streets
- Streams
- Sections
- CWPPRA-PPL16



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 President

**Post Katrina View
 Goose Point North Marsh**



Legend

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0 955 710 1,420 2,130 2,840 Feet

Region 1 – Pontchartrain Basin

Proposed Project #2

Northshore Beach Marsh Creation/Restoration Project

R1-Pont - (#2)

**PPL-16 Project Nominee Fact Sheet
January 12, 2006**

Project Name:

Northshore Beach Marsh Creation/Restoration

Coast 2050 Strategy:

Coastwide strategy: Dedicated dredging to create, restore, or protect wetlands

Regional Strategy 9: Marsh Creation via Dedicated Sediment Delivery

Project Location:

Region 1. Pontchartrain Basin, St. Tammany Parish. The project area is located in open water areas along the northshore near the community of Northshore Beach and east of the mouth of Bayou Liberty south of Slidell. Boundaries are generally Bayou Bonfouca to the north and west, Lake Pontchartrain to the south, and the GMO Railroad to the east.

Problem:

This area is located along the northshore and contributes to the integrity of the Lake Pontchartrain/Lake Borgne system. Over 3,600 acres of marsh were lost on the northshore in the past 50 years, and another 15% is expected to be lost over the next 50 years. This area was also in the direct path of Hurricane Katrina, which removed a tremendous amount of marsh and wildlife habitat from the region. Marsh grass and sediment stacked over nine feet high along the tree line north of this site. In order to minimize the adverse habitat and water quality impacts from Hurricane Katrina, it is imperative that marsh restoration occur as soon as possible. St. Tammany Parish Government estimates a loss of between 600 and 900 acres of intermediate marsh in this area as a result of Hurricanes Katrina and Rita.

Proposed Project Features:

Project features include approximately 600 acres of marsh creation via hydraulic dredging and placement of 2 million cubic yards of material. The likely borrow location is Lake Pontchartrain, the Highway 11 Canal, and Bayou Bonfouca and associated canals. Bonfouca as a borrow site would be contingent upon a finding of sediment suitability. Containment will be semi-confined (lake shore and bayou banks are still largely intact) and intermediate vegetation would be planted upon material compaction and settlement.

Goals:

1. Create approximately 600 acres of intermediate marsh.
2. Reduce erosion of adjacent interior marshes.
3. Maintain and support the integrity of the Lake Pontchartrain Shoreline

Preliminary Project Benefits:

- 1) What is the total acreage benefited both directly and indirectly?
600 acres directly reestablished
- 2) How many acres of wetlands will be protected/created over the project life?
2500 acres of protected or created marsh at the end of twenty years.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?
It is anticipated that the loss rate of the adjacent interior marsh would be reduced by 25-49%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.
This project will help fortify the Orleans land bridge by reestablishing marsh located along the northshore. This project expansion will also provide support for the shoreline of Lake

Pontchartrain and its natural beach ridge. The area behind the ridge is open water and the ridge is essentially now an island.

5) What is the net impact of the project on critical and non-critical infrastructure?

It is expected that this project will have a net positive impact on non-critical infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

This project contributes to the Coast 2050 and LCA objective to protect the Orleans land bridge. It also is located near the damaged PO-06 Fritchie Marsh and PO-13 Bayou Savage Projects that are working together to reestablish the northshore marshes. This project will work synergistically with these projects to provide additional support to the northshore of Lake Pontchartrain and the Orleans land bridge.

Identification of Potential Issues:

There are some pipelines in the area that will require project coordination with the pipeline owners. These pipelines should not impact the proposed project expansion. There are no known state-issued oyster leases in the immediate project area. The project is supported by the parish. The property is partially located on the Big Branch Marsh National Wildlife Refuge and the owner is the Department of the Interior, USFWS.

Preliminary Construction Costs:

Preliminary construction cost estimate is \$ 7.625 million. This includes construction, mobilization, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet:

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President

Pre Katrina View NSB Marsh

Legend

- Major Roads
 - Roads & Streets
 - Streams
 - Sections
- CWPPRA-PPL16



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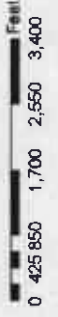
Post Katrina View NSB Marsh



Legend

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Region 1 – Pontchartrain Basin

Proposed Project #3

Fritchie Marsh Creation/Restoration (PO-06 revisited) Project

**PPL-16 Project Nominee Fact Sheet
January 12, 2006**

Project Name:

Fritchie Marsh Creation/Restoration (PO-06 revisited)

Coast 2050 Strategy:

Coastwide strategy: Dedicated dredging to create, restore, or protect wetlands
Regional Strategy 9: Marsh Creation via Dedicated Sediment Delivery

Project Location:

Region 1. Pontchartrain Basin, St. Tammany Parish. The project area is located in The Fritchie Marsh generally southeast of the city of Slidell. The marsh is bounded by Highway 90 to the east, Highway 433 to the west and south, and the natural high lands to the north. The Project Boundaries will be the same as PO 06 Fritchie Marsh Project.

Problem:

This area is located along the northshore and contributes to the integrity of the Lake Pontchartrain/Lake Borgne system. Over 3,600 acres of marsh were lost on the northshore in the past 50 years, and another 15% is expected to be lost over the next 50 years. This area was also in the direct path of Hurricane Katrina, which removed a approximately 1200-1500 acres of marsh and wildlife habitat from this area. In order to minimize the adverse habitat and water quality impacts from Hurricane Katrina, it is imperative that marsh restoration occur as soon as possible. St. Tammany Parish Government estimates a loss of between 1200 -1500 acres of intermediate marsh as a result of Hurricanes Katrina and Rita. Salt Bayou, dredged as a component of PO-06, was almost entirely filled with marsh grass and sediment dislodged by the storm.

Proposed Project Features:

Project features include approximately 1000 acres of marsh creation via hydraulic dredging and placement of 3.2 million cubic yards of material. The likely borrow locations are Lake Pontchartrain, Salt Bayou, and the West Pearl River. Containment will be semi-confined (lake shore and bayou banks are still largely intact) and intermediate vegetation would be planted upon material compaction and settlement.

3 miles of Salt Bayou will need to be dredged to remove sediment and grass deposited in its channel by Katrina. This will re-establish the fresh water flow from the West Pearl River.

Goals:

1. Create approximately 1000 acres of intermediate marsh.
2. Reduce erosion of adjacent interior marshes.
3. Maintain and support the integrity of the Lake Pontchartrain Estuarine System

Preliminary Project Benefits:

- 1) What is the total acreage benefited both directly and indirectly?
1000 acres directly reestablished
- 2) How many acres of wetlands will be protected/created over the project life?
3500 acres of protected or created marsh at the end of twenty years.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?
It is anticipated that the loss rate of the adjacent interior marsh would be reduced by 25-49%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.

This project will help fortify the Orleans land bridge by reestablishing marsh located along the northshore. The natural levee ridges flanking Salt Bayou will be reinforced by restoration of supporting interior marshes.

5) What is the net impact of the project on critical and non-critical infrastructure?

It is expected that this project will have a net positive impact on non-critical infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

This project contributes to the Coast 2050 and LCA objective to protect the Orleans land bridge. It also is located near the damaged PO-06 Fritchie Marsh and PO-13 Bayou Savage Projects that are working together to reestablish the northshore marshes. This project will work synergistically with these projects to provide additional support to the northshore of Lake Pontchartrain and the Orleans land bridge.

Identification of Potential Issues:

There are some pipelines in the area that will require project coordination with the pipeline owners. These pipelines impact the current Goose Point project (PO-33) but will not impact the proposed project expansion. There are no known state-issued oyster leases in the immediate project area. The project is supported by the parish. The project is partially located on the Big Branch Marsh National Wildlife Refuge and the owner is the Department of the Interior, USFWS.

Preliminary Construction Costs:

Preliminary construction cost estimate is \$ 12.5 million. This includes construction, mobilization, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet:

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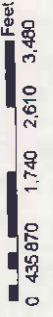
**Pre Katrina View
 Fritchie Marsh**

Legend

- Major Roads
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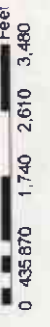
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Post Katrina View Fritchie Marsh

Legend

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Region 1 – Pontchartrain Basin

Proposed Project #4

Alligator Bend Marsh Restoration and Shoreline Protection Project

PPL16 PROJECT NOMINEE FACT SHEET

Project Name

Alligator Bend Marsh Restoration and Shoreline Protection

Coast 2050 Strategy

- Regional – Maintain Eastern Orleans Land Bridge by marsh creation and shoreline protection.
- Regional – Maintain shoreline integrity of Lake Borgne.
- Coastwide – Dedicated dredging for wetland creation.
- Coastwide – Maintenance of bay and lake shoreline integrity.

Project Location

Region 1, Lake Pontchartrain Basin, Orleans Parish, East Orleans Land Bridge Mapping Unit, along the northwest shoreline of Lake Borgne bounded by Chef Pass, Unknown Pass, the Gulf Intracoastal Waterway (GIWW), and Lake Borgne.

Problem

The landfall of hurricane Katrina in southeast Louisiana destroyed thousands of acres of marsh and other coastal habitats in the Lake Pontchartrain basin. Along the shorelines of Lake Borgne the storm created breaches between the lake and interior marshes and in some cases removed large expanses of wetlands. Loss of wetlands in the Alligator Bend area (see attached map) has created more than 1,000 acres of open water in a complex that formerly supported relatively stable brackish marshes. Post-storm aerial photographs show the most significant losses occurred along the flanks of Bayou Platte. The current landscape configuration has left a large area of open water between eroding shorelines on Lake Borgne and along the GIWW. Continued shoreline erosion and future storms could create a direct path of open water connecting the GIWW and Lake Borgne and threaten the integrity of this important landbridge.

Proposed Project Feature

- Dedicated dredging to restore wetlands on the East Orleans Land Bridge that were destroyed during the passage of hurricane Katrina.
- Planting wetlands vegetation.

Goals

- Restore critical wetlands destroyed by hurricane Katrina.
- Prevent breaching of degraded marshes between the GIWW and Lake Borgne.

Preliminary Project Benefits

The project will benefit up to 1,000 acres intertidal marsh and open water.

Identification of Potential Issues

Old maps indicate the area overlies the Unknown Pass oil and gas field. Further inspections are needed to determine if the project would impact energy infrastructure in the area. A suitable borrow location will need to be identified for construction of the project.

Preliminary Construction Costs

The estimated construction cost to rebuild marshes in the area is \$10 million - \$15 million.

Preparer of Fact Sheet

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Alligator Bend Marsh Creation



Region 1 – Pontchartrain Basin

Proposed Project #5

Hydrologic Restoration in the Swamps West of Lake Maurepas

PPL16 PROJECT NOMINEE FACT SHEET
January 5, 2006

Project Name: Hydrologic Restoration in the Swamps West of Lake Maurepas

Coast 2050 Strategies: 1) Offshore and riverine sand and sediment sources; 2) Diversions and riverine discharge; 3) Management of diversion outfall for wetland benefits.

Project Location: Region 1 - Lake Pontchartrain Basin, Livingston Parish in cypress/tupelo swamps west of Lake Maurepas, north and south of the Amite River Diversion Canal.

Problem: Swamps north and south of the Amite River Diversion Canal are highly stressed by a lack of Mississippi River inflow and the impounding effects of the spoil bank along the canal. The Amite River Diversion Canal could compensate for the lack of Mississippi River water, but the spoil banks prohibit input of sediment- and nutrient-laden water from the canal into the swamps during high water, and they prohibit draining of the swamps during low water periods.

Goals: 1) Increase productivity and regeneration of cypress and tupelo swamp; 2) Increase sediment accretion and nutrient loading in swamp; 3) Decrease frequency, intensity, and duration of salinity spikes in swamp; 4) Increase water flows through swamp; 5) Increase the frequency and duration of periods when the swamp surface is not flooded to promote regeneration; 6) Increase frequency and duration of periods when water depths in the swamp < 1ft to support survival of new cypress and tupelo recruits; 7) Decrease nutrient loading to Lake Maurepas from Amite River.

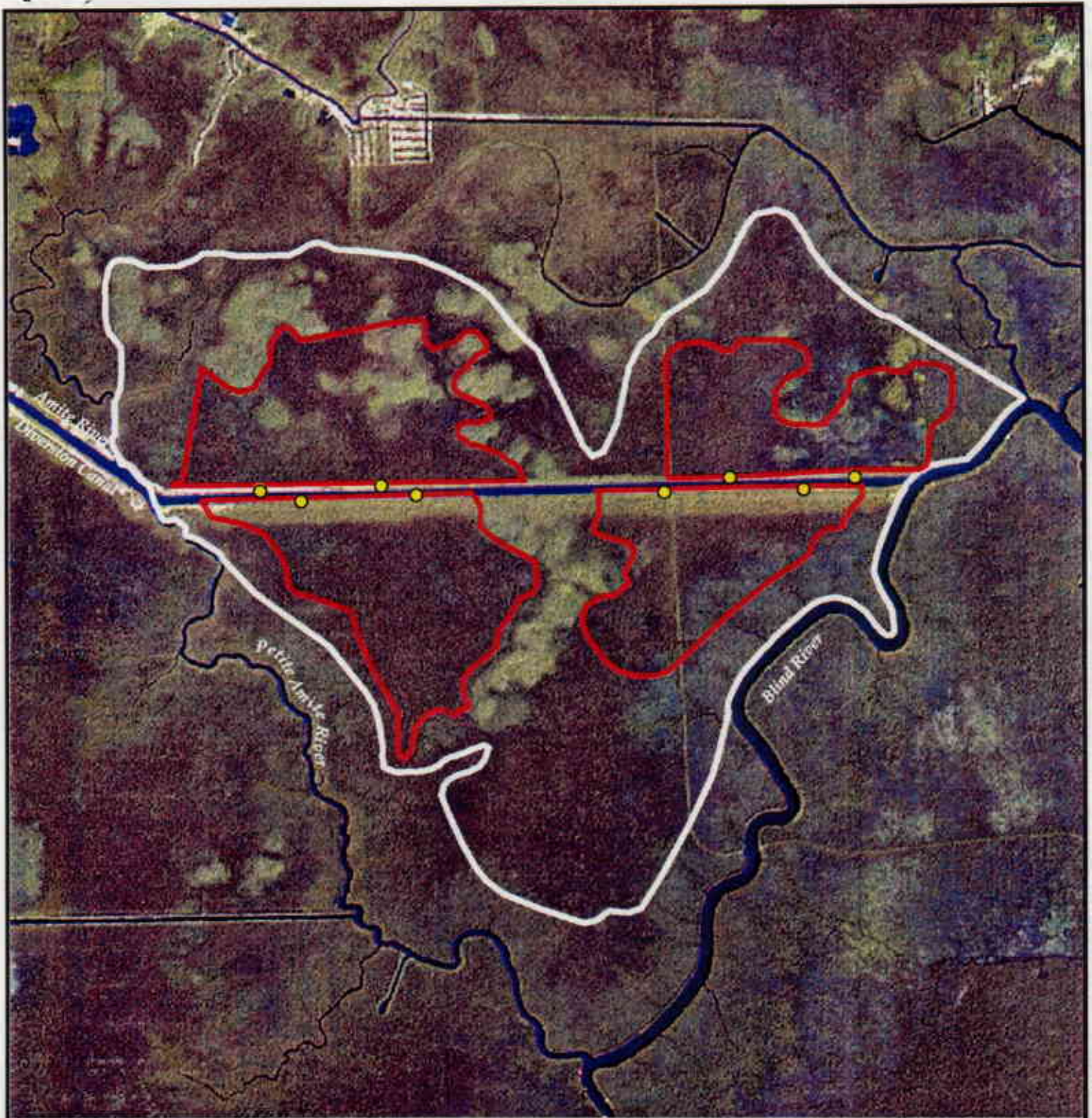
Proposed Solution: Construct four 40'-wide cuts in the spoil banks on each side (north and south) of the Amite River Diversion Canal to facilitate water exchange. The two northwestern-most cuts may include bridge crossings, while others would not. Each cut would be approximately 250' long, to a depth of -1.0' NAVD. Gaps in the old railroad grade, which traverses north-south across the project boundary, would be cut to facilitate better hydrologic connectivity within the project area.

Project Benefits: The PPL12 project candidate was estimated to benefit 6,458 acres of cypress-tupelo swamp, however it is not expected to directly create additional forested wetland acreage. The PPL12 WVA attributed 1,878 AAHUs to the project due to improvements in vegetative cover and growth, hydrology, and reduced salinities.

Project Costs: It is estimated that the project would cost between \$1 - \$5 million.




Risk/Uncertainty and Longevity/Sustainability: The joint Environmental/Engineering Work Group considered the PPL12 project to have some degree of risk/uncertainty because of the uncertainty of whether project features and conditions would elicit the desired effects as proposed. However, EPA and DNR have collected approximately 11 months of gage data in the project area to support project's assumptions. The project is expected to continue providing wetland benefits 30-40 years after construction because project features are simple and should be durable over time.

Sponsoring Agency/Contact Persons: U.S. Environmental Protection Agency
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Hydrologic Restoration of the Swamps West of Lake Maurepas

PPL12 Project Candidate

-  Proposed Spoil Bank Cuts*
-  Project Boundary Subarea
-  Project Boundary

*Denotes proposed features.



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
Thematic Mapper Satellite Imagery 2000

Map Date: November 5, 2003, 2002
Map ID: USGS-NWRC 2004-11-0037
Data accurate as of: November 5, 2002

Region 1 – Pontchartrain Basin

Proposed Project #6

Mississippi River Reintroduction at Violet (Violet Siphon Enlargement) and Marsh Creation
Project

R1-Pont#6

PPL16 PROJECT NOMINEE FACT SHEET
January 10, 2005

Mississippi River Reintroduction at Violet

Coast 2050 Strategy

Wetland sustaining diversion from the Mississippi River near Violet

Project Location

The proposed project is located in Region 1, Lake Pontchartrain Basin, St. Bernard Parish, near the community of Violet at the location of the existing Violet Siphon.

Problem

Marshes in the receiving area have historically experienced high loss rates, though more recent rates of loss have been lower. These marshes are experiencing saltwater intrusion through the MRGO and are hydrologically disconnected from the Mississippi River. These marshes are not receiving sufficient sediment and nutrient input, and marsh productivity is not sufficient, to maintain longterm elevation.

Proposed Project Features

The proposed project would be a 5000 cfs Mississippi River diversion at Violet, at the location of the existing Violet Siphon. The project would consist of a gated-culvert structure and diversion channel into the marsh.

Goals

The proposed project would reduce marsh loss rates and create a small amount of new marsh by: 1) reducing salinity; 2) increasing accretion in marshes by increasing loading of fine-grained sediment; 3) increasing accretion by increasing marsh production by increasing nutrient loading.

Preliminary Project Benefits

The total acreage benefited directly and indirectly is at least 23,000 acres. At least 17,000 acres of wetlands would be benefited. A minimum of 362 acres of wetlands would be protected over the project life. The anticipated loss rate reduction in the area of direct benefits over the project life is estimated to be >75%. No project features maintain or restore structural components of the coastal ecosystem. The project should have positive net impact on critical (St. Bernard Parish developed areas, Mississippi River levee) and non-critical infrastructure. The project would have a synergistic effect with any restoration efforts pursued as part of MRGO closure.

Identification of Potential Issues

The proposed project has the following potential issues: oysters, land rights, O&M, utilities.

Preliminary Construction Costs

Very rough estimate: \$30 million

Preparer of Fact Sheet

Kenneth Teague, U.S. EPA, 214-665-6687, teague.Kenneth@epa.gov (coordinated with Chris Williams, LDNR)



RI-Pont

#6

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name:

Violet Siphon Enlargement and Marsh Creation

Coast 2050 Strategies:

- Coastwide: Dedicated dredging to create, restore, or protect wetlands.
- Coastwide: Vegetative plantings
- Coastwide: Offshore and riverine sand and sediment resources.
- Coastwide: Diversions and riverine discharge
- Coastwide: Management of diversion outfall for wetland benefits
- Regional ecosystem: Dedicated delivery for marsh building
- Mapping unit: Beneficial use of dredged material
- Mapping unit: vegetative plantings

Project Location:

Region 1, Pontchartrain Basin, Central Wetlands mapping unit, near Violet, in St. Bernard Parish.

Problem:

The Central Wetlands mapping unit has experienced wetland loss due to a variety of factors including filling, subsidence, saltwater intrusion, lack of sediment input, tropical storm activity, canal dredging and maintenance, and hydrologic modifications. Between 1932 and 1990, the mapping unit lost 13,480 acres of the 35,080 acres of marsh and swamp present in 1932 (LCWCRTF & WCRA 1999). The wetland loss rate for 1974 to 1983 time period is $-0.23\%/yr$ and for the 1983 to 1990 time period is $-0.07\%/yr$. The rate of subsidence in this mapping unit is estimated to be about 1.1 to 2.0 ft/century (LCWCRTF & WCRA 1999).

Proposed Project Features:

The project consists of enlarging the existing siphon at Violet and creating marsh through dedicated dredging to provide fish and wildlife habitat and provide buffer protection to the communities of Violet, Meraux, and Chalmette. The siphon, which currently consists of two 50-inch pipes, would be enlarged to include 10 54-inch pipes. Additionally, about 240 acres of marsh would be created through sediment mining in the Mississippi River, MRGO, and/or the improvement of the Violet canal. Created marsh will be planted with an appropriate vegetative species to help stabilize each area. Some outfall management (e.g., gapping the Violet canal banks) and marsh nourishment through construction or channel maintenance is probable.

Goals:

The project goals include 1) the creation of 240 acres of marsh, 2) the reintroduction of freshwater, sediment, and nutrients to the project area to maintain, and nourish existing and created marshes, and to 3) enhance marsh building and growth. Additionally, the project may improve the area's storm buffering ability and fisheries in Lake Borgne and the Biloxi marshes.

Preliminary Project Benefits:

1) What is the total acreage benefited both directly and indirectly?

Approximately 240 acres of marsh would be created. There would be direct and indirect benefit to about 18,000 acres of marsh and open water from freshwater, sediment and nutrient input (i.e., project area).

2) How many acres of wetlands will be protected/created over the project life?

- Assume 50% reduction of the background rate (i.e., - 0.035%/yr) for the marsh creation areas
- Assume 40 % reduction of the background rate (i.e., - 0.042%/yr for rest of project area

317 acres would be protected/created over the project life (i.e., TY20, net after applying the above assumptions)

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?

25-49%

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.?

No.

5) What is the net impact of the project on critical and non-critical infrastructure?

The net impact of the project on critical and non-critical infrastructure would be positive. The project would provide substantial protection to the St. Bernard Parish levee system adjacent to the project area, and provide moderate protection to one pump station, a state highway, six natural gas pipelines, and 17 oil and/or natural gas wells.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

There are not other projects in the immediate vicinity to provide for a synergistic effect.

Identification of Potential Issues:

The proposed project has the following potential issues: utilities/pipelines/roads, land rights, navigation, oyster leases, operations and maintenance, outfall management.

Preliminary Construction Costs:

The estimated construction cost with 25% contingency is \$22.5 million.

Preparer of Fact Sheet

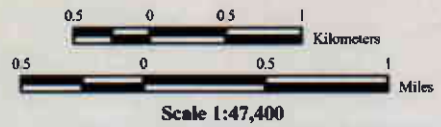
Bren Haase, NMFS, 225-389-0508, ext. 204, bren.haase@noaa.gov



Violet Siphon Enlargement and Marsh Creation (PPL16 Project Nominee)



-  Violet Siphon Enlargement *
 -  Marsh Creation *
- * denotes proposed features



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Map ID: USGS-NWRC 2006-11-0035
Map Date: December 30, 2005

Image Source:
2004 Digital Orthophoto Quarter Quadrangle

Region 1 – Pontchartrain Basin

Proposed Project #7

Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation

Coast 2050 Strategy

Coastwide – Dedicated Dredging to Create, Restore or Protect Wetlands

Coastwide – Maintenance of Gulf, Bay, and Lake Shoreline Integrity

Regional – Dedicated Delivery of Sediment for Marsh Building

Project Location

Region 1, Pontchartrain Basin, Orleans Parish, East Orleans land bridge mapping unit, Point aux Herbes south along Lake Pontchartrain to Chef Menteur Pass.

Problem

The project area consists of a relatively narrow segment of marsh and shallow open water between an existing Federal hurricane protection levee, Interstate-10, and Lake Pontchartrain. As the shoreline deteriorates and retreats, the threat to interior marsh and local infrastructure becomes elevated as they are exposed to the high-energy conditions of Lake Pontchartrain. As a result of Hurricane Katrina, the lakeshore has breached into interior ponds in the vicinity of Irish Bayou. The erosion rate, based on an analysis of shoreline change, varies between 5 feet and 54 feet per year.

Proposed Project Features

1. Approximately 20,700 linear feet of rock dike will be constructed along the -2.0 foot contour extending from Point aux Herbes to Chef Menteur Pass
2. Approximately 46 acres of marsh will be created by hydraulically dredging material from the bottom of Lake Pontchartrain, and placing it into confined marsh creation sites

Goals

The goals of the project are to reduce shoreline erosion and create marsh behind the shoreline and rock dike in order to prevent the lake shore from breaking into interior marsh ponds.

Preliminary Project Benefits

Creation and protection of marsh and open water habitats. Shoreline stabilization would maintain this segment of the lake rim. The net impact of the proposed project on critical and non-critical infrastructure is high. State Highway 11, Interstate-10, Federal hurricane protection levees, the community of Irish Bayou and several non-critical waterways would be benefited by the project.

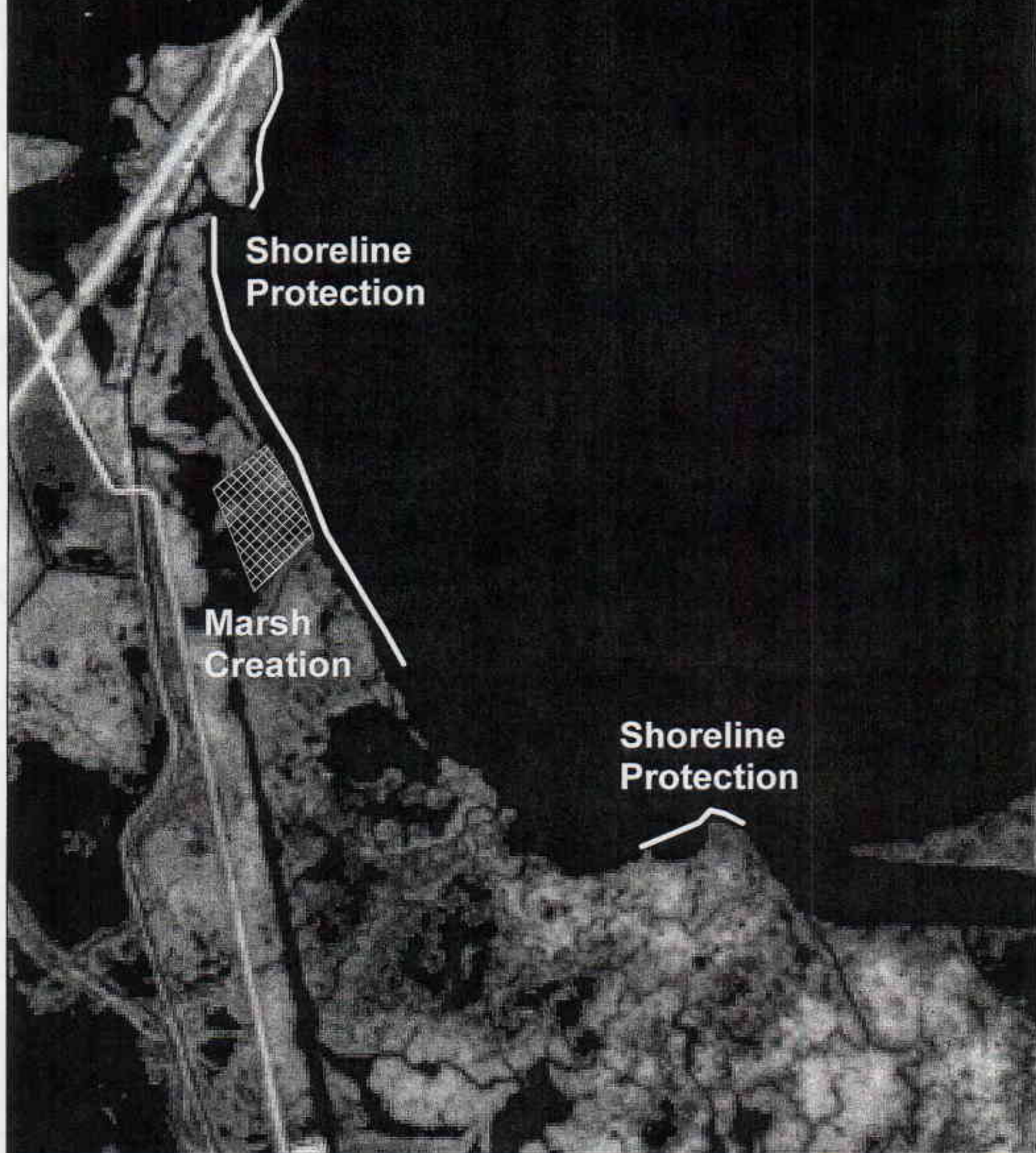
Preliminary Construction Costs

The estimated construction cost with 25% contingency is approximately \$6,670,000.

Preparer of Fact Sheet

James Harris, USFWS, 985-882-2000, James_Harris@fws.gov

Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation



Region 1 – Pontchartrain Basin

Proposed Project #8

Chandeleur Island Restoration Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

Project Name

Chandeleur Island Reconstruction Project

Coast 2050 Strategy

Number 12- Maintain Chandeleur Islands.

Project Location

Region 1, Pontchartrain Basin, St. Bernard Parish, due south of Biloxi Ms. and north east of Venice, La.

Problem

Several hurricanes have reduced the length of the Chandeleur Islands main chain from approximately 25 to 16 linear miles with many breaches.

Proposed Project Features

The preliminary project features include a beach dune that would have the following dimensions: Height 5 ft., crown width 5 ft., and slopes front and back of 1:45.

Goals

This project would restore the dune complex that has been destroyed by recent hurricanes. Those dunes provide shelter for the back marsh platform and the extensive grass beds that are located behind the dunes.

Preliminary Project Benefits

For New Orleans and St. Bernard Parish, these islands are considered the first line of defense against hurricanes. These islands also help protect the marshes located in St. Bernard parish including the Biloxi marshes. These marshes would be considered the second line of defense against hurricanes. The dunes would protect the grass beds and marsh that are still located behind the dunes. These dunes would also protect any future marsh platform that is created behind them.

Identification of Potential Issues

The only significant problem is that the Island is currently designated as a Wilderness Area. Preliminary discussions with the USFWS Refuge in charge of the islands are positive in the fact that mechanical equipment is not bared from the island, but there are some restrictions.

Preliminary Construction Costs

It would cost approximately \$33,000,000 to construct dunes along the front of the island.

Preparer of Fact Sheet

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Region 1 – Pontchartrain Basin

Proposed Project #9

Lake Athanasio Shoreline Protection and Marsh Creation Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Lake Athanasio Shoreline Protection and Marsh Creation Project

Coast 2050 Strategies

- Coastwide Common Strategies
 - Dedicated dredging, to create, restore, or protect wetlands
 - Maintenance of gulf, bay, and lake shoreline integrity
- Region 1 Previously Proposed Strategies
 - Protect Bay/Lake Shorelines
 - An Environmental-Economic Blueprint for Restoring the Louisiana Coastal Zone: The State Plan – Governor's Office
 - Use of dredged material
 - CWPPRA Basin Report
 - Lake Pontchartrain Basin Foundation CMP (recommendations by Saltwater Intrusion/Wetland Loss Committee)
- Region 1 regional ecosystem strategies
 - Protect Bay/Lake Shorelines
 - Restore/Sustain Marshes – dedicated delivery of sediment for marsh building
- Region 1 mapping unit strategies
 - Dedicated Dredging
 - Beneficial Use of Dredge Material
 - Restore Fringing Marsh Islands

Louisiana Coastal Area Comprehensive Study Keystone Strategy

Marsh Creation by Dedicated Sediment Delivery

Project Location

Region 1, Pontchartrain Basin. St. Bernard Parish. Along the west shoreline of the Point Eloi Peninsula from Mosquito Bight point to Point Eloi; along the northeast shoreline from Canal Pecal to the first man-made canal to the northeast; and from the Mississippi River Gulf Outlet (MRGO) to Canal Pecal.

Problem

What problem will the project solve?

Shoreline erosion in the project area threatens to breach several parts of the land bridges separating Lake Eloi, Lake Athanasio and Breton Sound that will create wider expanses of open water between Eloi Bay and Lakes Eloi and Athanasio. When the peninsulas are lost, the southeast shoreline boundary of the Biloxi Marsh Area will move approximately 2.5 miles inland. The 1983 to 1990 loss rate for the Eloi Bay mapping unit is $-0.34\%/yr$. Field inspections after the hurricanes of 2005 have revealed erosion, fragmentation and partial denuding of marshes predominantly on sound side of Lake Athanasio suggesting a substantial increase in the historic erosion rate. This in part, demonstrates the role of outer wetlands in providing protection to more interior habitats. This project would create up to 223 acres of marsh and 23,000 ft of shoreline protection to rebuild, strengthen, and maintain the integrity of the peninsulas.

Proposed Project Features

At this time, two features will be constructed:

1. Approximately 23,000 ft rock dike along east shoreline of the Point Eloi, northeast shoreline of Lake Athanasio Peninsula, and west shoreline from MRGO to Canal Pecal.
2. Approximately 223 acres of marsh creation between the existing shoreline and rock dike and in an interior pond with dedicated dredging from either Breton Sound or the Mississippi River Gulf Outlet (MRGO).

If the project is selected as a candidate, nourishment of marsh fragmented by the 2005 hurricanes would be considered in addition to or in lieu of some of the marsh creation.

Goals

The goal of the project would be to create up to 223 acres of marsh initially and 23,000 ft of shoreline protection to rebuild, strengthen, and maintain the integrity of the lake and sound peninsulas.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly?
- 2) How many acres of wetlands will be protected/created over the project life?
(see below table)
 - Assumed a 50% reduction in the 1983-1990 rate applied to the marsh creation acres.
 - Assumed 100% reduction in a guessed shoreline erosion rate of 5 ft/year (no data available at this time) applied to the straight-line distance (to be conservative) over 20 years = 53 ac.
 - Assumed background loss rate of $-0.34\%/yr$ applied to existing marsh to be protected from shoreline erosion = 3 acres of loss.

There would be 266 net acres in the future with the project at target year 20.

- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%)? Based on stopping shoreline erosion (100% reduction while structures remain intact; erosion rate is unknown at this time) and the estimated loss rate of the created marsh, the overall anticipated loss rate reduction throughout the area of benefit is 50-74%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.? Both the marsh creation and shoreline stabilization components of the project would re-establish and maintain lake rims.
- 5) What is the net impact of the project on critical and non-critical infrastructure? The project would have marginal to no impact on the Mississippi River Gulf Outlet (MRGO) and other critical and non-critical infrastructure. Instead it would provide the outermost protection for the Breton Sound wetlands that do provide substantial surge protection for St. Bernard Parish.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? There are no other projects in the immediate vicinity for this project to provide synergy.

Identification of Potential Issues

The proposed project has the following potential issues: O&M, utilities/pipelines, etc.

Preliminary Construction Costs

The construction cost plus 25% contingency is estimated to be approximately \$24,780,000.

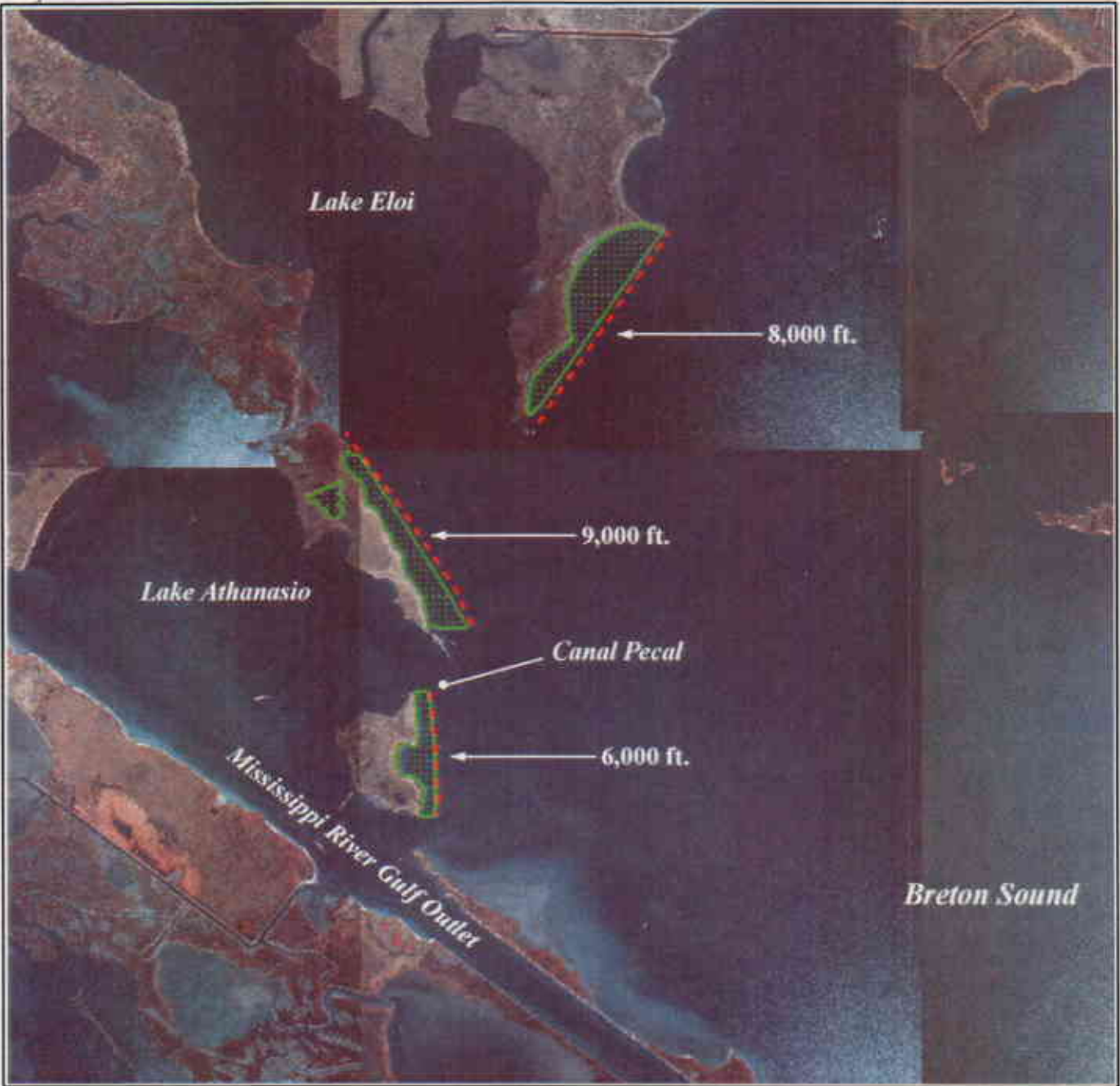
Preparer of Fact Sheet

Patrick Williams, NOAA's National Marine Fisheries Service, 225/389-0508, ext 208;

patrick.williams@noaa.gov

Randy Moertle, Biloxi Marsh Lands Corporation (985) 532-6388; rmoertle@bellsouth.net

	Acres	FWOP Loss Rate	FWOP TY20	FWP Loss Rate	FWP TY20
Shoreline Protection	53	-0.34%	0	-0.34%	50
Marsh Creation	223		0	-0.17%	216
Total			0		266
TY20 net	266				



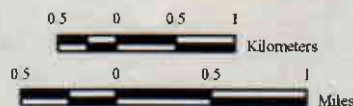
Lake Athanasio Shoreline Protection and Marsh Creation Project (PPL16 Project Nominee)



- - - Shoreline Protection *
- Marsh Creation *
- * denotes proposed features



Map Produced By:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, LA



Scale 1:63,900

Map ID: USGS-NWRC 2006-11-0040
 Map Date: January 5, 2006

Image Source:
 2004 Digital Orthophoto Quarter Quadrangle

Region 2 – Barataria Basin

Proposed Project #1

Jean Lafitte Shoreline Protection and Marsh Creation Project

Project Fact Sheet

Revised 1/25/06

Project Name:

Jean Lafitte Shoreline Protection and Marsh Creation Project

Project Location:

The project site is located along the southeast portion of Lake Salvador at the Barataria Preserve of Jean Lafitte National Historical Park and Preserve and lands south of Bayou Villars in Jefferson Parish, Louisiana. The project is located in CWPPRA Region 2, Barataria Basin.

Problem Statement:

Within the past 50 years, the project area has undergone a remarkable transformation including the loss of more than 620 acres of wetlands. Since the late 1950's, annual shoreline erosion rates at the Barataria Preserve averaged 21 linear feet with a high exceeding 90 feet. Astonishing shoreline retreat of approximately 2,400 feet has occurred at the southern end of the Pipeline Canal since 1958. Shoreline retreat and wetland loss were accelerated by the powerful winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms caused 100 feet of shoreline retreat and the interior marsh was compacted or torn apart creating open water ponds. The high loss of wetlands that has occurred is also responsible for flooding of the neighboring communities of Crown Point, Jean Lafitte, and Barataria. Shoreline stabilization and marsh restoration will ensure protection of natural resources and infrastructure.

Coast 2050 Strategies Supported:

Coastwide Common Strategy: Dedicated Dredging for Wetland Creation and Maintenance of Bay and Lake Shoreline Integrity

Region 2 Strategy: Maintain Shoreline Integrity

Description of the Proposed Project:

The goals of this project are to protect existing shoreline and re-create marsh. Rock revetment will be used to protect the shoreline in the southeast portion of Lake Salvador and immediately south of Bayou Villars. Rocks will be placed offshore and backfilled with dredged material in order to mimic the historic lake rim. Dredged material will be used to fill a 55-acre area of open water between Lake Salvador and the Bayou Segnette Waterway. In areas of degraded marsh, a thin layer of dredged material will be sprayed over the area to add nourishment.

Project Features:

Approximately, 21,000 linear feet of shoreline (15,000 on the Barataria Preserve and 6,000 on private land) will be armored with rock, 130 acres of eroded marsh will be created using dredged material, and marsh nourishment will be enrich to 135 acres of degraded marsh. Dredged material will be obtained from a borrow source located near the project area in Lake Salvador.

Preliminary Project Benefits:

Direct benefits include stabilizing 21,000 linear feet of shoreline, creating 130 acres of marsh, and providing nourishment to 135 acres. Approximately 350-400 acres will be directly impacted and over 1,000 acres will be indirectly affected. This project will protect a large portion of the southeastern rim of Lake Salvador and is synergistic with existing shoreline protection projects that have been constructed on the Barataria Preserve. Completion of this project will complete armament of the southeastern portion of Lake Salvador.

One key feature of this project is the storm surge protection for local communities and infrastructure. The project site is located in a critical area 15 miles south of New Orleans that provides the last line of defense against storm surge coming from Lake Salvador and the Barataria Bay. In addition, oil and gas infrastructure in the areas will be protected from destructive storm surges.

Identification of Potential Issues:

Rock shoreline protection projects historically require O&M.

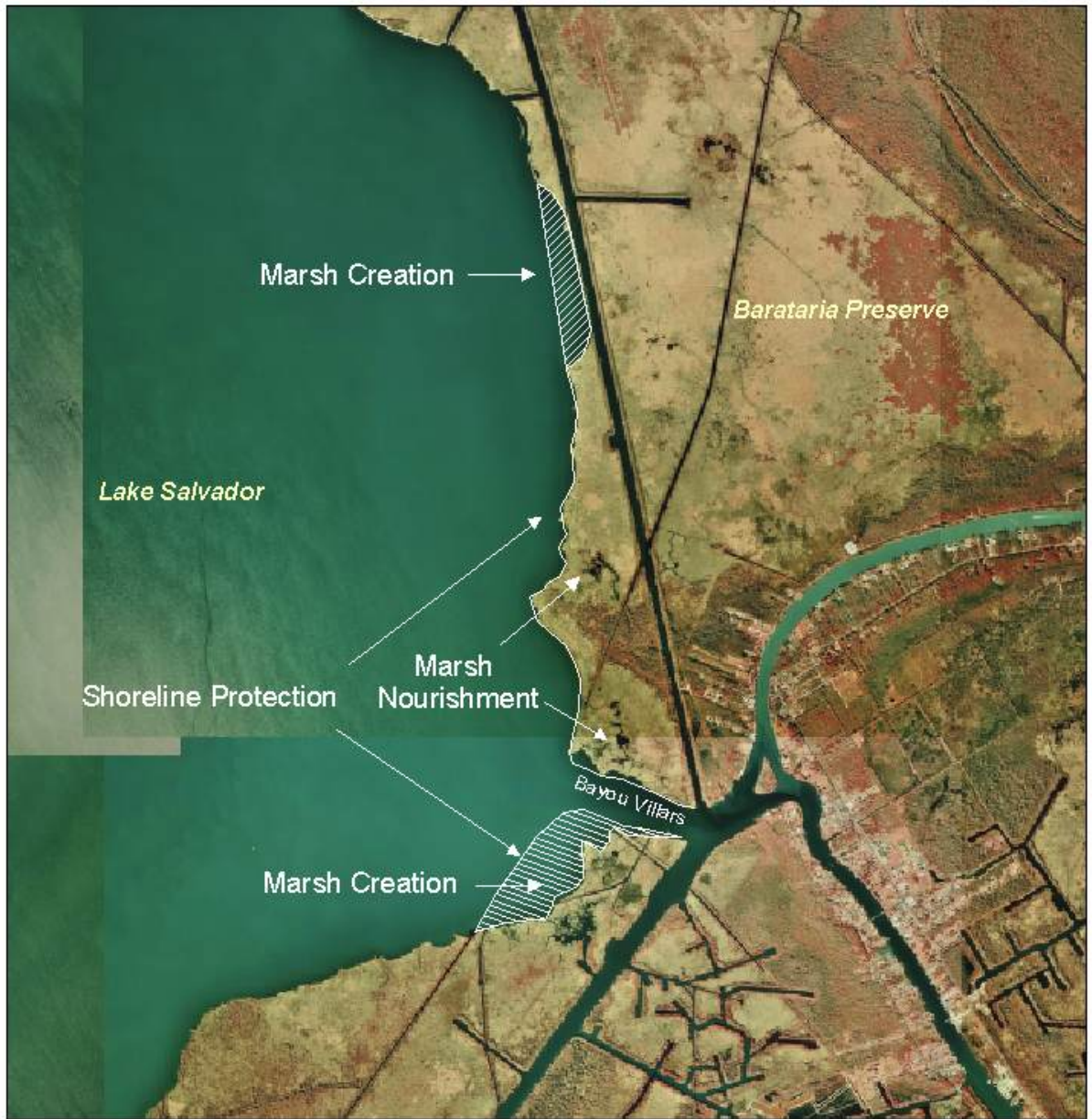
Estimated Cost:

Approximately \$10 million for construction costs, including 25% contingency.

Contact Persons:

Chris Monnerjahn, U.S. Army Corps of Engineers
504-862-2415
christopher.j.monnerjahn@mvn02.usace.army.mil

Nancy Walters, National Park Service
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nancy_f_walters@nps.gov



Jean Lafitte Shoreline Protection and Marsh Creation Project

CWPPRA PPL 16, Region 2

Barataria Preserve, Jean Lafitte National Historical Park & Preserve

Jefferson Parish, Louisiana

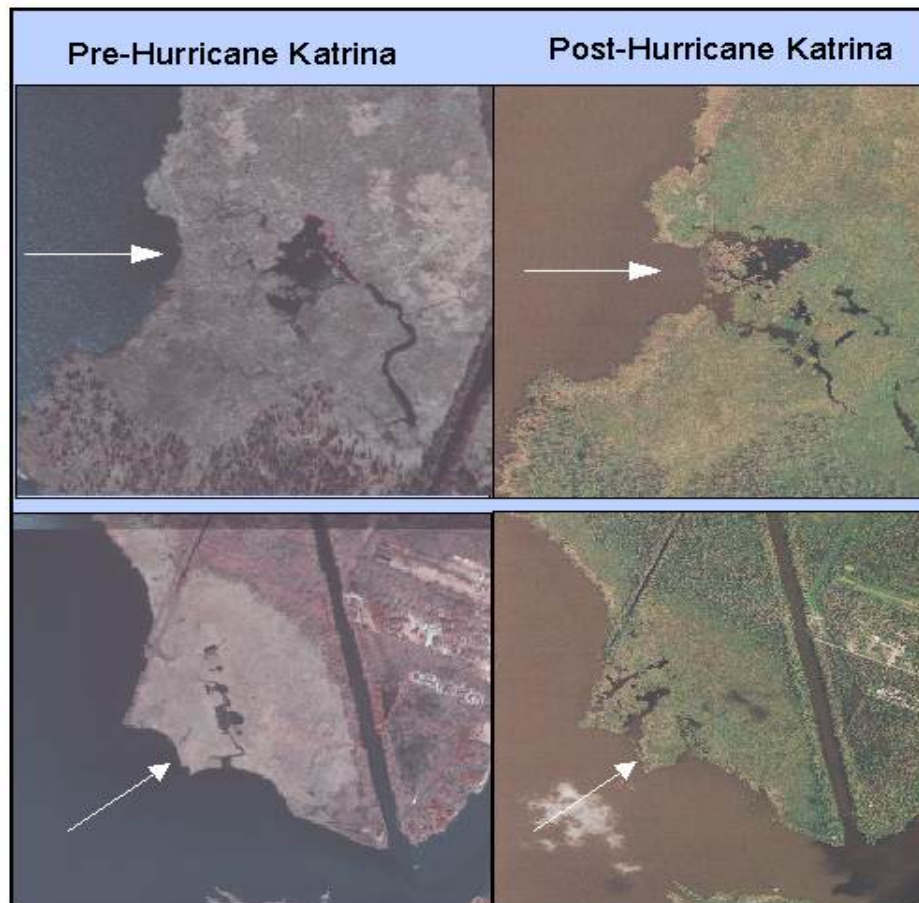
Map Source:
National Park Service
Prepared on 1/24/06
1998 DOQQ NAD 83 Zone 15

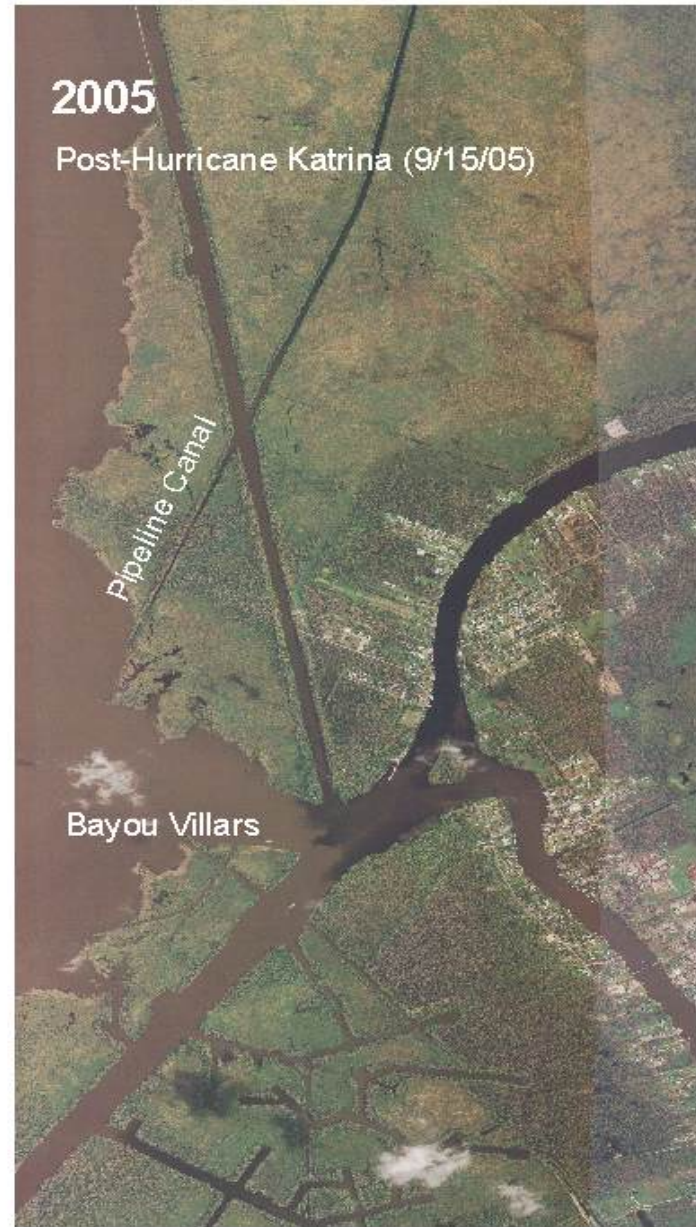


Marsh Loss at the Barataria Preserve Following Hurricane Katrina

Jean Lafitte National Historical Park and Preserve
New Orleans, Louisiana

National Park Service
U.S. Department of the Interior





The National Park Service, the U.S. Army Corps of Engineers, and Jefferson Parish are cooperatively proposing the “*Jean Lafitte Shoreline Protection and Marsh Creation Project*” on the Barataria Preserve of Jean Lafitte National Historical Park and Preserve, and on nearby lands south of Bayou Villars. This project was proposed at the Coastal Wetlands Planning, Protection, and Restoration Act’s (CWPPRA) Regional Planning Team, Region 2 meeting on January 12th, 2006 for selection in Priority Project List (PPL 16). The goals of this project are to stop shoreline erosion and restore marsh for the benefit of approximately 400 acres. The need for coastal wetland restoration in the Barataria Basin is universally understood and critically needed.

This project is located along the southeastern shore of Lake Salvador north and south of Bayou Villars. Within the past 50 years, the project area has undergone astonishing transformation. Wetland loss and shoreline retreat have severely degraded the natural ecosystem and reduced the health of the ecologically significant Barataria-Terrebonne National Estuary. During this time, annual shoreline erosion rates at the Barataria Preserve averaged 21 linear feet with a high exceeding 90 feet. Since 1958, within the project area, shoreline retreat at the southern end of Pipeline Canal of approximately 2,400 feet resulted in approximately 375 acres of freshwater marsh loss. Once a winding bayou bordered by marsh, Bayou Villars is now an open embayment, connecting the lake to Bayou Barataria. Those marshes offered an important buffer for the communities of Crown Point, Jean Lafitte, and Barataria against Lake Salvador storm surges. Successful completion of this project will provide protection to 21,000 linear feet of shoreline (15,000 on NPS property and 6,000 on private land), re-create 130 acres of eroded marsh, and provide nourishment to 135 acres of degraded marsh.

The powerful winds and storm surge caused by Hurricanes Katrina and Rita caused severe shoreline retreat and marsh loss, emphasizing the urgency of this project and the vulnerability of this area. Along the northern portion of Bayou Villars the shoreline retreated 100 feet or more. Marsh in this area was compacted or torn apart forming open water ponds. In contrast, areas to the north that had rock revetment placed prior to the storm were virtually untouched. The revetment proved completely successful.

The tremendous amount of wetland loss that has occurred in this area over the last 50 years has left neighboring towns of Crown Point, Barataria, and Jean Lafitte more susceptible to flooding. Despite Hurricane Rita making landfall in southwest Louisiana, the strong storm surge pushed saltwater through freshwater wetlands and flooded these towns. This project would provide added protection to these communities by reducing the tidal prism in Bayou Villars and adding marsh buffering.

The ecological importance of the preserve lies in its biological diversity and productive habitat. The 20,000-acre preserve consists of freshwater marsh, baldcypress swamp, natural levee and bottomland hardwood forests. It is characterized by an expanse of part of the largest freshwater floating estuarine marsh on the continent, a globally rare habitat, and mature swamp and natural levee forests. Located only 15 minutes from downtown New Orleans, the preserve is one of the last remaining natural areas in a rapidly growing urban environment and may be a last line of defense from storm surges. As an important wetland complex, it provides critical stopover and breeding habitat for neo-tropical migrant songbirds, economically important shellfish and finfish, fur bearing mammals, and sensitive reptiles and amphibians. Direct wetland loss due to erosion has not only affected natural resources, but numerous cultural and historical sites as well. Located on the preserve are over 150 archeological sites that interpret and preserve the unique cultural and historical resources of the region.

Endorsement of this project by the National Park Services affirms the agencies commitment to the preservation of natural and cultural resources and the importance of formulating partnerships to accomplish mutual goals.

Region 2 – Barataria Basin

Proposed Project #2

Bayou Dupont Natural Ridge Protection Project

R2-Bara-#2

PROJECT FACT SHEET

1/10/06

1. Project Name: MG-1 Bayou Dupont Ridge Restoration

2. Project Location: The project is sited in Jefferson Parish, below Lafitte, LA, and southeast of the Pen, in the vicinity of the Dupre Cut area of the Barataria Bay Waterway.

CWPPRA Region: Region 2, Barataria Basin
Coast 2050 Mapping Unit: Myrtle Grove
Parish Management Unit: Dupre Cut

3. Area of Need/Opportunity: Wetlands in the Myrtle Grove/Bayou Dupont area have been adversely impacted by past construction of a maze of oil and gas production canals. The proposed restoration of natural bank lines along portions of the north shore of Bayou Dupont will help to dampen the adverse effects of unchecked tidal exchanges. The re-established ridge will be stabilized by vegetative plantings of woody tree species along the restored bank lines. Restoration of the natural ridge will act as a retention feature that will effectively insure that sediments obtained from sources in the Mississippi River and/or future DNR dedicated dredging projects will be successfully distributed into the surrounding marshes.

4. Coast 2050 Strategies:

Coast 2050 Coastwide Strategy Supported: Dedicated dredging for wetland creation; Vegetative planting; and Maintenance/restoration of ridge functions.
Coast 2050 Regional Strategy Supported: Restoration of natural drainage patterns.

5. Description of Proposed Project: This project will restore one of the natural ridges that historically sustained the area's complex hydrology. Existing banklines will be followed and breaches will be plugged to interconnect existing land masses, and would thus create a series of ridges. The ridge would be constructed along a portion of the north bank of Bayou Dupont that lies between its intersection with oil and gas canals in the Sea Deuce area, westward to its intersection with the southeast bank of Chenier Traverse Bayou.

6. Project Features: Features would include earthen embankments to reinforce the existing bank lines and interconnect existing spoil deposits, as well as appurtenant canal opening plugs, cut closures, and stone rip-rap placements needed to stabilize the earthen embankments through open water areas. The restored ridge would be planted with woody tree species to provide for future stabilization.

7. Possible General Benefits: Approximately 25,000 LF of natural ridge restoration and stabilization; also, reforestation of approximately 30 acres of restored ridges.

8. Roughly Estimated Cost: \$ 3.2 Million.

9. Critical Infrastructure Benefited: In conjunction with future dedicated dredging projects to introduce sediments dredged from the Mississippi River into the adjacent deteriorated marsh areas, this project will assist in the protection of the back levees of Plaquemines Parish, and will help to provide storm surge protection to New Orleans and some of the oil and gas industry's production infrastructure within the direct vicinity.

10. Contact Persons:

Marnie Winter, Director
Jefferson Parish Department of Environmental Affairs
1221 Elmwood Park Boulevard, Suite 1006
Jefferson, Louisiana 70123
(504) 736-6440

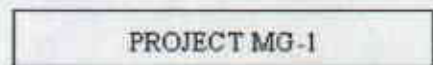
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(504) 347-2100



Jefferson Parish



Data Source:
 LSU Department of
 Geography and Anthropology
 1999 Satellite Imagery
 Date: Dec 22, 1999
 USGS ID: 2908917,24,25,32



1 INCH EQUALS 1.0 MILES

Region 2 – Barataria Basin

Proposed Project #3

Golden Meadow East Terracing Project

PPL16 PROJECT NOMINEE FACT SHEET

January 12, 2006

Project Name

East Golden Meadow Terracing

Coast 2050 Strategy

Region 2 Strategy#16. Dedicated dredging and/or beneficial use of dredged material to create marsh in Clovelly, Little Lake, Caminada Bay and Fourchon mapping units.

Coastwide Strategy: Terracing

Project Location

Region 2, Barataria Basin, Lafourche Parish, East of Golden Meadow near hurricane protection levee.

Problem

What problem will the project solve? There is virtually no marsh remaining in the near vicinity of the hurricane protection levee; the lack of marsh causes the levee to be completely exposed to wind generated waves. In addition to acres created and the edge effect benefit, the proposed terraces will reduce the fetch east of the levee.

What evidence is there for the nature and scope of the problem in the project area? 2004 aerial imagery confirms the absence of marsh east of the hurricane protection levee.

Proposed Project Features

19,500 feet of terrace construction and 9,000 feet of bank restoration as terraces.

Goals

Terraces will serve as created marsh, produce an edge effect benefit, and reduce the fetch east of the levee.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? 10 acres terrace created; 170 acres wetlands influenced by terraces; undetermined acres more secure inside hurricane protection levee.

2) How many acres of wetlands will be protected/created over the project life? 170 acres

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). All the marsh is gone—the terraces will represent newly created land.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc. The terraces are to be built parallel and perpendicular to Bayou Raphael and Bayou L'Ours ridges, thereby partially restoring their hydrologic function.

5) What is the net impact of the project on critical and non-critical infrastructure? Terraces will reduce the fetch east of the hurricane protection levee.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? Presently there are no nearby approved or constructed restoration projects despite the severe land loss problem.

Identification of Potential Issues

The proposed project has the following potential issues: suitable soils, found on the flanks of the historic natural ridges, will dictate the number, location, orientation and size of terraces.

Preliminary Construction Costs

\$ 2 million

Preparer of Fact Sheet

Quin Kinler

USDA-NRCS

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Legend

- ~9,000 linear feet
Bankline_Restoration_As_Terraces
- New Terraces
~19,500 linear feet

Golden Meadow East Terracing Project
Lafourche Parish, LA
PPL-16



Region 2 – Barataria Basin

Proposed Project #4

Wisner Wildlife Management Area Marsh Creation and Terracing Project

DRAFT PPL15 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Wisner Wildlife Management Area Marsh Creation and Terracing.

Coast 2050 Strategy

Coastwide

Dedicated Dredging, to Create, Restore, or Protect Wetlands; Terracing

Region

Dedicated Dredging and/or beneficial use of dredged material to create marsh in the Clovelly, Little Lake, Caminada, and Fourchon Mapping Units

Project Location

Region 2, Barataria Basin, Caminada Bay Mapping Unit, Lafourche Parish, north of LA1 and between Lakes Laurier and Palourde

Problem

The area is suffering from rapid wetland loss from subsidence, shoreline erosion, and brown marsh die-off. The subsidence rate in the mapping unit is high at 2.1 – 3.5 ft/century. The landbridge between the lakes have begun to coalesce and the marsh buffer along LA Highway 1 continues to be rapidly lost. The land loss rate for the Caminada Bay Mapping Unit is -2.4%/yr based on 1983 to 1990 USACE data.

Proposed Project Features

The project consists of marsh creation, nourishment, and terracing. Tentatively, 300 acres of saline marsh would be created in three areas between LA1 and Lake Laurier to re-establish the lake rim and protect the highway. Approximately 270 acres of marsh would be nourished with thin layer sediment disposal in two areas on the landbridge between Lake Laurier and Lake Palourde to prevent coalescing of the lakes. Approximately 50,000 feet of earthen terraces would be constructed in open water between LA1 and Lake Laurier and along the western shoreline of Lake Laurier to create additional habitat and further re-establish and protect the lake rim and the highway. Marsh creation areas and terraces would be planted with smooth cordgrass. Sediment would be mined from the lakes and/or potentially Caminada Bay.

Goals

The intended project goals during further development are to create over 250 acres of marsh, nourish over 250 acres of marsh, and construct approximately 50,000 feet of earthen terraces. If the project is selected as a candidate, minimizing adverse impacts to the ecology of the lakes would be considered when siting and designing borrow areas during further refinement of the project scale and features.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? Tentatively, the project would create 300 acres of saline marsh, nourish 270 acres of saline marsh, and create an additional 39 acres from terrace construction. The total area estimated to be benefited is approximately 1,700 acres including the creation and nourishment areas, the terrace fields, and some adjacent existing marsh.

2) How many acres of wetlands will be protected/created over the project life?

- Assume terraces are lost at half the background rate (i.e., -1.2%/yr)
- Assume a 1/3 reduction in the background for stopping shoreline erosion (i.e., -1.6%/yr),

310 acres would be protected/created over the project life (i.e., TY20 net after applying the above assumptions)

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). Based on a weighted application of the above assumptions the loss rate reduction would be 25-49%.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.? The project would restore the portions of the rim of Lake Laurier and Palourde.

5) What is the net impact of the project on critical and non-critical infrastructure? The project would have moderate net positive impact to critical infrastructures which consists of LA1, a hurricane evacuation route.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? There are not other projects in the immediate vicinity to provide for a synergistic effect. The absence of other such projects and the substantial amount of wetland loss that has occurred makes this an area of high need.

Identification of Potential Issues

The proposed project has the following potential issues: There are some oyster leases in the vicinity. The majority of the project would be located on the Wisner Wildlife Management Area. No operations and maintenance is planned. Some utilities/pipeline issues may be encountered during design phases, but project features and layout could avoid potential conflicts. The project would need to be coordinated with the LA1 DOTD project.

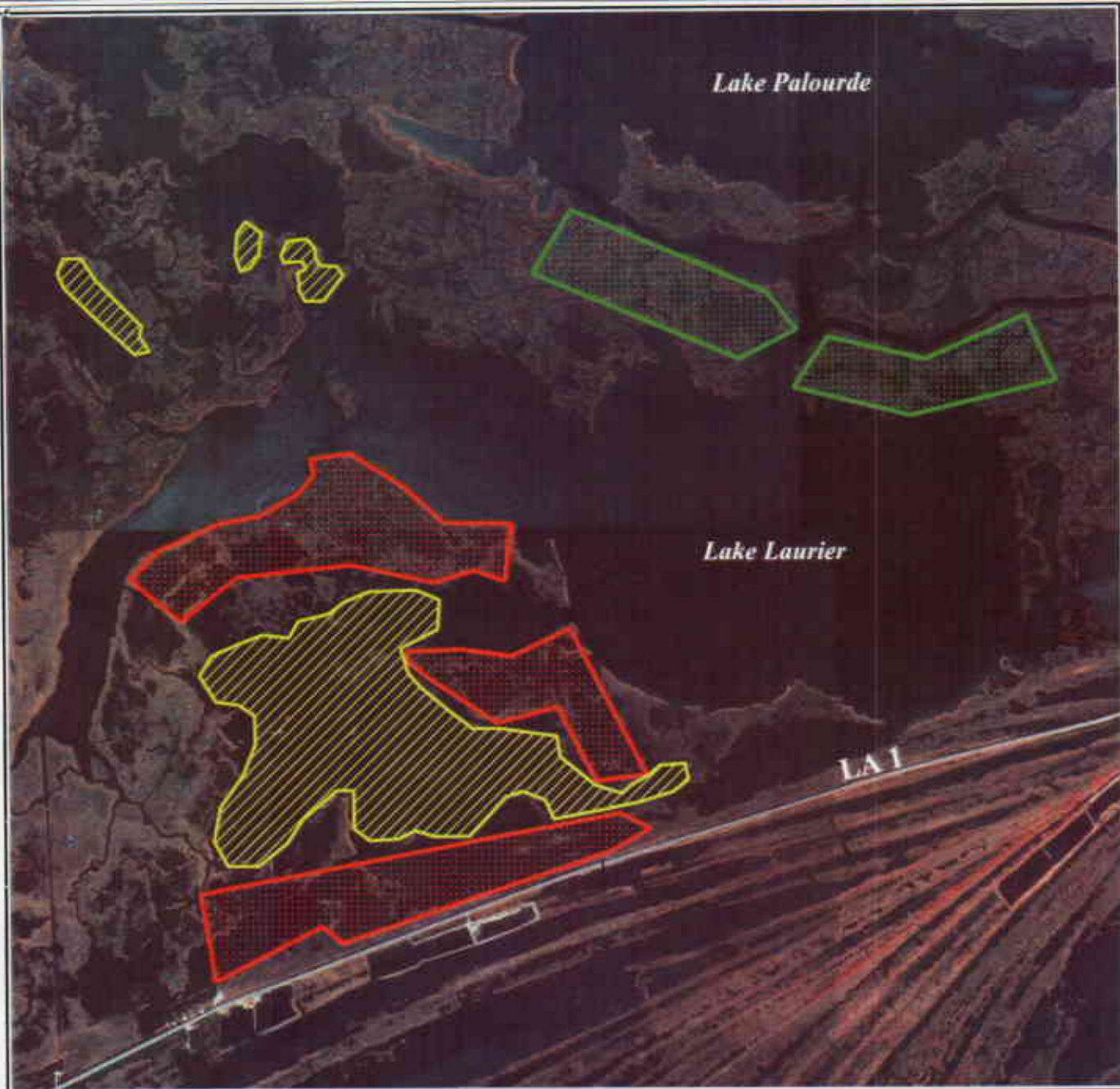
Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$16,589,535.

Preparer of Fact Sheet

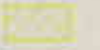


Patrick Williams, NOAA's National Marine Fisheries Service; (225)389-0508, ext 208;
patrick.williams@noaa.gov

	Acres	FWOP Loss Rate	FWOP TY20	FWP Loss Rate	FWP TY20
Marsh Creation	300	2.40%		1.20%	236
Marsh Nourishment	270			1.20%	212
Terracing	39			1.60%	28
total	609		166		476
TY20 net	310				

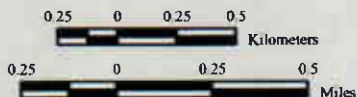


**Wisner WMA Marsh Creation and Terracing
(PPL16 Project Nominee)**



-  Terracing *
-  Marsh Creation *
-  Marsh Nourishment *

* denotes proposed features



Scale 1:31,900

Map ID: USGS-NWRC 2006-11-0034
Map Date: December 29, 2005



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Image Source:
2004 Digital Orthophoto Quarter Quadrangle

Region 2 – Barataria Basin

Proposed Project #5

Southwest Little Lake Marsh Creation Project

PPL-16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Southwest Little Lake Marsh Creation

Coast 2050 Strategy

Coastwide strategy: Dedicated dredging for wetland creation.

Regional Strategy #25: Preserve bay and lake shoreline integrity on the land bridge.

Project Location

Region 2, Barataria Basin, Lafourche Parish, south shore of Little Lake west of the BA-37 project.

Problem

Shoreline erosion and wetland loss in the Little Lake mapping unit resulted in the loss of approximately 53% of the 1932 acreage by 1990. Pre-storm land loss data compiled by the USGS directly adjacent to this project area shows an annual loss rate of 1.8% per year, making this area one of the most deteriorated in the coastal zone. The high wetland loss rate is generally caused by shoreline erosion, subsidence, and channel construction which results in altered hydrology. It is projected that an additional 14,000 acres will be lost in this mapping unit by 2050 (Coast 2050, Appendix D). In addition, the passing of Hurricanes Katrina and Rita significantly contributed to loss in this area. Visual observations estimate over 80 feet of shoreline was lost, and USGS data shows hundreds of acres of marsh were lost in the Barataria Basin interior. This mapping unit represents what very little continuous marsh is left before entering open bay. This project area, in conjunction with the BA-37 project currently under construction, is critical for keeping this area intact, providing a wetland buffer to the Bayou L'Ours Ridge, and keeping Little Lake from becoming Barataria Bay.

Proposed Project Features

The proposed features of this project include the creation of 600 acres of intermediate marsh within open water areas of the southwest Little Lake mapping unit. As part of this area, approximately 60 acres of shoreline will be reestablished along the southwestern rim of Little Lake where it meets Brusle Lake. Marsh creation will be achieved via hydraulic dredging of sediments within Little Lake. Although it is preferable to dredge sediments from outside the natural system, the relative remote location of the project area and distance from a feasible 'outside' sediment source limits dredging to the lake interior. The borrow area designed and permitted under the BA-37 project has a capacity for up to 21 mcy, of which the BA-37 project will require less than half. This project will utilize this same borrow area to dredge approximately 2.6 mcy, which will be placed at a constructed height of + 2.4 ft NAVD88. This fill elevation was determined using geotech and bathy-topo data collected for BA-37 which is located immediately next to this proposed project area. Placement at this elevation, taking into account shrinkage, compaction, and subsidence, is expected to sustain an intertidal marsh for the duration of the 20-year project life. Once the material has settled, 90,000 plugs of *Spartina sp.* will be planted along the project perimeter to help stabilize the soil.

Goals

The goals of the project are:

1. To create 600 acres of intermediate marsh within the Little Lake mapping unit.
2. To reestablish a portion of the Little Lake southern rim.
3. To reduce interior land loss rates located within the project area.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly?
600 acres
- 2) How many acres of wetlands will be protected/created over the project life?

498 acres

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life? Based on the final BA-37 Little Lake WVA, the assumption is that the loss rate would be reduced by 50%.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.

A feature of this project will reestablish a portion of the southwestern shoreline of Little Lake at the confluence with Brusle Lake. This thin peninsula that separated the lakes was completely lost during Hurricanes Katrina and Rita. Without reconstruction of this barrier, Little Lake and Brusle Lake will remain joined, thus increasing wave fetch and erosion of the interior marshes flanking Brusle Lake. Maintaining the Little Lake shore rim is a critical component of sustaining the integrity of the Barataria landbridge system. Although this project feature is small, it is at a strategic location along the shoreline. In addition, the rock component of the BA-37 project will help secure this reconstructed shoreline from future storm activity.

5) What is the net impact of the project on critical and non-critical infrastructure?

Due to reestablishing a portion of the Little Lake shoreline that is adjacent to a major pipeline corridor, and the creation of 600 acres of marsh that provide a storm buffer to the many pipelines and wells located in Little Lake, this project is expected to have a net positive impact on non-critical infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

This project provides a high degree of synergy with other approved restoration projects, including: BA-37, BA-27, BA-02, and the Davis Pond Freshwater Diversion. Each of these projects are already constructed or in the process of being constructed, and all work together to support the mid Barataria system. A combination of freshwater and nutrient introduction, shoreline protection, and dedicated marsh creation will work hand in hand to provide stability to one of the most deteriorated systems within the coast. Given the extent of erosion in mid Barataria Bay and the financial limits of the CWPPRA program, a multi-project approach is necessary to meet the restoration needs of the area.

Identification of Potential Issues

There are no identifiable construction issues with this project. There are no oyster leases anywhere near the construction features, the borrow area has already been identified and cleared of pipelines and other obstructions, and the sole landowner is in support of the project. Considering the similarity in location and design to the BA-37 project, it is estimated that this project could proceed quickly through engineering and design.

Preliminary Construction Costs

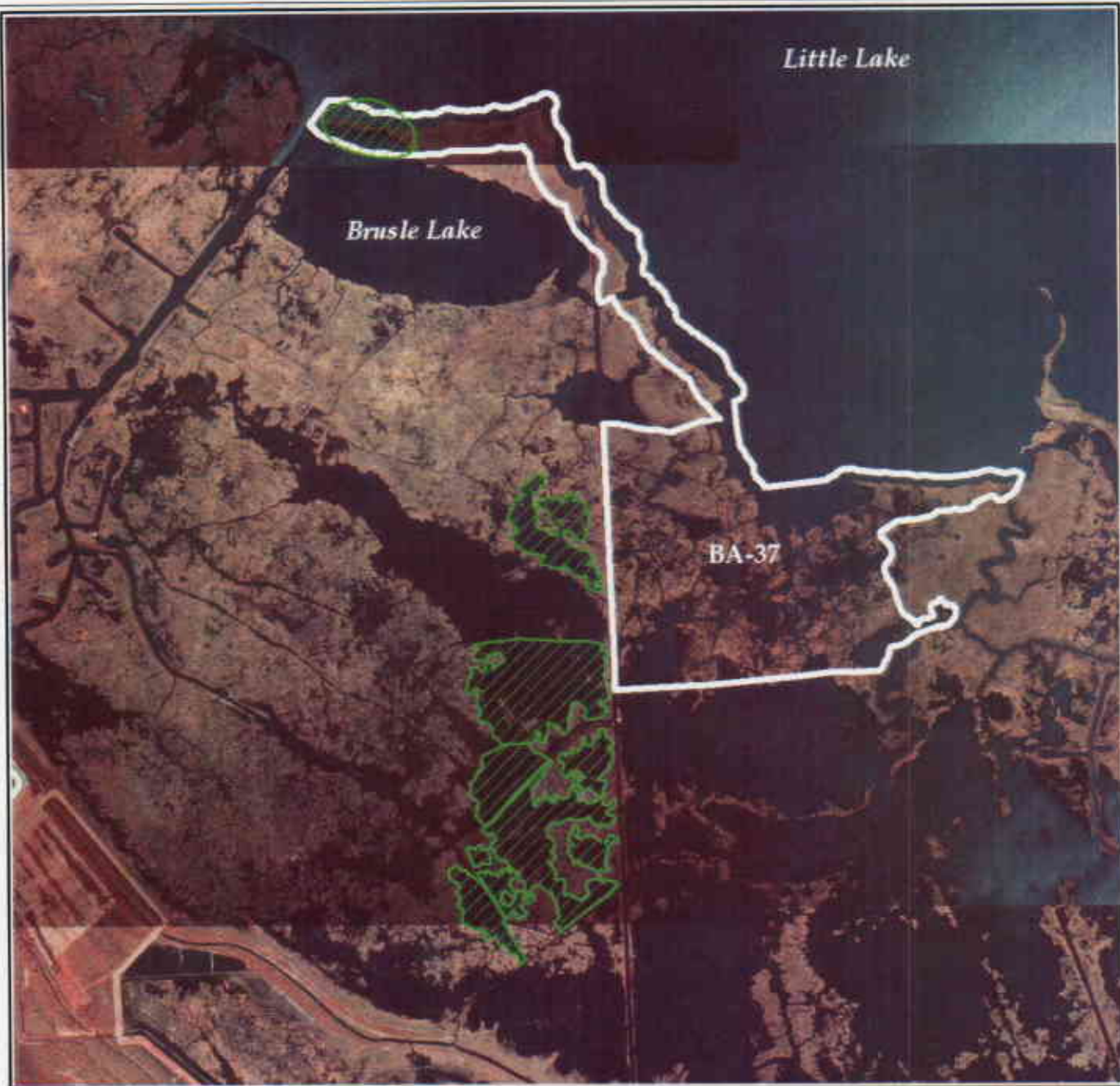
\$9,237,500. This includes construction, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet

Cheryl Brodnax, NOAA NMFS



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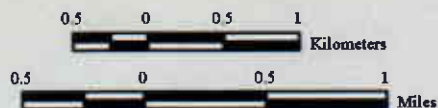


Southwest Little Lake Marsh Creation Project



-  Marsh Creation *
-  BA-37 Project Boundary

* denotes proposed features



Scale 1:50,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Map ID: USGS-NWRC 2006-11-0030
Map Date: December 21, 2005

Image Source:
2004 Aerial Photography

Project: Southwest Little Lake Marsh Creation		Date: 16-Dec-05		Revised:	
Computed by: Cheryl Brodnax		Project Priority List 16 Nominee			
Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$750,000	\$750,000
2	Marsh Creation	2,600,000	CY	\$2.45	\$6,370,000
3	Vegative Plantings	90,000	AC	\$3.00	\$270,000

UNIT

ESTIMATED CONSTRUCTION COST

\$7,390,000

ESTIMATED CONSTRUCTION + 25% CONTINGENCY

\$9,237,500

Region 2 – Barataria Basin

Proposed Project #6

Northeast Little Lake Marsh Creation/Shoreline Protection Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Northeast Little Lake Shore Protection and Marsh Creation

Coast 2050 Strategy

Region 2 Regional Strategy #24: Preserve bay and lake shoreline integrity on the landbridge
Region 2 Regional Strategy #25: Dedicated dredging and/or beneficial use of dredged material on the landbridge

Project Location

Region 2, Barataria Basin, Jefferson Parish, Harvey Cutoff -- Turtle Bay -- Little Lake

Problem

What problem will the project solve? a) Shoreline erosion along the east bank of Harvey Cutoff, northwest shore of Turtle Bay, and northeast shoreline of Little Lake; and b) marsh deterioration between the northeast shoreline of Little Lake and Harvey Cutoff.

What evidence is there for the nature and scope of the problem in the project area?

Based on Britsch and Dunbar (1996) map for 1930's -1990 the erosion rate is roughly estimated at 10 to 25 feet per year. The 2003 USGS map of "100+ Years of land Change for Coastal Louisiana" illustrates a prediction for continued shoreline and interior land loss in the proposed project area.

Proposed Project Features

35,000 feet of shoreline protection, leaving opening(s) as needed for oil and gas access and/or water exchange. About 200 acres of marsh creation.

Goals

Shoreline protection will eliminate erosion from Harvey Cutoff, Turtle Bay, and Little Lake. Marsh creation effort will restore about 200 acres of emergent marsh.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? Direct: eliminate loss of 200 to 250 acres over project life, plus create about 200 acres. Indirect: not yet determined.
- 2) How many acres of wetlands will be protected/created over the project life? 400 to 450 acres.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). Not yet determined
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc. This project would contribute to protection of the Central Barataria Basin Landbridge.

5) What is the net impact of the project on critical and non-critical infrastructure? The communities of Lafitte and Barataria lie to the north of this important landmass which serves to buffer the effect of tropical weather events. Numerous oil and gas wells, pipelines, and supporting infrastructure would benefit from reducing land loss in the area.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? This project would work in sync with BA-2, BA-27, BA-20, BA-23, BA-03a, BA-26, and BA-41, contributing to protection of the Central Barataria Basin Landbridge.

Identification of Potential Issues

The proposed project has the following potential issues: coordination with oil and gas entities would be required so that some canals could be closed at the shoreline, allowing access through a only one or two canal through the shoreline.

Preliminary Construction Costs

\$ 14 million

Preparer of Fact Sheet

Quin Kinler

USDA-NRCS

225-382-2047

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Legend
~ 35,000 linear feet
— Shore_Protection
Marsh_Creation
~200 Acres



NE Little Lake
Marsh Creation/Shoreline Protection
Jefferson Parish, Louisiana
PPL-16



Region 2 – Barataria Basin

Proposed Project #7

Barataria Bay Waterway Bank Protection (Bayou Barataria Ridge to Bayou Maurice) Project

PPL16 PROJECT NOMINEE FACT SHEET

January 12, 2006

Project Name

Barataria Bay Waterway Bank Protection

Coast 2050 Strategy

Coastwide Strategy: Stabilization of Major Navigation Channels

Project Location

Region 2, Barataria Basin, Jefferson Parish, Barataria Bay Waterway south of B. Barataria ridge

Problem

What problem will the project solve? Bankline erosion and excessive water exchange through the multitude of oil and gas canals. Due to oil and gas canals and subsidence of the Bayou Barataria and Bayou Maurice ridges, the hydrologic function of those ridges has been severely compromised. The project could simulate the historic function of those ridges by reducing the number of water exchange points to the south and west of the historic ridges.

What evidence is there for the nature and scope of the problem in the project area? 2004 aerial imagery confirms the current width of the BBWW and the deteriorated nature of, and numerous canals which perforate, the Bayou Barataria and Bayou Maurice ridges.

Proposed Project Features

26,000 feet of bankline protection, leaving a single oil and gas access connection to BBWW.

Goals

Bankline protection will eliminate erosion from BBWW and reduce excessive water exchange through the multitude of oil and gas canals.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? Not yet determined.
- 2) How many acres of wetlands will be protected/created over the project life? Not yet determined.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). Not yet determined
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc. The project could simulate the historic function of the Bayou Barataria and Bayou Maurice ridges by reducing the number of water exchange points to the south and west of the historic ridges.

5) What is the net impact of the project on critical and non-critical infrastructure? Numerous oil and gas wells, pipelines, and supporting infrastructure would benefit from reducing land loss in the area.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The project would extend the benefits of BA-26 (Barataria Bay Waterway East Bank Protection), would help to stabilize the area south of BA-41 (South Shore of The Pen) thereby helping to maintain the central Barataria Basin.

Identification of Potential Issues

The proposed project has the following potential issues: coordination with oil and gas entities would be required so that field could be access through a single canal.

Preliminary Construction Costs

\$ 9 million

Preparer of Fact Sheet

Quin Kinler

USDA-NRCS

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R2- Bara (#7)



Legend
~26,000 linear feet
— Bank_Protection



Barataria Bay Waterway
Bank Protection
(Bayou Barataria Ridge to Bayou Maurice)
Jefferson Parish, Louisiana
PPL-16



Region 2 – Barataria Basin

Proposed Project #8

Grand Liard Ridge and Fringe Marsh Restoration Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Grand Liard Ridge and Fringe Marsh Restoration

Coast 2050 Strategy

Coastwide Common Strategies

- Dedicated dredging to create, restore or protect wetlands
- Off-shore and Riverine Sand and sediment delivery systems
- Vegetative Plantings

Project Location

Region 2, Barataria Basin, Plaquemines Parish, Bastian Bay and Grand Liard mapping units, vicinity of Triumph

Problem

Bastian Bay and Grand Liard mapping unit historically structured by a series of north south bayous and associated ridges (i.e., Bayou Long, Dry Cypress Bayou). Currently, the majority of these bayou ridges have eroded. Ridge loss combined with interior wetlands loss has resulted in large expanses of unbroken open water.

The Grand Liard ridge is the most prominent remaining ridge, and separates the open bays of the Bastian Bay and Grand Liard mapping units. Land loss projections suggest that the remaining bayou bank wetlands are anticipated to be completely converted to open water by 2050.

Proposed Project Features

Material will be dredged from the Mississippi River and placed in confined disposal areas east of Grand Liard Bayou. A ridge feature will be constructed by building substantial retention dikes (i.e., 20-foot crown width at +7 feet NAVD) with material dredged from Grand Liard Bayou. The ridge will grade immediately into a 504-acre back ridge intertidal marsh platform. An estimated 5.3 M cy of river materials will be required for marsh creation and about 20,000 feet of retention dikes will be required for containment dikes. Due to the geometry of the disposal site, it is not anticipated that tidal creeks will be constructed; however this issue will be evaluated during the design process. Containment dike gapping will be incorporated into the project design and cost estimate. Following consolidation of the marsh platform, vegetative plantings will be installed (including woody species on ridge), although a reduced planting cost (i.e., < \$3,500/acre) due to project scale.

Goals

Maintain the integrity of the Grand Liard Ridge

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*

The project is anticipated to benefit about 627 total acres. The project would directly benefit about 504 acres of saline marsh and 23 acres of restored ridge. Additional indirect benefits are anticipated to about 100 acres of wetlands immediately west of Grand Liard Bayou due reduction in wind-generated erosion.

2) *How many acres of wetlands will be protected/created over the project life?*

The project is estimated to provide net benefits to 254 acres over the project life. It is estimated that about 40% of the project area is currently vegetated wetlands. Using Coast 2050 Grand Liard mapping unit loss rates for 1983 – 1990 (1.66%/year) (Table 1), TY20 FWOP acres are projected to be 153. Assuming 50% reduction in loss rate projects FWP TY 430 acres (Table 2). TY20 Net Acres = 430a – 153a – 23a (removed from benefits as supratidal ridge). Some indirect net benefits may be realized to the marshes west of Bayou Liard but are not included here.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).*

It is projected that loss rates for the created marsh (0.83%/year) will be about 50% of background loss rate for the mapping unit. Minor reduction (<<<25%) in land loss rates for marshes immediately west of Grand Liard Bayou are anticipated.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.*

Yes. The Grand Liard Ridge is the one of the only remaining north-south ridges left in the project vicinity, and serves to separate the Grand Liard and Bastian Bay mapping units.

5) *What is the net impact of the project on critical and non-critical infrastructure?*

No net impact or benefit

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*

The project will reduce lateral tidal movement occurring within the mapping unit. The project, combined with on-going barrier island restoration, will benefit southeastern Baratavia Bay by restoring structural components of the estuarine system.

Identification of Potential Issues

Oysters, pipeline crossings

Preliminary Construction Costs

Estimated construction costs including 25% contingency are \$24 M including 25% contingency (Table 3)

Preparer of Fact Sheet

Andrew MacInnes, (504) 297-5320, Andrew_MacInnes@cmaaccess.com

Rachel Sweeney, (225) 389-0508, Rachel.Sweeney@noaa.gov

Table 1 – Mapping Unit Loss Rates

Grand Liard Mapping Unit			
Acres Marsh	Year	Interval	Loss Rate
29930	1932		
26090	1956	24	0.53%
18330	1974	18	1.65%
17230	1983	9	0.67%
15230	1990	7	1.66%

Table 2 – Acreage Projections

TY	FWOP		FWP	
	Loss Rate	Acres	Loss Rate	Acres
1	1.66%	211	0.83%	504
2	1.66%	207	0.83%	500
3	1.66%	204	0.83%	496
4	1.66%	200	0.83%	492
5	1.66%	197	0.83%	487
6	1.66%	194	0.83%	483
7	1.66%	191	0.83%	479
8	1.66%	187	0.83%	475
9	1.66%	184	0.83%	471
10	1.66%	181	0.83%	468
11	1.66%	178	0.83%	464
12	1.66%	175	0.83%	460
13	1.66%	172	0.83%	456
14	1.66%	170	0.83%	452
15	1.66%	167	0.83%	448
16	1.66%	164	0.83%	445
17	1.66%	161	0.83%	441
18	1.66%	159	0.83%	437
19	1.66%	156	0.83%	434
20	1.66%	153	0.83%	430

TY 20 Net Benefits: 254

Assume ridge converted to uplands and removed from wetland benefit area, therefore, net TY20 benefits reduced by 23 acres

(430-153)-23

Grand Liard Ridge Restoration (PPL 16 nominee)		Date: 10-Jan-06 Revised:			
Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$1,500,000	\$1,500,000
2	Highway/road jack & bore (3 crossings @ \$160,000 each and 3 jacking pits @ \$36,000 each)	3	EA	\$196,000	\$588,000
3	Bucket Dredging (ridge restoration)	209,763	CY	\$3.00	\$629,288
4	Hydraulic Dredging (marsh creation)	4,268,880	CY	\$3.00	\$12,806,640
5	Hydraulic Dredging (marsh nourishment)	914,760	LF	\$3.00	\$2,744,280
6	Containment Dikes	20,662	LF	\$15.00	\$309,930
7	Vegetative Plantings (half of created acres)	176.4	AC	\$3,500.00	\$617,400

ESTIMATED CONSTRUCTION COST

\$19,195,538

ESTIMATED CONSTRUCTION + 25% CONTINGENCY

\$23,994,423

Bayou Grand Liard Ridge Restoration



Region 2 – Barataria Basin

Proposed Project #9

Bayou Long/Empire Waterway Shoreline Protection and Marsh Creation Project

R2-Bava #9

PPL16 PROJECT NOMINEE FACT SHEET
January 10, 2006

Project Name

Bayou Long/Empire Waterway Shoreline Protection and Marsh Creation

Coast 2050 Strategy

Coastwide Common Strategies

- Dedicated dredging to create, restore or protect wetlands
- Off-shore and Riverine Sand and sediment delivery systems
- Vegetative Plantings

Project Location

Region 2, Barataria Basin, Plaquemines Parish, Bastian Bay mapping unit, vicinity of Empire

Problem

Bastian Bay mapping unit historically structured by a series of north south bayous and associated ridges (i.e., Bayou Long, Bayou Grand Liard, Dry Cypress Bayou). Currently, the majority of these bayou ridges have eroded. Ridge loss combined with interior wetlands loss has resulted in large expanses of unbroken open water.

The Empire Waterway forms the boundary between the Bastian Bay mapping unit and the Cheniere Ronquille mapping unit. Its continued degradation threatens to dramatically increase the expanse of open water between the two mapping units and allow for lateral tidal movement to Grand Bayou to the east (approximately four additional miles). Land loss projections suggest that the remaining bayou bank wetlands are anticipated to be completely converted to open water by 2050.

Proposed Project Features

Proposed project features focus on restoring the structural function of the Bayou Long/Empire Waterway ridge through construction of a foreshore structure and adjacent marsh platform. A combination of foreshore revetment (or other appropriate hard structure) and earthen levee/ridge features would be constructed on the 6.9 mile eastern "bankline" of the Empire Waterway. The foreshore revetment would be constructed at about the -2' NAVD contour and form the eastern containment for the marsh platform. Where geotechnical conditions and bathymetry allows, a ridge feature will be constructed by building substantial retention dikes (i.e., 20-foot crown width at +7 feet NAVD) with material dredged from the Empire Waterway.

The marsh platform would be constructed from Mississippi River material and placed in a 500-foot wide confined disposal area east of shoreline protection to create an estimated 418 acres of marsh. An estimated 6.0 M cy of river materials will be required for marsh creation assuming a fill height from -3.5' to +2.5' NAVD and a 1:1.5 cut-to-fill ratio. About 40,000 feet of retention dike is anticipated in addition to the foreshore containment described above. Due to the geometry of the disposal site, it is not anticipated that tidal

creeks will be constructed. Containment dike gapping will be incorporated into the project design and cost estimate. Following consolidation of the marsh platform, vegetative plantings will be installed (including woody species on ridge), although a reduced planting cost (i.e., < \$3,500/acre) due to project scale.

Goals

Restore the integrity of the Bayou Long/Empire Waterway Ridge.
Restore saline marsh.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*

The project is anticipated benefit a total of about 500 acres. There are 418 acres of marsh platform. Limited (less than 75 acres) additional indirect benefits are anticipated to wetlands immediately west of the Empire Waterway due to reduction in wind-generated erosion.

2) *How many acres of wetlands will be protected/created over the project life?*

Bastain Bay mapping unit loss rates are extremely high (recent 8.5%/yr and 3.88%/yr average, see Table 1). Such rates may not be reflective of the project area due to lack of existing wetlands. For the purposes of the nomination, assume 3.0% FWOP and 1.5% FWP due to lack of data. Based on that assumption, the project is estimated to provide direct net benefits to 290 acres over the project life (Table 2).

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).*

The majority of the project area's marshes have completely degraded into open water. It is projected that loss rates for the created marsh (1.5%/year) will be about 50% of background loss rate.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.*

Yes. The Empire Waterway Ridge will be strengthened and/or restored to serve as a barrier to marsh degradation and open water expansion. Restoring the ridge will preserve the boundary between the Cheniere Ronquille and Bastian Bay mapping units.

5) *What is the net impact of the project on critical and non-critical infrastructure?*

The project may provide net benefits to the Empire Waterway by assisting in stabilizing the navigation channel.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*

The project will reduce lateral tidal movement occurring within the mapping unit. The project, combined with on-going barrier island restoration, will benefit southeastern Barataria Bay by restoring structural components of the estuarine system.

Identification of Potential Issues

Oysters, pipeline crossings

Preliminary Construction Costs

Estimated construction cost including 25% contingency are \$28M – \$43M depending on foreshore feature. Construction cost of project based on complete foreshore revetment is about \$34M and construction cost based on complete earthen revetment is \$23M. See Table 3.

Preparer of Fact Sheet

Andrew MacInnes, (504) 297-5320, Andrew_MacInnes@cmaaccess.com

Table 1 – Mapping unit loss rates derived from Coast 2050

Bastian Bay Mapping Unit			
Acres	Marsh	Year Interval	Loss Rate
27555	1932		
25660	1956	24	0.29%
19530	1974	18	1.33%
10390	1983	9	5.20%
4210	1990	7	8.50%

Table 2 – Acreage projections

FWOP		
Estimate that 5% of project area is existing marsh; TY1 acres = 5% of 418 acres		
TY	Loss Rate	Acres
1	3.00%	42
2	3.00%	41
3	3.00%	39
4	3.00%	38
5	3.00%	37
6	3.00%	36
7	3.00%	35
8	3.00%	34
9	3.00%	33
10	3.00%	32
11	3.00%	31
12	3.00%	30
13	3.00%	29
14	3.00%	28
15	3.00%	27
16	3.00%	26
17	3.00%	26
18	3.00%	25
19	3.00%	24
20	3.00%	23

FWP		
Assume loss rate for 418 acres created & nourished marsh is half background rate		
TY	Loss Rate	Acres
1	1.50%	418
2	1.50%	412
3	1.50%	406
4	1.50%	399
5	1.50%	393
6	1.50%	388
7	1.50%	382
8	1.50%	376
9	1.50%	370
10	1.50%	365
11	1.50%	359
12	1.50%	354
13	1.50%	349
14	1.50%	343
15	1.50%	338
16	1.50%	333
17	1.50%	328
18	1.50%	323
19	1.50%	318
20	1.50%	314

TY 20 Net Benefits: 290

Table 3 – Nomination cost estimates

Rock and Marsh Creation

Project: Bayou Long Shoreline Protection and Marsh Creation		Date: 10-Jan-06 Revised:			
Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$2,000,000	\$2,000,000
2	Highway/road jack & bore (3 crossings @ \$160,000 each and 3 jacking pits @ \$36,000 each)	3	EA	\$196,000	\$588,000
3	Shoreline Protection	6.90	mile	\$1,750,000.00	\$12,075,000
4	Hydraulic Dredging (marsh creation)	6,069,360	CY	\$3.00	\$18,208,080
6	Containment Dikes	40,000	LF	\$15.00	\$600,000
7	Vegetative Plantings (half of created acres)	209	AC	\$3,500.00	\$731,500

ESTIMATED CONSTRUCTION COST \$34,202,580
ESTIMATED CONSTRUCTION + 25% CONTINGENCY \$42,753,225

Earthen Ridge Restoration and Marsh Creation

Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$1,500,000	\$1,500,000
2	Highway/road jack & bore (3 crossings @ \$160,000 each and 3 jacking pits @ \$36,000 each)	3	EA	\$196,000	\$588,000
3	Bucket Dredging (ridge restoration)	437,184	CY	\$3.00	\$1,311,552
4	Hydraulic Dredging (marsh creation)	6,069,360	CY	\$3.00	\$18,208,080
6	Containment Dikes	40,000	LF	\$15.00	\$600,000
7	Vegetative Plantings (half of created acres)	209	AC	\$3,500.00	\$731,500

ESTIMATED CONSTRUCTION COST \$22,939,132
ESTIMATED CONSTRUCTION + 25% CONTINGENCY \$28,673,915

Empire Waterway Ridge Restoration



Empire

Mississippi River

Shell Island Bay

Marsh Creation

English Bay

Rock/Ridge/Retaining Wall etc.

34,500 Linear Feet

Gulf of Mexico

10,000

Feet 2004 DOQQ's

Region 2 – Breton Sound Basin

Proposed Project #1

Breton Land Bridge Marsh Creation and Shoreline Protection Project

PPL16 PROJECT NOMINEE FACT SHEET

Project Name

Breton Land Bridge Marsh Restoration

Coast 2050 Strategy

- Coastwide – Dedicated dredging for wetland creation.
- Coastwide – Maintenance of bay and lake shoreline integrity.

Project Location

Region 2, Breton Basin, Plaquemines Parish, Caernarvon mapping unit, Grand and Petit lakes.

Problem

The landfall of Hurricane Katrina in southeast Louisiana destroyed thousands of acres of marsh and other coastal habitats east of the Mississippi River. The area most severely impacted was the Breton Sound Basin where it is estimated 40.9 square miles of marsh were converted to open water. The operational plan for Caernarvon Freshwater diversion for 2006 proposes higher discharge during the winter and spring to address the hurricane impact. However, this discharge will have little potential to rebuild wetlands near the Breton land bridge – an area located south of Lake Lery between Delacroix and Oak River. Without restoration this region will begin to see the coalescence of water bodies such as Grand Lake, Lake Petit, and the surrounding marsh areas resulting in more direct connection between interior marshes and the open Black Bay system.

Proposed Project Features

- Dedicated dredging or long distance piping of Mississippi River sediment to restore wetlands on the Breton Land Bridge that were destroyed during the passage of Hurricane Katrina.
- Shoreline repair or stabilization of lake shorelines using vegetation plantings.

Goals

- Restore critical wetlands destroyed by Hurricane Katrina.
- Maintain the Breton land bridge.

Preliminary Project Benefits

The project will benefit up to 500 acres intertidal marsh and open water.

Identification of Potential Issues

- Access routes for dredge pipeline from MS River to the location has not been investigated.
- Project is located near active oil and gas fields (Delacroix, S. Spanish Lake & Lake Petit).

Preliminary Construction Costs

The estimated construction cost to rebuild marshes and plant vegetation on the Breton Landbridge is \$15 million - \$20 million.

Preparers of Fact Sheet

John Lopez
Lake Pontchartrain Basin Foundation
(504) 826-2215

Gregory Miller
U.S. Army Corps of Engineers
(504) 862-2310



Preliminary map of land loss from Hurricane Katrina and Rita. Red areas are mapped as water in fall 2005 that were marsh in fall 2004. USGS-NWRC (Barras and others, 2006 draft)

Region 2 – Breton Sound Basin

Proposed Project #2

Breton Island – West Point Barrier Island Restoration Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Breton Island-West Point Barrier Island Restoration

Coast 2050 Strategy

Regional – Restore/Maintain Barrier Islands, Headlands and Shorelines

Project Location

Region 2, Breton Basin, Plaquemines Parish, Breton National Wildlife Refuge, Breton Sound approximately 8 miles northeast of the terminus of Baptiste Collette Pass.

Problem

Breton Island was a dynamic barrier island approximately 5 miles in length and up to ½ mile in width with a protected anchorage. Beginning in the mid 1990s a succession of intense tropical storms and hurricanes, culminating with the passage of Hurricane Katrina in 2005 have reduced it to less than 10% of its former size. West Point, the southwest terminus of Breton Island, supported a nesting colony of over 5,000 pairs of endangered Brown Pelicans along with numerous other colonial nesting seabirds. Loss of habitat and the reduction in elevation of what remains of the island make future nesting at this site questionable. It is also probable that without action, this barrier island will be lost entirely.

Proposed Project Features

Sediment will be dredged from Breton Sound/Gulf of Mexico and placed on the submerged shoal/platform that remains where much of West Point previously existed. Sediment will be pumped to a height of +5 NAVD88 to raise it above normal tidal range. Following consolidation of dredged material, sand fencing will be constructed and vegetation planted to aid in dune formation. Approximately 350-400 acres of barrier island habitat will be created in an area approximately 1 mile in length by ½ mile in width.

Goals

The goal of this project is to re-create a barrier island and provide habitat for colonial seabirds, including the endangered brown pelican. It will maintain the barrier island functions currently being lost.

Preliminary Project Benefits

Approximately 400 acres of barrier island habitat would be created. The project will complement any beneficial use of dredge spoil planned for north Breton Island.

Preliminary Construction Costs

Unknown at this time but based on previous barrier island projects, estimated to be between \$20-\$30 million.

Preparer of Fact Sheet

James Harris, USFWS, 985-882-2000, James_Harris@fws.gov

Breton Island-West Point Barrier Island Restoration



Breton Island

Region 2 – Breton Sound Basin

Proposed Project #3

MRGO Maintenance Incremental Cost Payment Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

MRGO Maintenance Incremental Cost Payment

Coast 2050 Strategy

Regional – Restore/Maintain Barrier Islands, Headlands and Shorelines

Project Location

Region 2, Breton Basin, Plaquemines Parish, Breton National Wildlife Refuge, Breton Island

Problem

Breton Island was a dynamic barrier island approximately 5 miles in length and up to ½ mile in width with a protected anchorage. Beginning in the mid 1990s a succession of intense tropical storms and hurricanes, culminating with the passage of Hurricane Katrina in 2005 have reduced it to less than 10% of its former size. West Point, the southwest terminus of Breton Island, supported a nesting colony of over 5,000 pairs of endangered Brown Pelicans along with numerous other colonial nesting seabirds. Loss of habitat and the reduction in elevation of what remains of the island make future nesting at this site questionable. It is also probable that without action, this barrier island will be lost entirely.

Proposed Project Features

This project would provide funds for the increased cost to transport dredged material from the MRGO to Breton Island. The project would pay the incremental cost for transport of material from reaches of the MRGO not designated for disposal on Breton Island. This project could be combined with the Breton Island-West Point Barrier Island Restoration Project.

Goals

The goal of this project is to re-create a barrier island habitat on Breton Island.

Preliminary Project Benefits

Acreage created would depend on the distance and amount of material dredged from the MRGO.

Preliminary Construction Costs

Unknown at this time.

Preparer of Fact Sheet

James Harris, USFWS, 985-882-2000, James_Harris@fws.gov

MRGO Maintenance Incremental Cost Payment

MRGO

An aerial photograph of a coastal area with a large waterway. A white line starts from the top left and extends diagonally towards the bottom right, ending at a small island. The word "MRGO" is written in white text above the line. A white circle highlights the island, and the text "Breton Island" is written in white to its right.

Breton
Island

Region 2 – Breton Sound Basin

Proposed Project #4

Wills Point Marsh Creation Project

PPL16 PROJECT NOMINEE FACT SHEET
January 20, 2006

Project Name

Wills Point Marsh Creation Project

Coast 2050 Strategy

Dedicated Dredging for Marsh Creation

Project Location

Region 2, Breton Sound Basin, Plaquemines Parish, The project is located on the east bank of the Mississippi River approximately one mile east of Wills Point.

Problem

The site is mainly shallow open water between natural historic ridges and has subsided as a result of sediment and nutrient starvation due to the levee system on the Mississippi River. This area encountered significant land loss due the recent passing of Hurricane Katrina.

Proposed Project Features

The project involves the hydraulic dredging or mining of material from the Mississippi River to create marsh in over 400 acres of shallow open water near Wills Point.

Goal

1. Create over 400 acres of marsh.
2. Provide a marsh buffer to the adjacent Hurricane Protection Levees

Preliminary Project Benefits

1. 350-400 net acres
2. Is synergistic with other projects within the area

Identification of Potential Issues

None known

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$10,000,000.

Preparer of Fact Sheet

Chris Monnerjahn, USACE, 504-862-2415, christopher.j.monnerjahn@mvn02.usace.army.mil



MISSISSIPPI RIVER

Mile 70

JESUIT BEND

Joe Brown Canal

40 Acre Canal

MARSH CREATION AT WILL'S POINT
5TH PRIORITY LIST

Region 2 – Mississippi River Delta Basin

Proposed Project #1

Romere Pass Marsh Creation Project

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Romere Pass Marsh Creation

Coast 2050 Strategy

Coastwide – Beneficial Use of Dredged Material to Create, Restore, or Protect Wetlands

Project Location

Region 2, Mississippi River Basin, Plaquemines Parish, Delta National Wildlife Refuge, west of terminus of Romere Pass

Problem

Interior ponding and shoreline erosion are the major causes of wetland loss in the project area. Loss rates accelerated in the mid 1950's and have continued to the present. Subsidence and physical erosion have formed large ponds which are now connected to Breton Sound. A narrow strip of marsh is all that separates these ponds from the open Gulf of Mexico. Additional marsh loss has occurred with the passage of Hurricane Katrina.

Proposed Project Features

It is proposed that sediment obtained during Mississippi River channel maintenance be pumped to the project area to create marsh and rebuild/restore the shoreline between the interior ponds and Breton Sound. It is anticipated that approximately 200-300 acres may be created and another 200 acres of degraded marsh nourished.

Goals

The goal of this project is to re-create marsh habitat in the open water adjacent to the shoreline. This new marsh will maintain the shoreline rim function by repairing existing breaches and preventing the formation of new breaches into the interior marsh.

Preliminary Project Benefits

Approximately 600-700 acres of marsh would be benefited and approximately 400-500 acres would be protected over the project life. The project maintains and restores beach/marsh rim habitat.

Preliminary Construction Costs

Approximately \$10 million

Preparer of Fact Sheet

James Harris, USFWS, 985-882-2000, James_Harris@fws.gov

Romere Pass Marsh Creation



Area Targeted for
Marsh Creation

Main Pass

Region 2 – Mississippi River Delta Basin

Proposed Project #2

Booster Pump Installation on Delta National Wildlife Refuge Project

R2-MR-#2

PPL16 PROJECT NOMINEE FACT SHEET
January 12, 2006

Project Name

Booster Pump Installation on Delta NWR

Coast 2050 Strategy

Coastwide – Beneficial Use of Dredged Material to Create, Restore, or Protect Wetlands

Project Location

Region 2, Mississippi River Basin, Plaquemines Parish, Delta National Wildlife Refuge

Problem

Interior ponding and shoreline erosion are the major causes of wetland loss in the project area. Loss rates accelerated in the mid 1950's and have continued to the present. Subsidence and physical erosion have formed large ponds which are now connected to Breton Sound. A narrow strip of marsh is all that separates these ponds from the open Gulf of Mexico. Additional marsh loss has occurred with the passage of Hurricane Katrina.

Proposed Project Features

It is proposed that two or three semi-permanent/permanent booster pump stations be installed on Delta NWR to transport sediment dredged during Mississippi River channel maintenance. Material would be pumped to the outer edges of the refuge to rebuild marsh and bay shorelines. This project could be combined with the Romere Pass Marsh Creation Project.

Goals

The goal of this project is to re-create marsh habitat in the open water adjacent to the shoreline. This new marsh will maintain the shoreline rim function by repairing existing breaches and preventing the formation of new breaches into the interior marsh.

Preliminary Project Benefits

The acreage of marsh created would be dependent on the amount of material dredged during channel maintenance and depth of areas to be filled. The project maintains and restores beach/marsh rim habitat.

Preliminary Construction Costs

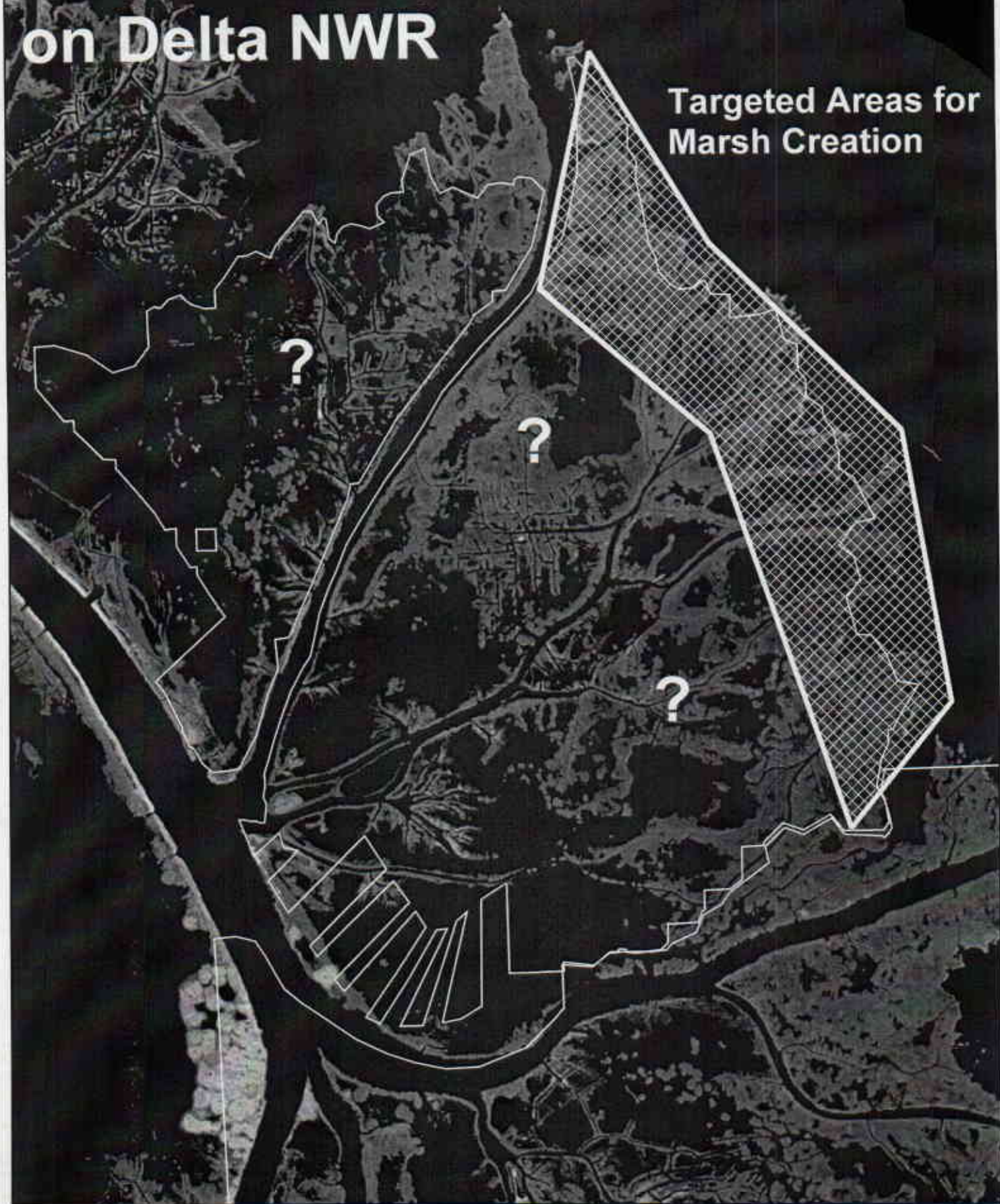
Unknown at this time.

Preparer of Fact Sheet

James Harris, USFWS, 985-882-2000, James_Harris@fws.gov

Booster Pump Installation on Delta NWR

Targeted Areas for
Marsh Creation



Region 3 – Teche/Vermilion Basin

Proposed Project #1

Oyster Reef at Cheniere au Tigre Project

R3-TV #1

TECHE/VERMILION BASIN
PROPOSED PROJECT FOR PPL 16
OYSTER REEF AT CHENIERE AU TIGRE

Project Location: Westward of existing TV-16 project in the Gulf of Mexico, South of Vermilion Parish.

Problems: Wave energy created by the Gulf of Mexico is eroding the beach at Cheniere Au Tigre. Some areas are retreating landward at a rate of over ten feet annually .

Description of Proposed Project: To create a living reef to absorb wave energy, create fisheries habitat edge, enhance recreational fishing and protect shoreline.

The multi-purpose reef would be installed approximately 1,000 feet offshore on the last seaward sandbar. Fish dips would be 50 feet wide and installed every 300 feet.

Coast-wide strategy: *Maintain or Restore Ridge Function.*

Regional strategy: *Protect Bay/Lake Shoreline*

Material will be limestone rock or concrete rubble. Limestone rock cost estimate taken from base bid on TV-16 Demo of Bertucci Construction Inc.

Bertucci TV16 Base Bid: \$326,700.00
Oyster Shell: \$64, 500.00

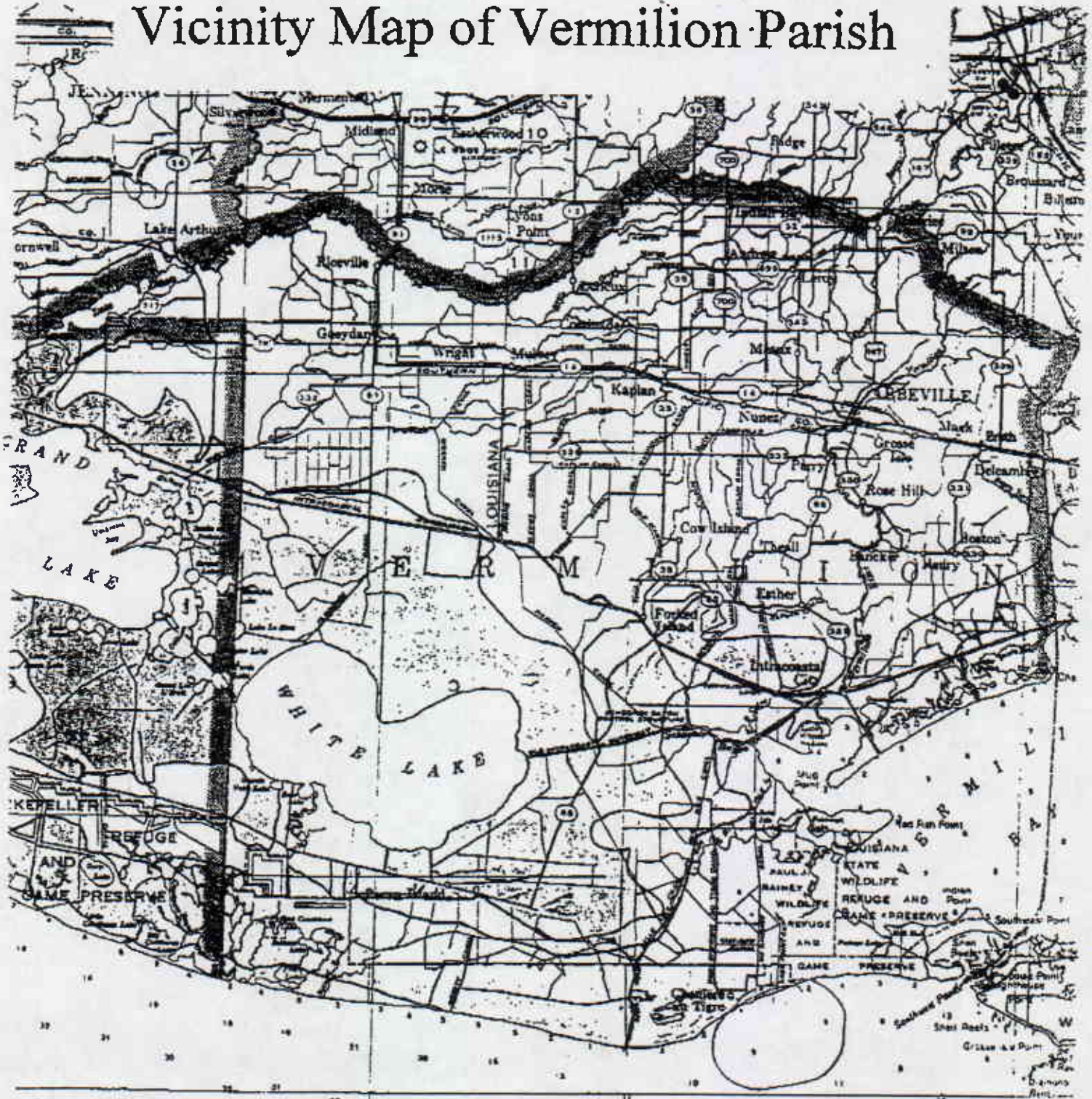
\$2,000,000 for 5,280 feet.

Cost would decrease considerably with the use of concrete rubble. Cost of Mobilization and Demobilization would increase cost if total project would be phased.

Warning markers would be installed to warn boaters according to US Coast-Guard regulations.

Contact Person: *Sherril Sagrera*
(home) 337-893-0368
(cell) 337-652-0636

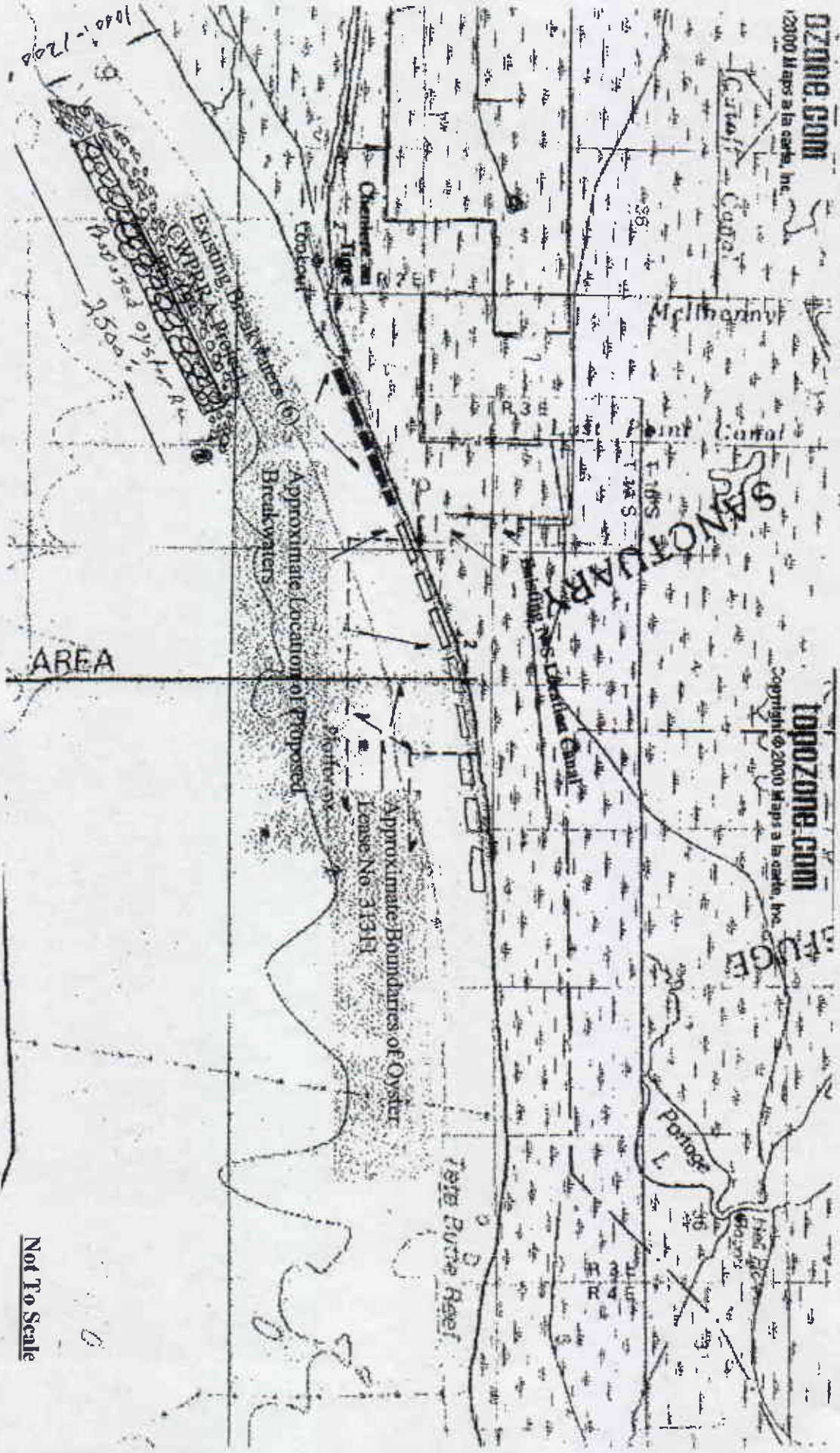
Vicinity Map of Vermilion Parish



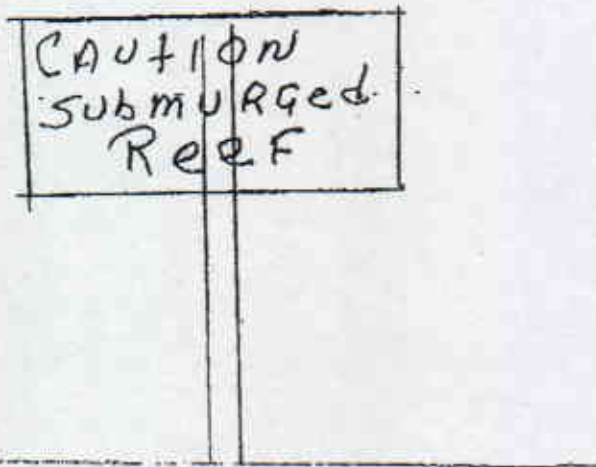
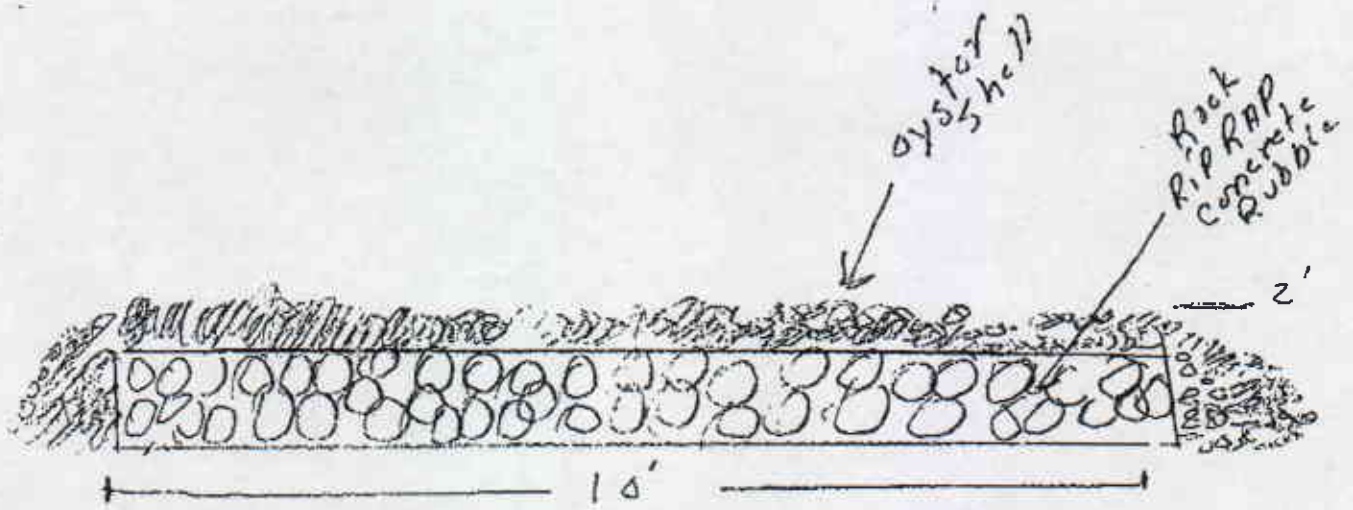
Project Location

Project Location Map

Shoreline Protection at Cheniere Au Tigre



Not To Scale



Region 3 – Teche/Vermilion Basin

Proposed Project #2

Marone Point Shoreline Protection Project

R3 TV (#2)

PPL 16 Project Nominee Fact Sheet
January 11, 2005

Project Name

Marone Point Shoreline Protection

Coast 2050 Strategy

Coast wide: Maintenance of Bay and Lake Shoreline Integrity

Regional: 11. Maintain shoreline integrity and stabilize critical shoreline areas of the Teche-Vermilion system including the gulf shoreline

Mapping Unit: (East Cote Blanche Bay) 73. Protect Bay/Lake Shorelines

Project Location

The project is located in Region 3, Teche/Vermillion Basin, St. Mary Parish, along the northern shoreline of East Cote Blanche Bay.

Problem

This area of shoreline has historic and predicted shoreline erosion rates of 15-20 ft. /year. If left unchecked, the rapidly eroding shoreline along East Cote Blanche Bay will lead to a conversion of interior wetlands to open bay. Installing shoreline protection would preserve the hydrologic integrity of water control structures installed under the TV-04 Cote Blanche Hydrologic Restoration CWPPRA Project that the O&M program will not provide.

Proposed Project Features

Project features include construction of approximately 26,000 linear feet of armored protection parallel to the existing northern shoreline of East Cote Blanche Bay. The proposed location of the shoreline protection feature is approximately 23,000 linear feet, starting from 3300 feet West of Humble Canal and extending around Marone Point, and approximately 3000 feet to the East of the Humble Canal between shoreline protections planned and installed through the TV-04 Cote Blanche Hydrologic Restoration Project.

Goals

Reduce and/or reverse shoreline erosion rates, protect critical marsh habitat and maintain existing hydrology of the East Cote Blanche Bay wetlands established through the TV-04 Cote Blanch Hydrologic Restoration Project. The marsh habitat provides important habitat for wintering migratory waterfowl, black bears, and other furbearers. These wetlands also provide vital protection to inland areas of St. Mary Parish from storm surges associated with hurricanes.

Preliminary Project Benefits

The project is anticipated to directly protect approximately 179 acres of freshwater marsh in St. Mary Parish by reducing or eliminating the current erosion rate of 15-20 ft. /yr. The project features will also provide a synergistic effect with the TV-04 Cote Blanche Hydrologic Restoration Project, and TV-20 Bayou Sale Ridge Protection Project by extending shoreline protection around the entire northern shore of East Cote Blanche Bay, ultimately providing contiguous protection to thousands of acres of deteriorating marsh in St. Mary parish.

Identification of Potential Issues

No significant potential issues are expected from the project implementation. Major landowners are in full support of the project.

Preliminary Construction Cost

Approximately \$11,700,000.

Preparer of Fact Sheet

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Loland Broussard/NRCS/ (337) 291-3060/ loland.broussard@la.usda.gov

Marone Point Shoreline Protection St. Mary Parish Louisiana



Legend

- TV-20 Planned Bayou Sale Shoreline Protection
- TV-04 Cote Blanche Shoreline Protection- Approx. 4,140 lf.
- Approved TV-04 O&M -Rock Dike
- Approved TV-04 O&M - Rock Revetment
- PPL-16 Proposed Shoreline Protection -Approx. 26,000 lf.



Region 3 – Teche/Vermilion Basin

Proposed Project #3

South Marsh Island Marsh Creation Project

R3-TV (#3)

DRAFT PPL16 PROJECT NOMINEE FACT SHEET

January 4, 2006

Project Name and Number

South Marsh Island Marsh Creation, TV-7-3

Coast 2050 Strategy

**Coastwide: Dedicated dredging to create, restore or protect wetlands
Maintenance of gulf, bay and lake shoreline integrity
Vegetative planting**

Regional: #10. Maintain shoreline integrity and stabilize critical area of the Teche-Vermilion Bay system.

**Mapping Unit (Marsh Island) #64 Protect Bay Shorelines
#65 Beneficial use of dredge material**

Project Location

Region 3, Teche/Vermilion Basin, Iberia Parish, South end of Marsh Island Wildlife Refuge, Oyster Bayou

Problem

Substantial areas of interior emergent marsh on Marsh Island have been converted to open water, primarily due to Hurricanes Lili and Rita. Continuous data recorders indicated a tidal surge was recorded up to +8 NAVD. Areas targeted by this project are those with the greatest historic land loss and within close proximity to Oyster Bayou. The tidal surge severely scoured the marshes on the eastern and western sides of Oyster Bayou just southeast of Oyster Lake. The top 8-10 inches of the marsh was scoured and much of this material was deposited in Oyster Bayou, and smaller bayous which drain the marshes on either side. This resulted in several sections of Oyster Bayou becoming plugged, which greatly affected the hydrology of a larger area. The smaller bayous on the eastern side were completely blocked hindering drainage of those severely scoured marshes. The area of marsh scoured by Lili was estimated at approximately 570 acres much of the acreage now appears to be shallow ponds. Using pre and post Lili satellite photography the approximated acres were derived. These scoured areas of marsh are holding water and *Spartina patens* in and adjacent to the edge of the scour is becoming stressed. There is concern that if this problem is not corrected and the hydrology restored, these scoured marshes will increase in size. Prior to the storm these marshes were hydraulically linked to Oyster Bayou, these marshes at present have little or no drainage potential during tidal exchange.

Proposed Project Features

Create approximately 325 acres of interior emergent marsh with hydraulically dredged material from Oyster Bayou and four adjacent bayous. The created areas will be planted with plugs of appropriate emergent marsh vegetation on approximately 5-ft centers.

Goals

Re-create brackish marsh habitat in the open water areas of the interior marsh primarily caused by hurricane damage.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? Approximately 3,400 acres will be benefited indirectly and 325 acres of marsh will be created by completely filling in open ponds and planting the created areas. It is anticipated that an additional 200 acres of marsh will be benefited through marsh nourishment as a result of hydraulic dredging for marsh creation without containment dikes.
- 2) How many acres of wetlands will be protected/created over the project life?

- Assume a 50% reduction in the background marsh loss (-0.7%/yr),
- Assume 325 acres created and 200 acres nourished

Approximately 489 acres protected/created over the project life (i.e., TY20 net after applying the above assumptions).

- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). The loss rates for the interior ponded areas are estimated to be reduced by greater than 75%. The total direct benefit area would be reduced 25-49%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.? This project would restore a portion of the Marsh Island barrier island.
- 5) What is the net impact of the project on critical and non-critical infrastructure? This project would have a net positive impact to critical infrastructures which consists of the communities of southern Iberia and southeastern Vermilion Parishes.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? This project provides a synergistic effect with the constructed TV-14 project and the East Marsh Island Marsh Creation Project.

Identification of Potential Issues

The proposed project has the following potential issues: Landrights held by LDWF. No operations and maintenance is planned. Some utilities/pipeline issues may be encountered during design phases, but project features and layout could avoid potential conflicts.

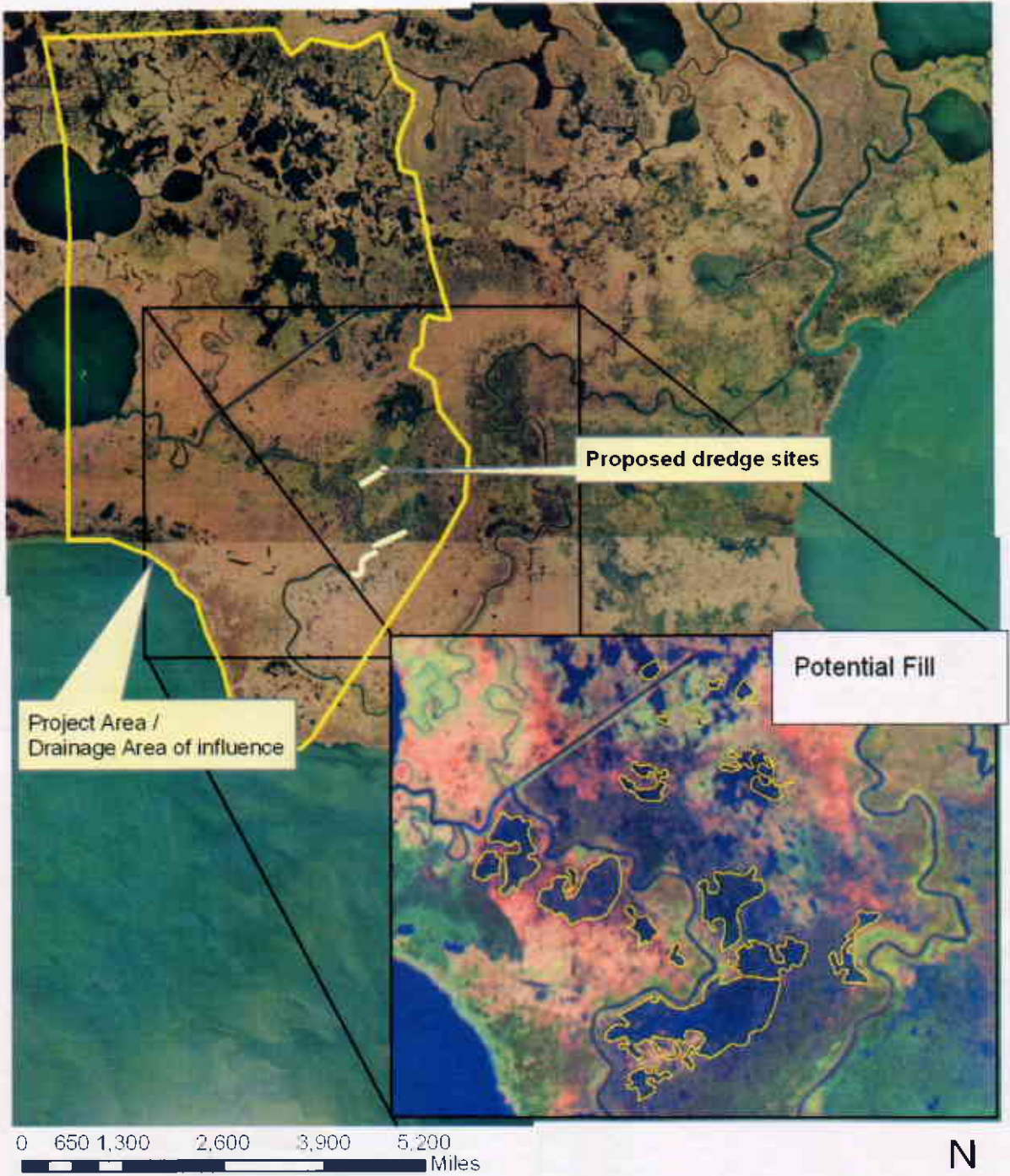
Preliminary Construction Costs

The estimated fully funded cost range is \$10,435,000 .

Preparer of Fact Sheet

John D. Foret, NMFS, (337) 291-2107, john.foret@noaa.gov

South Marsh Island Marsh Creation PPL 16



Source: 2004 DOQQ Inset Source: Post Hurricane Life LIDAR

Region 3 – Teche/Vermilion Basin

Proposed Project #4

Vermilion Bay Shoreline Breach Restoration Project

R3 TV #4

PPL16 PROJECT NOMINEE FACT SHEET

1/11/06

Project Name

Vermilion Bay Shoreline Breach Restoration.

Coast 2050 Strategy

Region 3, Teche-Vermilion Basin,

Regional Strategy #10 – Restore hydrologic conditions of major exchange points or prevent adverse tidal exchange points between Gulf/lake, lake/marsh, bay/marsh, gulf/bay and marsh/navigation channel locations.

Regional Strategy #13 – Optimize GIWW flows into marshes and minimize direct flow into bays.

Regional Strategy #15 – Reduce sedimentation in bays.

Regional Strategy #78 – Establish/Protect Ridge Function.

Regional Strategy #80 – Protect Bay/Lake Shorelines.

Project Location

Region 3, Teche/Vermilion Basin, Iberia Parish, North shore of Vermilion Bay Southwest of Avery Island

Problem

Shoreline is eroding at a much higher rate than other areas in the same system, and threatening interior marsh, bayous & ponds. Aerial photography measurements and GPS locations of the area demonstrate the erosion rate of the shoreline.

Proposed Project Features

This project will restore shoreline marsh rim function to protect existing marsh and interior ponds and reduce wetland loss. Alignment of the structure is to mimic natural marsh rim functions, which would allow sediment & organics to over top the structure while reducing energy to allow the area to naturally and artificially rebuild marsh.

Goals

The project hopes to utilize natural processes with some protection to reclaim eroded marsh.

Preliminary Project Benefits

The Project will directly and indirectly benefit approximately 2600 acres and will prevent the erosion of approximately 200 acres of marsh from eroding at the current rate of loss in the area. The project also has the potential to re-create approximately 130 acres of marsh utilizing natural processes and could be increased with dedicated disposal within the area. This project will substantially reduce the shoreline erosion rate in the direct benefited area by greater than 75%. This project restores the structural components of the coastal ecosystem beach and lake rim. In this area the Oaks Avery TV-13 project was constructed and this is the small area within the project that is in jeopardy due to shoreline erosion. This project protects the hydraulic function of that project by reducing the potential for another connection to occur that allows flow away from the Avery canal Structure.

Identification of Potential Issues

There are no potential problems that have been noted in the area.

Preliminary Construction Costs

The estimated cost of construction of this project is >\$4 million.

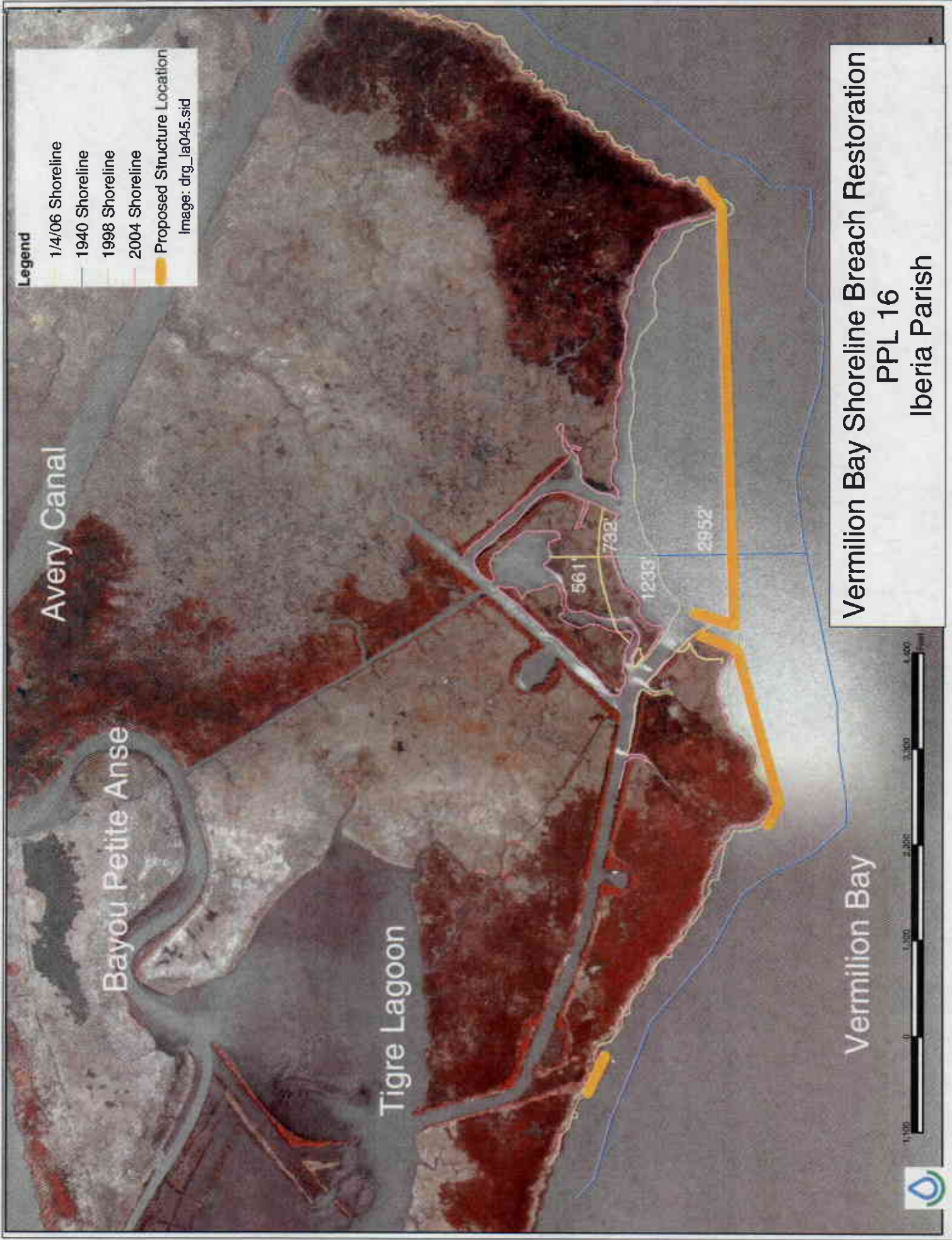
Preparer of Fact Sheet

D. Charles Stemmans

USDA NRCS

337-369-6623 Ext.3

charles.stemmans@la.usda.gov



Legend

- 1/4/06 Shoreline
- 1940 Shoreline
- 1998 Shoreline
- 2004 Shoreline

Proposed Structure Location

Image: drg_la045.sid

Avery Canal

Bayou Petite Anse

Tigre Lagoon

Vermilion Bay

Vermilion Bay Shoreline Breach Restoration

PPL 16

Iberia Parish

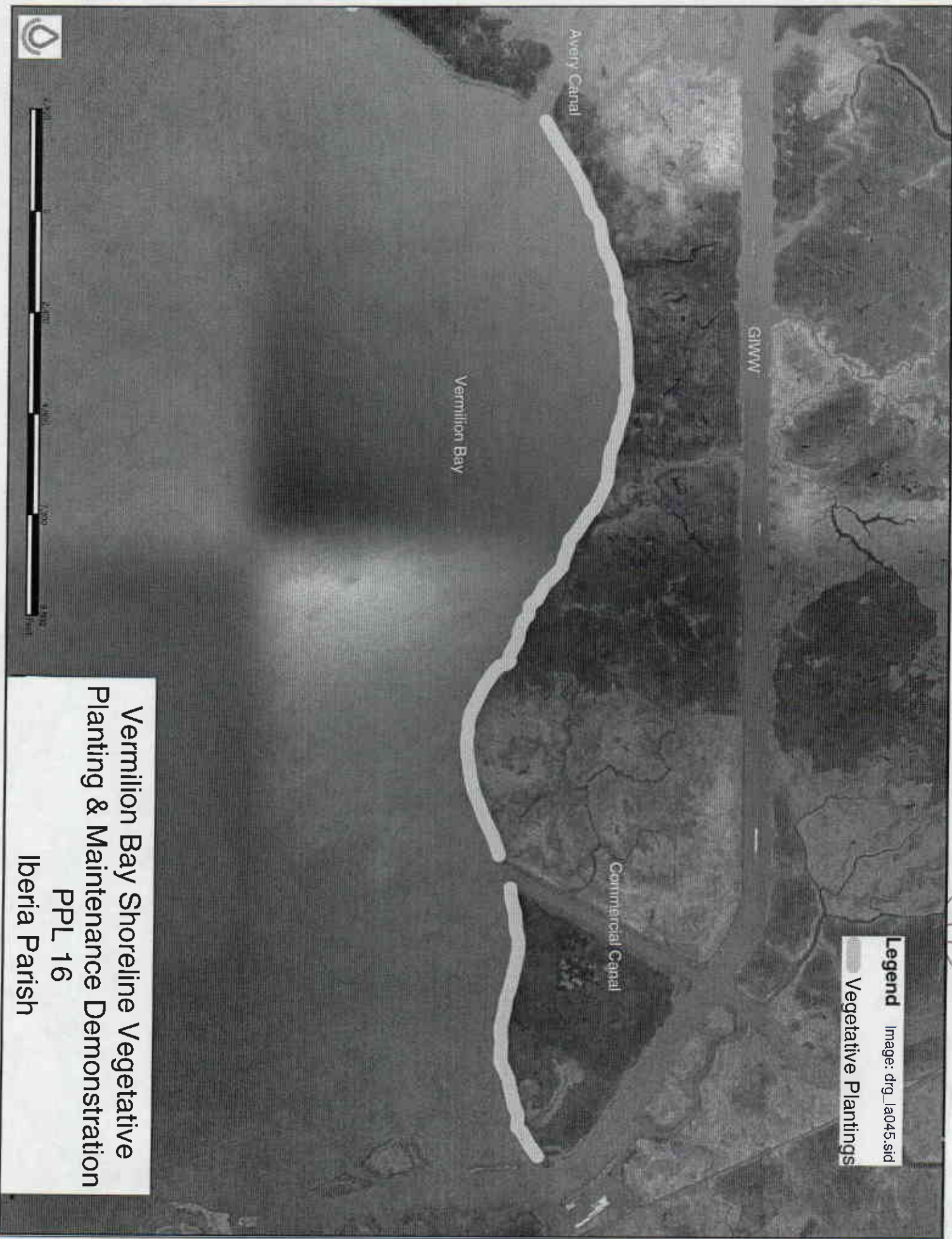


R3-TV-#5

Meeteetse

(1/1/06)

Legend Image: drg_la045.sid
Vegetative Plantings



Vermilion Bay Shoreline Vegetative
Planting & Maintenance Demonstration
PPL 16
Iberia Parish

Region 3 – Atchafalaya Basin

Proposed Project #1

Atchafalaya Bay Natural Reef Restoration Project

No Handouts Provided

Region 3 – Atchafalaya Basin

Proposed Project #2

Beneficial Use of Atchafalaya River Maintenance Dredging Project

No Handouts Provided

Region 3 – Atchafalaya Basin

Proposed Project #3

Shoreline Protection of Critical Areas along Bayou Chene Project

This project has been moved to the Terrebonne Basin, Project #9

Region 3 – Atchafalaya Basin

Proposed Project #4

Point Chevreuil Shoreline Protection Project

PPL16 PROJECT NOMINEE FACT SHEET

January 11, 2006

Atch (#4)

Project Name

Point Chevreuil Shoreline Protection

Project Location

The project is located in Region 3, Atchafalaya River Basin, St. Mary Parish, along the southeastern shoreline of East Cote Blanche Bay, around Point Chevreuil, and the northwestern shoreline of Atchafalaya Bay.

Coast 2050 Strategy

Regional: #10. Protect, restore and maintain ridge functions; #11. Maintain shoreline integrity and stabilize critical shoreline areas.

Coastwide: Maintenance of gulf, bay and lake shoreline integrity; maintain, protect or restore ridge functions.

Mapping Unit: East Cote Blanche Bay (73) - Protect Bay/Lake Shorelines
Wax Lake Wetlands (60) - Protect Bay/Lake Shorelines

Problem

Eroding shoreline caused by the open water fetch and resulting wave energy from East Cote Blanche and Atchafalaya Bays. The retreating shoreline has resulted in a substantial loss of emergent wetlands and critical habitat used by a multitude of wildlife and fish species. Project features will protect the natural ridge functions of the Bayou Sale Ridge and protect the adjacent marshes. Shoreline erosion rates have been estimated at 13.5 LF/year (USGS 2003).

Proposed Project Features

Construction of a foreshore rock dike or rock revetment parallel to the existing eastern shoreline of East Cote Blanche Bay, from Bayou Sale southward to Point Chevreuil and the northern shoreline of Atchafalaya Bay from Point Chevreuil eastward to an underground pipeline crossing. The linear footage of shoreline is approximately 20,000 linear feet (~3.8 miles). It is possible that marsh can be created with the fill material from dredging of an access channel to accommodate construction equipment, where needed. This created area will be from the existing shoreline out to the rock dike.

Goals

Reduce and/or reverse shoreline erosion rates and protect natural ridge and marsh habitat at well as maintaining the existing hydrology of the area by preventing the Atchafalaya Bay shoreline from intercepting an oilfield and pipeline canal. The ridge and marsh area provides important habitat for black bears, neo-tropical migrants, wintering migratory waterfowl, etc.

Preliminary Project Benefits

The project is anticipated to directly protect approximately 124 acres of forested wetlands and intermediate marshes by reducing the current erosion rate of 13.5 ft/yr by 75-100%. Project features will provide protection to and maintain the small remnant of natural ridge/chenier function that currently exists along the eastern bank of the once-defined Bayou Sale channel. The project will also have an important synergistic effect with the TV-20 Bayou Sale CWPPRA-approved Project by extending similar benefits to the southern most extent of the East Cote Blanche Bay shoreline.

Identification of Potential Issues

No significant potential issues are expected from project implementation. Adjacent landowners are in full support of the project.

Preliminary Construction Costs

The construction cost plus contingencies for this project is approximately \$10,000,000.

Preparer of Fact Sheet

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Point Chevreuil Shoreline Protection St Mary Parish, Louisiana



Region 3 – Atchafalaya Basin

Proposed Project #5

Deer Island Pass Re-Alignment Project

PPL16 PROJECT NOMINEE FACT SHEET
January 19, 2006

Project Name

Deer Island Pass Re-Alignment Project

Coast 2050 Strategy

Regional Strategy # 2 – Increase deltaic land building where feasible

Regional Strategy # 8 – Dedicated dredging and/or beneficial use of sediment for marsh building

Project Location

Northern portion of the Lower Atchafalaya River Delta near the mouth of Deer Island Bayou

Problem

The proposed marsh creation aspect of the project would help to reduce shoreline erosion along the Lower Atchafalaya River. The proposed dredging would increase delta growth in the extreme northeast corner of Atchafalaya Bay. This in turn would decrease shore erosion rates along that section of Bay shoreline.

A GIS comparison of 1998 and 2004 shoreline positions reveals that along the Lower Atchafalaya River, erosion rates during that period have ranged from 5 feet per year to a maximum of 16 feet per year. Along the northeast shore of Atchafalaya Bay, shoreline erosion rates vary with location. Maximum erosion rates are approximately 5 feet per year.

Proposed Project Features

The proposed project consists of dredging a 5,280-foot-long, 280-foot-wide, and 12-foot-deep channel across the shallow flat at the mouth of Deer Island Bayou to improve water and sediment flow into northeast Atchafalaya Bay through the existing Deer Island Pass. Dredged material would be placed along the east shore of the Lower Atchafalaya River to reduce shoreline erosion and to create a protected backwater area. The exterior face of that marsh creation area may require rip-rap to protect it against erosion from boat wakes. Exact size and depth of the channel would be determined with the aid of hydrologic modeling. Maintenance dredging of the pass would be included as project maintenance activity.

Goals

The project would hopefully accelerate deltaic land-building in the northeast portion of Atchafalaya Bay and reduce shoreline erosion there and along portions of the Lower Atchafalaya River shoreline. Additionally, the project would create roughly 30 acres of marsh with the dredged material (a more exact estimate would be made later after modeling and engineering).

Preliminary Project Benefits

- 1) The total acreage created would be approximately 30 acres of marsh creation. Reduced shoreline erosion would result in additional direct benefits.
- 2) Indirect benefits would occur through increased delta growth. Modeling would be used to estimate those benefits.
- 3) The project would help to protect structural components of the coastal ecosystem such as the natural rim of Atchafalaya Bay.
- 4) The project would not protect critical or non-critical infrastructure, however, if successful, it would help to impede northward transmission of storm surge.

5) The proposed project would provide a synergistic effect with other beneficial use of dredged material projects in the area by accelerating deltaic growth which would reduce physical erosion of those existing marsh creation areas. Otherwise, there are no nearby protection/restoration projects in that portion of the Lower Atchafalaya River Delta with which the proposed project would interact.

Identification of Potential Issues

The greatest potential difficulty associated with the proposed project would be induced sedimentation of the Corps of Engineers' navigation channel. That issue would be resolved through hydrologic modeling and associated consultations with the Corps, as previously done when engineering other CWPPRA projects within the Lower Atchafalaya River Delta.

Preliminary Construction Costs

Conservative estimates place construction costs at approximately \$3.0M or less. That estimate may change, depending on engineering recommendations regarding the size of the proposed channel. The above preliminary estimate was based on dredging 500 cyds at \$3/cyd.

Preparer of Fact Sheet

Ronald Paille, U.S. Fish and Wildlife Service

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Email: Ronald_Paille@FWS.GOV

atch #5

Deer Island Pass Re-Alingment Project

Channel Markers

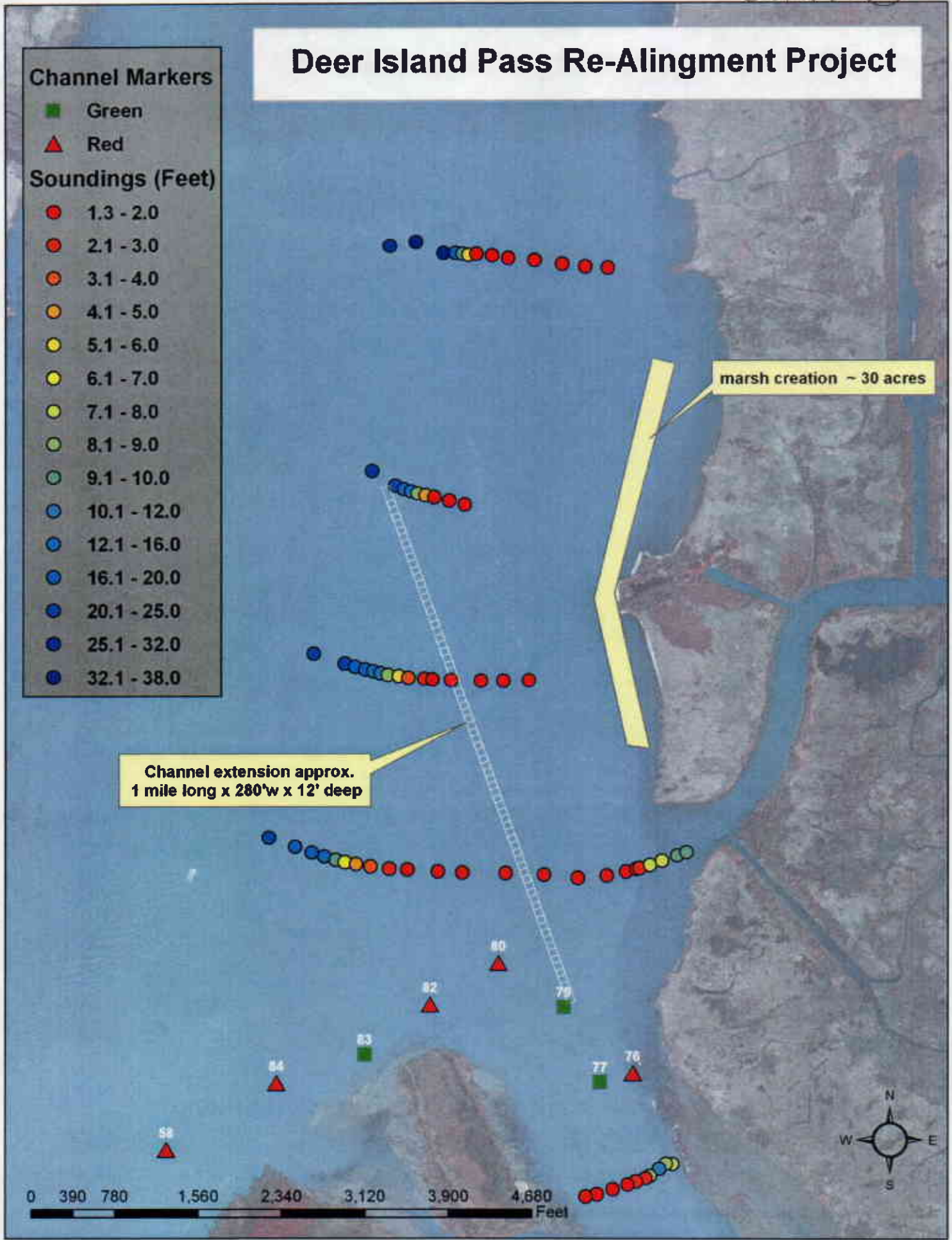
- Green
- ▲ Red

Soundings (Feet)

- 1.3 - 2.0
- 2.1 - 3.0
- 3.1 - 4.0
- 4.1 - 5.0
- 5.1 - 6.0
- 6.1 - 7.0
- 7.1 - 8.0
- 8.1 - 9.0
- 9.1 - 10.0
- 10.1 - 12.0
- 12.1 - 16.0
- 16.1 - 20.0
- 20.1 - 25.0
- 25.1 - 32.0
- 32.1 - 38.0

Channel extension approx.
1 mile long x 280'w x 12' deep

marsh creation ~ 30 acres



Region 3 – Terrebonne Basin

Proposed Project #1

East Timbalier Island (Eastern Section) Restoration – Phase I Project

PPL 16 Project Nominee Fact Sheet
Nominated on:1/11/2006

Project Name: East Timbalier Island (Eastern Section) Restoration-Phase1

Coast 2050 Strategies:

Coastwide: - Beneficial use of dredged material; Dedicated dredging.

Regional Strategy: #12 (Protect Bay/Lake Shorelines) Restore/maintain barrier headlands, islands, and shorelines

Mapping Unit Strategy: Timbalier Island Shorelines (Mapping Unit): 17. Protect Bay/Gulf Shorelines; 18. Beneficial use of dredge material (Fill abandoned Canals)

Project Location:

Region 3. The project is located in Lafourche Parish, Louisiana on East Timbalier Island. The island is part of a barrier island chain that separates Terrebonne and Timbalier Bays from the Gulf of Mexico.

Problem:

Prior to the TE-30 Project (proposed in 1994), "East Timbalier Island Sediment Restoration", the remnants of the island were expected to disintegrate within 11 years - losing an average of 70 feet/yr. The island experienced one of the highest gulf coast erosion rates in Louisiana in the last century. As a barrier island, East Timbalier not only protects Louisiana's coast from hurricanes and storm surges but also lessens the erosive forces of high wave action from the Gulf of Mexico.

Hurricane Katrina impacted and eroded the eastern part of the Timbalier Island. It is necessary to restore the island to insure protection of interior marshes and human habitat from hurricanes force winds, storm surges, and erosion. Oil and gas facilities and associated infrastructure, which exist on the island, are now exposed to the Gulf.

Proposed Project Features:

- Rocks will be salvaged from existing rock dikes along the southern boundary of the island. These salvaged rocks will be reshaped into segmented breakwaters (~2,400 lf).
- Hydraulically dredged sand will be deposited behind the segmented breakwaters to create supratidal features (+2 feet to +5 ft) (Approximately 4,300 lf long and 800 lf wide).
- Bay Intertidal Marsh Platform (0 ft to +2 ft) will be created on the bay side down slope (approximately 3,200 lf long and 800 lf wide).
- Vegetative planting will be carried out for barrier island and marsh platform habitat.
- Fences will be constructed in two phases along the island to promote dune formation and stabilization

Goals:

The goal is to repair, reestablish, and reinforce the historic barrier separating the bay from the gulf, thereby adding protection to interior areas.

Preliminary Project Benefits:

- Barrier shoreline restoration
- Barrier island habitat restoration
- Marsh habitat restoration
- Marsh nourishment

Identification of Potential Issues: None Identified

Project Cost: Construction Cost - **\$9,024,000.00** (including 25% contingency)
Fully Funded: **\$16,243,200.00** (a factor of 1.8 was applied to the construction cost)

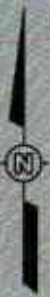
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The Woodlands, Texas 77380

OFFICE: HOUMA
 DRAWN BY: C.Liner
 CHECKED BY: M. Merion
 APPROVED BY:
 DRAWING NUMBER: post_katrina_comparison.dwg



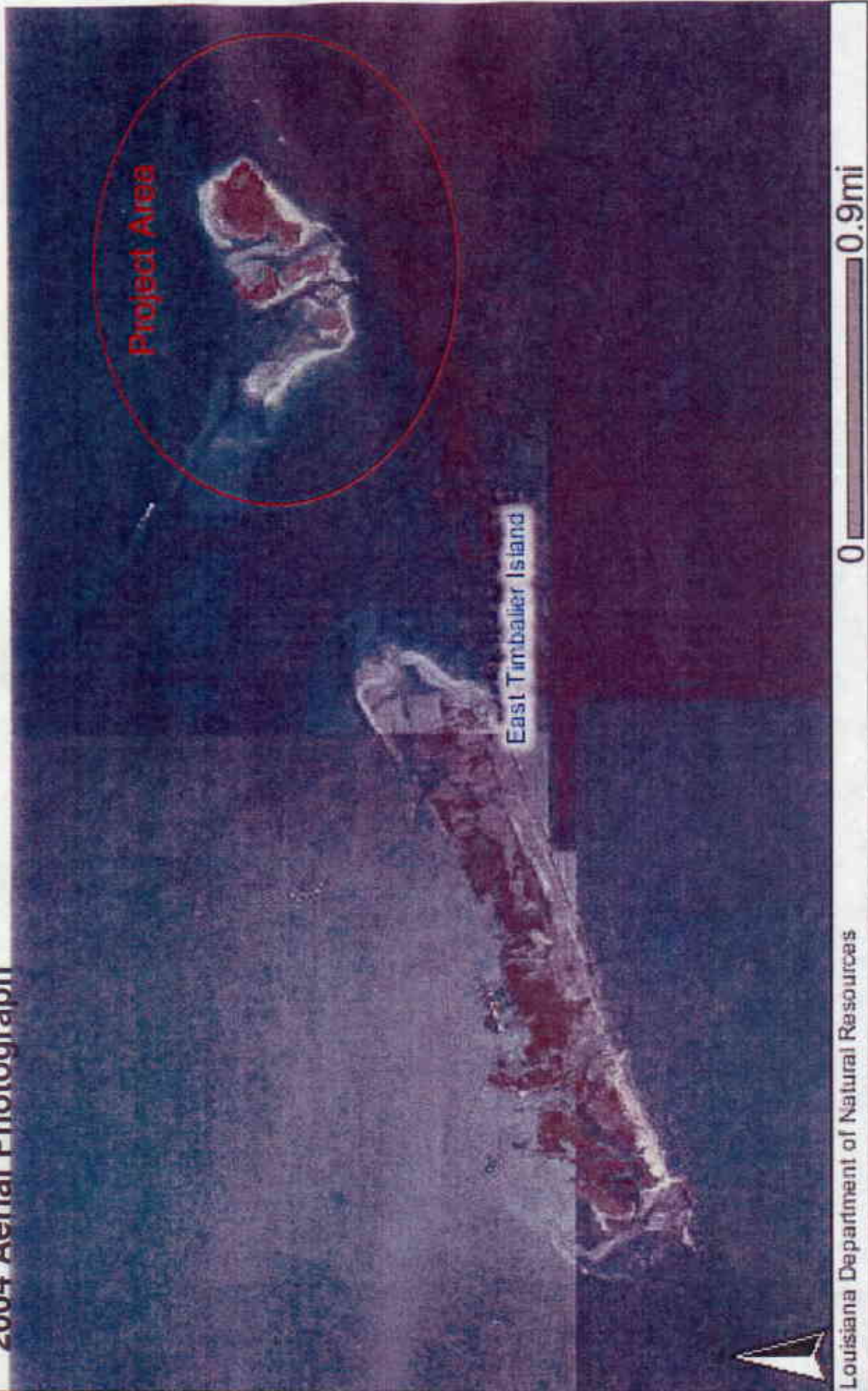
- LEGEND**
- PROPOSED SEGMENTED BREAKWATERS
 - 2004 SHORELINE
 - PROPOSED MARSH PLATFORM (BAY INTERTIDAL)
 - PROPOSED DREDGED SAND (SUPRATIDAL)



REFERENCE: 2004 Canine Gulf Coast area (Post Hurricane Katrina) island size imagery obtained from www.fccost.gov

	<p>CWPPRA PPL 16</p> <p>Maritech Resources, Inc.</p>
	<p>EAST TIMBALIER ISLAND (EAST SECTION) RESTORATION - PHASE 1</p> <p>Lafourche Parish, Louisiana</p>

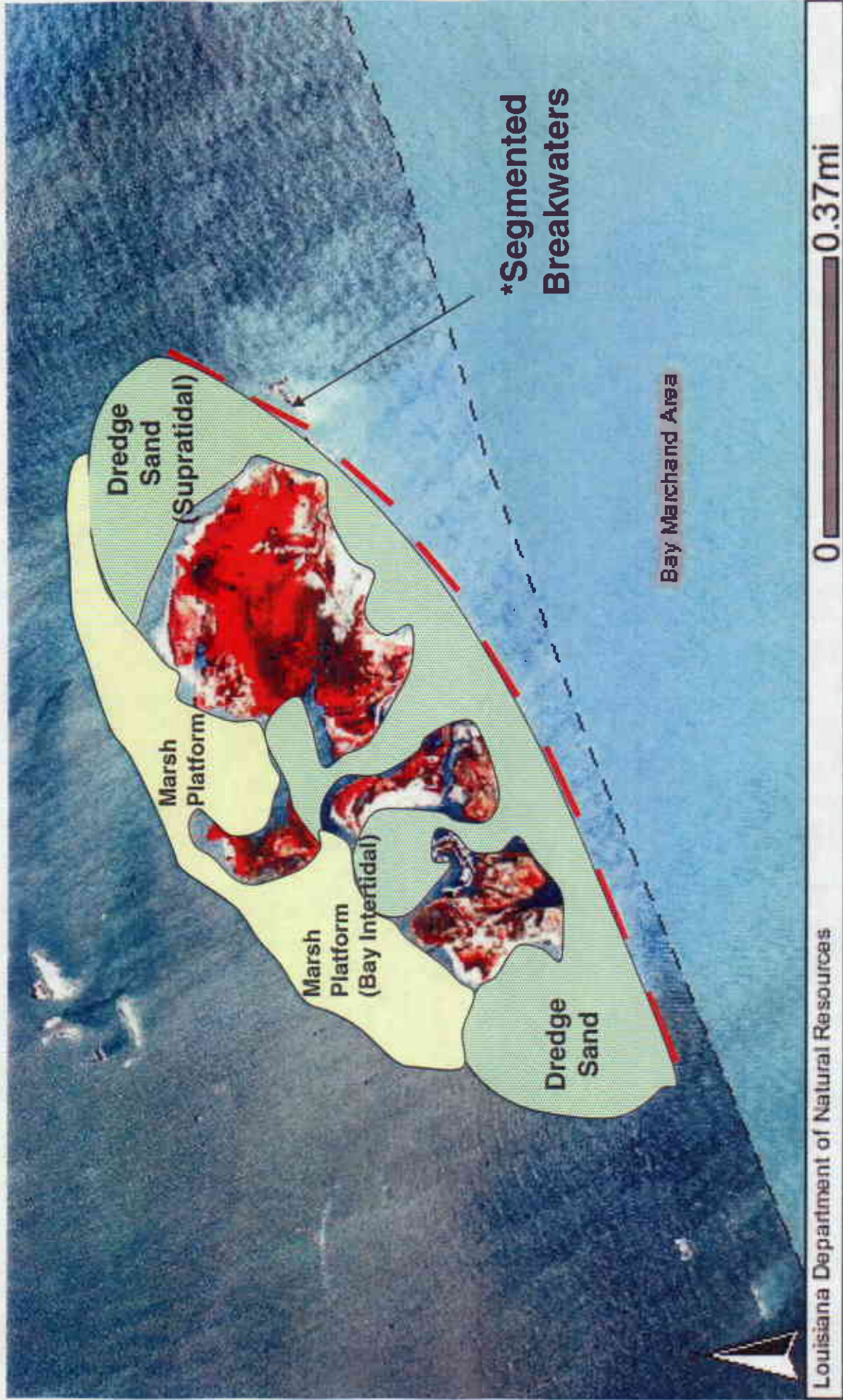
East Timbalier Island (Eastern Section) Restoration-Phase 1 2004 Aerial Photograph



Louisiana Department of Natural Resources

0 0.9mi

East Timbalier Island (Eastern Section) Restoration – Preliminary Plan-Phase 1 2004 Aerial Photograph



*Segmented breakwaters built from salvaged rock from existing rock dike.

Region 3 – Terrebonne Basin

Proposed Project #2

Madison Bay Marsh Creation and Terracing Project

PPL16 PROJECT NOMINEE FACT SHEET
January 10, 2006

Project Name:

Madison Bay Marsh Creation and Terracing

Coast 2050 Strategies:

Coastwide

-Terracing and Dedicated Dredging, to Create, Restore, or Protect Wetlands

Regional

- Dedicated delivery and/or beneficial use of sediment for marsh building by any feasible means

Montegut Mapping Unit

- Establish and Protect Ridge Function and Beneficial Use of Dredged Material

Project Location:

Region 3, Terrebonne Basin, Montegut Mapping Unit, Madison Bay, northeast and southeast of Madison Canal

Problem:

The Madison Bay area has experienced tremendous wetland loss due to a variety of forces including subsidence, salt water intrusion, a lack of sediment supply, and oil and gas activities. The loss of these brackish marshes has exposed significant infrastructure to open water conditions. The loss rate for the area is -1.3%/yr based on USGS 1978 to 2000. The Montegut mapping unit has a 1.1 to 2.0 ft/century subsidence rate. Loss rates based on newer analyses of both aerial infrared photography and satellite imagery and evaluation of sediment cores support rapid loss predominantly caused by subsidence. Morton et al. 2002 theorizes that fluid withdrawal has contributed to the subsidence. With high wetland loss in the vicinity, the Montegut levee has become more susceptible to breaching as has occurred during Hurricanes Lili and Rita in 2002 and 2005, respectively

Proposed Project Features:

The project consists of both marsh creation and terracing by dedicated dredging to create habitat and provide buffer protection to the existing Montegut Levee and planned Reach I Levee of the Morganza to the Gulf Hurricane Protection Project. Approximately 395 acres of marsh would be created. Two terrace fields would be constructed one with 25,500 feet of terraces north of Madison Bay the other with 22,500 feet of terraces along Bayou Terrebonne. Larger terraces would be constructed on open water sides of the terrace field to maximize their longevity. Two potential channel constrictions may be constructed in existing channels connecting with Humble Canal. Sediment would be mined from open water in Madison Bay. If the project is selected as a candidate, nourishment of existing marsh also would be considered.

Goals:

Project goals include the creation and nourishment of intertidal brackish marsh and edge habitat and protection of existing and planned future flood and hurricane protection levees and associated property in the nearby vicinity with marsh buffers similar to that which historically existed. Additionally, the backside of eastern bankline of Bayou Terrebonne would be protected to maintain the bayou structural framework and hydrology.

Preliminary Project Benefits:

1) What is the total acreage benefited both directly and indirectly?

Approximately 395 acres of brackish marsh would be created. An additional 28 acres of brackish marsh would be created with the terraces. Additional 12 acres of marsh benefit would be derived from reducing shoreline erosion of existing marsh. There would be direct and indirect benefit to 9,800 acres of marsh and open water habitat within the marsh creation areas, terrace field, existing areas (i.e., project area).

2) How many acres of wetlands will be protected/created over the project life?

- Assume terraces are lost at half the background rate (i.e., -0.65%/yr)
- Assume a 1/3 reduction in the background for stopping shoreline erosion (i.e., 0.87%/yr), based on Morton et al. 2005, determination that 2/3 of the loss is attributed to subsidence
- Assume a 50% reduction of the background rate applied to the marsh creation and nourishment areas

385 acres would be protected/created over the project life (i.e., TY20 net after applying the above assumptions)

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%)? Based on a weighted application of the above assumptions the loss rate reduction would be 25-49%.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.?

Yes, the project would re-establish and preserve the natural lake rims of Madison Bay. The project would also maintain the structural framework function of the Bayou Terrebonne Ridge by preventing further breaching through reduction in wave energy.

5) What is the net impact of the project on critical and non-critical infrastructure?

The project would provide substantial protection to critical infrastructure along Bayou Terrebonne and Montegut primarily including an existing and future levee system. Moderate benefits would be provided to a pump station, a state highway, a municipal water line and an oil and gas facility.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

There are not other projects in the immediate vicinity to provide for a synergistic effect. The absence of other such projects and the substantial amount of wetland loss that has occurred makes this an area of high need.

Identification of Potential Issues:

There are oyster leases within the project area. There are pipelines in the project vicinity that would have to be avoided with construction alignments or adoption of strategic designs and contract specifications. Project features have been refined to target shallow water areas only for terracing and now include substantial marsh creation to maximize habitat creation.

Preliminary Construction Costs:

The estimated construction cost including 25% contingency is \$14,622,465.

Preparers of Fact Sheet:

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Patrick Williams, NMFS, 225-389-0508, ext 208, patrick.Williams@noaa.gov

	Acres	FWOP Loss Rate	FWOP TY20	FWP Loss Rate	FWP TY20
Marsh Creation (site 1)	250			0.65	219
Marsh Creation (site 2)	145			0.65	127
Terracing	28			0.87	24
Existing (site 1)	75	1.3	58	0.87	63
Existing (site 2)	145	1.3	112	0.87	122
total	643		170		555
TY20 net	385				

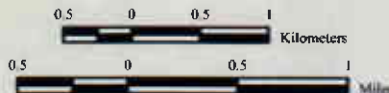


Madison Bay Marsh Creation and Terracing (PPL16 Project Nominee)



- Potential Channel Constrictions *
- ▨ Terracing *
- ▨ Marsh Creation *

* denotes proposed features



Scale 1:52,500

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Map ID: USGS-NWRC 2006-11-0033
Map Date: December 28, 2005

Image Source:
2004 Digital Orthophoto Quarter Quadrangle

Region 3 – Terrebonne Basin

Proposed Project #3

Falgout Canal Freshwater Enhancement Project

PPL16 PROJECT NOMINEE FACT SHEET
1/11/2006

Project Name

Falgout Canal Freshwater Enhancement Project

Coast 2050 Strategy

Region 3, Strategy 5: Enhance Atchafalaya River water influence to central Terrebonne marshes (Bayou Delarge to Bayou Terrebonne).

Project Location

Region 3, Terrebonne Basin, Terrebonne Parish, Marshes adjacent to Falgout Canal between Bayou Dularge and Houma Navigation Canal.

Problem

The marshes located in the project area have been hydrologically isolated from southward movement of fresh water by construction of various local barriers including navigation channels, such as the Houma Navigation Canal (HNC) and the Falgout Canal, and roadways, such as the Bayou Gillaume Road, and Falgout Canal Road. Because of these current and historic barriers, the prevailing hydrologic influence is confined to northerly tidal flows, which has resulted in elevated salinity and land loss in historically fresh and intermediate marshes. The mapping of O'Neil (1949) shows the project area as floating three-corner grass marsh with possibly some brackish three-corner grass marsh at the southern extent. Floating three-corner grass marsh is distinct from floating fresh marsh in O'Neil's map indicating that by 1949 project area was no longer dominated by fresh conditions.

The project would expand the zone of Atchafalaya beneficial influence by modifying water flow patterns to include these areas of need. The marshes are expected to benefit from reduced salinity and increased nutrients and sediment.

Proposed Project Features

The project would include construction/modification of structure at a site located on the HNC north of the Falgout Canal to increase freshwater flow to marshes north of Falgout Canal and to create freshwater plume to benefit marshes south of the canal. Three sets of six 36" culverts would be installed through the road separating the Falgout Canal from the marshes to the south to introduce freshwater nutrients and sediment. Approximately 50,000 linear feet of earthen terraces would be constructed in the broad shallow open water to facilitate marsh development.

Goals

The project will increase north to south flow in which the benefits of increasing freshwater, nutrients and sediment derived from the Atchafalaya River can be extended to marshes that have suffered due to hydrologic isolation and salinity intrusion. The project will also facilitate creation of new marsh by terracing large shallow open water areas receiving new freshwater flow.

Preliminary Project Benefits

Approximately 5000 acres of existing marsh can be expected to benefit from the project freshwater flow enhancements. Much of the project area has degraded to open water and with terracing and the benefits of freshwater introduction and additional 4000 acres of marsh can be

expected to benefit over the project life. The 50,000 linear feet of terracing will create approximately 75 acres of new marsh. Because the southern area of the project has already converted to nearly complete open water the project should offset any further loss and through terracing result in a net gain to the area. Land loss is expected to be offset greatly in the northern area of the project area as a result of improved freshwater flow.

Identification of Potential Issues

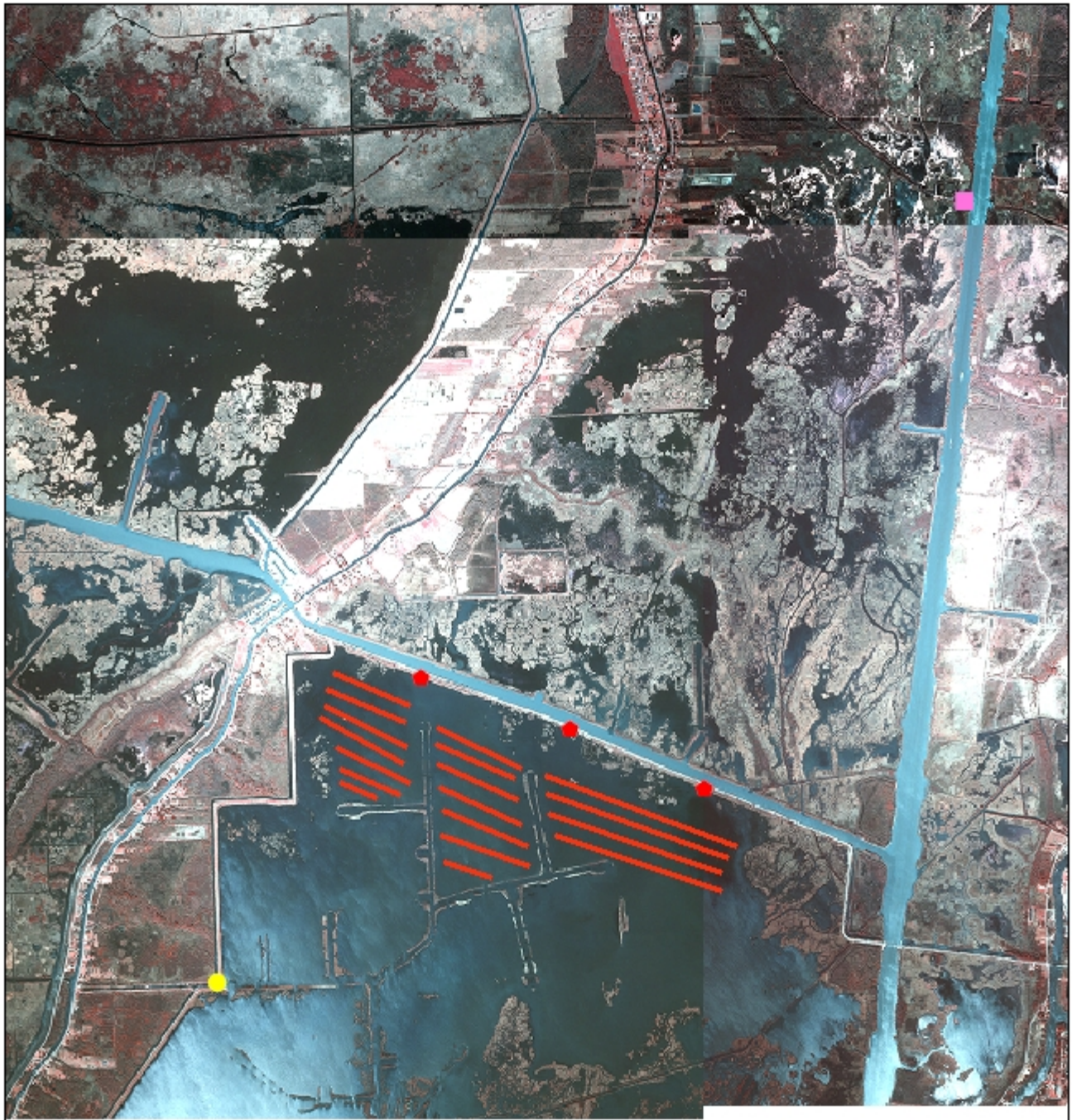
The proposed project has the following potential issues: Landrights and O&M.

Preliminary Construction Costs

\$3.75 million

Preparer of Fact Sheet

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov



Legend

- Culvert
- Pump_Modification
- Structure_Modification
- ▬ Terraces

Falgout Canal
Freshwater Introduction/Enhancement
Terrebonne Parish, LA
PPL-16



Region 3 – Terrebonne Basin

Proposed Project #4

West Belle Pass Barrier Headland Restoration Project

R3 - Dem #4

PPL-16 Project Nominee Fact Sheet
January 11, 2006

Project Name:

West Belle Pass Barrier Headland Restoration

Coast 2050 Strategy:

Coastwide strategy: Dedicated dredging to create, restore, or protect wetlands
Regional Strategy 12: Restore/maintain barrier islands

Project Location:

Region 3. Terrebonne Basin, Lafourche Parish. The area extends from the west side of West Belle Pass to the end of that barrier headland, and includes the shallow open water to the west of the pass.

Problem:

The Caminada-Moreau headland experiences some of the highest shoreline retreat rates in the nation. Shoreline retreat rates immediately west of West Belle Pass have been estimated to range from a long-term rate of 82 feet per year from 1887 to 1992, to a short-term rate of 21 feet per year from 1988 to 2002 (Pontchartrain Institute for Environmental Science). In some areas of the Fourchon mapping unit, gulf erosion rates are as high as 100 feet per year (Coast 2050 study). The process of shoreline erosion of the Caminada-Moreau headland results in the net loss of material from the area mainly caused by lateral and offshore sediment transport. Only small portions of the material eroded from the shoreface are conserved within the system by landward transport and deposition through overwash (Williams et al. 1992). Consequently, the shoreface is eroding rather than undergoing landward retreat, and is not maintaining a back-barrier platform to support continued landward migration. Interior saline marshes of the Timbalier Islands Shoreline mapping unit experience a high subsidence rate (2.1 to 3.5 feet per century) and also suffer from storms and cold front passages (Coast 2050 plan). This area was significantly eroded by the passing of Hurricanes Katrina and Rita, which removed almost all the subaerial headland west of Belle Pass. Removal of this storm buffer further threatens the southwestern perimeter of Port Fourchon and surrounding areas.

Proposed Project Features:

Project features include reestablishing 2.7 miles of beach and dune habitat and 500 acres of intertidal marsh via dedicated dredging of 2.8 M cubic yards of near-shore material. The preliminary dimensions are 500 foot width of beach/dune habitat to 1,000 foot width of marsh habitat for a distance of 2.7 miles. Dune material will be pumped to +6 ft NAVD88 and marsh will be created at high marsh elevation which will consolidate to intertidal elevations. Although the storms removed most of the subaerial material from the headland, there remains a shoal on which to rebuild the shoreline. Following consolidation of the material, 50,000 plugs of dune and marsh vegetation will be installed to help secure the sediments and boost vegetative colonization. By reestablishing the barrier headland, it is anticipated that some land loss reduction will occur (25-50%) within interior marshes that are no longer directly exposed to the gulf. This project will restore the barrier headland function of this shoreline and help maintain a back-barrier platform to support continued landward migration. Moreover, these marshes provide much needed refuge to the many oil and gas facilities located within the area.

Goals:

1. Create approximately 165 acres of dune and beach habitat, and 335 acres of saline marsh.
2. Reestablish the barrier headland and back-beach platform west of West Belle Pass in order to sustain the function of the barrier headland in terms of habitat and storm protection.

3. Reduce erosion of adjacent interior marshes.

Preliminary Project Benefits:

- 1) What is the total acreage benefited both directly and indirectly?
1,000 acres total benefit with 500 acres directly reestablished, including 2.7 miles of barrier shoreline
- 2) How many acres of wetlands will be protected/created over the project life?
385 acres total - 95 acres of the existing interior marsh protected, and 290 acres of the created dune and marsh created at the end of twenty years
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?
It is anticipated that the loss rate of the adjacent interior marsh would be reduced by 25-49%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.
This project will restore a barrier headland/beach that has been completely eroded by the passing of Hurricanes Katrina and Rita. Through this project, the barrier headland west of West Belle Pass will be reconstructed, thus reestablishing marine habitat, reducing wave energy entering Timbalier Bay, and providing storm protection to the west side of Port Fourchon.
- 5) What is the net impact of the project on critical and non-critical infrastructure?
This project will provide direct storm protection to Port Fourchon and several oil fields and pipelines in the vicinity. For this reason, it is expected that this project will have a net positive impact on critical infrastructure.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
This project contributes to the Coast 2050 and LCA objective to restore/maintain the barrier island chain. Construction of this project also compliments the TE-23 West Belle Pass project which is located immediately east of this project area, and also provides storm protection to Port Fourchon. By reestablishing this barrier headland, it reduces wave and tidal energy entering east Timbalier Bay, and helps complete the goal of maintaining barrier islands/headlands as a form of first defense against storms and gulf encroachment.

Identification of Potential Issues:

There are some pipelines in the area that will require project coordination with the pipeline owners. There are no known state-issued oyster leases in the immediate project area. The project is supported by the major landowner and parish, and no major landright issues are anticipated.

Preliminary Construction Costs:

Preliminary construction cost estimate is \$13,837,500. This includes construction, mobilization, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet:


Cheryl Brodnax, NOAA NMFS
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Timbalier Bay



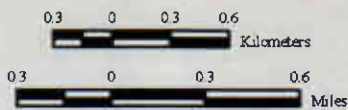
West Belle Pass Headland Restoration



 Dune/Beach Fill *

 Marsh Creation *

* denotes proposed features



Scale 1:38,700

Map Produced By:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, LA

Image Source:
 October 25, 2005 Thematic Mapper Imagery

Map ID: USGS-NWRC 2006-11-0032
 Map Date: December 28, 2005

Project:	West Belle Pass Barrier Headland Restoration	Date:	11-Jan-06	Revised:	
Computed by:	Cheryl Brodnax	<i>Project Priority List 16 Nominee</i>			
Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$750,000	\$750,000
2	Marsh Creation	1,850,000	CY	\$3.00	\$5,550,000
3	Beach/Dune Creation	924,000	CY	\$5.00	\$4,620,000
4	Vegetative Plantings	50,000	AC	\$3.00	\$150,000

ESTIMATED CONSTRUCTION COST

\$11,070,000

ESTIMATED CONSTRUCTION + 25% CONTINGENCY

\$13,837,500

Region 3 – Terrebonne Basin

Proposed Project #5

North Catfish Lake Landbridge and Shore Protection Project

R3-Gen (#5)

PPL16 PROJECT NOMINEE FACT SHEET

1/11/2006

Project Name

North Catfish Lake Landbridge and Shore Protection

Coast 2050 Strategy

Region 3, Strategy 10. Restore historic hydrologic conditions of major tidal exchange point or prevent adverse tidal exchange points between Gulf/lake, lake/marsh, Gulf/bay, and marsh navigation channel locations.

Project Location

Region 3, Terrebonne Basin, Lafourche, North shore of Catfish Lake and west to Bayou Point au Chien Ridge

Problem

The project will restore historic hydrologic conditions of major tidal exchange points and reduce the tidal prism that has increased dramatically as a result of large major navigation channel cuts and deterioration of the north shore of Catfish Lake. The project will reestablish a landbridge that will reduce salinity by decreasing predominate tidal influence from the south towards and increase in the overall freshwater influence of Grand Bayou Blue. The project will stop shoreline erosion along the north shore of Catfish Lake.

Proposed Project Features

The project will consist of creating a landbridge that extends from the north shore of Catfish Lake extending west towards the Bayou Point au Chien ridge, which delineates the Terrebonne/Lafourche Parish lines. The project will include shoreline protection features along the north shore of Catfish Lake, rock barge bays across two major (400' wide) navigation canals, and several plugs at various point to the west of the project extent. Marsh creation through either hydraulic dredging or through use of floatation channel material along the north shore protection feature in Catfish Lake.

Goals

The project will create a landbridge to reduce the overwhelming influence of tidal marine waters traversing the area through large navigation cuts and rapidly deteriorating marshes along the north lake rim. The project will reestablish a more historic hydraulic flow pattern by limiting main channel flow through Grand Bayou Blue and thus allow for enhanced freshwater influence of water moving from the GIWW into the area via Grand Bayou Blue.

Preliminary Project Benefits

The total acreage benefited, protected and/or created is undetermined at this time as well as the anticipated loss rate reduction. The project features are designed to restore historic flow patterns through natural bayous, restore ridge function where natural ridges have been breached or circumvented by navigation channels, and restore the lake rim of Catfish Lake. Through the improvement of a rapidly eroding lake rim and improvements to ridge function the project will serve to protect the adjacent Bayou Lafourche ridge east of the project area. Additionally, by reestablishing a landbridge between Bayou Lafourche and Bayou Point au Chien ridge the project will compliment the freshwater introduction modifications currently being planned for

Grand Bayou Blue by reducing the tidal prism from the south and increasing the effectiveness of the freshwater introduction.

Identification of Potential Issues

The proposed project has the following potential issues: oysters, land rights, O&M, utilities/pipelines.

Preliminary Construction Costs

\$8.5 million

Preparer of Fact Sheet

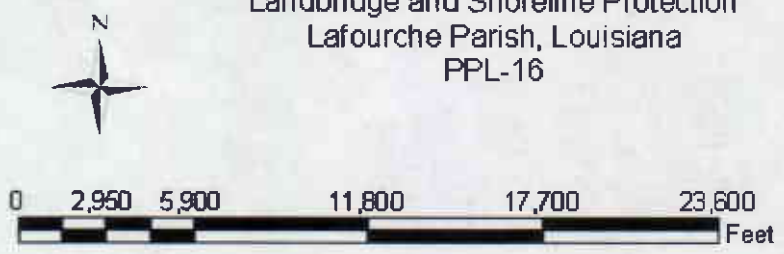
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov



Legend

- Rock_Lined_Barge_Bay
- Plug
- Shoreline_Protection

North Catfish Lake
Landbridge and Shoreline Protection
Lafourche Parish, Louisiana
PPL-16



Region 3 – Terrebonne Basin

Proposed Project #6

South Lake Boudreaux Landbridge Project

PPL16 CANDIDATE PROJECT FACT SHEET
January 2006

Project Name: South Lake Boudreaux Landbridge

Coast 2050 Strategy: Dedicated Dredging for Wetland Creation; Maintenance of Bay and Lake Shoreline Integrity

Project Location: Region 3; Terrebonne Basin; Terrebonne Parish; South shore of Lake Boudreaux south of Houma, Louisiana.

Problem: 1) The south bank of Lake Boudreaux has experienced high rates of erosion due to wind driven waves and high water. This project will halt or stop shoreline erosion. 2) The majority of the historical landbridge is gone which has increased Lake Boudreaux salinities via high saline waters from Robinson Canal.

Goals: 1) Halt shoreline erosion along the southern shoreline of Lake Boudreaux. 2) Create 231 acres of marsh and nourish 101 acres of marsh along the south shoreline of Lake Boudreaux. 3) Restore the hydrologic function of the historical landbridge between Lake Boudreaux and Lake Quitman. 4) Lower or stabilize salinities in Lake Boudreaux.

Proposed Solution: 1) Stop shoreline erosion through the constructing 16,700 linear feet of rock dike along the southern shoreline of Lake Boudreaux and creation of 1,000 feet of oyster reef along the southern portions of the created or nourished marshes. 2) Reduce water exchange between Lake Boudreaux and Lake Quitman through creation or nourishment of marshes along the southern shoreline of Lake Boudreaux through hydraulically dredging material from Lake Boudreaux. 3) Reduce the cross-section of the navigation channel connecting Lake Boudreaux and Lake Quitman.

Project Benefits: The project will result in lowering or stabilizing salinities within Lake Boudreaux. Low salinity and fresh marshes north of Lake Boudreaux should benefit from lower salinities. This project will also create and/or protect 266 acres of emergent marsh and enhance benefits associated with the West Lake Boudreaux and Lake Boudreaux Freshwater Introduction projects.

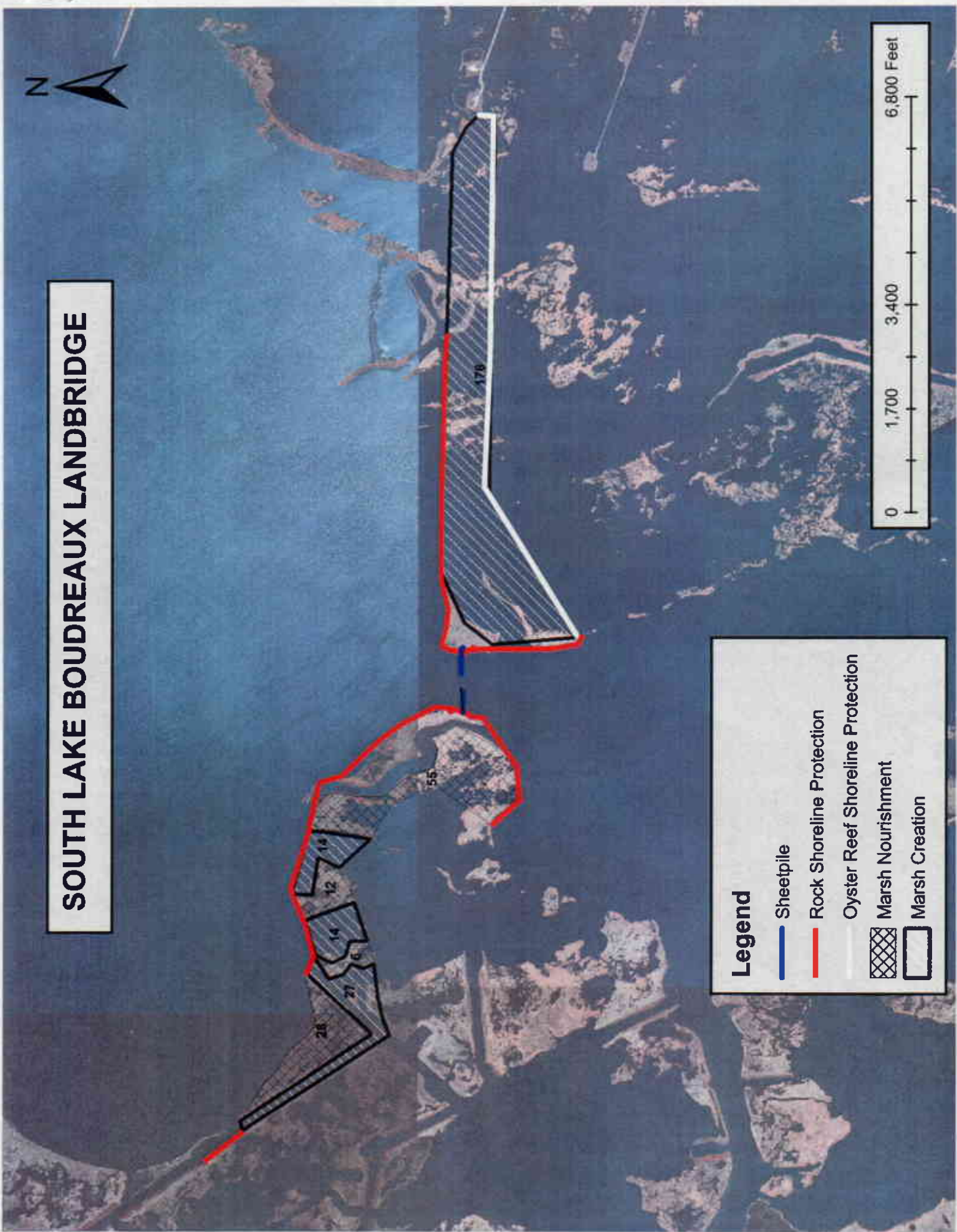
Project Cost: Mob/Demob-\$300,000; Marsh Creation-\$7,127,505; Marsh Nourishment-\$1,038,785; Containment Dike-\$500,000; Geotech Fabric-\$500,000; Rock Dike-\$4,995,200; Oyster Reef-\$500,000; Sheet piles- \$600,000
Total=\$15,561,490

Identification of Potential Issues: None

Sponsoring Agency and Contact Person:

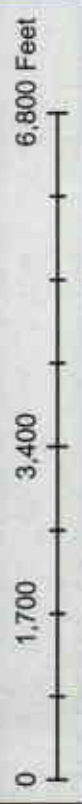
U.S. Fish and Wildlife Service-Robert Dubois (337-291-3127); robert_dubois@fws.gov

SOUTH LAKE BOUDREAUX LANDBRIDGE



Legend

- Sheetpile
- Rock Shoreline Protection
- Oyster Reef Shoreline Protection
- Marsh Nourishment
- Marsh Creation



Region 3 – Terrebonne Basin

Proposed Project #7

Beach and Back Barrier Marsh Restoration – East and Trinity Islands Project

PPL16 PROJECT NOMINEE FACT SHEET
Beach and Marsh Restoration East and Trinity Islands
9 January 2006
Prepared by EPA Region 6

Project Name and Number: Beach and Back Barrier Marsh Restoration – East and Trinity Islands, TE-XX

Coast 2050 Strategy: This proposed barrier island/marsh restoration project demonstrates one 2050 strategic goal – assure vertical accumulation to achieve sustainability; three coastwide common strategies: (restore/maintain barrier islands; maintain shoreline integrity; and utilize offshore sand and sediment resources); and one regional ecosystem strategy (construct interior islands and/or reefs to protect bay/lake shoreline and/or to restore hydrology, restore and maintain the barrier islands and Gulf shorelines such as Isle Dernieres, Timbalier barrier island chains, Marsh Island, Point au Fer and Cheniere au Tigre (including back barrier beaches).

Project Location: Coast 2050 Region 3, Terrebonne Basin, Terrebonne Parish. It is in the Terrebonne mapping unit. These two barrier islands are part of the Isles Dernieres and the project areas are located approximately 38 miles south of Houma, LA.

Problem: Barrier islands are the first line of defense against storm surge and protect the interior wetlands and infrastructure from open ocean wave effects. From 1887 to 2002 the documented shoreline change for East Island was a loss 17 of feet per year and Trinity Island lost 38.4 feet per year (Connor et al. 2004). A breach on the eastern end of East Island that developed in 2005, increased to approximately 4,000 feet due to Hurricanes Katrina and Rita. The 2003 CWPPRA Adaptive Management Assessment of Five Barrier Island Restoration Projects in Louisiana reviewed Raccoon Island (TE-29), Whiskey Island (TE-27), Trinity Island (TE-24), East Island (TE-20), and East Timbalier (TE-25/30). This report states, “hydraulic fill barrier island restoration projects were more effective in increasing the survivability of these islands than the use of hard structures” (Penland et al. 2003). Placement of beach compatible sand to compensate for a net deficit of sediment replicates the protective characteristics of natural beach and dune systems and benefits adjacent beaches (Campbell and Benedet 2004). Although the New Cut restoration (TE-37) CWPPRA project will begin construction this year, partial filling of the breach on the eastern end of East Island is a contracting additive alternate, and will be accomplished only if sufficient project funds are available. The TE-37 project does not provide for extensive beach and back barrier marsh restoration on the eastern end behind the breach, or for back barrier marsh and beach restoration on Trinity Island. This area sustains considerable wave action and material movement not only on the Gulf shore, but also on the backside of the island due to Wine Island Pass. Successful beach nourishment requires periodic construction to maintain a stable beach system for the long term (Campbell and Benedet 2004).

Proposed Project Features: Proposed project features consist of four components:

- unconfined placement of dredged material extending the width of the back barrier marsh of East Island by approximately 2,000 feet;
- unconfined placement of beach fill on East Island approximately 550 feet in width;
- unconfined placement of dredged material extending the width of the back barrier marsh of Trinity Island by approximately 2,000 feet; and
- unconfined placement of beach fill on Trinity Island approximately 550 feet in width.

The dredged material will be used to increase the width of the island in order to provide a suitable platform to work with the natural migration of the islands and create additional back barrier marsh. Substantial economic savings in engineering and design can result from utilizing the data gathered for the New Cut (TE-37) restoration project. For example, the Wine Island Pass offshore borrow area, the source recently identified for the New Cut Restoration (TE-37) has been characterized and sufficient and suitable material is available for this proposed project after completing the New Cut work. Approximately 5.4 MCY of material is available with only 2.5 MCY expected to be dredged in constructing TE-37. The wave modeling performed in association with the New Cut project is still applicable. Avoiding the geotechnical and modeling work is expected to save approximately \$500,000 in the engineering and design (Phase I) costs and more importantly, expedite project design efforts.

Goals: The overall project objectives are to fortify and extend the lives of these two barrier islands and capitalize on the success of previous CWPPRA barrier island restoration projects. Specific project goals are:

- 1) introduce new sediment into this sediment starved environment;
- 2) extend the lives of the barrier islands by increasing their width;
- 3) create approximately 533 acres of intertidal marsh using new dredged material (estimate based upon 100% of back marsh area);
- 4) provide a back barrier platform to enable successful island migration; and
- 5) protect the Terrebonne estuary and vegetated wetlands against the direct exposure to the Gulf of Mexico.

Preliminary Project Benefits:

- 1) The total acreage benefited is 533 acres of back marsh and 146 acres of beach front directly restored for a total of 679 acres.
- 2) This project maintains a critical barrier island habitat and structural component of the coastal ecosystem.
- 3) The project is expected to have a net positive impact on critical and non-critical infrastructure.
- 4) The project will provide synergistic effects with other CWPPRA completed restoration projects, namely:

- TE-20 Isles Dernieres restoration, East Island completed in 1999;
- TE-24 Isles Dernieres restoration Trinity Island completed in 1999; and
- TE-37 New Cut restoration, construction to begin Spring/Summer 2006.

Identification of Potential Issues: The proposed project has the following potential issues: land rights and oyster seed grounds.

Preliminary Project Costs: \$20,000,000

Fact Sheet Prepared by:

Patricia A. Taylor, P.E., EPA Region 6, (214) 665-6403

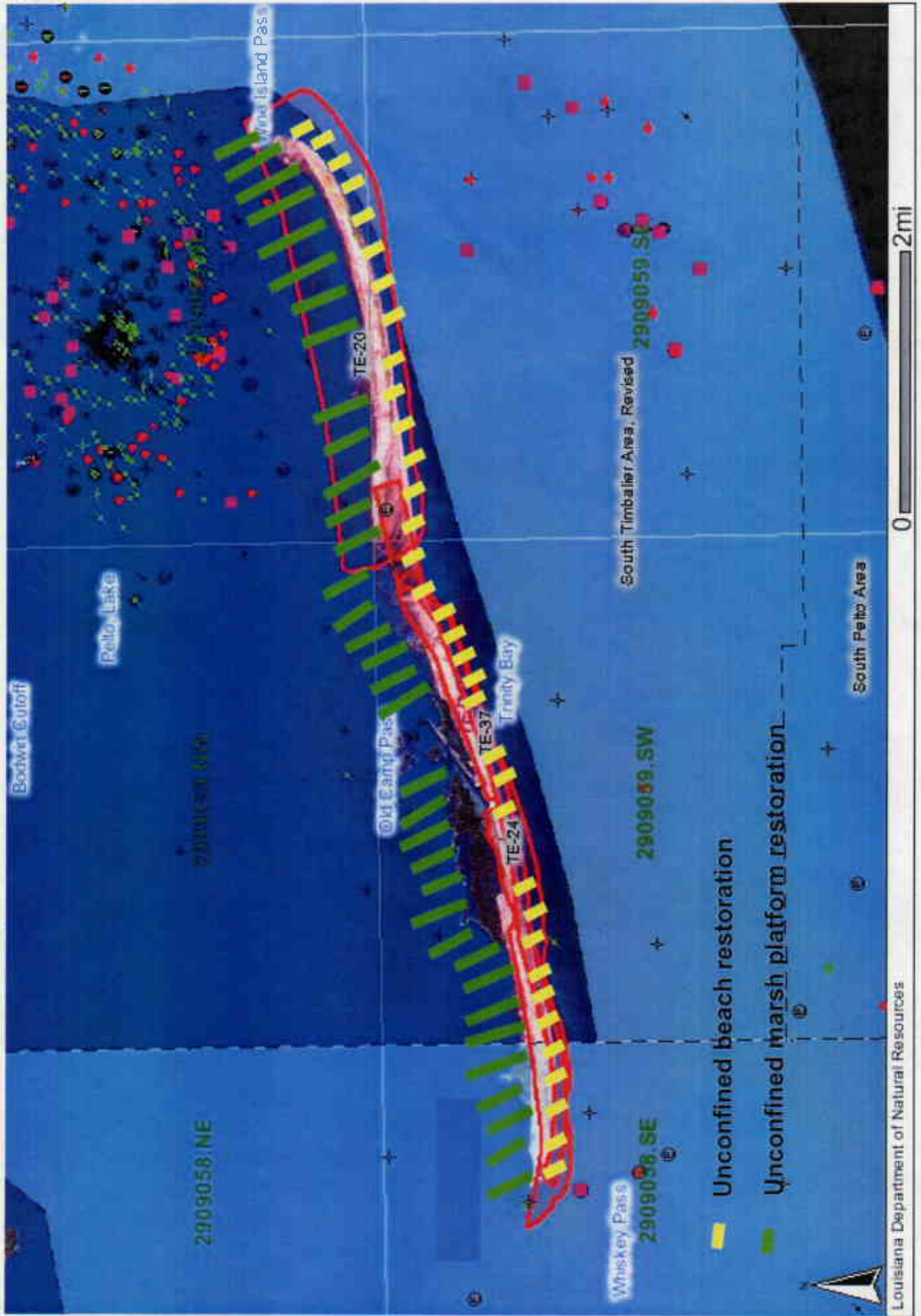
Kenneth Teague, EPA Region 6, (214) 665-6687

References:

(Campbell and Benedet 2004) Campbell, T.J. and L. Benedet. 2004. Beach Nourishment Magnitudes and Trends in the U.S. Journal of Coastal Research Special Issue 39. ICS 2004 Proceedings. ISSN 0749-0208.

(Connor et al. 2004) Connor, Jr., P.F.; S. Penland; A.D. Beall; M. A. Kulp; S. Fearnley, S. J. Williams; and A. H. Sallenger, Jr. 2004. Long-term Shoreline Change History of Louisiana's Gulf Shoreline: 1880's to 2002. Pontchartrain Institute for Environmental Sciences. PIES_CRL Technical Report Series 04001.

(Penland et al. 2003) Penland, S.; Conner, P.; Cretini, F.; and Westphal, K. (Penland et al.) (2003) CWPPRA Adaptive Management: Assessment of Five Barrier Island Restoration Projects in Louisiana. Pontchartrain Institute of Environmental Sciences, University of New Orleans, New Orleans, Louisiana.



Region 3 – Terrebonne Basin

Proposed Project #8

North Lost Lake Marsh Creation/Restoration Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

North Lost Lake Restoration Project

Coast 2050 Strategy:

Regional Strategy 8 - Dedicated delivery of sediment for marsh creation

Regional Strategy 10 - Restore/prevent adverse tidal exchange points between lake/marsh

Regional Strategy 11 - Protect and Maintain Ridge Function

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, marshes north of Lost Lake

Problem:

Continued deterioration of broken marshes west of Brady Canal, from Lake Pagie and Lost Lake northward to Carencro Bayou, will expose fragile (organic and floating) Penchant Basin freshwater marshes to catastrophic storm-related damage and/or increase tidal exchange and saltwater intrusion problems during the salty season. The proposed project would create marsh in interior marsh open water areas to reduce fetch and decrease wave related erosion in existing interior open water areas. Those created marshes, along with proposed vegetative plantings, would also dampen storm surges and reduce the potential for storm related marsh blow-outs.

Additionally, brown river water will be introduced into an area of intermediate marshes north of Carencro Bayou to stimulate organic production and hopefully reduce the very rapid recent loss of marsh in that area. To facilitate this, several existing fixed-crest weirs will be replaced with gated structures or gated structures will be added to improve brown water flow-through and drainage. This area may also have been impacted by the entrapment of the Hurricane Lily storm surge in an area of semi-floating organic marshes. The proposed structures would reduce the likelihood for repeat entrapment events.

Proposed Project Features:

The project consists of smooth cordgrass plantings along the north shore of Lost Lake (21,800 feet) and approximately 250 acres of marsh creation with 130 acres of marsh nourishment. Marsh creation would be conducted along the submerged Bayou Mauvais Bois ridge west of Voss Canal, along the north shore of Lost Lake, and the north rim of Lake Pagie. The brown water management features would include removal of an existing pipeline canal rock plug and replacing it with a boat barricade structure. Additionally, 2 gated water control structures would be installed to encourage brown water “flow-through”. The discharge capacity of those structures will depend on engineering issues and site conditions. Marsh creation areas would be initially planted, but not otherwise maintained. Vegetative plantings would be replaced if initially unsuccessful and if recommended by the planting experts.

Goals:

Project goals include reducing shoreline retreat on the north shore of Lost Lake, preventing shoreline blow-outs along that same north shore, creating marsh in interior open water areas in a manner that reduces fetch and associated wind-induced marsh erosion, and introduction of “brown” water into an intermediate marsh area which has experienced substantial recent losses.

Preliminary Project Benefits

- 1) The project would create approximately 250 acres and nourish 130 acres
- 2) Lake shore plantings would save a small amount of additional acres

- 3) The brown water introduction would also save a small amount of marsh acres
- 4) cells would help maintain & restore the Mauvois Bois Ridge, the north Lost Lake shore, and the banks of Bayou Decade.
- 5) Project would provide no benefits to critical or non-critical infrastructure. Project would achieve synergy with the Bayou Decade Hydrologic Restoration Project, the Penchant Basin Plan Project, the North Lake Mechant Landbridge Restoration Project, and the South Lake Decade Project.

Identification of Potential Issues

The proposed project-area borrow site has no oysters leases. The only possible issue might be the presence of utilities/pipelines near the borrow site and the operation and maintenance of water control structures.

Preliminary Construction Costs

Construction costs are approximately \$11M (with 25% contingency)

Preparer of Fact Sheet

Ronny Paille – U.S. Fish and Wildlife Service

Ph: 337-291-3117

Email: [Ronald Paille@FWS.GOV](mailto:Ronald.Paille@FWS.GOV)

North Lost Lake Marsh Creation/Restoration Project



Region 3 – Terrebonne Basin

Proposed Project #9

Shoreline Protection of Critical Areas along Bayou Chene Project

Region 4 – Mermentau Basin

Proposed Project #1

Southwest LA Gulf Shoreline Restoration Project

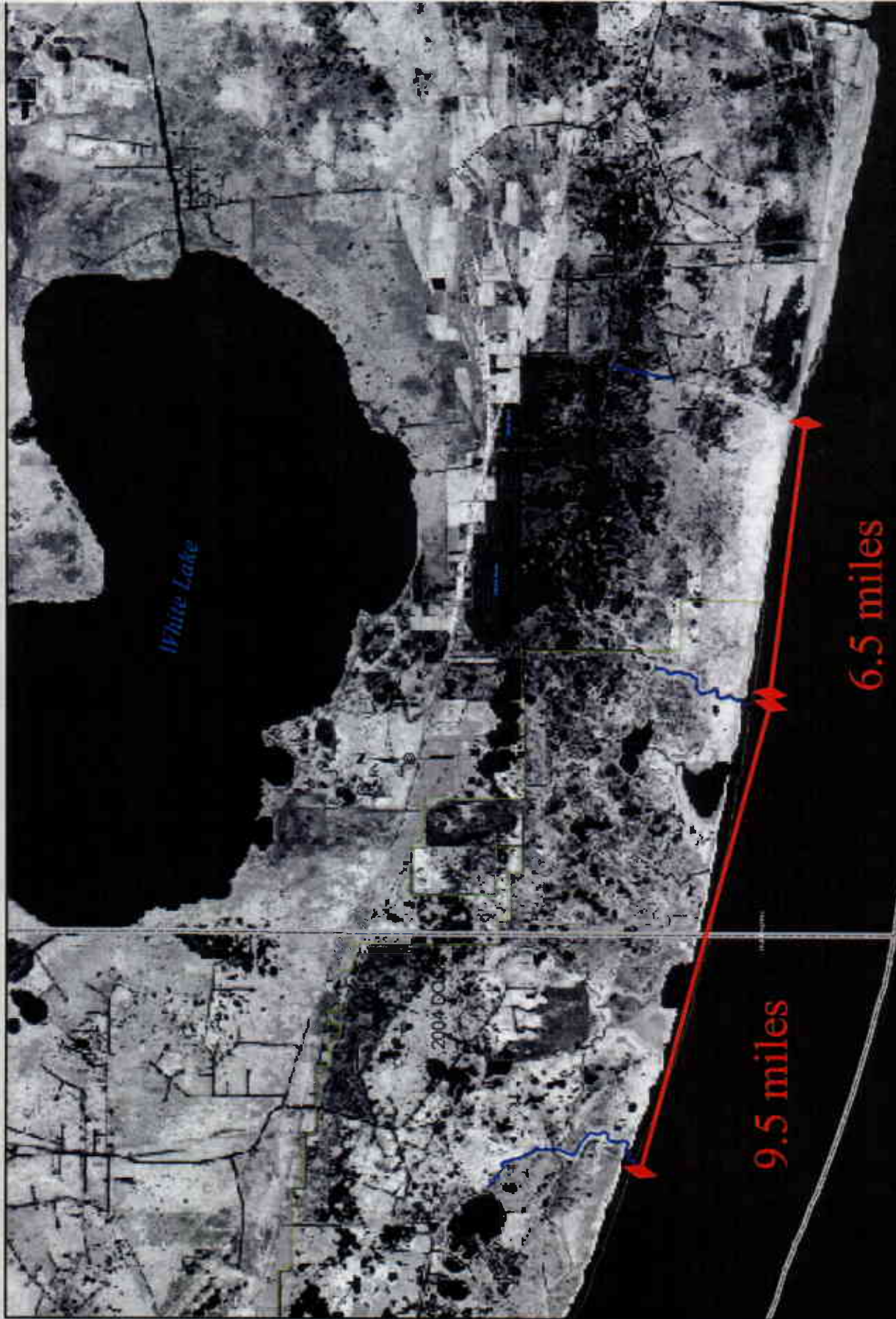
PPL16 PROJECT NOMINEE FACT SHEET

January 8, 2006

Project Name: Southwest Louisiana Gulf Shoreline Restoration Project**Region IV, Coast 2050 Strategies 17:** Stabilize Gulf of Mexico Shoreline in the vicinity of Rockefeller Refuge from the old Mermentau River to Dewitt Canal.**Project Location:** Region 4, Mermentau Basin, Cameron and Vermilion Parish, South of Pecan Island and Rockefeller Refuge, between Dewitt Canal and Little Constance Bayou.**Problem:** The gulf shoreline in the vicinity of Rockefeller Refuge is reportedly eroding at an estimated rate of 35 to 39 feet per year (Coast 2050 Report and Rockefeller Refuge Gulf Shoreline Stabilization Project (ME-18) respectively).**Proposed Project Features:** Beneficially use dredge material and/or dedicate dredging to mine sediment from the Gulf of Mexico to rebuild up to 9.5 linear miles of gulf shoreline between Dewitt Canal and Little Constance Bayou. Dredged material would be placed in areas along the shoreline up to 350 feet seaward. The project shoreline would be maintained and increased by creating beach nourishment feeder berms in shallow open gulf water from additional dredge material in three to five year maintenance cycles over twenty years. Fill material would be acquired either beneficially from dredging the Freshwater Bayou bar channel to benefit areas closer to Dewitt Canal or from dedicating dredging in the gulf for areas farther down drift, depending on location and availability of source material.**Goals:** Based on comparing historic aerial photographs and discussing the proposed concept and dredging history of the Freshwater Bayou bar channel with various Corps personnel and local interests, it appears that beach nourishment from disposal and beneficial use of bar channel dredge material over the past twenty years has resulted in approximately 8.5 linear miles of gulf shoreline prograding, extending west from Freshwater Bayou to just past Dewitt Canal. Aerial photographs indicate that the gulf shoreline has prograded as much as 1,300 feet seaward within a mile down drift from the beach nourishment disposal area. The goal of the proposed project is to mimic this demonstrated shoreline nourishment project down drift of Dewitt Canal to restore and maintain approximately 9.5 miles of gulf shoreline south of Pecan Island and Rockefeller Refuge.**Preliminary Project Benefits:**

- 1) Total acreage benefited 1,209 acres (9.5 miles [350' + {35' x 20 yrs}])
 - a. Create 400 acres of marsh, mud flats, and/or beach along the gulf shoreline over project life, including initial construction and out year beach nourishment.
 - b. Protect an estimated 580 acres (35 ft/yr x 36,000 linear feet x 20 years).
- 2) The project maintains and restores structural gulf shoreline

Potential Issues: Threatened and Endangered Species Critical Habitat, Oysters, O&M, Pipelines, navigable/public waterways.**Preliminary Construction Costs:** \$3 to \$9 million depending on source and quantity of dredge material.**Preparer of Fact Sheet:** Melanie Goodman, U.S. Army Corps of Engineers, 504-862-1940, melanie.l.goodman@mvn02.usace.army.mil



Southwest Louisiana Gulf Shoreline Restoration Project

Region 4 – Mermentau Basin

Proposed Project #2

Rockefeller Refuge Gulf of Mexico Shoreline Stabilization – Joseph’s Harbor East Project

PPL16 PROJECT NOMIEE FACT SHEET

January 25, 2006

Project Name and Number

Rockefeller Gulf of Mexico Shoreline Stabilization, Joseph's Harbor East.

Coast 2050 Strategy

Regional: Dedicated dredging or beneficial use of sediment for wetland creation or protection (6) and Stabilize Gulf of Mexico Shoreline from Old Mermentau River to Dewitt Canal (16).

Coast-wide Common: Maintenance of Gulf, Bay and Lake shoreline Integrity, and Maintain, Protect or Restore Ridge Functions.

Project Location

Region 4, Mermentau Basin, Cameron/Vermilion Parish, LA. Along the Gulf shoreline from eastern bank of Joseph's Harbor (Rockefeller Refuge) east to Little Constance Bayou.

Problem

The project will be designed to address Gulf shoreline retreat averaging 35' per year (Byrnes, McBride et al., 1995) with subsequent direct loss of saline emergent marsh.

Proposed Project Features

The project would entail construction of a near-shore break-water along the Gulf of Mexico shoreline. The break-water would extend from the eastern bank of Joseph's Harbor canal eastward for 25,000 feet. The proposed structure would be tied into the present shoreline at the point of beginning and ending. It would be designed to attenuate shoreline retreat along this stretch of Gulf shoreline, as well as promote shallowing, settling out, and natural vegetative colonization of over-wash material landward of the proposed structure. The resultant design would be developed by engineers during the project design phase.

Goals

1) Reduce Gulf shoreline retreat and direct marsh loss at areas of need identified from Rockefeller Refuge east to Region 4 boundary, 2) protect saline marsh habitat, 3) Enhance fish and wildlife habitat.

Preliminary Project Benefits

1) Both Direct and indirect acres benefited need reported. The project is expected to influence 310 acres directly (300 protected, 10 created), and 4,900 acres indirectly (Rockefeller Refuge Unit 5). This project is anticipated to benefit 300 acres (25K ln ft X 35 ft/yr X 20 yrs) X 0.75. The reduction efficiency was estimated by using 90% of the average wave transmission rates listed in the Rockefeller Refuge gulf Shoreline Stabilization Feasibility Study produced by Shiner Moseley and Associates (Table 6, page 4-19, methodology of Seabrook and Hall, 1998). Estimates for excavation are as follows; at the - 5' contour, an additional 4' of material will be moved at width of 80', for the 25,000 linear feet of the project or 8,000,000 cubic yards will be placed behind the rock structure. Potential indirect acres benefited are estimated to be 245 acres within Unit 5. An estimated 5% of the 4,900 acres of brackish marsh within Unit 5 brackish would be protected from biochemical stressors as a result of saltwater introduction via overtopping and sea spray.

- 2) *Total WETLAND acres protected/created over projected life.* The project will maintain the shoreline integrity and provide protection from northwesterly winds that have a predominant impact to the shoreline during cold front passage and marshes in Unit 5 from Gulf of Mexico intrusion. Over a 20-year project life, the project would protect approximately 300 acres of marsh from shoreline erosion using an average area of 35ft/year. Additionally, approximately 7 acres (10 acres x 75% shoreline erosion reduction efficiency) acres of marsh elevations would be created from beneficial use placement of dredged material.
- 3) Loss rate reduction anticipated in area of direct benefit? >75%, the reduction efficiency was estimated by using 90% of the average wave transmission rates listed in the Rockefeller Refuge Gulf Shoreline Stabilization Feasibility Study produced by Shiner Moseley and Associates (Table 6, page 4-19, methodology of Seabrook and hall, 1998).
- 4) Maintain or restore structural components of the coastal ecosystem? This project will protect and maintain chenier and beach function.
- 5) *The net impact on critical and non-critical infrastructure:* The project would have a net positive impact on non-critical infrastructure. This project would protect five existing pipelines that come ashore within the project area from continued erosion of the cover, which when uncovered, become a public and environmental hazard. This project would also protect properly plugged, land-based wellheads from erosion of the cover, thus becoming a public and environmental hazard. This project would also protect properly plugged, land-based wellheads from erosion of the cover, thus becoming a public and environmental hazard.
- 6) *Synergistic effect with other projects:* This project provides a high degree of synergy with PPL 10 Rockefeller Shoreline Project in protecting critical habitat and ridge (chenier) function.

Identification of Potential Issues

The proposed project has the following potential issues: oysters, land rights, O&M utilities/pipelines, etc.? There are no potential issues related to land rights, oysters, or utilities. It is anticipated that construction of this proposed project would protect five existing pipelines within the project area.

Preliminary Construction Costs

\$19,400,000 (construction + 15% contingency), based on Rockefeller Refuge Gulf Shoreline Stabilization Feasibility Study, Shiner Moseley and Associates, March 2003.

+\$5,625,000 or 25% of construction costs for O&M.

\$25,025,000 (construction + O&M)

Preparer of Fact Sheet

Tom Hess, LA. Dept. of Wildlife & Fisheries, 337-538-2276, thess@wlf.louisiana.gov

NOTE: This proposal was copied from John Foret's PPL14 Project Nominee Fact Sheet

Region 4 – Mermentau Basin

Proposed Project #3

Restoration of Longshore Sediment Flow Across the Mouth of the Mermentau Ship
Channel/Mermentau Ship Channel By-Pass Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

Project Name and Number

M-3 Mermentau Ship Channel Sediment By-Pass Project

Coast 2050 Strategy

M/CS 19 - Restore Long-shore Sediment Flow Across the Mouth of the Mermentau Ship Channel

Project Location

Region 4, Mermentau Basin, located at the mouth of the Mermentau Ship Channel and the Gulf of Mexico, south of Grand Chenier.

Problem

The Mermentau Ship Channel jetties have interrupted the natural westward flow of near shore Gulf long-shore currents and sediment deposition. Sand is building on Gulf shore on the east side of Mermentau Ship Channel jetties. West of the jetties there continues to be high erosion (> 50 ft/yr) along Hackberry Beach. This area west of Mermentau Cut has the highest Gulf shore erosion along Cameron Parish shoreline.

Proposed Project Features

The project proposes to transport subtidal sediment from the east side of the Mermentau Ship Channel mouth to the west via a hydraulic dredge placed east of the east jetty. The recently deposited sediment will be dredged from subtidal areas in > 2 ft water depths to a dredged depth of 10 ft or more. Recent Corps' Beneficial Use ship channel maintenance dredging projects have been successful in placing material west of the jetties to reduce erosion.

Goals

The goal is to reduce Gulf shoreline erosion on west of the Mermentau Ship Channel jetties by transportation of sediment from the east jetty area.

Preliminary Project Benefits

Approximately 1 to 2 Million cubic yards of material can be transported west of the Mermentau Ship Channel jetties to rebuild at least 100 to 200 acres of Gulf shoreline at Hackberry Beach.

Identification of Potential Issues

Possible landrights issues caused by dredging recently deposited sediment east of the jetties may not be an issue because the likely landowner is the State of Louisiana. The material dredged would be submerged (subtidal) sediment not subaerial land that has created new marsh.

Preliminary Construction Costs

\$2 to 3 M based on the cost to dredge 1 to 2 M cubic yards of material and transport it 1 to 2 miles to restore 100 to 200 acres of marsh and Gulf shoreline.

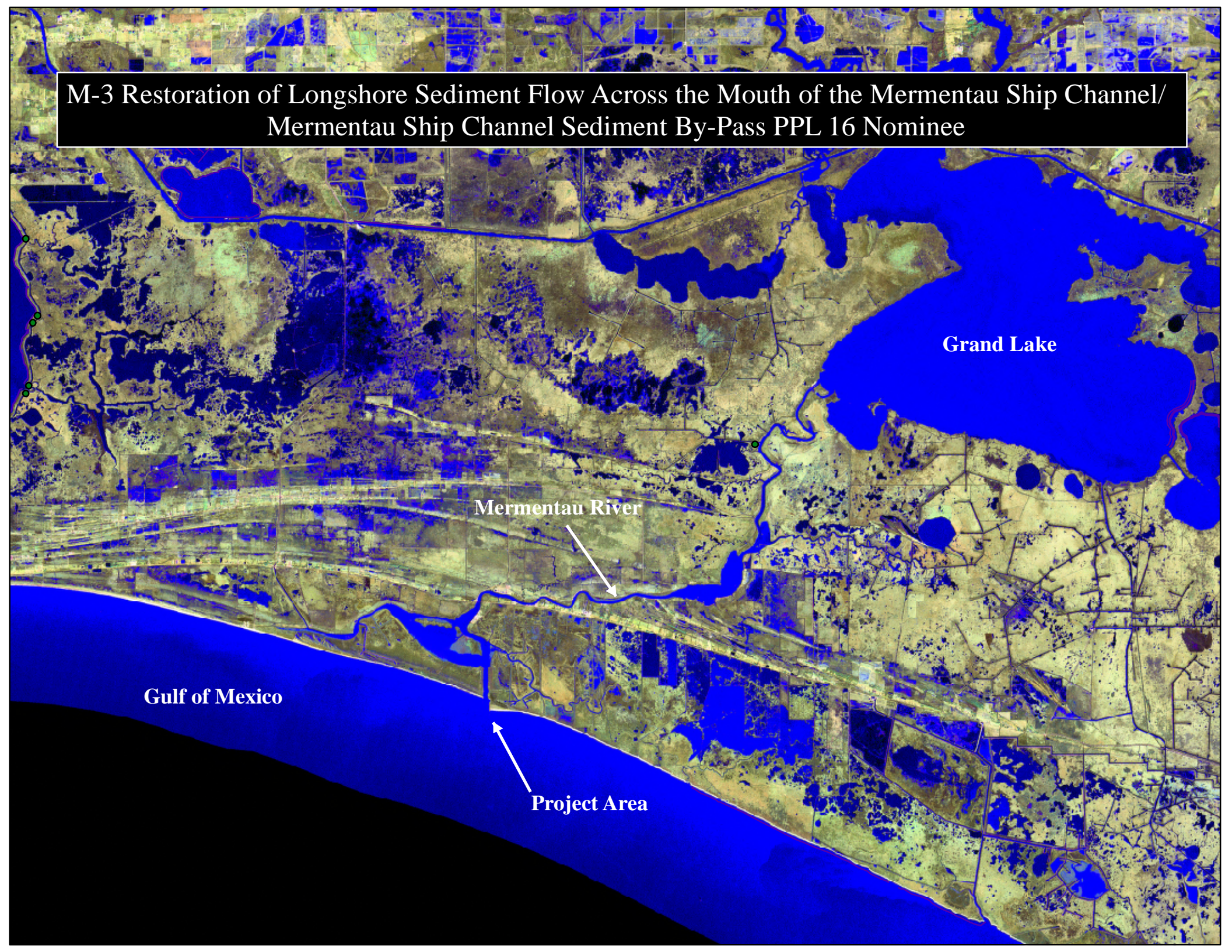
Project Nominator

David Richard, Stream Prop. Mgt. Co., 337-433-1057 (ext 19), drichard@streamcompany.com

Preparer of Fact Sheet

Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

M-3 Restoration of Longshore Sediment Flow Across the Mouth of the Mermentau Ship Channel/
Mermentau Ship Channel Sediment By-Pass PPL 16 Nominee



Grand Lake

Mermentau River

Gulf of Mexico

Project Area

Region 4 – Mermentau Basin

Proposed Project #4

Humble Canal Spillway at Mermentau River Project

PPL16 PROJECT NOMINEE FACT SHEET
January 18, 2006

Project Name and Number

M-4 Humble Canal Spillway at the Mermentau River Project

Coast 2050 Strategy

M 4 - Move water from north to south across Highway 82 with associated drainage improvements south of Highway 82. (This project proposes to move water across Hwy 82 via the Mermentau River, not directly across the Hwy as implied in the strategy.)

Project Location

Region 4, Mermentau Basin, located in the area north of Humble Canal at Marseilles Bayou on the west bank of the Mermentau River.

Problem

After Hurricane Rita, as with other storms, there was 25 ppt (salinity) water in the Humble Canal area west of the Mermentau River.

Proposed Project Features

The project consists of the construction of a spillway to remove excess saline water during high salinity events (hurricanes). The spillway would have a flapgate on the Mermentau River side to prevent entrance of high salinity water into adjacent marshes to the west.

Goals

The goal is to reduce excess saline water after hurricanes and major tropical storms that may enter the area by opening the spillway, with a secondary goal of reduction of Lakes subbasin water levels.

Preliminary Project Benefits

The project would assist to reduce marsh salinities after storm events with the subsequent reduction of salinity stress to fresh and intermediate marshes north of the proposed structure. The project would have the added benefit of helping to reduce water levels in the Mermentau Lakes subbasin.

Identification of Potential Issues

None at this time.

Preliminary Construction Costs

\$1 to \$1.5 M.

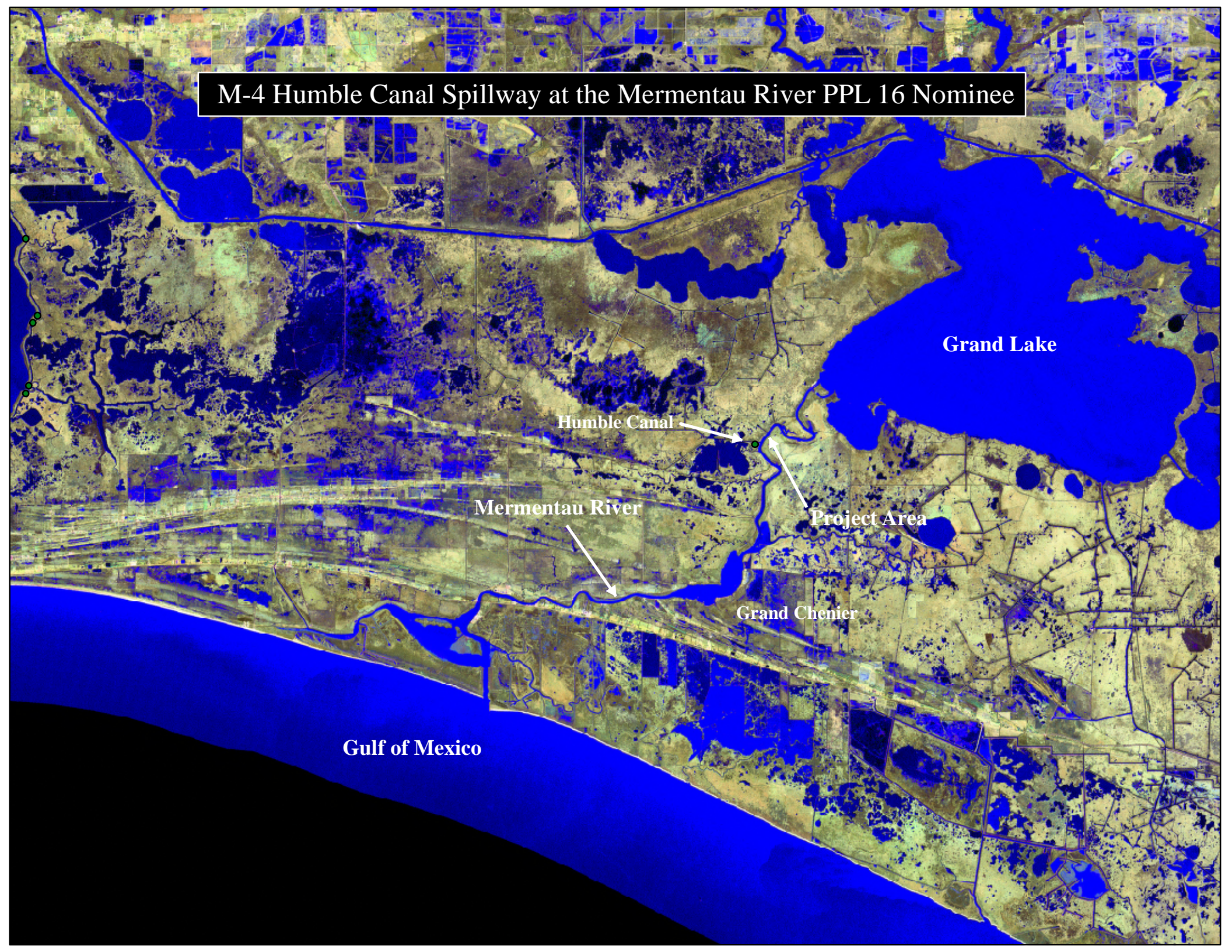
Project Nominator

David Richard, Stream Prop. Mgt. Co., 337-433-1057 (ext 19), drichard@streamcompany.com

Preparer of Fact Sheet

Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

M-4 Humble Canal Spillway at the Mermentau River PPL 16 Nominee



Grand Lake

Humble Canal

Mermentau River

Project Area

Grand Chenier

Gulf of Mexico

Region 4 – Mermentau Basin

Proposed Project #5

Grand Lake Shore Protection at Lacassine Point Project

R4-Mermentau (#5)

PPL 16 Project Nominee Fact Sheet

Project Name: Grand Lake Shore Protection at Lacassine Point

Project Location (Region, Basin, Parish, and general location):

Coast 2050 Region: 4

Basin: Mermentau

Parish: Cameron

General location: Region 4, Mermentau Basin/Lakes Sub-basin, Cameron Parish. The project is located on the NW shore of Grand Lake from Lacassine Pt. to the intersection of the GIWW and the Mermentau River.

Coast 2050 Strategy(s): Region 4 Regional Strategy 16 - Stabilize Grand and White Lake Shorelines.

Problem: Erosion of the NW shoreline of Grand Lake (10 ft/yr) threatens the 1,000 acre "land bridge" that separates that lake with the GIWW to the north, a major E-W navigation corridor in SW LA. This erosion has exposed the organic-rich marsh/swamp soils to the effects of high energy wave-action from the SE across the > 15 mile Grand Lake fetch. The historic lake rim has completely eroded. Data from National Wetlands Inventory Maps from 1956 to 1988 has shown an increase in shoreline erosion rates from 0.8 m/yr to 3 m/yr. The erosion rate from 1952 to 1974 was 0.8 m/yr (Adams et al. 1978). During the period 1978 to 1988, the rate nearly tripled to 3 m/yr (9.8 ft/yr).

Project Goals: This project would protect and restore approximately 81 acres of wetland habitat from eroding by wave induced shoreline erosion during the 20 yr project life (69 acres protected and 12 ac restored). The project would; 1) protect fish and wildlife wetland habitat (fresh marsh and swamp) by halting the erosion along the NW shoreline of Grand Lake; 2) include project components (fish passages) that will allow for the passage of aquatic organisms, water and sediment between the shoreline (fisheries nursery grounds) and Grand Lake; and 3) vertical accretion of sediment and organic substrates along the NW Grand Lake shoreline.

Proposed Project (including features, project area, benefitted area, area of impact, etc.): Construction will include the placement of hard shoreline stabilization material (i.e., rock breakwater or jacks-like concrete material) approximately 15,000 ft (2.8 miles) in length. The material would be located 100 - 200 ft from the shoreline in approximately 1.5 to 2.5 ft. of water. The breakwater will include at a minimum 25 ft-wide gaps every 500 to 1,000 (average 750 ft) to allow for the circulation and of water and sediment and fisheries access to the shoreline. The gaps will have a 40 ft buffer of rock between the gap and the shoreline to prevent direct wave action from reaching the shoreline. The top of the breakwater will be approximately 4 ft in width with 1 ft of freeboard above the water. Bullwhip or Giant Cutgrass will be planted between the hard shoreline stabilization and the shoreline (at least 2 rows of gallon plant containers planted on 5 to 10 ft centers).

Preliminary Project Benefits (acres created, loss rate reduction, ecosystem benefits):

Stabilization of the NW Grand Lake shoreline would protect and restore about 81 acres of fresh wetlands [69 acres protected (15,000 10 ft/yr X 20 years) + 3 ac restored (assume 10 ft accretion in 20 years) + another 9 ac accreted by vegetative plantings (25 ft X 15,000 ft)]. Protection of primary nursery habitat (fresh marsh and swamp) will help fulfill Coast 2050 Region 4 regional strategy # 16 (Stabilize Grand Lake Shorelines). The project would stop shoreline erosion along the NW shoreline of Grand Lake by 100% for the project life. However, shoreline erosion would continue to occur along the northern portion of the island (along the GIWW). Stopping the coalescence of the GIWW and Grand Lake would maintain the current water circulation patterns that exist within the Grand Lake ecosystem.

Identification of Potential Issues (oysters, land rights, infrastructure, etc.):

The NW Grand Lake shoreline is advancing toward the southern portion of the spoil bank system that protects the GIWW. If the NW Grand Lake marsh continues to erode, the GIWW will become part of Grand Lake. Increased wind fetch will present problems to navigation. This project would also stop the advancement of water and high wave energy from reaching the southern portion of the bank and marsh system that protects the GIWW.

Preliminary Construction Costs:

Summary of Rock Construction Costs:

Description	Cost
16,500 ft rock	2,800,000
15,000 ft access channel	500,000
Vegetative plantings	<u>42,000</u>
Total Construction	\$3,342,000

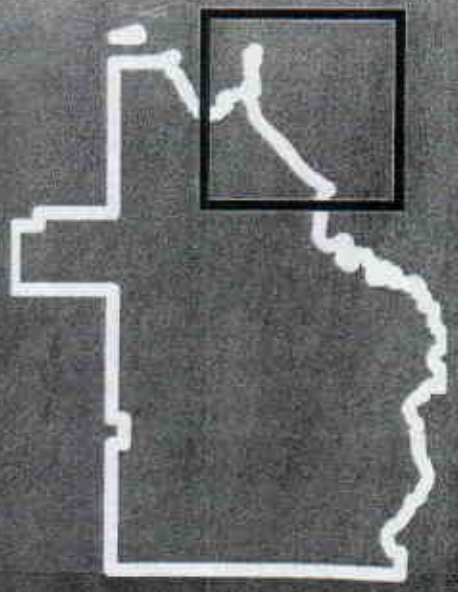
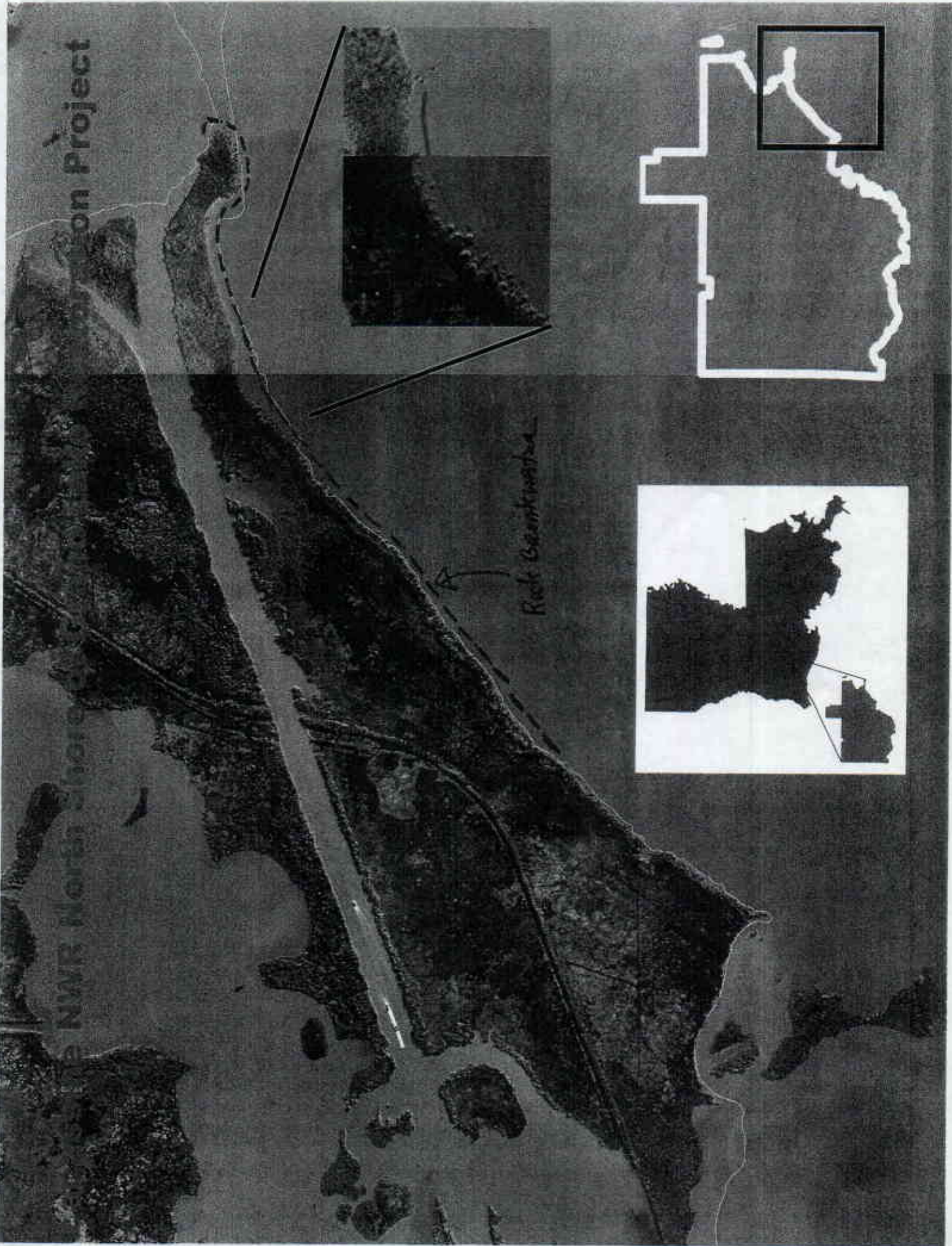
Preparer of Fact Sheet (name, agency, and e-mail):

Darryl Clark

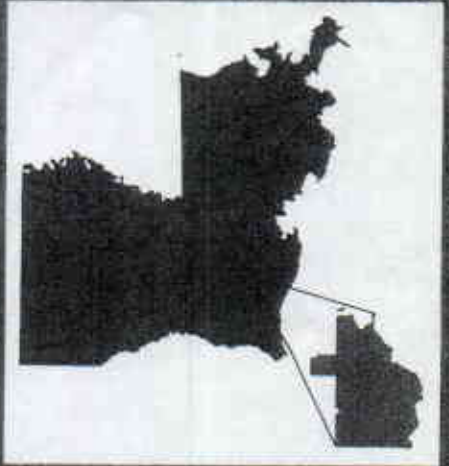
U. S. Fish and Wildlife Service

darryl_clark@fws.gov

on Project



Rio de Guaymas



Region 4 – Mermentau Basin

Proposed Project #6

Umbrella Bay Shoreline Protection Project

R4-Merm (#6)

PPL14 Project Nominee Fact Sheet

Updated: I

DRAFT

Project Name: Umbrella Bay Shoreline Protection

Coast 2050 Strategy: #11 "Protect Shorelines e.g. Shore stabilization in Umbrella Bay"

Project Location

Region 4

Mermentau Basin

Cameron Parish

Mapping Units: "Grand Lake East"

Physical Description: Umbrella Bay along east shore of Grand Lake

Problem

Historical shoreline erosion along the peninsula north of Umbrella Bay was significant in the 1956 to 1974 period (17% in the mapping unit) but has largely stabilized by 1990 (3% from 1983 to 1990). However, significant shoreline erosion has persisted along the eastern shore of Umbrella Bay through 1990. Several small lakes or lagoons are in danger of breaching from Grand Lake into these open water bodies threatening to accelerate marsh loss.

Proposed Project Features

Shoreline and bank stabilization along 11,000 feet of Grand Lake shoreline.

Goals

Stabilize the shoreline of eastern Grand Lake at critical areas of high erosion and potential breaching into open lagoons near the shoreline of Umbrella Bay.

Identification of Potential Issues

None known

Preliminary Construction Costs

Construction Cost of \$3,500,000

Preparers of Fact Sheet

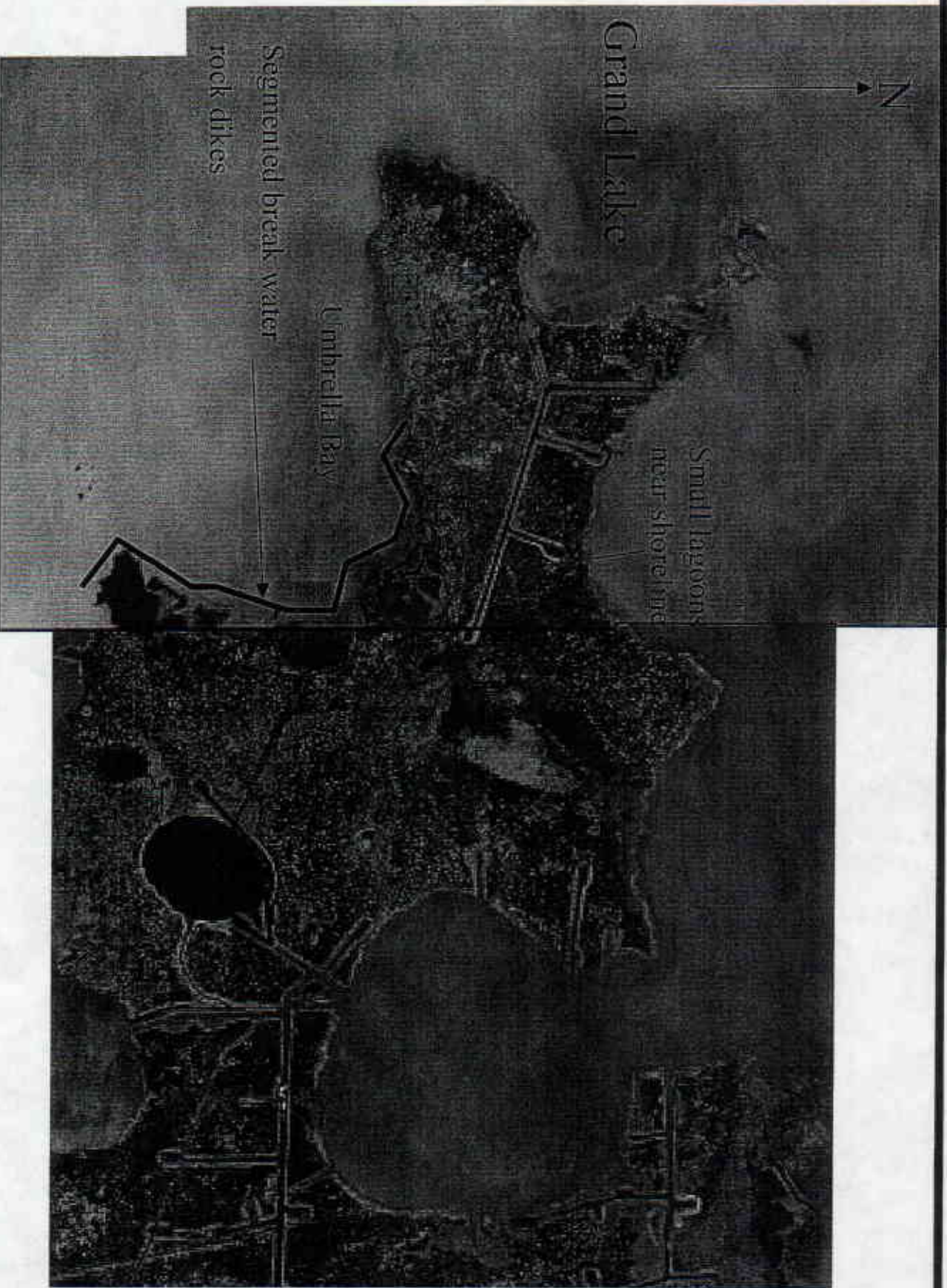
Chris Monnerjahn USACE (504) 862-2415

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John Lopez

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Umbrella Bay Shoreline Protection



Region 4 – Calcasieu/Sabine Basin

Proposed Project #1

North Black Lake Marsh Creation Project

DRAFT PPL16 PROJECT NOMINEE FACT SHEET
January 4, 2006

Project Name

North Black Lake Marsh Creation Project

Coast 2050 Strategy

Coastwide: Maintenance of bay and lake shoreline integrity

Dedicated dredging for wetland creation

Regional #6 Dedicated dredging of sediment for wetland creation

Mapping Unit (Black Lake) #47 Beneficial use of dredge material

#49 Reestablish Black Lake shoreline

Project Location:

Region 4, Cameron Parish, just north and west of Black Lake.

Problem

This mapping unit has experienced significant land loss, 65%, since 1932, most of which has been attributed to altered hydrology. Increased salinities within the project area have caused interior marsh breakup. As ponds have coalesced, water bodies have grown which exacerbated marsh breakup from wave action.

Proposed Project Features

The project consists of marsh creation and shoreline protection along Black Lake. Tentatively, 523 acres of brackish marsh would be created along the northern shoreline of Black Lake to re-establish the lake rim and reclaim emergent marsh. The tentative marsh creation area identified has containment on three sides, however recent hurricane impacts may be such that repairs to these existing levees may be necessary, as such approximately 1,000 linear feet of levee refurbishment is being taken into account. The approximate water depth in this area is 3 feet, and a 1.5:1 cut-to-fill was used for cost estimating. Approximately 5,000 linear feet of rock dike would potentially need to be constructed to protect the newly created emergent marsh from wave energies on Black Lake. Marsh creation areas would be planted with smooth cordgrass. Sediment would be mined from the Calcasieu Ship Channel or its overburdened disposal area, a distance of roughly 5 miles.

Goals

Create 523 acres of emergent marsh; reestablish the northern portion of the Black Lake lake rim; establish submerged aquatic vegetation; increase fisheries habitat.

Preliminary Project Benefits:

1) What is the total acreage benefited both directly and indirectly? Tentatively, the project would create 523 acres of brackish marsh, and provide some upland areas along the levees for neo-tropical migrant habitat. The total area estimated to be benefited is approximately 1034 acres including the creation areas, and some adjacent existing marsh.

2) **How many acres of wetlands will be protected/created over the project life?**

- Assume a 50% reduction in the background marsh loss (-0.35%/yr),
- Assume existing marsh is 20% (511 acres) of the 2555 acre project area
- Assume 523 created

Approximately 488 acres protected/created over the project life (i.e., TY20 net after applying the above assumptions).

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). The loss rate reduction would be 25-49%.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.? The project would restore the portions of the rim of Black Lake.

5) What is the net impact of the project on critical and non-critical infrastructure? The project would have moderate net positive impact to critical infrastructures which consists of the GIWW.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? There are no other projects in the immediate vicinity to provide for a synergistic effect. The absence of other such projects and the substantial amount of wetland loss that has occurred makes this an area of high need.

Identification of Potential Issues

The proposed project has no known potential issues. No operations and maintenance is planned. Some utilities/pipeline issues may be encountered during design phases, but project features and layout could avoid potential conflicts. The project would need to be coordinated with the USACE and future dredging cycles.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$17,743,000

Preparer of Fact Sheet

John Foret, NOAA's National Marine Fisheries Service, (337) 291-2107;

john.foret@noaa.gov

Black Lake Marsh Creation PPL 16



0 0.2 0.4 0.8 1.2 1.6
Miles



Region 4 – Calcasieu/Sabine Basin

Proposed Project #2

East Sabine Lake Shoreline Stabilization Project

PPL 16 PROJECT NOMINEE FACT SHEET

January 10, 2006

R4-CS-#2

Project Name and Number

East Sabine Lake Shoreline Stabilization Project

Coast 2050 Strategy

Coast-wide Strategies:

Regional Strategies: (6) Dedicated dredging of sediment for wetland creation.

Project Location:

Region 4; Calcasieu-Sabine Basin; Cameron Parish; Eastern portion of Sabine Lake shoreline between Three Bayous and Willow Bayou

Problem:

The shoreline continues to erode and infiltrate deeper into the marsh due to wave energy. Historical aerial photographs from the 1930's clearly indicate that shoreline retreat has been significant and dramatic. The shoreline erosion rates vary from 3 to 12 feet per year; average of 5 feet/year.

Proposed Project Features:

Construct 21,000 feet of rock fore shore dike 250 feet lakeward and adjacent to the shoreline with 50 foot wide gaps every 1,000 feet or more. At least 100 feet of dredged material is placed between the rock and the shoreline to restore marsh from the mouth of Three Bayous south to 3,000 feet north of Willow Bayou.

Goals:

The rock dike adjacent to the shoreline will greatly attenuate wave energy impacts on the shoreline. The dredged material between the rock dike and shoreline will promote vegetative establishment and increase fisheries productivity.

Preliminary Project Benefits:

Dredged material placed between the rock dike and shoreline will restore 48 acres of marsh shoreline, and the rock dike will protect an additional 48 acres, for a total of 96 acres restored and protected over the project life. With planned deepening of the Sabine River Ship Channel and the proposal by the State of Texas to draw increasing amount of fresh water from the Sabine River, ensuring the stability of the eastern shoreline of Sabine Lake will be extremely important. This project would help protect constructed area CWPPRA projects [East Sabine Lake HR (CS-32) and Sabine Shoreline Protection (CS-18)].

Identification of Potential Issues:

Existing pipelines may interfere with rock dike placement.

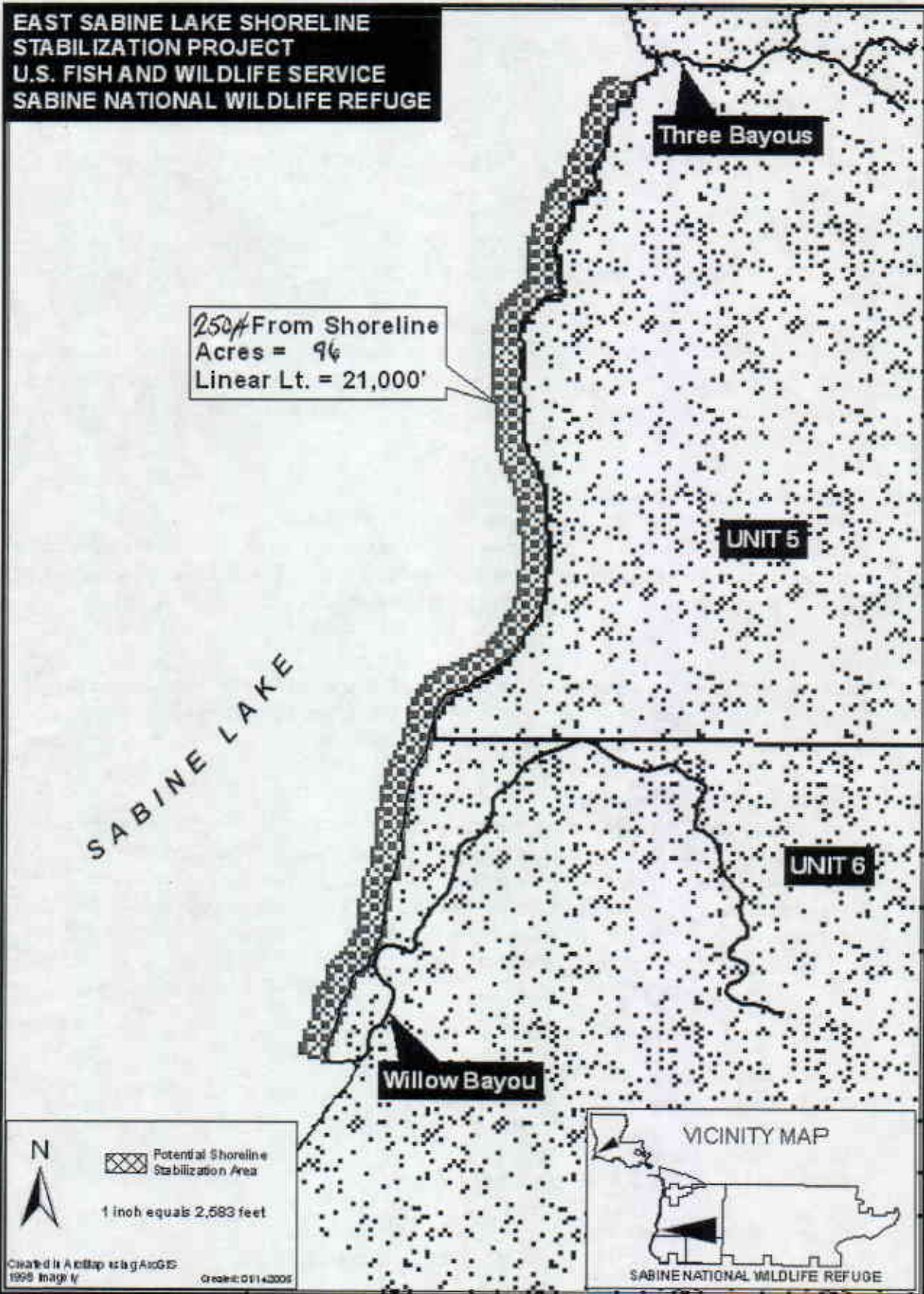
Preliminary Construction Costs:

\$ 5,500,000 (21,000 feet @ \$250 per linear foot);

Preparer of Fact Sheet:

Roy Walter and D. Clark, U.S. Fish and Wildlife Service, (337) 598-2216

**EAST SABINE LAKE SHORELINE
STABILIZATION PROJECT
U.S. FISH AND WILDLIFE SERVICE
SABINE NATIONAL WILDLIFE REFUGE**



250' From Shoreline
Acres = 96
Linear Lt. = 21,000'

Three Bayou

UNIT 5

UNIT 6

Willow Bayou

SABINE LAKE



Potential Shoreline
Stabilization Area

1 inch equals 2,583 feet

Created in ArcMap 10.1 using ArcGIS
1998 Imagery Date: 01/14/2005



Region 4 – Calcasieu/Sabine Basin

Proposed Project #3

East Cove Marsh Creation Project

East Cove Marsh Creation

PPL15 PROJECT NOMINEE FINAL FACT SHEET

February 1, 2005

Coast 2050 Strategy

Region 4 Regional Strategy 6. Use dedicated dredging or beneficial use of sediment for wetland creation or protection.

Project Location

Region 4, Calcasieu-Sabine Basin, 1.5 miles north of Cameron, Cameron Parish. The project is located in the southwestern portion of the Cameron-Creole Watershed on the Cameron Prairie National Wildlife Refuge. The project is bordered to the north by East Cove Calcasieu Lake, to the west by the East Fork of the Calcasieu River, to the south by the Cameron-Creole watershed southwestern levee and to the east by existing marsh.

Problem

What problem will the project solve?

The major problem in the southeastern portion of the Cameron Creole Watershed is that a large area of former brackish marshes has converted to open water due to subsidence and saltwater intrusion from the Calcasieu Ship Channel. The Cameron-Creole Watershed hydrologic restoration project was implemented in 1989 to relieve the saltwater intrusion problem, but area marshes have not revegetated. The existing Cameron-Creole Watershed project nor the two CWPPRA projects are sufficient to revegetate open water areas within the watershed. Sediment from an outside source or water level draw-downs are needed to restore existing large open water areas to marsh.

What evidence is there for the nature and scope of the problem in the project area?

The Cameron-Creole Watershed Unit contains 51,648 acres. Total marsh lost in the unit from 1932 to 1990 equaled 14,390 ac or about 28 % (14,390/ 51,648 ac) of the original marsh present in 1932. This is about 249 ac/year (0.55 %/yr). Greatest land loss in the unit occurred between 1956 and 1974 when 10,095 acres were lost (1.3%/yr). Loss from 1974 to 1990 was reduced to 0.45%/yr. Land loss in the unit from 1990 to 2050 is projected to be 0.45%/yr, but this does not include any land loss reductions to be derived from the exiting management project or the two CWPPRA projects in the watershed. Existing land loss is cause by wind induced shoreline erosion in larger open water areas and perhaps some stressing of marsh vegetation by increased water levels from impoundment (Coastal Wetlands and Restoration Task Force and Wetland Conservation and Restoration Authority 1999).

Goals

The project will restore approximately 262 acres of shallow open water to marsh and reduce shoreline erosion on adjacent marshes in the southwestern portion of the Cameron-Creole Watershed.

Proposed Solution

The primary components consist of the creation/restoration of 262 acres of marsh by beneficial use of maintenance dredged material from the Calcasieu Ship Channel.

Beneficial Use of Dredged Material to the Southwestern Cameron-Creole Watershed

Place material beneficially from normal maintenance dredging of the Lower Calcasieu River from Mile Points 5 to 8 in two disposal areas totaling 262 acres in southwestern portion of the Cameron-Creole Watershed (see map). One area is 62 acres large with existing retention dikes. The area was planned to be used in 2000, but refuge personnel found the material from the East Fork Calcasieu River to be unsuitable (contained oyster shell material). The other area consists of 200 acres and may have approximately 12,000 ft of retention dikes. The marsh areas restored will have constructed bayous and openings to Hog Bayou for estuarine fisheries access to make them functional marshes.

The Corps New Orleans District dredges about 1 million cubic yards of material every 2 years in the vicinity of MP 5 to 8 in the lower Calcasieu River. This portion of the river is located from the East and West Fork of the Calcasieu River to a point northeast of West Cove Calcasieu Lake. This amount of material is sufficient to restore about 125-150 acres per cycle (8,067 cy/acre restored with initial slurry height of 5 ft). The project plan is to use beneficial use to transport at least 2 million cy of material to these areas to restore an estimated 262 to 300 acres of marsh (125 ac to 150 ac/1 million cy) in one or two cycles. There is a possibility that material from slightly lower or higher reaches could be included so that one cycle would be all that would be necessary.

Preliminary Project Benefits

The project proposes to restore/create approximately 260 acres by marsh creation techniques. Total restored = 262 acres. The project is expected to reduce land loss in the area of direct project benefits by at least 100% for the project life (20 yrs).

Project Components:

Beneficial Use of Dredged Material.

Beneficial use of maintenance dredged material and transport that material approximately 2.3 (MP 5) to 5.3 (MP 8) miles east from the Calcasieu Ship Channel during maintenance dredging events that occur approximately every 2 years. Use approximately 2 million cy to create 260 acres of marsh in shallow open water at \$1.50 to \$2.00/cy = approximately \$3 to 4 million construction cost (\$11,538/ ac).

This construction cost is based on the Sabine Marsh Creation project cost where 1 million cy of dredged material is to be transported about 8 miles to create 125 acres of mars at about \$2.5/cy. The proposed project does not involve the transportation length or complexities of the Sabine Marsh Creation project and thus should be less per cubic yard.

<u>Project Component</u>	<u>Cost</u>
1. Retention Dikes	
5,000 ft retention dike	
(5,000 ft X 6.5 cy/ft = 32,500 cy @ \$5/cy =	162,500
2. Dredged Material transfer - 2 million cy at	
\$1.5 to \$2/cy =	3.0 to 4.0 million
3. Subtotal	3.163 M to 4.163 M
3. 25% Contingency	<u>790,750 to 1.04 M</u>
Total Construction Cost Estimate	<u>\$ 3.95 to 5.2 million</u>

Preparer of Fact Sheet

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Robert Dubois, FWS, 337-291-3100



Region 4 – Calcasieu/Sabine Basin

Proposed Project #4

Rabbit Island Restoration Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

Project Name and Number

C-4 Rabbit Island West Cove Calcasieu Lake Beneficial Use/marsh Restoration

Coast 2050 Strategy

Coastwide Strategy - Beneficial Use of Sediment for Wetland Creation
CS 6 - Dedicated Dredging of Sediment for Wetland Creation

Project Location

Region 4, Calcasieu-Sabine Basin, located at Rabbit Island, West Cove Calcasieu Lake, in the southwestern portion of Calcasieu Lake.

Problem

Rabbit Island has subsided over time, partially due to increased tidal amplitudes from the Calcasieu Ship Channel. It is a vital shorebird nesting colony. Nesting attempts are often destroyed due to the increased flooding of the island. The first brown pelicans were seen there in 2001-2002, and they are now nesting on an annual basis.

Proposed Project Features

Add sediment and revetment to Rabbit Island similar to that done for Queen Bess Island restoration by building it into a higher island suitable for nesting birds. The State of Louisiana, State Land Office owns the island.

Goals

The goal is to elevate the island slightly using maintenance dredged sediment from the ship channel to reduce subsidence and provide nesting bird habitat.

Preliminary Project Benefits

Identification of Potential Issues

Oyster reefs are adjacent to Rabbit Island; any construction or dredged material placement would have to be done with minimal impacts to existing reefs. The dredged spoil disposal should occur in the non-nesting timeframe from August to March. The Corps may be able to include this in the Calcasieu Ship Channel Federal standard. This will have to be investigated.

Preliminary Construction Costs

\$2 to 8 M based on the cost to create about 200 acres of marsh with dredged material and protect with revetment.

Project Nominator

David Richard, Stream Property Management Co., 337-433-1057 (ext 19),
drichard@streamcompany.com

Preparer of Fact Sheet

Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

C-4 Rabbit Island West Cove Beneficial Use/Marsh Creation Restoration PPL 16 Project Nominee

Rabbit Island Project Area



West Cove



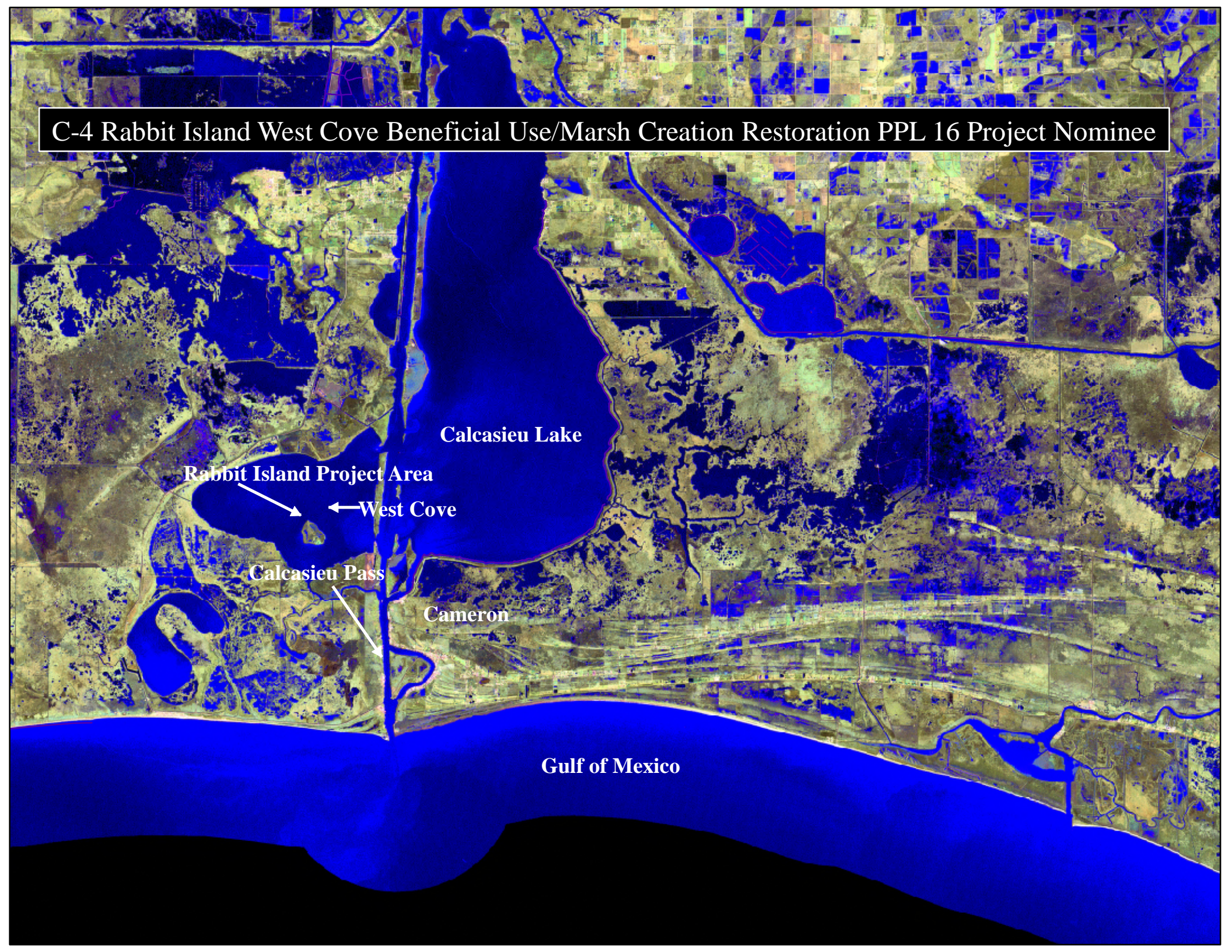
Calcasieu Pass



Calcasieu Lake

Cameron

Gulf of Mexico



Region 4 – Calcasieu/Sabine Basin

Proposed Project #5

Calcasieu River Ship Channel Sediment Bypass Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

Project Name and Number

C-5 Calcasieu Ship Channel Sediment By-Pass Project

Coast 2050 Strategy

CS 18 - Restore Long-shore Sediment Flow Across the Mouth of Calcasieu Pass

Project Location

Region 4, Calcasieu-Sabine Basin, located at Calcasieu Pass and the Gulf of Mexico, south of Cameron.

Problem

The Calcasieu Ship Channel jetties have interrupted the natural westward flow of near shore Gulf long-shore currents and sediment deposition. Sand is building on the Gulf shore on the east side of Calcasieu Ship Channel jetties. West of the jetties there continues to be severe erosion. Only 10 years ago the dunes on the western Gulf shore were intact.

Proposed Project Features

The project proposes to transport subtidal sediment from the east side of Calcasieu Pass to the west via a hydraulic dredge placed east of the east jetty. The recently deposited sediment will be dredged from subtidal areas in > 2 ft water depths to a dredged depth of 10 ft or more.

Goals

The goal is to reduce Gulf shoreline erosion west of the Calcasieu Pass jetties by transportation of sediment from the east jetty area.

Preliminary Project Benefits

Approximately 1 to 2 Million cubic yards of material can be transported west of the Calcasieu Pass jetties to rebuild at least 100 to 200 acres of Gulf shoreline.

Identification of Potential Issues

Possible landrights issues caused by dredging recently deposited sediment east of the jetties may not be an issue because the likely landowner is the State of Louisiana. The material dredged would be submerged (subtidal) sediment not subaerial land that has created new marsh.

Preliminary Construction Costs

\$2 to \$3 M based on the cost to dredge 1 to 2 M cubic yards of material and transport it 1 to 2 miles to restore 100 to 200 acres of marsh and Gulf shoreline.

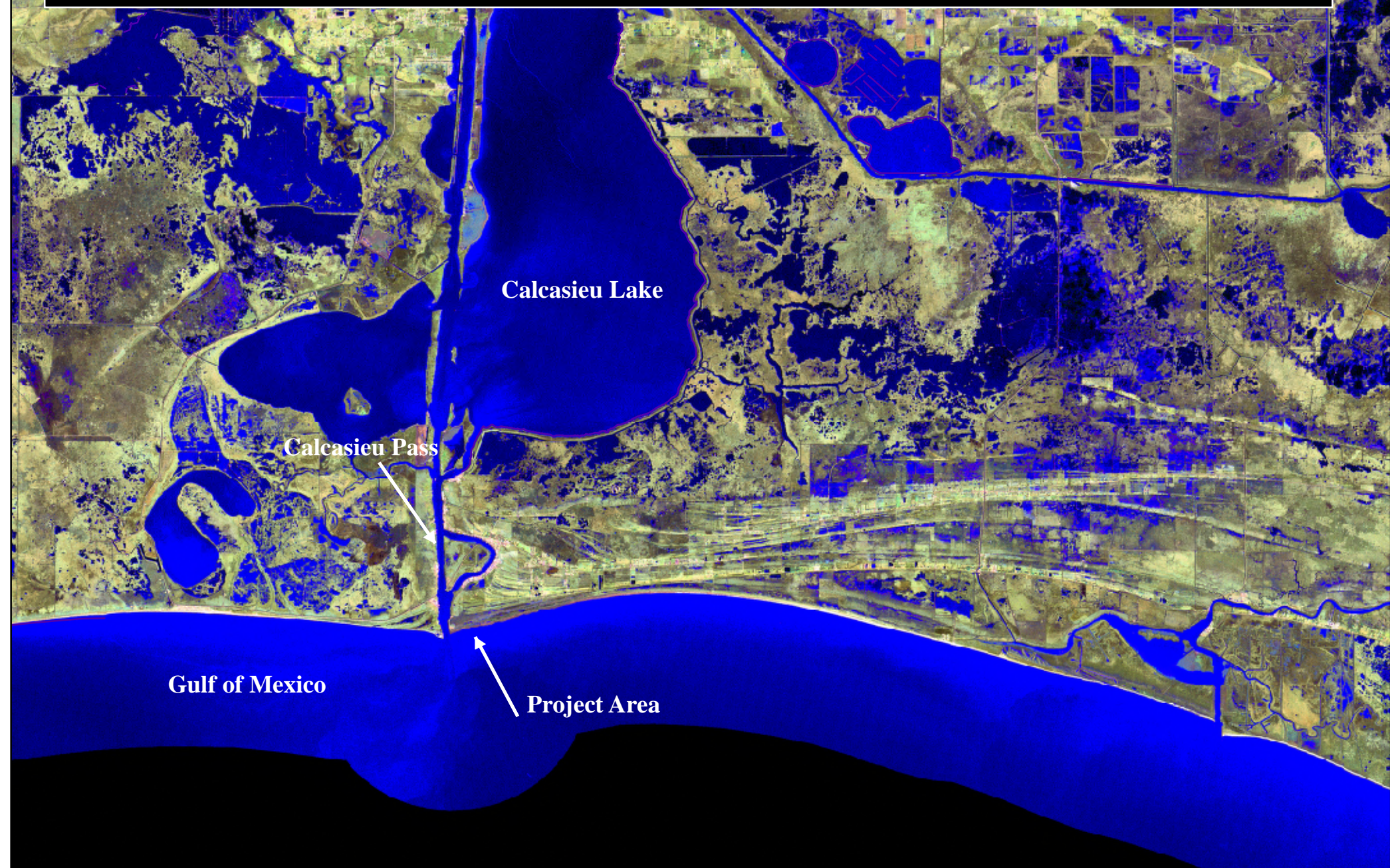
Project Nominator

David Richard, Stream Property Management Co., 337-433-1057 (ext 19),
drichard@streamcompany.com

Preparer of Fact Sheet

Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

**C-5 Restoration of Longshore Sediment Flow Across the Mouth of the Calcasieu Ship Channel/
Calcasieu Ship Channel Sediment By-Pass PPL 16 Project Nominee**



Calcasieu Lake

Calcasieu Pass

Gulf of Mexico

Project Area

Region 4 – Calcasieu/Sabine Basin

Proposed Project #6

Salinity Reduction in Sabine Lake at the Causeway Structure Project

PPL16 PROJECT NOMINEE FACT SHEET
January 13, 2006

Project Name and Number

C-6 Salinity Reduction of Sabine Lake at the Causeway

Coast 2050 Strategy

CS 11 - Salinity reduction of Sabine Lake at the Causeway

Project Location

Region 4, Calcasieu-Sabine Basin, located just north of the Hwy 82 causeway in the southern portion of Sabine Lake.

Problem

Increased salinities in Sabine Lake caused by the Sabine-Neches Waterway and its future enlargement. The Galveston Corps and the Jefferson County Port Commission are planning to widen and deepen the channel.

Proposed Project Features

Construct a 2,000 LF rock weir with a boat bay across the southern portion of Sabine Lake just north of the Hwy 82 causeway.

Goals

This project will reduce salinities in Sabine Lake and mitigate increased salinities from the Sabine-Neches Waterway.

Preliminary Project Benefits

Identification of Potential Issues

Oyster reefs may be in or adjacent to the proposed structure. The structure may reduce fisheries and navigation access to Sabine Lake.

Preliminary Construction Costs

\$2 to \$5 M; \$1,000 to \$2,000 per LF.

Project Nominator

David Richard, Stream Property Management Co., 337-433-1057 (ext 19),
drichard@streamcompany.com

Preparer of Fact Sheet

Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

**C-6 Constriction of Sabine Lake at the Hwy 82 Causeway and
Extension of the Orange GIWW Spoil Bank in Texas
PPL 16 Project Nominee**

**Extend Orange GIWW Spoil Bank
in Texas**

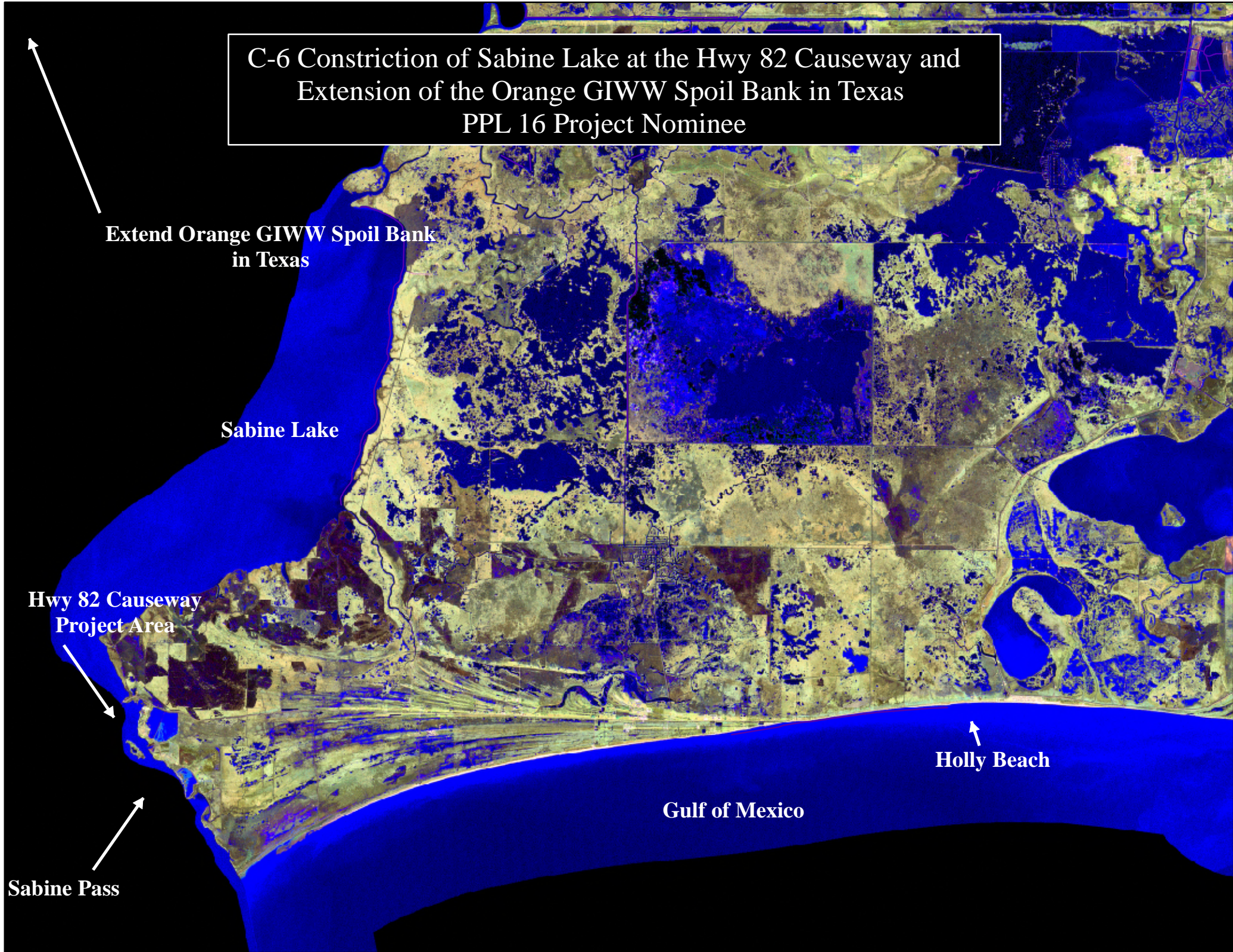
Sabine Lake

**Hwy 82 Causeway
Project Area**

Holly Beach

Gulf of Mexico

Sabine Pass



Region 4 – Calcasieu/Sabine Basin

Proposed Project #7

Toledo Bend Outflow (Maintain Sabine River Inflow) Project

PPL16 PROJECT NOMINEE FACT SHEET
January 17, 2006

Project Name and Number
C-7 Maintain Sabine River Inflows into Sabine Lake

Coast 2050 Strategy
CS 9 - Maintain Sabine River Inflow (to mitigate Trans-Texas Water Plan)

Project Location
Region 4, Calcasieu-Sabine Basin, located at the mouth of the Sabine River at the northeastern portion of Sabine Lake.

Problem
Mr. David Richard stated that there had to be a means to manage Sabine River inflows. Texas has been planning future water management. There are currently no large scale plans to take water out of the Sabine River, but there are no mechanisms in place to ensure that that will not happen in the future.

Proposed Project Features
The project proposes that the CWPPRA Task Force meet or coordinate with the Sabine River Authority to determine if significant Sabine River fresh water withdrawals were contemplated and make recommendations in opposition to such withdrawals if necessary.

Goals
The goal is to monitor Sabine River fresh water withdrawal proposals and submit recommendations from the CWPPRA Task Force to recommend a minimum outflow that will insure the long term health of Sabine Lake and surrounding marshes and to oppose significant water withdrawals to maintain the Sabine Lake estuary.

Preliminary Project Benefits
Maintenance of the existing low to moderate salinity regime in the Sabine Lake estuary.

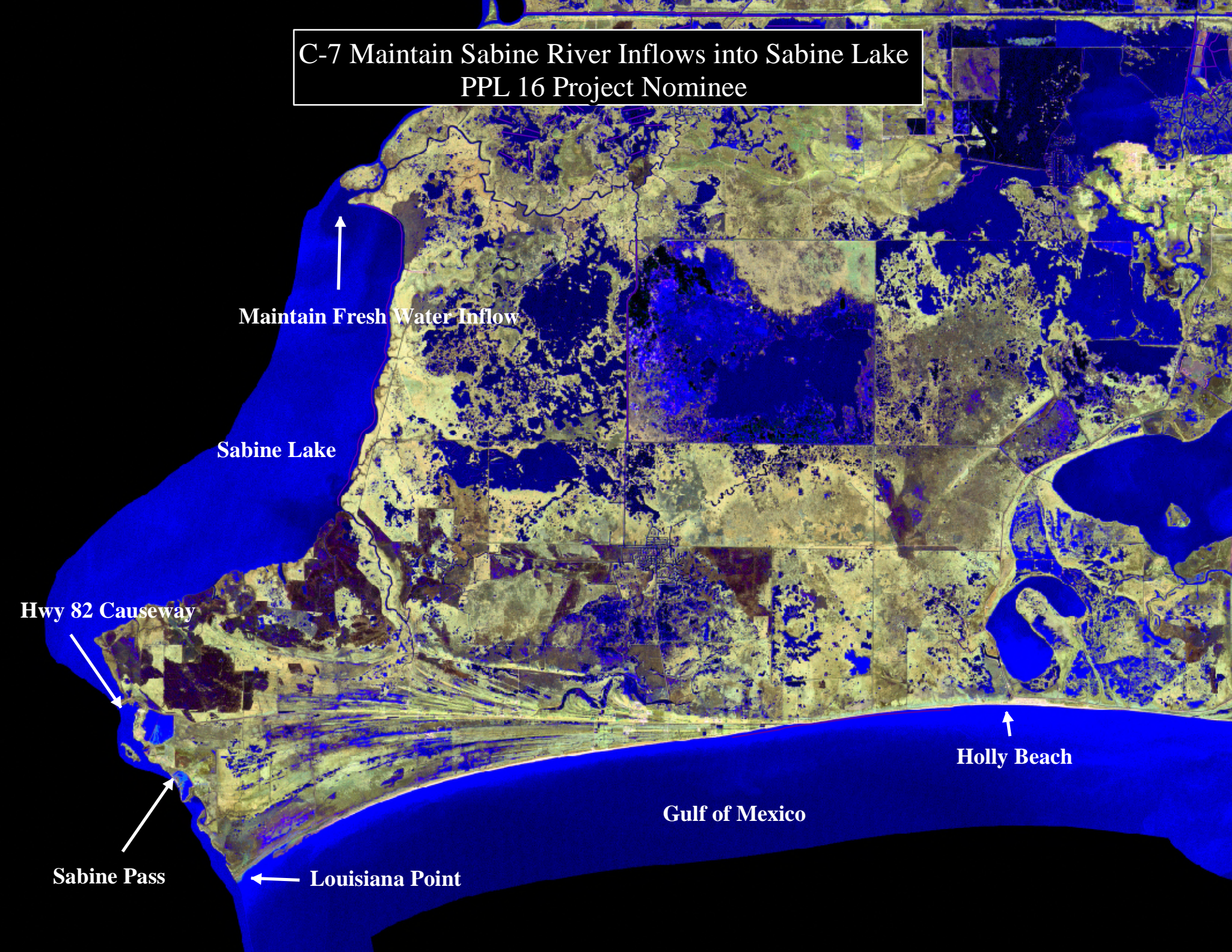
Identification of Potential Issues
Sabine River freshwater flows are managed by the Sabine River Authority; the CWPPRA Task Force can only make suggestions to that authority.

Preliminary Construction Costs
This could be a Task Force directive, as a “no-cost project” that should be implemented as a regular CWPPRA task item.

Project Nominator
David Richard, Stream Property Management Co., 337-433-1057 (ext 19),
drichard@streamcompany.com

Preparer of Fact Sheet
Darryl Clark, USFWS, 337-291-3111, Darryl_Clark@fws.gov

C-7 Maintain Sabine River Inflows into Sabine Lake
PPL 16 Project Nominee



Maintain Fresh Water Inflow

Sabine Lake

Hwy 82 Causeway

Sabine Pass

Louisiana Point

Gulf of Mexico

Holly Beach

Demonstration Projects

Proposed Demonstration Project #1

Hurricane Organic Debris for Chenier Restoration Demo Project

PPL16 PROJECT NOMINEE FACT SHEET
January 13, 2006

Project Name and Number

Hurricane Organic Debris for Chenier Restoration Demonstration Project

Coast 2050 Strategy

Coast wide Common Strategies: Maintain, Protect, and Restore Ridge Functions

Project Location

Cameron Parish, Louisiana

Problem

The practice of sand-mining of Cheniers in Cameron Parish has gone unabated for fifty years and the recent Hurricane Rita has shown the detrimental effects of storm surge enlarging the excavation areas and actually breaching the cheniers and causing severe latent damages to marshes by allowing extensive salt water flooding.

Proposed Project Features

Dispose of organic debris in the sand mines, recap the mines with native sand and replant native vegetation on the restored cheniers.

Goals

Restore Chenier functions and features

Preliminary Project Benefits

Restore hydrology to damaged areas and restore critical Chenier functions as a critical component of the hydrology in the Chenier Plain Area

Identification of Potential Issues

Sand mines are located on private property.

Preliminary Construction Costs

1.5 million

Preparer of Fact Sheet

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Proposed Demonstration Project #2

Dredged Containment Demo Project (see PPL15 demo)

Dredge Containment System for Marsh Creation Demonstration Project

Coast 2050 Strategy:

- Coastwide Strategy: Dedicated dredging for wetland creation

Project Location: Coastwide

Problem: Containment is one of the most critical and costly aspects associated with designing a beneficial use dredge project. If the environment in which the material is to be discharged does not have features conducive to natural containment, such as spoil banks, ridges, or enclosed marsh, then containment must be constructed using rock or earthen levee created from on-site materials. The problem with such containment is that it 1) requires heavy equipment, which increases cost, 2) is dependant upon the soil condition upon which it is placed, and 3) may be limited by subsurface features (e.g. pipelines) that prevent the building of containment by conventional means.

Goals: The overall goal of the project is to demonstrate a cost-effective alternative to traditional containment methods for beneficial use dredging, which potentially expands the feasibility of dredging in areas previously considered unsuitable by soil conditions or obstruction.

Proposed Solution: Net Gains LLC recently patented a new cost-effective containment technology. The containment system, which can be constructed in 2-3 feet of open water, consists of a filter cloth or geotextile fabric that is anchored by a chain and floated on the surface by an absorbent boom. The containment can be deployed from a small watercraft, such as an outboard or airboat, with minimal labor. To fasten the containment wall in place during hydraulic dredging anchoring poles are deployed around the perimeter of the containment boom. As sediments are introduced into the containment area, dewatering occurs via a stop-log weir located on the periphery of the boom. Boards are added to the weir to contain the material as sediment accretion occurs. Upon completion of the dredging, the material is allowed to settle and dewater and subsequently may be planted with vegetation. Once vegetation becomes established, the containment cloth as well as the flotation boom may be cut away and the anchor poles removed.

Project Benefits: The project provides a potentially cost-effective alternative to traditional containment systems and may also expand options for dredge projects in areas limited by poor soil conditions or contains obstructions such as pipelines.

Project Costs: The total fully funded cost for the project is \$1,073,163.

Preparer of Fact Sheet:

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Proposed Demonstration Project #3

Bioengineered Oyster Reef Demo Project (see PPL15 demo)

Evaluation of Bioengineered Reefs Performing as Submerged Breakwaters Demonstration Project

Coast 2050 Strategy

- Stabilize Gulf of Mexico shoreline from old Mermentau River to Dewitt Canal, preserve and stabilize the gulf shoreline, maintain integrity of Gulf of Mexico shoreline where needed.

Project Location: Region 4, Mermentau Basin, Cameron/Vermilion Parish, Rockefeller Refuge west of Rollover Bayou

Problem: Louisiana's coastline has received national attention for the past 2-3 decades due to its rapid erosion rates. Poor soil load bearing capacities is one example that could limit the use of more traditional restoration techniques along many areas of coastal Louisiana.

Goals: The goal of this project is to investigate specific designs of bioengineered reefs and their ability to mitigate erosion. Additional goals focus on environmental benefits both at the time of installation and over the development life of the oysterbreak; and investigation of stability and growth of the structures over time.

Proposed Solution: Many locations in coastal Louisiana would be appropriate. Because this is intended to be a biologically dominated engineered structure, there is a need for sufficient oyster spat and appropriate growing conditions. Maturity will be influenced by oyster growth rates. Thus, areas of high oyster growth would be preferred. The technology termed an "oysterbreak" is designed to stimulate the growth of biological structures in the shape of submerged breakwaters. The project would entail construction of a near-shore break-water along the Gulf of Mexico shoreline. The break-water would extend from the western bank of Joseph's Harbor canal westward for 600 feet. It would be designed to attenuate shoreline retreat along this stretch of Gulf shoreline, as well as promote shallowing, settling out, and natural vegetative colonization of over-wash material landward of the proposed structure. The resultant design would be placed offshore along the -3' contour. The crest height of the proposed structure would be 6 feet above the Gulf floor, with a 10 foot crown and 1:3 slope on both sides.

Project Benefits: This project is anticipated to benefit 2.4 acres of saline marsh (600 ln ft X 35 ft/yr X 5 yrs).

Project Costs: The total fully funded cost for the project is \$1,421,702.

Preparer of Fact Sheet

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Proposed Demonstration Project #4

Sediment Containment System for Marsh Creation Demo Project

PPL15 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 11, 2006

Demo #4
Presented during
Region 3
RPT

Demonstration Project Name

Sediment Containment System for Marsh Creation

Coast 2050 Strategy

Possible Demonstration Project Location(s)

Coastwide

Problem

Small and medium freshwater diversions that flow into broad areas lack confinement and trapping features and often the materials entering the area are too dilute or fine to result in any appreciable accumulation to form marsh. A method to delineate smaller areas to concentrate sediments flowing across an area would allow for accumulations to occur within a more timely manner. A sediment trapping mechanism would also allow for taking advantage of finer materials that would otherwise largely flow through the target area.

Goals:

The overall goal of the project is to demonstrate the effectiveness of a sediment trapping system to strategically define areas of accumulation and improve the efficiency of sediment accumulation in small and medium freshwater diversions.

Proposed Solution:

The project will demonstrate the effectiveness of a sediment trapping system designed for dredge containment to facilitate the sediment accumulation in freshwater diversion that are located in broad areas where sediment accumulation is dissipated over broad area. The project will demonstrate that by isolating areas where accumulation can be concentrated accretion rates will be greatly enhance and speed up marsh creation.

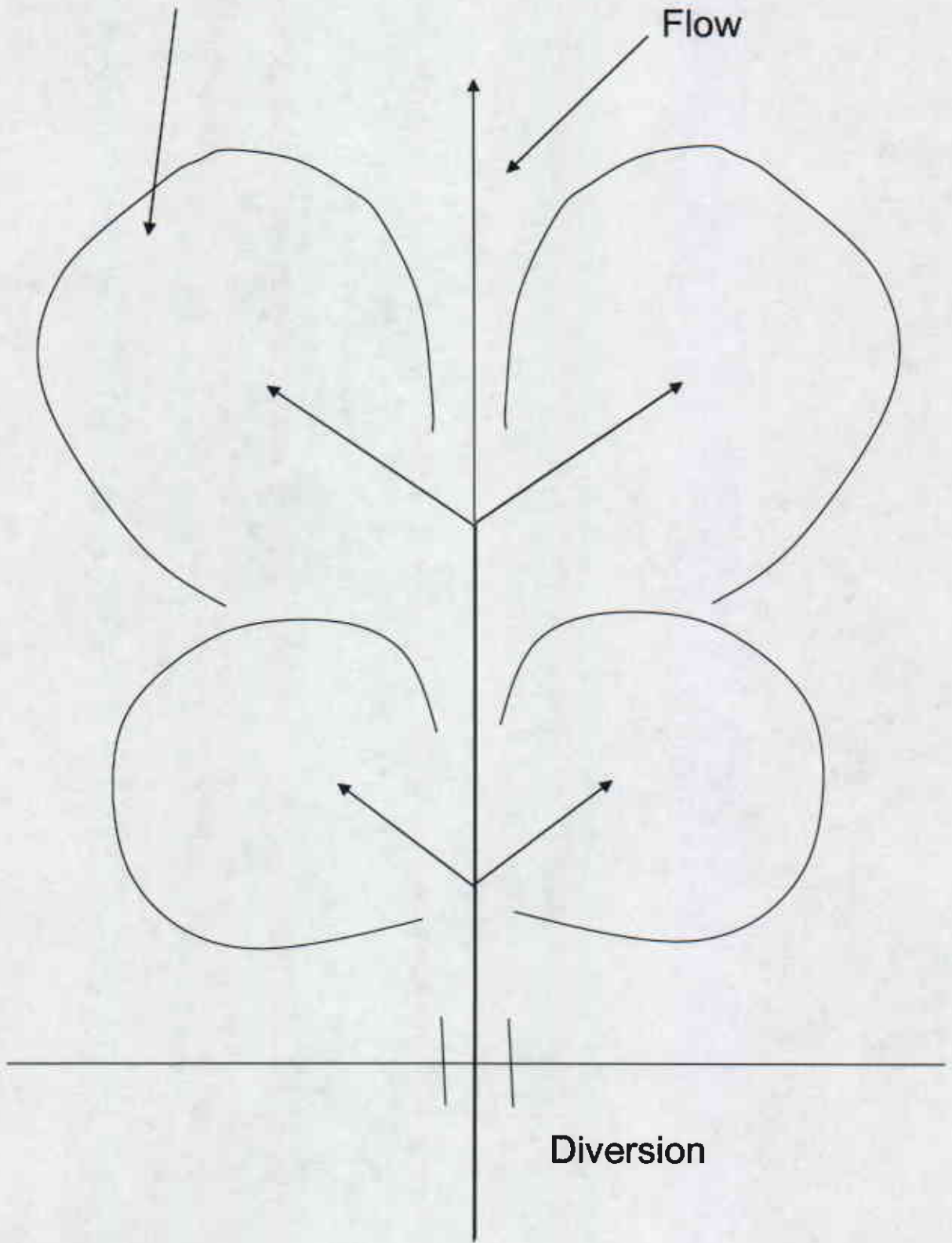
Demonstration Project Costs:

\$500,000

Preparer of Fact Sheet:

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Containment for sediment trapping



Flow

Diversion

Proposed Demonstration Project #5

Enhancement of Barrier Island and Salt Marsh Vegetation Demo Project

Demo #5

PPL16 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 9, 2006

Project Name: Enhancement of Barrier Island and Salt Marsh Vegetation

Coast 2050 Strategies:

- Coastwide Common Ecosystem Strategy; Restore/Maintain Barrier Islands, Headlands, Shorelands; Region 2 Mapping Unit Strategy # 17 Caminada Bay – Maintain Shoreline Integrity e.g. vegetative plantings of mangroves or marsh; and Region 3 Regional Ecosystem Strategy; Protect Bay/Lake Shorelines, #10 Maintain shoreline integrity and stabilize critical areas of Teche/Vermillion Bay Systems including the Gulf Shorelines (bay/lake/gulf)

Project Location: There are multiple projects planned and ongoing that fit within the strategies listed above, most of which include use of vegetative plantings on barrier islands. One possible project site in Region 3 is the Timbalier Island Dune and Marsh Restoration project (TE-40) that completed planting nearly 110,000 plants, eight different species in 2005. Additional project locations are available in Regions 2 and 3.

Problem: Barrier Islands provide critical habitat and are the first line of defense to not only day-to-day coastal erosion but also to the destructive forces of major storm events. Developing methodologies to enhance vegetation establishment and growth in barrier island restoration projects is important because healthy vegetative cover traps, binds, and stabilizes sand and sediment, thereby improving island integrity during storm and overwash events. Barrier islands are very stressful environments and there remains a critical need to develop cost-effective improvements to existing restoration methodologies that will enhance the successful establishment and spread of vegetation in these expensive and important restoration projects.

Proposed Solution: Humic acid and broadcast fertilization regimes will be applied. Humic acid benefits will be demonstrated in both intertidal and supratidal plantings, whereas broadcast fertilization benefits will only be demonstrated in supratidal plantings. Each product (humic acid and fertilizer) will be commercially available and off-the-shelf. Enhancing the establishment of woody vegetation (black mangrove and groundsel bush) will be achieved via high-density dispersal techniques of propagule and seeds. All treatment test sections and reference planting areas will be visually inspected and sampled quarterly (plant and soil variables) and compared to the reference area to develop recommendations for future planting projects.

Goals: Test several technologies and/or products to enhance the cost-effective establishment and growth of key barrier island and salt marsh vegetation.

Project Benefits: The humic acid amendment and broadcast fertilization regime techniques are intended to “jump start” and facilitate the rapid establishment and expansion of vegetation. Establishing woody vegetation (black mangrove and groundsel bush) via propagules and seeds is a cost-saving alternative to planting container-grown transplants of these trees. If successful, these techniques can be applied coastwide.

Project Costs: \$ 850,000.

Preparers of Fact Sheet:

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(with major assistance from Dr. Mark Hester, University of New Orleans)

Proposed Demonstration Project #6

Nourishment of Permanently Flooded Cypress Swamp Through Dedicated Dredging Demo
Project (see PPL15 demo)

PPL 16 DEMONSTRATION PROJECT NOMINEE FACT SHEET

Demonstration Project Name: Nourishment of Permanently Flooded Cypress Swamps Through Dedicated Dredging

Coast 2050 Strategy: Coast wide Common Strategy - Dedicated dredging for wetland creation

Possible Demonstration Project Location (s): Either side of the Houma Navigation Channel and multiple locations in Barataria Basin and Penchant Basin.

Problem: 1) Many cypress/tupelo swamps in coastal Louisiana have experienced altered hydrology either through the loss of sediments (i.e., flood control levees along the Mississippi river) causing increased subsidence rates or through impoundments (i.e., roads, levees, etc.). These swamps are also affected by saltwater intrusion (due to the construction of canals). These trees slowly die when they are exposed to prolonged, deep flooding (from both fresh and saline waters) for longer than normal duration and regeneration of new trees cannot occur under these flooded conditions. 2) Several State and Federal agencies have denied the possible use of dredged material to rehabilitate permanently flooded cypress/tupelo swamps because of the perception that it would harm those trees.

Goals: To demonstrate how the deposition of differing amounts (depths) of dredged material within a cypress/tupelo swamp would affect the growth of cypress trees and how that would affect the ability of those cypress trees to naturally regenerate. Several methods of planting small cypress trees in the newly deposited dredged material would be tested along with their survival rates.

Proposed Solution:

- 1) Containment dikes at each of 3 study sites will be constructed to provide 3 contiguous 3-acre blocks (27 acres) with similar pre-project hydrology. Each study site will have 1 control block consisting of 3 acres (9 acres total). To the greatest degree possible dredge disposal areas will be chosen to include a range of bald cypress size classes (and hopefully age classes) in both stressed and healthy conditions within each block. At each study site the 3 blocks will be filled with 1 ft (30 cm), 2 ft (60 cm) and 3 ft (90 cm) of sediment. Only 1 sediment treatment per block will be used due to the cost of dike construction.
- 2) Certain physiological as well as certain morphological measurements would be performed pre and post sediment placement on selected mature trees within each plot to document the effects of sediment placement of differing depths on mature trees (see attachment). Also, a detailed soil analysis will be carried out within each plot (see attachment).
- 3) Areas within these units with very little tree cover would be used to test three methods of tree planting. Selected areas with mature will be designated to determine the effect of addition of soil to natural regeneration.

Demonstration Project Costs: Total estimated project first cost \$1,089,293.

Preparer of Fact Sheet:

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Proposed Demonstration Project #7

Oyster Shells for Ridge Restoration Demo Project

No Handout Provided

Proposed Demonstration Project #8

Pipeline Transport of Mulched Woody Debris Demo Project

PPL16 PROJECT NOMINEE FACT SHEET
Demonstration Project
January 12, 2006

Project Name

Pipeline Transport of Mulched Woody Debris

Coast 2050 Strategy

Coastwide - Dedicated Dredging to Create, Restore or Protect Wetlands

Project Location

Potential Site - Region 1, Pontchartrain Basin, Orleans Parish, Bayou Sauvage National Wildlife Refuge, northwest of junction of Hwy 90 and Hwy 11.

Problem

Subsidence, interior ponding, and shoreline erosion are the major causes of wetland loss in the project area. Hydrologic changes including construction of the hurricane protection levee system around the project area have led to the loss of emergent marsh due to lack of sedimentary inputs, periodic flushing of the predominantly fresh marsh with saline waters from Lake Pontchartrain, oxidation and compaction of highly organic soils, and suspension of organic materials in the water column which prevent establishment of submerged aquatic vegetation. Ponds continue to increase in size as fragile organic soils are eroded by wave fetch and lose elevation due to subsidence and oxidation of organic soils. Input of material to offset these factors is needed.

A secondary benefit would be to ease the problematic disposal of the organic debris created as a result of the passage of Hurricane Katrina.

Proposed Project Features

Mulched organic material will be transported to the project site using equipment and technology already in use for transport of dredge material. Material will be contained in cells and used to fill interior ponds and create a series of linear terraces for the restoration of approximately 100 acres of marsh. Additionally, the terraces will reduce wave fetch and benefit the establishment of submerged aquatic vegetation on an additional 300 acres.

Goals

The goal of this project is to investigate the feasibility of using the massive amounts of organic debris created by Hurricanes Katrina and Rita for marsh creation efforts. Applicability of this technique could be expanded to any location where sufficient organic materials are available for mulching.

Preliminary Project Benefits

Creation of marsh habitat, reduced fetch, increase submerged aquatic vegetation.

Preliminary Construction Costs

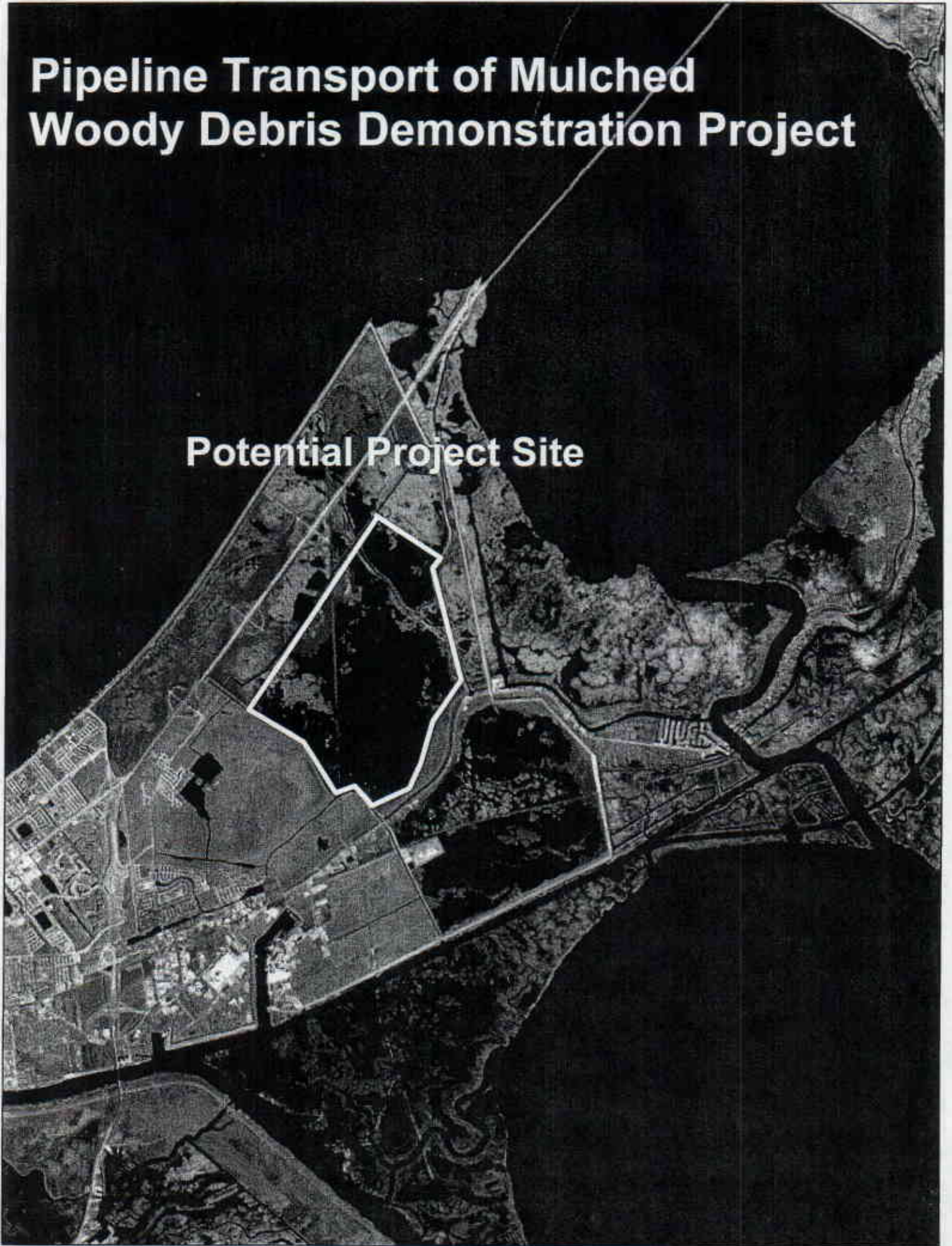
<\$1 million

Preparer of Fact Sheet

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Pipeline Transport of Mulched Woody Debris Demonstration Project

Potential Project Site



Proposed Demonstration Project #9

Barrier Island Sand Blowing Demo Project (see PPL15 demo)

Barrier Island Sand Blowing Demonstration Project

Coast 2050 Strategy:

- Region 1 – revised strategy 14 - restore and maintain barrier islands.

Project Location: It is recommended demonstrating this technology at Breton Island, although any other barrier island in Louisiana could be selected.

Problem: Barrier islands are rapidly disappearing as a result of tropical storm and hurricane activity. Storms cause surge that over-wash and often breach the islands. Many times breaches or gaps form in the island that continue to erode and eventually form large cuts in the island. Closing barrier island breaches quickly with high quality sediments is the easiest and least expensive strategy to maintain shoreline integrity. One of the challenges in barrier island restoration is finding the most cost effective and highest quality borrow source available. When a source of sand is found it is often times encumbered by pipeline networks and covered by layers of silts or organics and/or may be too far from the restoration site for cost effective mining and placement.

Goals:

1. To demonstrate the use of the sand blowing technology for the purposes of mining sand sites in the dry and placing (unloading) the sand in the dry.
2. To demonstrate the cost effectiveness of using confined upland disposal sites as a potential source of sand for barrier island restoration projects.
3. To demonstrate the effectiveness of using this placement method to close newly formed gaps (breaches) and/or over-wash areas resulting from Major Storm events such as tropical storms and hurricanes.
4. To demonstrate the effectiveness of using this placement method to place high quality sediments in precise areas, such as breaches or beaches, on eroding barrier islands

Proposed Solution: The demonstration project involves the mining of high quality sand (dry) from a USACE, Mobile District's upland confined disposal site using the sand blowing method. The sand will then be placed on a barge and towed to Breton Island. The sand will then be offloaded from the barges and placed on Breton Island using the sand blowing method. The sand will be used to close breaches or areas of over-wash on the island.

Project Benefits: This project allows use of material not being used beneficially, would decrease impacts to water quality at the disposal site, and avoid impacts resulting from containment dike construction.

Project Costs: The total fully funded cost for the project is \$1,919,343.

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