

BARATARIA BASIN

R2-BA-01-Home Place Siphon

19-2-BA-#1

PPL19 PROJECT NOMINEE FACT SHEET
January 29, 2009

Project Name: Home Place Siphon

Coast 2050 Strategy:

- Coastwide Common Strategies
 - Diversions and river discharge
 - Management of diversion outfall for wetland benefits
- Region 2 Regional Ecosystem Strategies:
 - Restore and Sustain Marshes: #8: Construct most effective small diversions

Project Location:

Region 2, Barataria Basin, Plaquemines Parish, West Bank of Mississippi River, near Port Sulphur, LA.

Problem: Leveeing of the Mississippi River for flood control and navigation deprived the area of sediment needed to maintain elevation against subsidence, as well as freshwater to maintain low salinity marshes. Aerial photography clearly shows that much wetland loss has occurred in this area.

Goals : Create marsh and/or reduce rate of wetland loss. Restore intermediate and fresh marshes. Increase SAV cover.

Proposed Solutions: Construct a 1,500-2,000 CFS siphon.

Preliminary Project Benefits: The project will directly and indirectly benefit a minimum of 10,000 ac. We estimate that 500-750 ac of wetlands (depending on size of diversion) will be protected/created over the project life. The anticipated loss rate reduction throughout the area of direct benefits over the project life is >75%. The project will help maintain the Mississippi River Levee in the vicinity of the project area. The project will have a moderate net positive impact on critical infrastructure (Mississippi River Levee). The project does not provide any synergistic effect with other approved and/or constructed restoration projects.

Identification of Potential Issues: The proposed project has potential land rights issues.

Preliminary Construction + 25%: \$16 Million

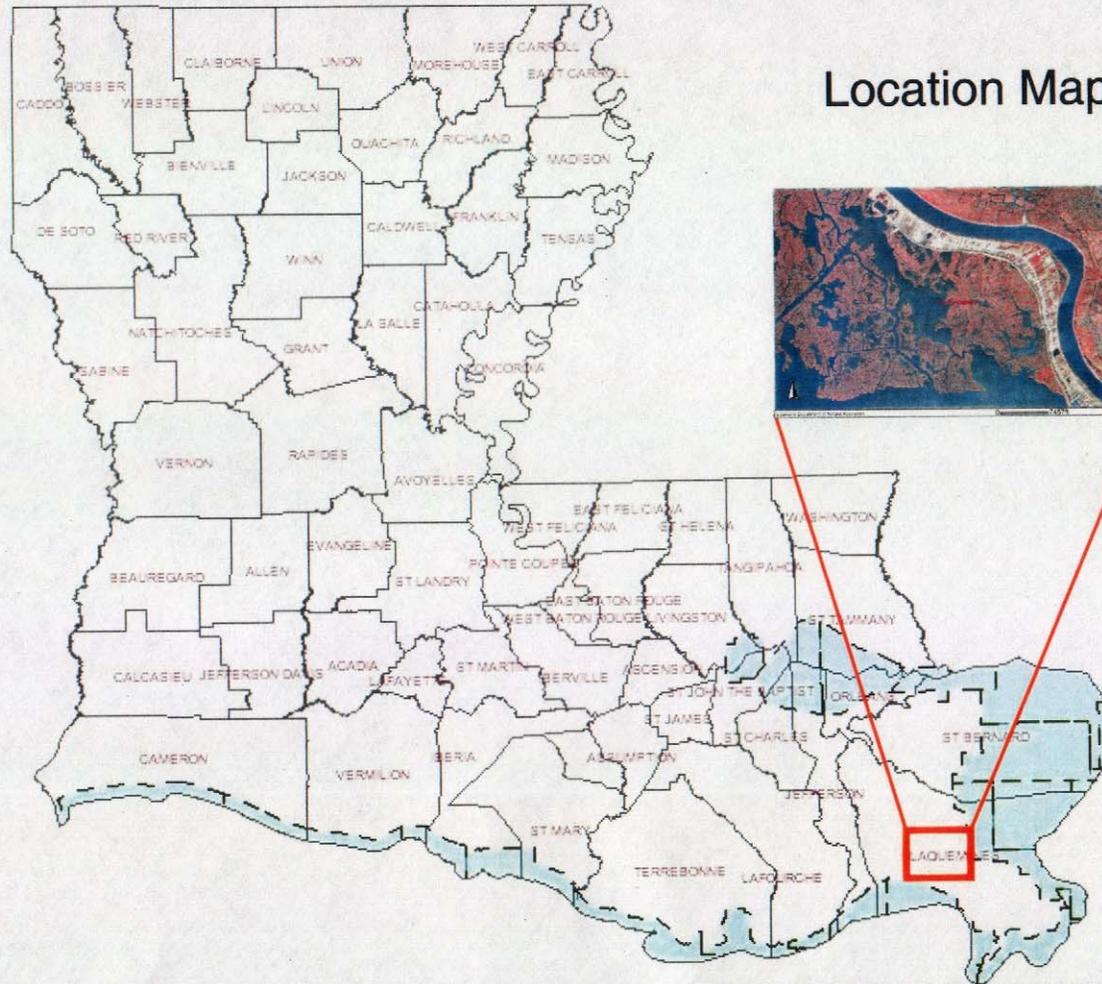
Preliminary Fully Funded Cost: \$23 million

Preparer(s) of Fact Sheet:

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Home Place Siphon



19-2-BA-#1

Home Place Siphon

1,500-2,000 CFS
Siphon

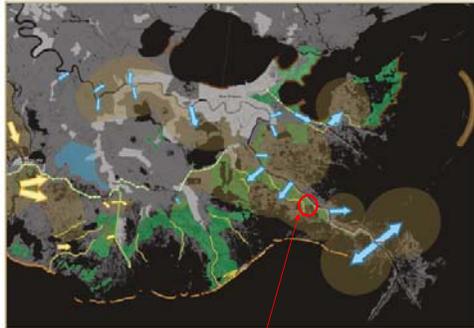
~10,000 acres

PLAQUEMINES





Modified From: Louisiana's Comprehensive Master Plan
for a Sustainable Coast, p. 57



- | | |
|---|---|
|  <p>Marsh Restoration using Dredged Material</p> | <ul style="list-style-type: none">- Maintain and Restore the Breton Sound Marshes- Maintain and Restore Bilal Landbridge and Barre Rosts- St. Tammany Marsh Restoration- Central Wetlands Restoration- Marsh Restoration using Dredged Material at Golden Triangle- East Orleans Landbridge Restoration- Marsh Restoration using Dredged Material in Barataria Basin- Mississippi River Diversion at Myrtle Grove with Dedicated Dredging- Mississippi River Diversion at Point a la Hache with Dedicated Dredging- Marsh Restoration in Terrebonne Basin- Marsh Restoration at Point Au Fer Island- Maintain Landbridge between Calibou Lake and Gulf of Mexico- Beneficial use of Dredged Material |
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R2-BA-02-Bayou Dupont Sediment Delivery –
Marsh Creation 3

19-2-BA-#2

PPL19 PROJECT NOMINEE FACT SHEET

January 29, 2009

Project Name: Bayou Dupont Sediment Delivery – Marsh Creation 3

Coast 2050 Strategy:

Coastwide Strategy: Dedicated dredging to create, restore, or protect wetlands and Off-shore and riverine sand and sediment resources

Region 3 Ecosystem Strategy: Restore and Sustain Marshes

Regional Ecosystem Strategy #8: Dedicated delivery and/or beneficial use of sediment for marsh building by any feasible means.

Project Location: Region 3, Barataria Basin, Plaquemines Parish

Problem:

The wetlands in the Barataria Basin were historically nourished by the fresh water, sediment and nutrients delivered by the Mississippi River and the many distributary channels. Following the creation of levees along the lower river for flood control and navigation, these inputs ceased. Data suggests that from 1932 to 1990, the basin lost over 245,000 ac of marsh, and from 1978 to 1990, Barataria Basin experienced the highest rate of wetland loss along the entire coast.

Goals :

Create approximately 550 ac of emergent brackish marsh using sediment from the Mississippi River.

Proposed Solutions:

Create approximately 550 ac marsh using sediment from the Mississippi River and transporting the sediment by pipelines into mostly shallow open water. After construction, the newly constructed marsh will be assessed to determine if vegetative plantings are necessary. The proposed project will utilize the existing crossing constructed by the CWPPRA project entitled Mississippi River Sediment Delivery System (BA-39).

Preliminary Project Benefits:

- What is the total acreage benefited both directly and indirectly? **550 ac**
- How many acres of wetlands will be protected/created over the project life? **363 ac**
- What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%)? **50-74%**
- What is the net impact of the project on critical and non-critical infrastructure? **None**
- To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? **This project will also benefit other CWPPRA projects such as the Mississippi River Sediment Delivery System (BA-39) and Bayou Dupont Marsh and Ridge Creation (BA-48)**

Identification of Potential Issues:

The proposed project has the following potential issues: land rights and utilities/pipelines.

Preliminary Construction Costs: \$25,000,000 - \$30,000,000

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Bayou Dupont Sediment Delivery Marsh Creation 3



Location Map



Louisiana Department of Natural Resources

0 91mi



19-2-BA-#2

Bayou Dupont Sediment Delivery Marsh Creation 3

Bayou Dupont 1
Project Limits

JEFFERSON 550 Acres

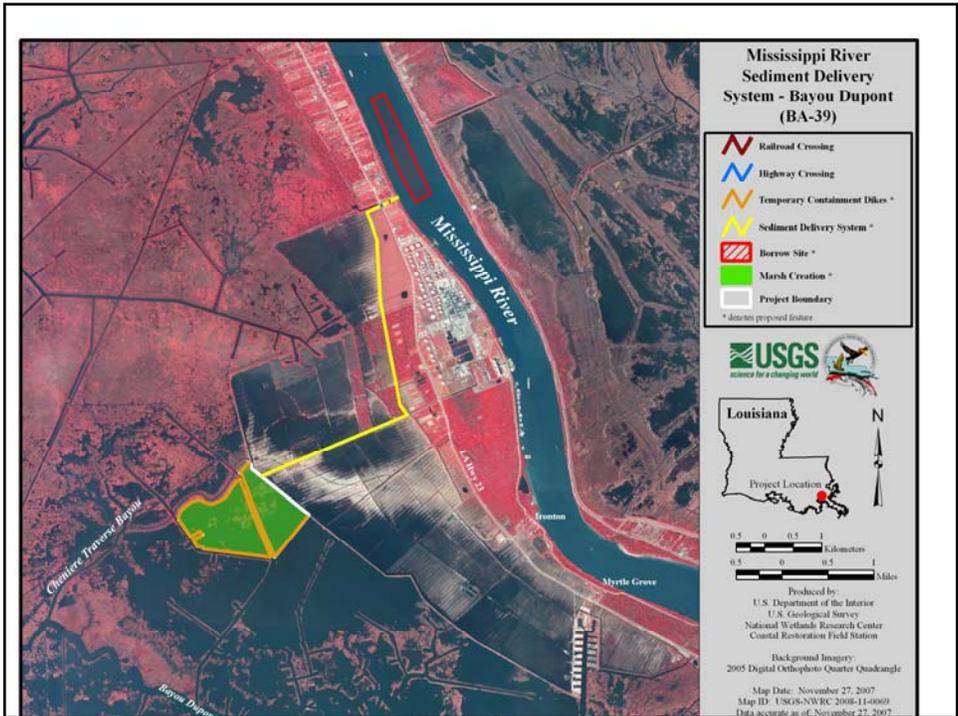
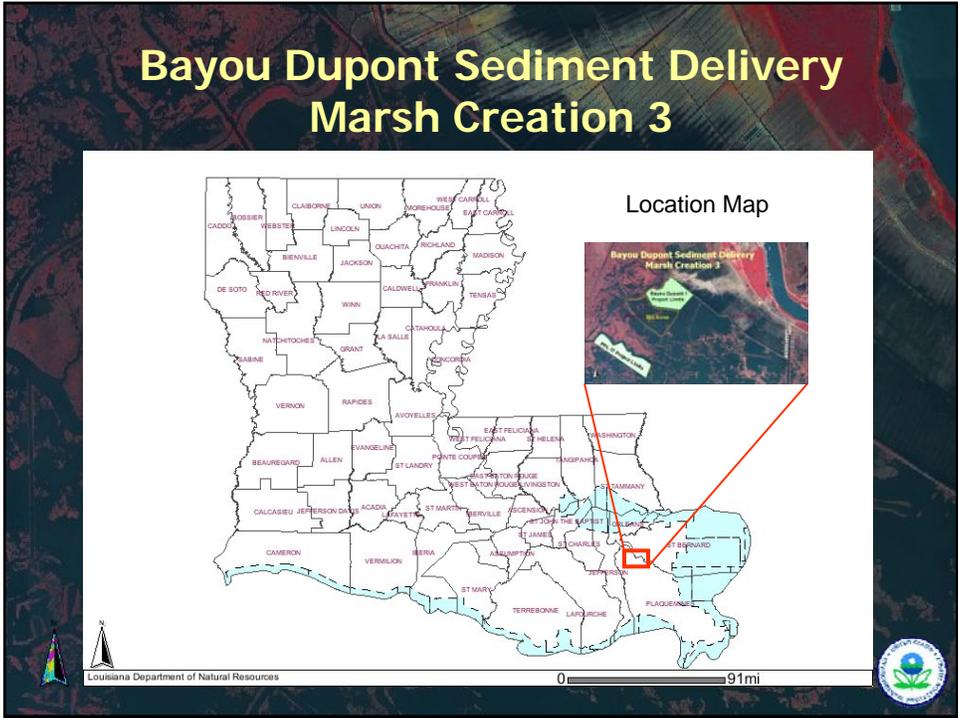
PPL 17 Project Limits

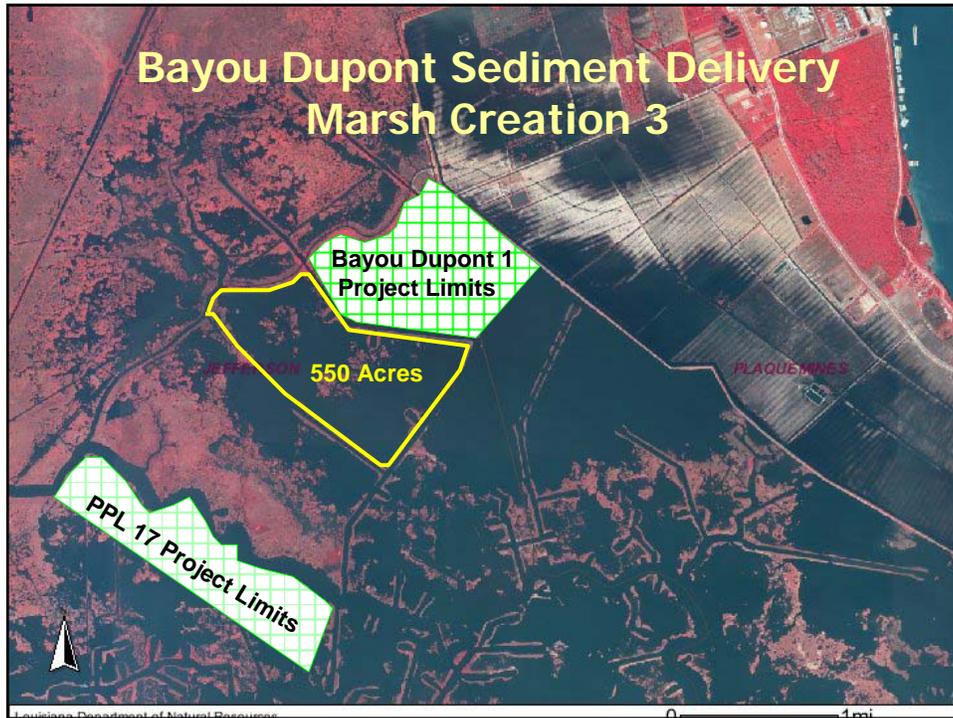
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Bayou Dupont Sediment Delivery Marsh Creation 3





Bayou Dupont Sediment Delivery Marsh Creation 3

Goals:

- Create/Nourish 550 ac intermediate marsh

Preliminary Project Benefits:

- 363 net ac over 20 years

Identification of Potential Issues:

- Oil & Gas

Preliminary Construction Costs:

- \$25-\$30 million

Bayou Dupont Sediment Delivery Marsh Creation 3

Questions?

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R2-BA-03-West Pointe a la Hache Marsh
Creation 2

PPL19 PROJECT NOMINEE FACT SHEET
January 29, 2009

Project Name: West Pointe a la Hache Marsh Creation South

Coast 2050 Strategy:

Coastwide Common Strategies

- o Dedicated dredging to create, restore, or protect wetlands
- o Off-shore and riverine sand and sediment resources

Region 2 Regional Ecosystem Strategy: Restore and Sustain Marshes

Project Location: Region 2, Barataria Basin, Plaquemines Parish, in the southern portion of the West Pointe a la Hache siphon outfall area

Problem: An unintended consequence of the Mississippi River levee is the isolation of the West Pointe a la Hache wetlands from the historic overbank flooding of the river. Without continued sediment input, marshes couldn't maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion, further degrading the marsh. Beginning in 1993, the siphons at West Pointe a la Hache were operated to reintroduce Mississippi River water, fine sediments, and nutrients into this general area. However, land loss rates continue to be high. An opportunity exists to create marshes in the southern portion of the siphon outfall area using sediment from the nearby Mississippi River. The created marshes should benefit from the effects of the reintroduced Mississippi River water from the siphons.

Goals:

- Convert approximately 240 acres of open water habitat to intermediate marsh.
- Maintain about 200 acres of created/nourished marsh over the 20-year project life.

Proposed Solutions: Dredge sediments from the Mississippi River to restore 240 acres of marsh habitat.

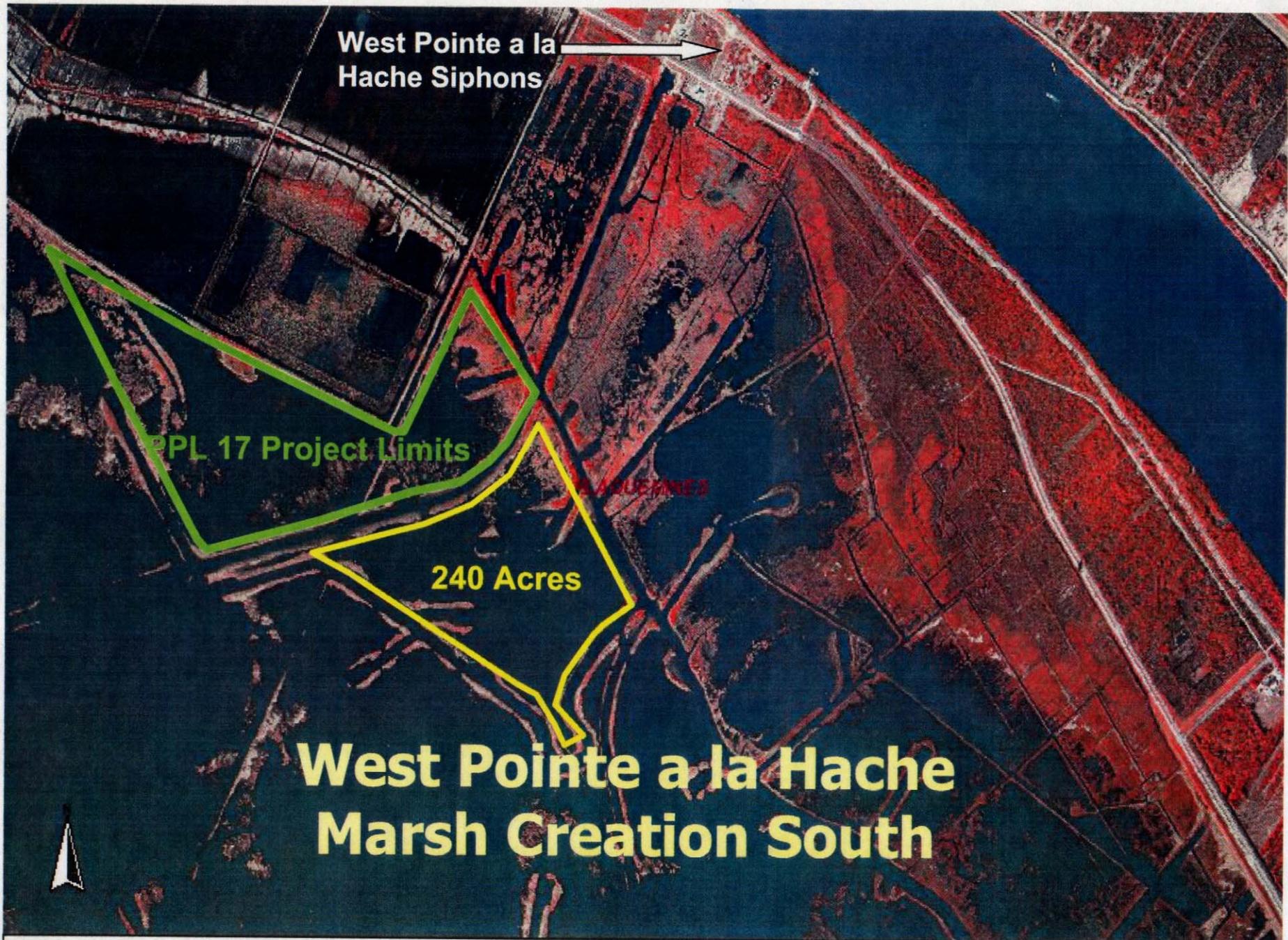
Preliminary Project Benefits: The project will directly and indirectly benefit more than 240 acres. We estimate that approximately 200 acres of wetlands will be protected/created over the project life. The anticipated loss rate reduction throughout the area of direct benefits over the project life is 50 to 74%. This project will help maintain the Mississippi River Levee in the vicinity of the project area and will have a moderate net positive impact on critical infrastructure (Mississippi River Levee). The project will have a synergistic effect with other approved and/or constructed restoration projects (West Pointe a la Hache Siphon, West Pointe a la Hache Outfall Management, West Pointe a la Hache Marsh Creation).

Identification of Potential Issues: • Oil & Gas, Land rights

Preliminary Construction Costs: (including + 25% contingency) \$ 13 million

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West Pointe a la Hache Siphons

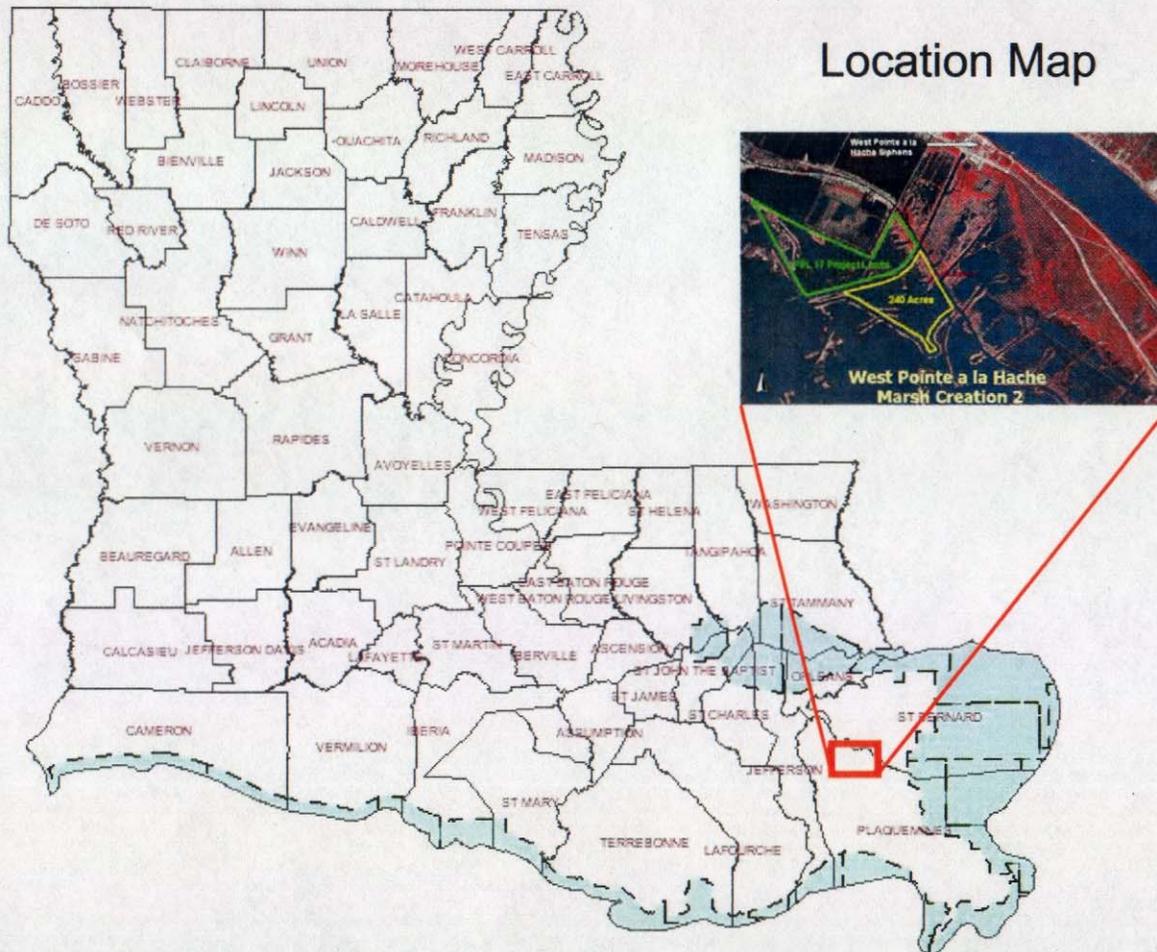
EPL 17 Project Limits

240 Acres

West Pointe a la Hache Marsh Creation South

West Pointe a la Hache Marsh Creation 2

Location Map



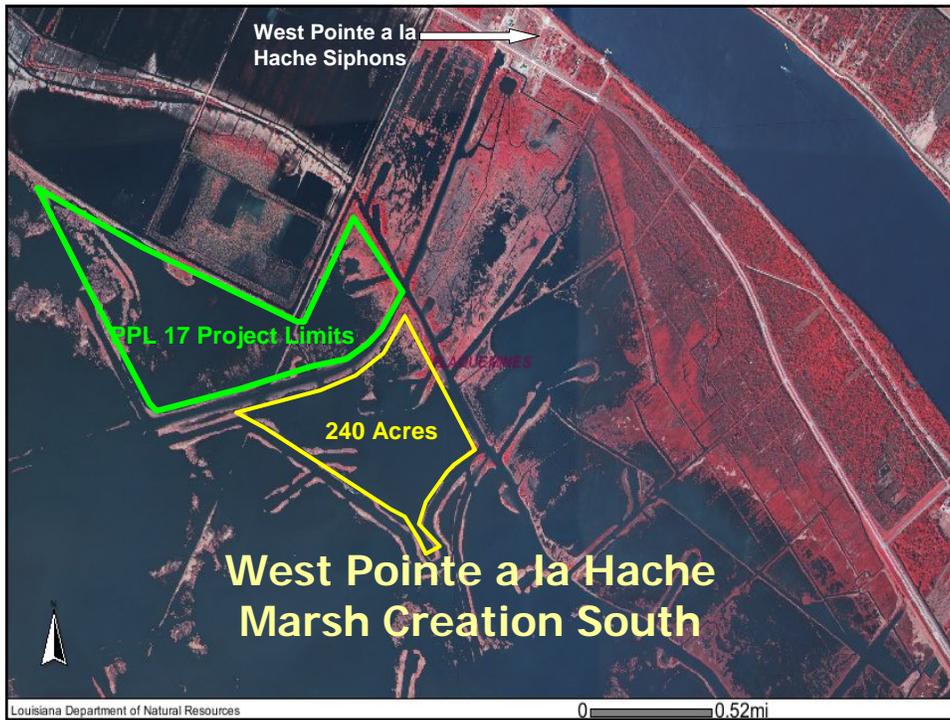
Louisiana Department of Natural Resources

0 91mi



19-2-BA-#3

West Pointe a la Hache Marsh Creation 2



West Pointe a la Hache Marsh Creation 2

Goals:

- Create/Nourish ~240 ac intermediate marsh

Preliminary Project Benefits:

- 138 net ac over 20 years

Identification of Potential Issues:

- Oil & Gas

Preliminary Construction Costs:

- \$15-\$20 million

West Pointe a la Hache Marsh Creation 2

Questions?

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R2-BA-04-Bayou L'Ours Ridge Restoration and
Terracing

PPL19 PROJECT NOMINEE FACT SHEET
February 4, 2009

Project Name: Bayou L'Ours Ridge Restoration and Terracing

Coast 2050 Strategy:

Coastwide: Maintain or Restore Ridge Functions

Terracing

Vegetative Plantings

Local and Common Strategies: Maintain function of Bayou L'Ours Ridge

Restoration of the Bayou L'Ours ridge is part of the State of Louisiana's Master Plan.

Project Location: Region 2, Barataria Basin, Lafourche Parish, east of Galliano, and south of Little Lake

Problem: The gapping of the Bayou L'Ours ridge by pipeline canals has altered the hydrology of the area and contributed to the degradation of the marsh north of the ridge. Additionally, the tidal flow through these canals is causing the depth of these openings to increase.

Goals: The project will restore the function of the Bayou L'Ours ridge, and working with the Davis Pond diversion, partially restore the hydrology of the marshes north of the ridge. Additionally, the project will halt the deepening of the gaps in the ridge. Terraces will be created in areas near the ridge to help restore the ridge's natural function and prevent further degradation of the ridge.

Proposed Solutions: Three of the gaps will be closed completely. Two additional gaps will be decreased in size and armored to prevent any further scouring. A 325-acre terracing field, consisting of approximately 30,000 linear feet of terraces, will be constructed south of the ridge to provide additional protection to the ridge. The terraces will be planted with appropriate vegetation, and will encompass approximately 47 acres. The project area of 7,972 acres, of which 2,544 acres are land, will be benefited indirectly due to decrease in salinity.

Preliminary Project Benefits: The project restores the function of the Bayou L'Ours ridge by providing a barrier to salt water intrusion. With increased usage of the Davis Pond diversion, the closure of the ridge will help restore the degraded marsh north of the ridge. It will also reduce salt water intrusion to the area near the Little Lake Shoreline Protection (BA-37) Project. The terraces will provide protection to the ridge from erosion caused by waves, and create additional wetland habitat. The restoration of the ridge will provide additional storm surge protection for the Clovelly Dome Storage Terminal, the Larose to Golden Meadow levee system, and communities to the north of the ridge.

Identification of Potential Issues: Past projects in this area have had landowner issues, but landowners in the area, including the owners of the Tidewater Canal, have expressed their support of the project.

Preliminary Construction Costs: \$5,500,000 including a 25 % contingency

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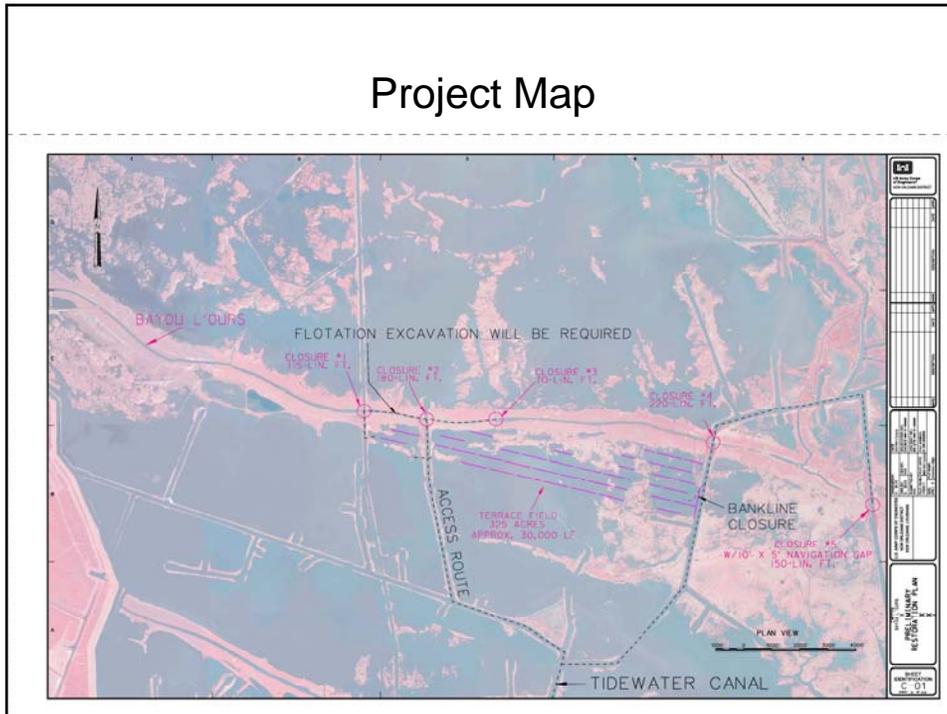
Problems

- Gapping of the Bayou L'Ours Ridge has altered the hydrology of the area
- Salt water intrusion has contributed to the degradation of the marsh north of the ridge
- Tidal flow is causing the depths of the openings to increase

Project Features

- Three gaps in the ridge will be completely closed.
- Two additional gaps will be decreased in size and allow small boat traffic.
- Construct 325 acres (approximately 30,000 linear feet) of terraces south of the ridge.
- Preliminary cost estimate: \$7 million

Project Map



Project Benefits

- With the increased usage of the Davis Pond diversion, the closure of the ridge will help restore the degraded marsh north of the ridge.
- Restores historic function of the Bayou L'Ours Ridge
- Increases protection of the Clovelly Oil Dome, and parts of Lafourche and lower Jefferson Parishes from storm surges
- Part of State's Master Plan

R2-BA-05-Naomi Siphon Improvement

PPL19 PROJECT NOMINEE FACT SHEET
January 27, 2009

Project Name

Naomi Siphon Improvement

Coast 2050 Strategy

Region 2 Strategy No. 8 – Construct most efficient small diversions.

Louisiana's Comprehensive Master Plan for a Sustainable Coast

From page 52 of the Master Plan, "Along these lines, it is important to review the operation of Davis Pond, Caernarvon, and other land sustaining diversions in Delta Plain. It is a state priority to ensure that these diversions are providing maximal ecosystem restoration results in conjunction with other restoration measures."

Project Location

Region 2, Barataria Basin, Plaquemines Parish, near Naomi

Problem

The siphon's estimated maximum discharge is 2,144 cfs with the optimum river stage and full, faultless operation. From 1993 through 2003, the structure was only in operation 69% of the time and averaged 819 cfs when fully operational (i.e. all eight pipes), and 519 cfs over the entire period, including times of no flow (Boshart et al. 2004).

Goals

The project will address the mechanical shortcomings that are associated with reduced or lost siphon operations.

Proposed Solution

Implement the following improvements to the existing siphon:

- 1) On-site and remote instrumentation to provide continuous monitoring and measurement of actual flow rates, instead of interpolated spreadsheet values;
- 2) Remote instrumentation to provide a means of immediate notification of when any pipes lose their prime.
- 3) On-site vacuum pump, control equipment, and instrumentation to allow speedy re-establishment of siphon flow;
- 4) Air release system;

In addition to the items listed above, additional improvement items may be investigated during E&D:

- 5) Extension of intake pipes to prevent the loss of vacuum due to ship passage during lower Mississippi River stages, thereby extending siphon operations;
- 6) Installation of a flange attachment for coupling with dredge operations to enrich one or more of the pipes with fine sediment.

Preliminary Project Benefits

The Naomi Siphon components and design are the same as for the West Pointe a la Hache siphon which is located approximately 15 miles downriver. Recently, an analysis was performed regarding improvements to the West Pointe a la Hache siphon. That analysis yielded an estimated increase in average discharge from 795 cfs to 1,488 cfs, as well an increase in net acres at the end of 20 years of 648 acres.

Because 1) the Naomi and West Pointe a la Hache siphons are of the same design, 2) the proposed improvements are the same for both projects, 3) the project areas are similar in size, but 4) the Naomi siphon is 15 miles upriver, anticipated that the benefits of the Naomi Siphon Improvement Project will be similar to, or greater than, those for the West Pointe a la Hache siphon improvements.

1) What is the total acreage benefited both directly and indirectly? The Naomi Siphon (BA-03) project area is 13,140 acres. Land/Water Analysis for 2000 indicated that the project area consisted of 9,057 acres of land and 4,083 acres of water.

2) How many acres of wetlands will be protected/created over the project life? The West Pointe a la Hache WVA for siphon improvement yielded an estimate of 648 net acres at the end of 20 years.

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 West Pointe a la Hache WVA for siphon improvement estimated a 66% loss rate reduction.

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 siphon improvements will help maintain marsh on the Barataria Basin Landbridge.

5) What is the net impact of the project on critical and non-critical infrastructure? The siphon improvements will help maintain the marshes that front the western back levees of Plaquemines Parish.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The project will complement other projects to protect / establish / nourish marshes west of the Mississippi River, including Mississippi River Sediment Delivery- Bayou Dupont; Bayou Dupont Ridge Creation and Marsh Restoration; South Shore of The Pen Shoreline Protection and Marsh Creation; Barataria Bay Waterway East Bank Protection, and the State's Small Dredge Marsh Creation projects.

Identification of Potential Issues

The proposed project has the following potential issues: no issues presently identified.

Preliminary Fully Funded Estimate

\$5.4 million

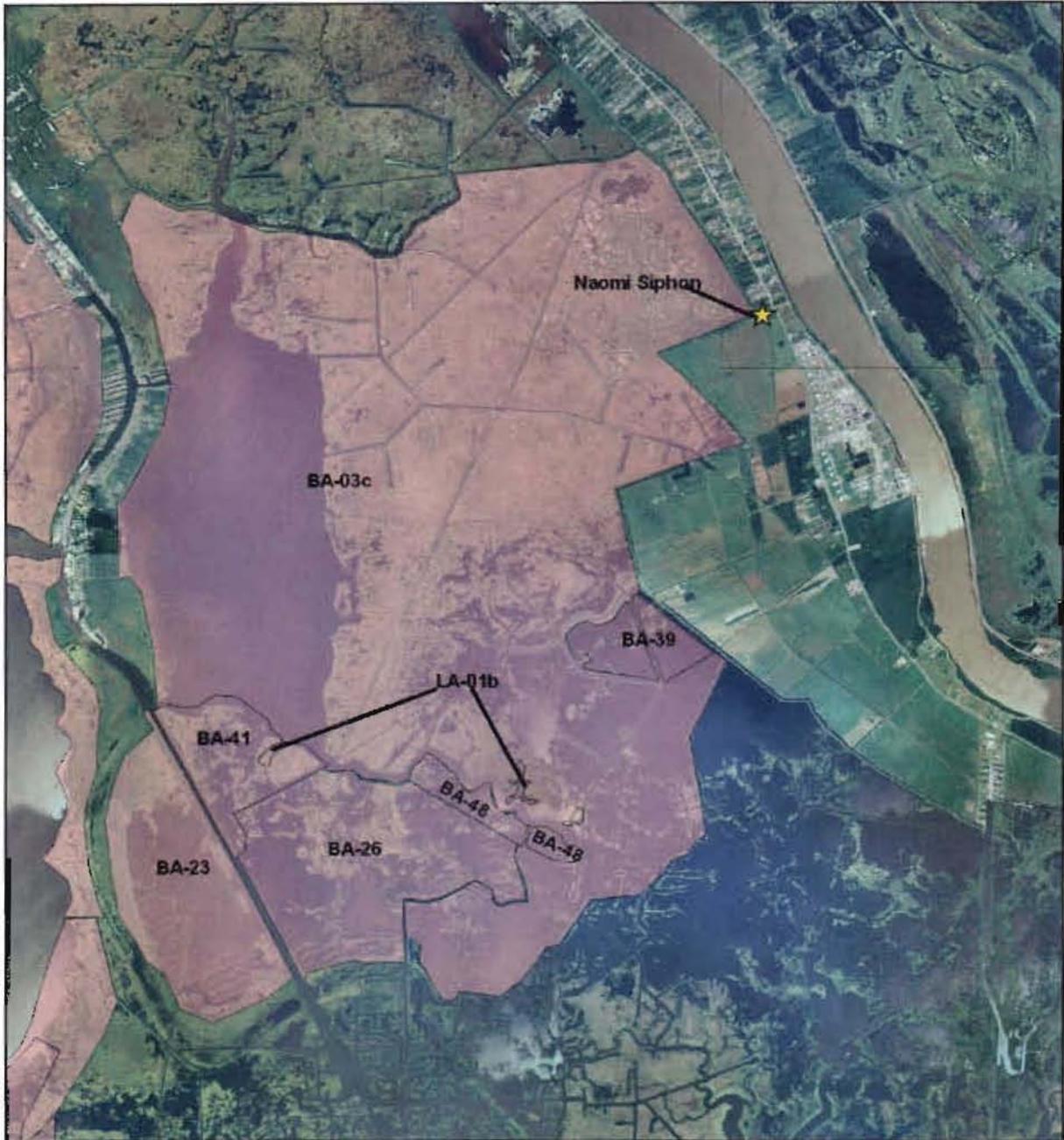
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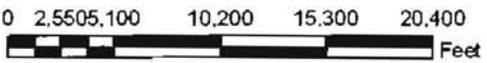
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Legend

 Nearby Restoration Projects

Naomi Siphon Improvement
Jefferson Parish, Louisiana
PPL 19



R2-BA-06-Bayou Dupont to Bayou Baratavia
Marsh Creation

19-2-BA-#6

PPL19 PROJECT NOMINEE FACT SHEET

January 27, 2009

Project Name

Bayou Dupont to Bayou Barataria Marsh Creation

Coast 2050 Strategy

Region 2 Regional Strategy#26. Dedicated dredging to create marsh on the land bridge.

Louisiana's Comprehensive Master Plan for a Sustainable Coast

From page 52 of the Master Plan, "One way to accelerate the benefits of diversions would be to mechanically restore lost marsh by pumping sediments via pipeline from the bed of the Mississippi River, offshore, or from navigation channels. Combining land sustaining diversions and this type of mechanical marsh restoration could rapidly convert open water to wetlands and help the restored marsh remain viable. Pipeline conveyance of sediment is seen as a particularly good option for areas like Myrtle Grove and West Point a la Hache, where the Master Plan recommends situating land sustaining diversions. Together, diversions and pipeline conveyance of sediment could rebuild marsh quickly areas where land loss has reached crisis level.

See Figure 10, page 57 of the Master Plan (attached).

Project Location

Region 2, Barataria Basin, Jefferson Parish, extending southward from the PPL17 Bayou Dupont project (BA-48) to the Bayou Barataria ridge.

Problem

What problem will the project solve? The marshes located between Bayou Dupont and Bayou Barataria are very deteriorated. The deteriorated marsh, along with numerous canals, allows a level of tidal exchange that is considerably greater than historic conditions. The proposed marsh creation and nourishment will restore critical marsh acreage; the restored marsh and rock dike will partially restore the area's hydrology.

What evidence is there for the nature and scope of the problem in the project area? 2005 aerial imagery confirms that the areas marshes are severely deteriorated.

Goals

Create 290 acres and nourish 215 acres of marsh between Bayou Dupont and Bayou Barataria. Prevent erosion of created marsh from Barataria Bay Waterway and partially restore area hydrology. Consideration will be given to re-establishing ridge elevation along the former Bayou Barataria ridge in the southern portion of the project area.

Proposed Solution

503 acres of marsh creation and nourishment. Material for marsh creation will be excavated from the Mississippi River. Consideration will be given to re-establishing ridge elevation along the former Bayou Barataria ridge in the southern portion of the project area.

1,740 feet of bankline protection along the east bank of the Barataria Bay Waterway.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? 503 acres created and / or nourished.
- 2) How many acres of wetlands will be protected/created over the project life? 503 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 determined yet.
- 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 will serve to re-connect Bayou Dupont and Bayou Barataria with a band of healthy marsh, partially restoring the area's hydrology. Consideration will be given to re-establishing ridge elevation along the former Bayou Barataria ridge in the southern portion of the project area.
- 5) What is the net impact of the project on critical and non-critical infrastructure? Created and nourished marsh will reduce storm surge that would otherwise approach The Pen and the community of Lafitte unimpeded.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The proposed project's northern boundary is the the southern boundary of the PPL17 Bayou Dupont Project. The proposed project's southern limit is in close proximity to a landowner / Duck's Unlimited sponsored terracing project that was construction 2006-07 and ties into the CWPPRA BA-26 project.

Identification of Potential Issues

The proposed project has the following potential issues: no issues presently identified.

Preliminary Construction Costs

\$ 23 million

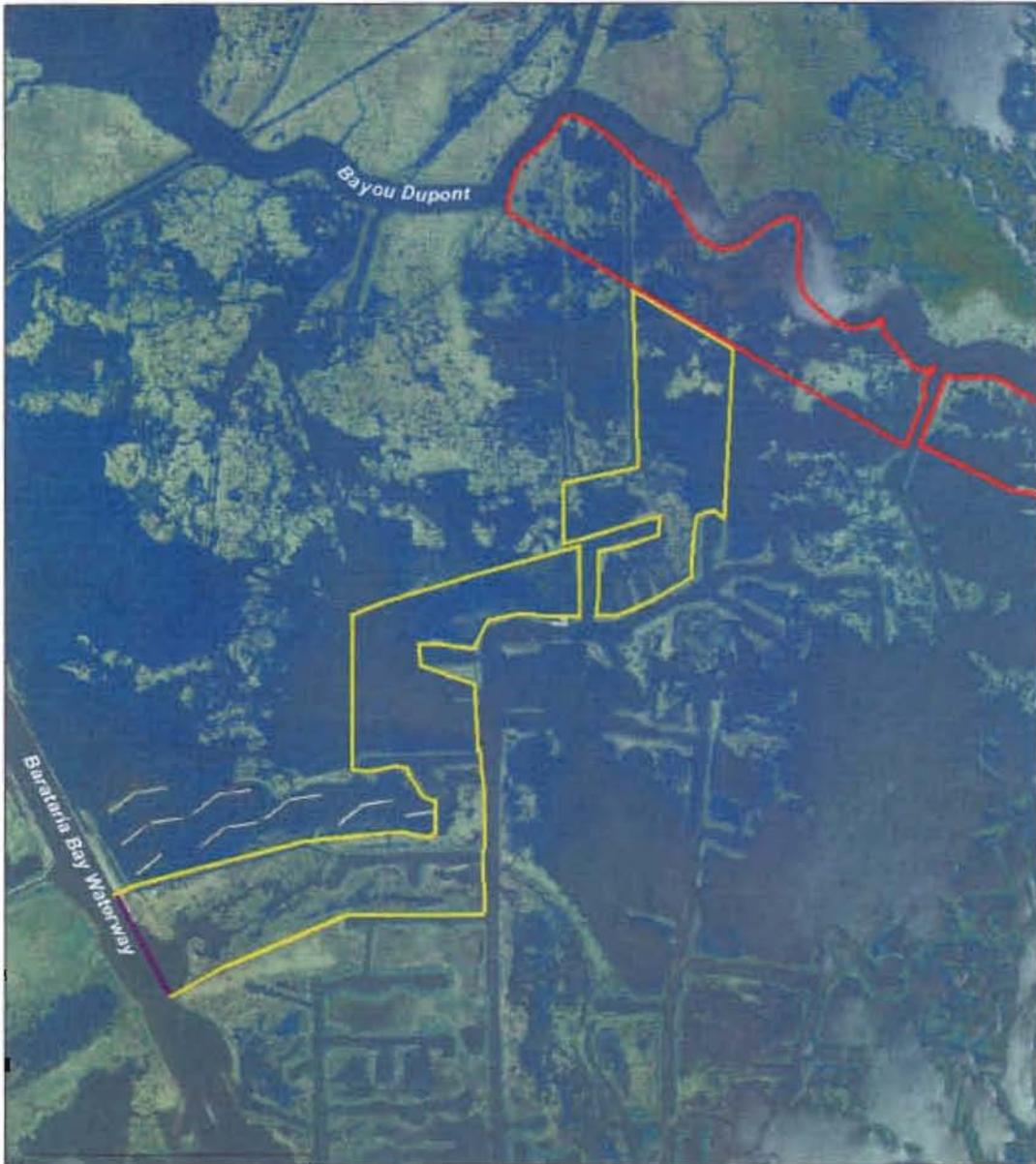
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Legend

-  Rock Dike
-  BA-49 Project Boundary
-  Marsh Creation/Nourishment
-  ~ 280 Ac. Marsh Creation
-  ~ 215 Ac. Marsh Nourishment

N


Bayou Dupont to Bayou Barataria
 Marsh Creation
 Jefferson Parish, Louisiana
 PPL 19

0 800 1,600 3,200 4,800 6,400
 Feet

2007 DOGO

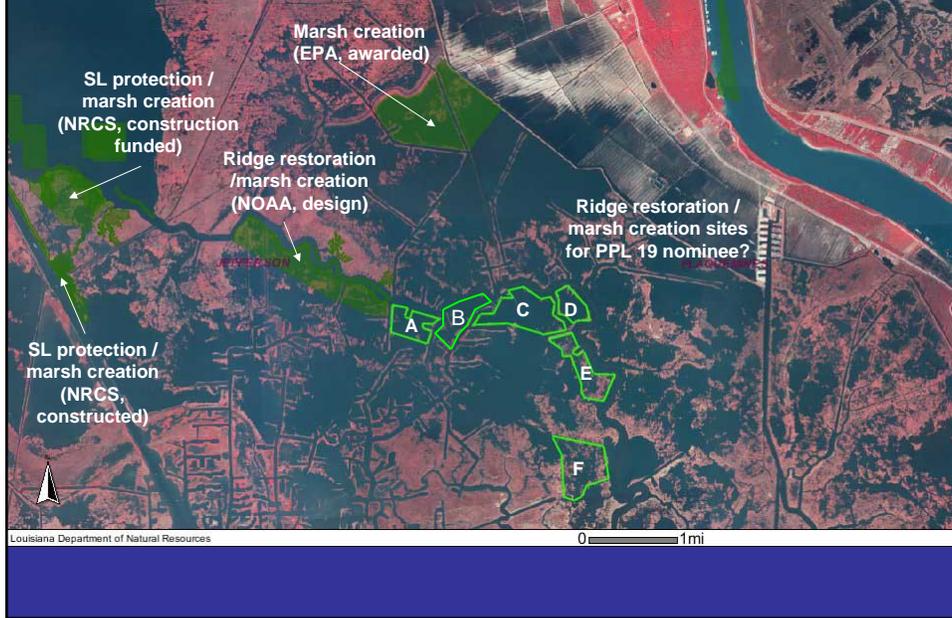
Modified From: Louisiana's Comprehensive Master Plan
for a Sustainable Coast, p. 57



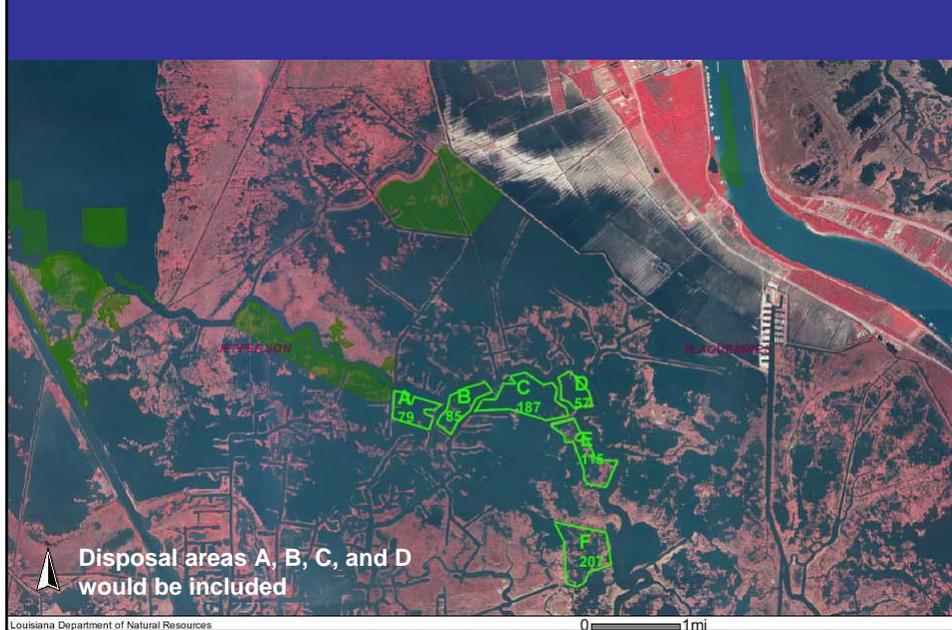
 <p>Marsh Restoration using Dredged Material</p>	<ul style="list-style-type: none"> - Maintain and Restore the Breton Sound Marshes - Maintain and Restore Biloxi Landbridge and Barrier Reefs - St. Tammany Marsh Restoration - Central Wetlands Restoration - Marsh Restoration using Dredged Material at Golden Triangle - East Orleans Landbridge Restoration - Marsh Restoration using Dredged Material in Barataria Basin - Mississippi River Diversion at Myrtle Grove with Dedicated Dredging - Mississippi River Diversion at Point a la Hache with Dedicated Dredging - Marsh Restoration in Terrebonne Basin - Marsh Restoration at Point Au Fer Island - Maintain Landbridge between Caillou Lake and Gulf of Mexico - Beneficial use of Dredged Material
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NOAA PPL 19 concept for extension of Bayou Dupont ridge/marsh restoration project



Bayou Dupont Marsh and Ridge Creation Phase II



R2-BA-07-Home Place Marsh Creation

19-2-BA-#7

PPL19 PROJECT NOMINEE FACT SHEET
January 27, 2009

Project Name
Homeplace Marsh Creation

Coast 2050 Strategy
Coastwide Strategy. Dedicated dredging for wetland creation

Louisiana's Comprehensive Master Plan for a Sustainable Coast
From page 52 of the Master Plan, "One way to accelerate the benefits of diversions would be to mechanically restore lost marsh by pumping sediments via pipeline from the bed of the Mississippi River, offshore, or from navigation channels. Combining land sustaining diversions and this type of mechanical marsh restoration could rapidly convert open water to wetlands and help the restored marsh remain viable. Pipeline conveyance of sediment is seen as a particularly good option for areas like Myrtle Grove and West Point a la Hache, where the Master Plan recommends situating land sustaining diversions. Together, diversions and pipeline conveyance of sediment could rebuild marsh quickly areas where land loss has reached crisis level."

See Figure 10, page 57 of the Master Plan (attached).

Project Location
Region 2, Barataria Basin, Plaquemines Parish, near Homeplace, west of hurricane protection levee.

Problem
What problem will the project solve? The marsh located between the hurricane protection levee and Bay Lanaux / Bay de la Cheniere is severely degraded; the lack of healthy marsh at this location poses a threat to the hurricane protection levee. The proposed marsh creation / marsh nourishment will help protect the levee.

What evidence is there for the nature and scope of the problem in the project area? 2005 aerial imagery confirms the deteriorated of marsh west of the hurricane protection levee.

Goals
Create 400 acres of marsh and nourish 400 acres of marsh between the hurricane protection levee and Bay Lanaux / Bay de la Cheniere. The proposed marsh creation/nourishment will help protect the levee.

Proposed Solution
400 acres of marsh creation and 400 acres of marsh nourishment. Material for marsh creation/nourishment will be excavated from the Mississippi River. The potential establishment of a permanent pipeline for sediment delivery to surrounding areas will be investigated.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? 800 acres created and/or nourished.
- 2) How many acres of wetlands will be protected/created over the project life? 800 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. The created and nourished marsh will re-establish the hydrologic function of the former Bayou de la Cheniere ridge.
- 5) What is the net impact of the project on critical and non-critical infrastructure? The created/nourished marsh will reduce the fetch west of the hurricane protection levee.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The project will complement other efforts to establish / nourish marshes west of the Mississippi River – Mississippi River Sediment Delivery- Bayou Dupont; West Bay Sediment Diversion, Lake Hermitage Marsh Creation.

Identification of Potential Issues

The proposed project has the following potential issues: no issues presently identified.

Preliminary Construction Costs

\$25 million

Preparer of Fact Sheet

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Map Produced By:
 United States Department of Agriculture
 Natural Resources Conservation Service
 Baton Rouge, LA

Data Source:
 2017 2000 Aerial Photography
 Map Date: February 4, 2018



Homeplace Marsh Creation
Plaquemines Parish, Louisiana
 ~796 Acres



Legend

- Marsh_Creation
- Project_Boundary



Figure 1b: Restoring and maintaining critical landscape features.

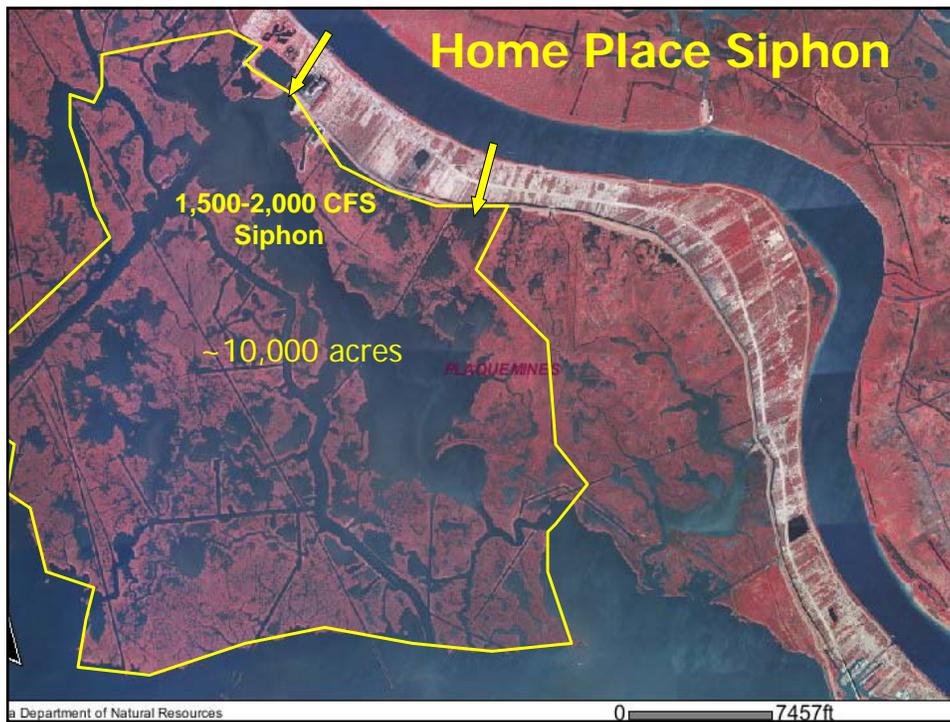


- Maintain and Restore the Breton Sound Marshes
- Maintain and Restore Bilal Landbridge and Barrier Floebs
- St. Tammany Marsh Restoration
- Central Wetlands Restoration
- Marsh Restoration using Dredged Material at Golden Triangle
- **East Orange Landbridge Restoration**
- **Marsh Restoration using Dredged Material in Stantonia Basin**
- ~~Mississippi River Diversion at Myrtle Grove with Dedicated Dredging~~
- Mississippi River Diversion at Point a la Hache with Dedicated Dredging
- Marsh Restoration in Terrebonne Basin
- Marsh Restoration at Point Au Fer Island
- Maintain Landbridge between Calhou Lake and Gulf of Mexico
- Beneficial use of Dredged Material

Home Place Siphon



Home Place Siphon



Home Place Siphon

Goals:

- Create/maintain marsh
- Restore fresh/intermediate marsh

Preliminary Project Benefits:

- 750 net ac over 20 years

Identification of Potential Issues:

- Landrights

Preliminary Construction Costs + 25%:

- \$16 Million
- FFC estimate = ~\$23Million

Home Place Siphon

Questions?

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R2-BA-08-Bayou Villars Shoreline Stabilization
Project

PPL19 PROJECT NOMINEE FACT SHEET
January 23, 2009

Project Name:

Bayou Villars Shoreline Stabilization Project

Coast 2050 Strategies:

Basin Strategies: 6) Stabilize shorelines to preserve marsh. Cataouatchie/Salvador Mapping Unit Strategy: "maintaining shoreline integrity along the lakes..."

Project Location:

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

Problem:

Within the past 50 years, the project area has lost more than 650 acres of wetlands along the east shore of Lake Salvador. The opening of Bayou Villars at Lake Salvador has retreated approximately 5,100 feet into the Gulf Intracoastal Water Way (GIWW). Shoreline retreat and wetland loss were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms eroded the shoreline 100 feet in places and interior marsh was compacted or torn apart creating open water ponds. Flooding of Crown Point, Jean Lafitte, and Barataria communities may be partially attributed to these high wetland losses. Stabilizing the shoreline and protecting the remaining marsh would protect natural coastal resources, communities and infrastructure.

The average shoreline retreat in the project area is approximately 38' year. Some areas have a shoreline retreat as great as 89'/year. The shoreline retreat along the southern bank of Bayou Villars is encroaching on the GIWW. Currently the opening at the GIWW is at 2,000 lf. The opening at Bayou Villars has the potential to open to approximately 10,000 lf in 20 years once the islands to the south of Bayou Villars are lost to shoreline retreat.

Proposed Project Features:

1. Install approximately 31,000 tons of rock along 5,500 linear feet of shoreline from existing pipeline crossing north of Bayou Villars the north bank of the mouth of Bayou Villars
2. Install approximately 44,000 tons of rock along 8,000 linear feet of shoreline from existing pipeline crossing south of Bayou Villars the south bank of the mouth of Bayou Villars

Goals:

1. Stop shoreline erosion.

Preliminary Project Benefits:

The following questions should be addressed:

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

Directly benefited: Approximately 200 acres protected.

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

At the end of 20 years, approximately 200 acres should remain.

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 anticipated loss rate reduction throughout the area of direct benefits over the project life would be >75%.

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 maintains a portion of the rims of Lake Salvador and Bayou Villars, which are structural components of the coastal ecosystem

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

One key feature of this project is the protection for local communities of Jean Lafitte, Barataria and Crown Point and adjacent infrastructure. The project site is located in a critical area 15 miles south of New Orleans that provides one of the last lines of defense against storm surge coming toward the Metropolitan Area from Lake Salvador and the Barataria Bay. The project also prevents Lake Salvador from continuing to break through into the GIWW. In addition, oil and gas infrastructure in the immediate area would be protected.

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

This project is synergistic with existing shoreline protection projects that have been constructed on the Barataria Preserve.

Identification of Potential Issues:

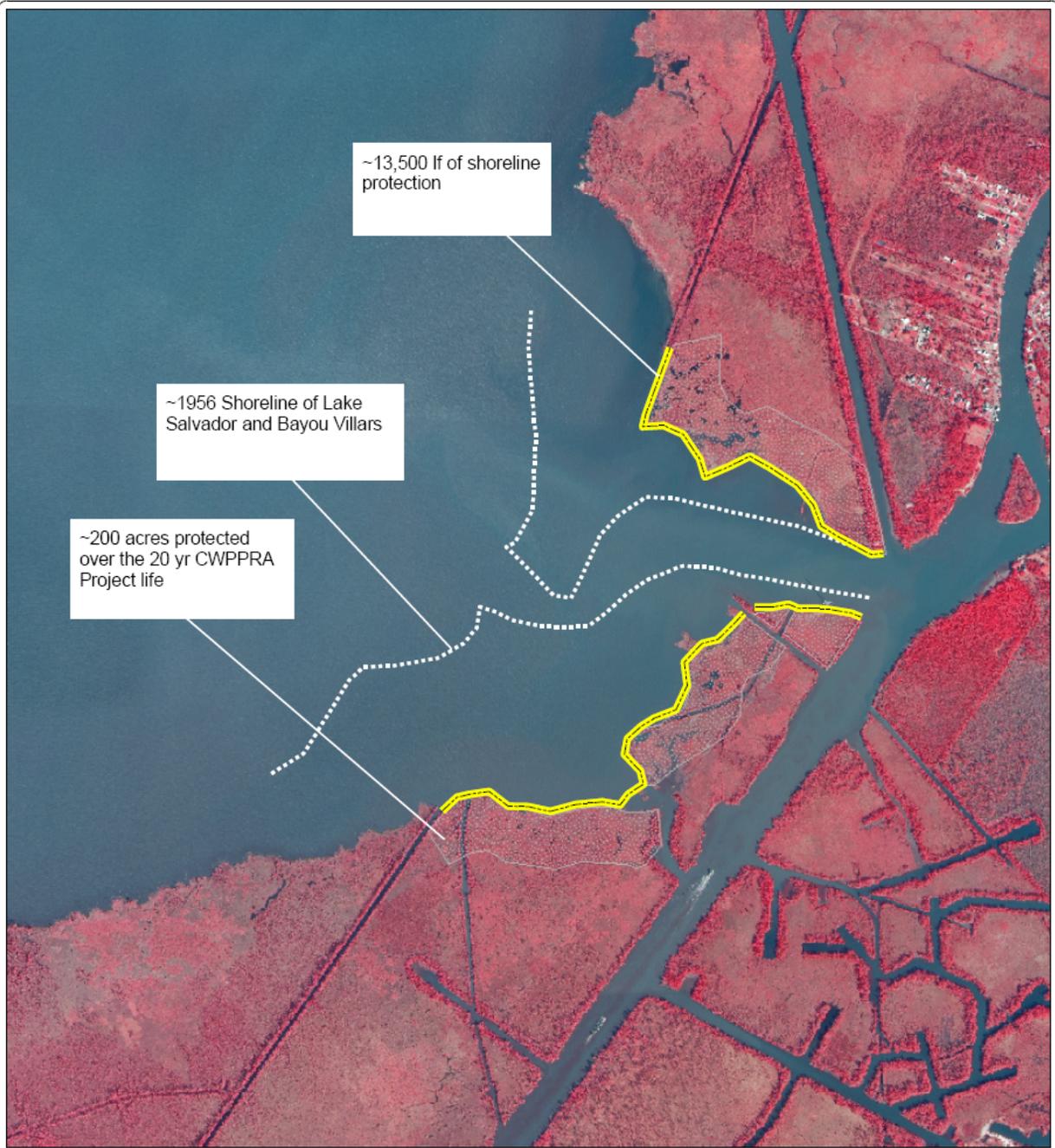
Rock shoreline protection projects historically require O&M.

Preliminary Construction Costs:

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

Preparers of Fact Sheet:

Travis Cree, USACE, 504-862-1071, Travis.J.Creel@usace.army.mil

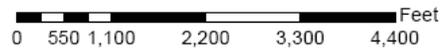


Legend

- ~ Shoreline_1956
- ▨ Area_Protected_20yr
- Shoreline Protection



Bayou Villars Shoreline Protection

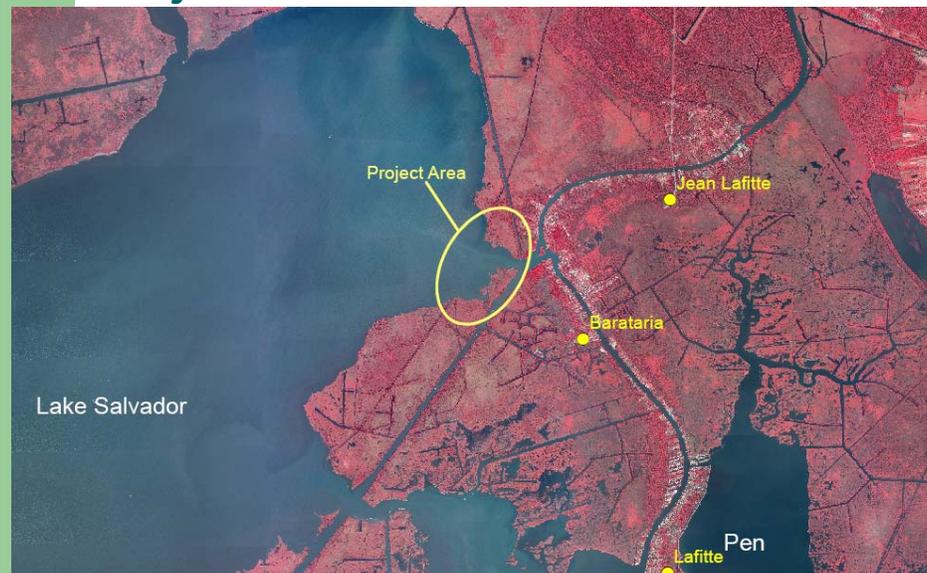


Background Map: 2005 DOQQ

Bayou Villars Shoreline Stabilization Project

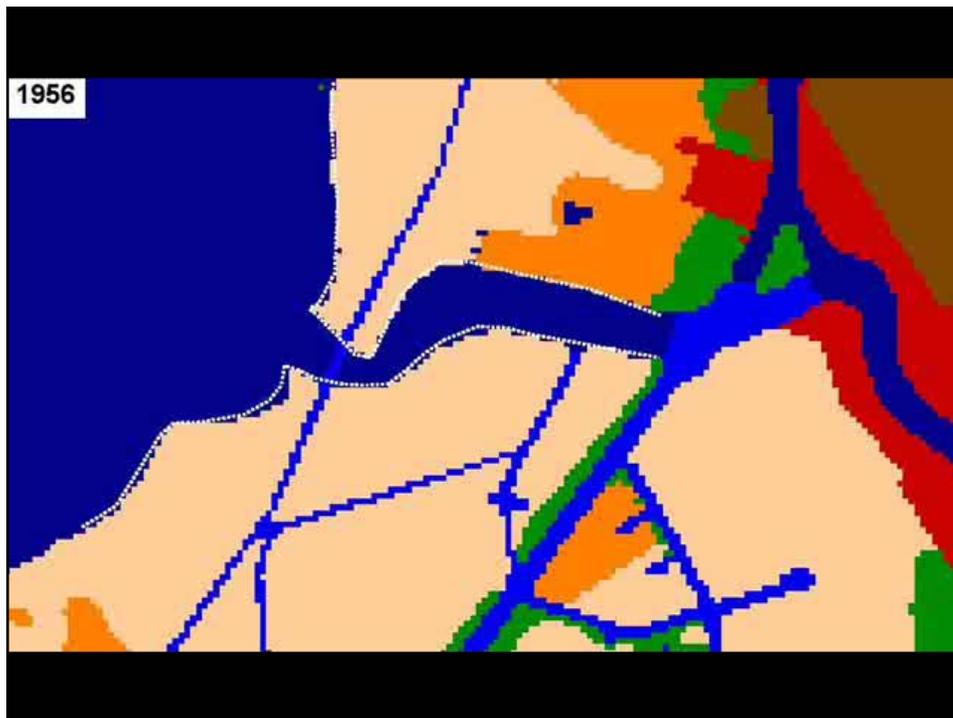
PPL 19
Region 2
Barataria Basin

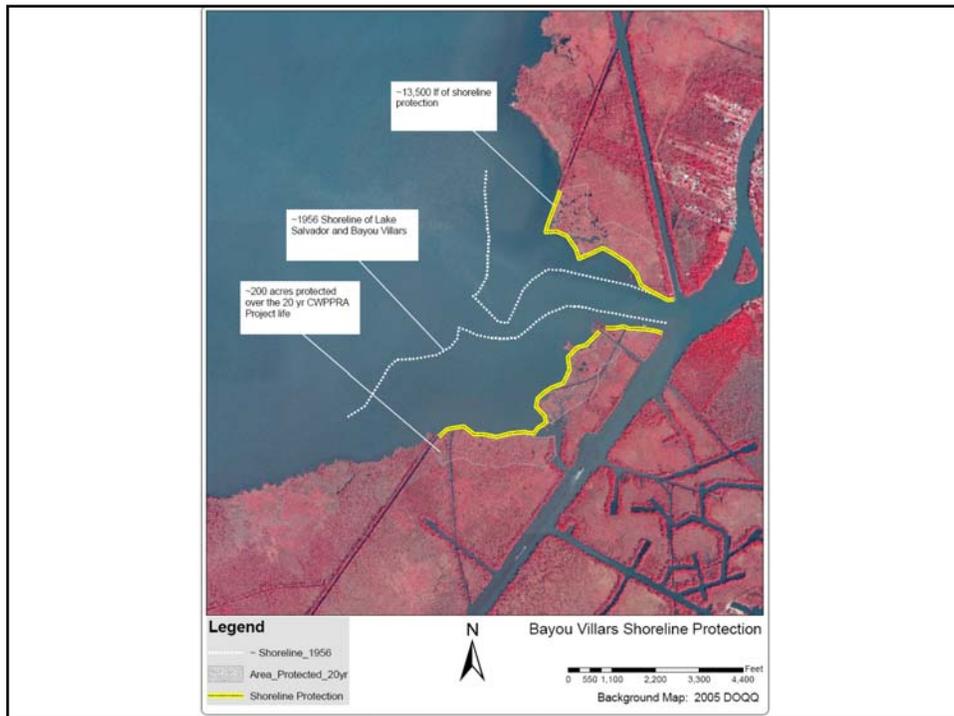
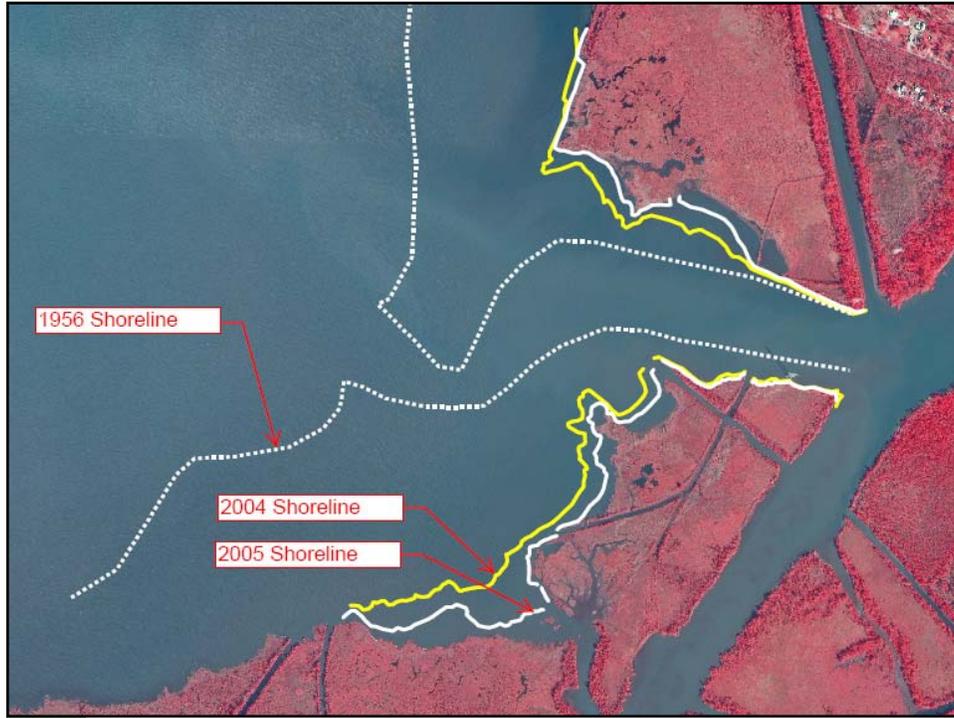
Project Area:



Problem:

- ~650 acres of wetlands lost along the east shore of Lake Salvador
- Bayou Villars at Lake Salvador has retreated ~ 5,100 feet into the GIWW
- Flooding of Crown Point, Jean Lafitte, and Barataria communities may be partially attributed to these high wetland losses
- Opening at the Bayou Villars currently at 2,000 lf.
- Has the potential to open to approximately 10,000, once the islands to the south of Bayou Villars are lost to shoreline retreat.
- Average shoreline retreat approximately 38'year





Proposed Project Features:

- 5,500 linear feet of shoreline protection from the existing pipeline crossing north of Bayou Villars the north bank of the mouth of Bayou Villars
- 8,000 linear feet of shoreline protection from existing pipeline crossing south of Bayou Villars the south bank of the mouth of Bayou Villars

Preliminary Project Benefits:

- Stop shoreline erosion
- Stabilize the Bayou Villars opening
- Protect approximately 200 acres
- Protect the Crown Point, Jean Lafitte, and Barataria communities

R2-BA-09-Chenier Ronquille Barrier Shoreline
Restoration and Marsh Creation

PPL19 Nominee
Chenier Ronquille Barrier Shoreline Restoration and Marsh Creation
30 January 2009

Coast 2050 Strategy:

Regional strategy 21 – extend and maintain barrier headlands, islands, and shorelines
Chenier Ronquille mapping unit strategy 15 – restore ridge function

Project Location:

Region 2, Barataria Basin, Plaquemines Parish

Problem:

Chenier Ronquille is the most westerly extent of the lower Plaquemines shoreline and serves as the western anchor of that shoreline system. The area is undergoing severe shoreline erosion, with an estimated average rate of about 36 feet/year (range 10 feet/year to 78 feet/year). The western tip of the landform has translocated over 600 feet northeast between 1998 and 2005. Continued erosion of the western end of Chenier Ronquille directly contributes to enlargement of Quatre Bayou Pass. On-going shoreline erosion has caused the shoreline to intersect open water areas, resulting in overwash and breach formation and if unchecked will cause fragmentation of the shoreline and development of tidal inlets.

Goals:

The project goal is to maintain shoreline integrity and create and restore saline marsh.

Proposed Solutions:

Dedicated dredging from nearshore Gulf deposits to create saline marsh in open water areas and nourish existing marshes in project area. Based on current information, borrow areas investigated for the East Grand Terre project may not be fully utilized for construction of that project and some sand targets may remain for use on other projects. Through fill management, coarser grained materials will be sorted along the shoreline to restore a continuous sandy shoreface. In addition to beach nourishment and dune restoration, it is estimated that about 205 acres of marsh would be created and an additional 105 acres of marsh would be nourished. Consideration will be given to restoring maritime ridge that previously existed. Vegetative plantings will be used.

Preliminary Project Benefits:

The project will benefit about 310 acres of saline marsh and barrier shoreline. It is estimated that 115 net acres will be benefited over the project life through a reduction in background loss rates by between 25 – 49%. The project would maintain barrier shoreline landscape features. The project is not anticipated to have impacts to infrastructure. The project could have positive synergistic effects with the recently implemented Chaland Headland and Bay Joe Wise projects as well as the state's East Grand Terre Island CIAP project.

Identification of Potential Issues:

The proposed project has the following potential issues: sand source.

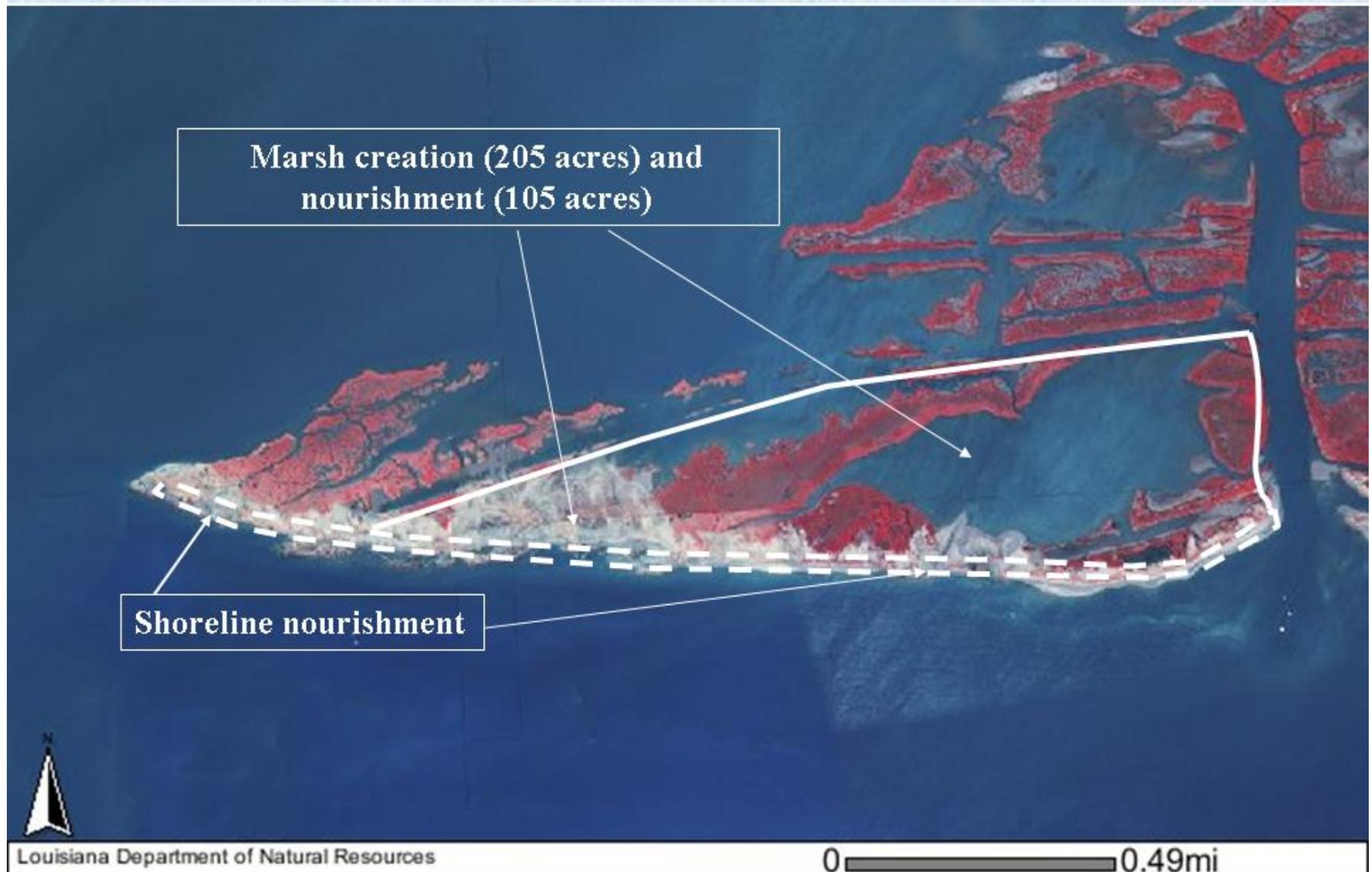
Preliminary Construction Costs:

Construction costs are estimated at \$25,000,000 with 25% contingency.

Preparer(s) of Fact Sheet:

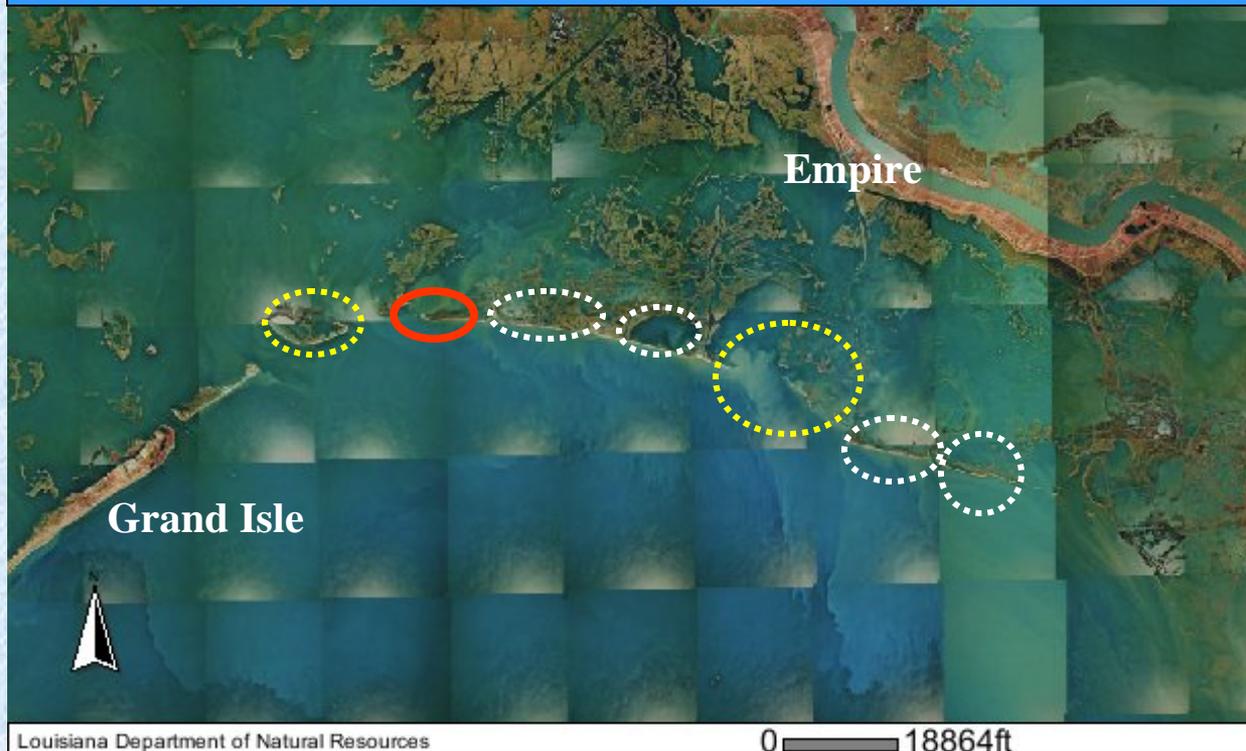
Rachel Sweeney, NOAA, 225.389.0508 ext 206, rachel.sweeney@noaa.gov

Chenier Ronquille Barrier Shoreline Restoration and Marsh Creation

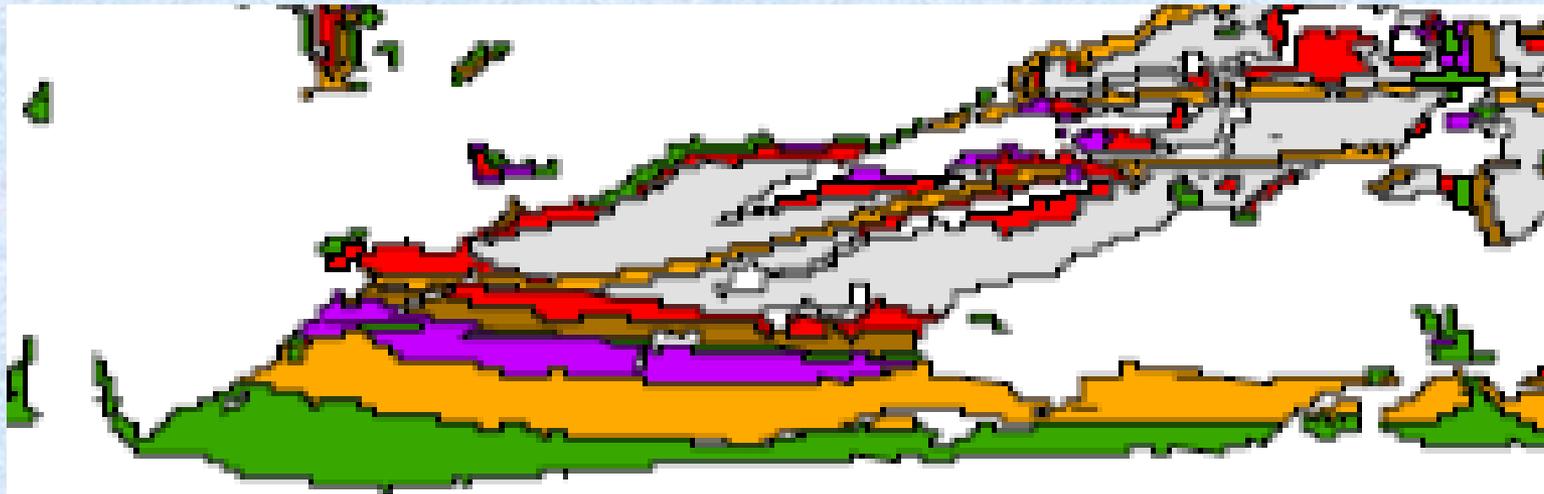


Chenier Ronquille - Project Vicinity

-  PPL 19 Nominee
-  Authorized CWPPRA Project
-  Other authorities (CIAP, LCA)



Historic Land Loss



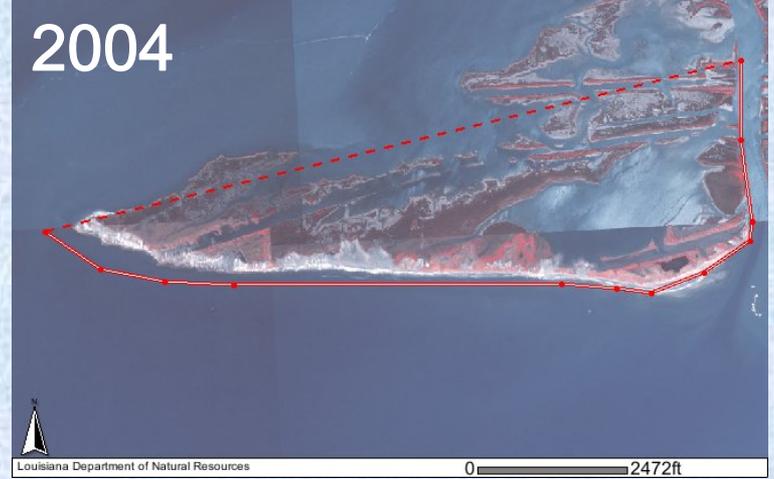
Legend

-  Time 1 (1932 - 1958)
-  Time 2 (1958 - 1974)
-  Time 3 (1974 - 1983)
-  Time 4 (1983 - 1990)
-  Time 5 (1990 - 2001)

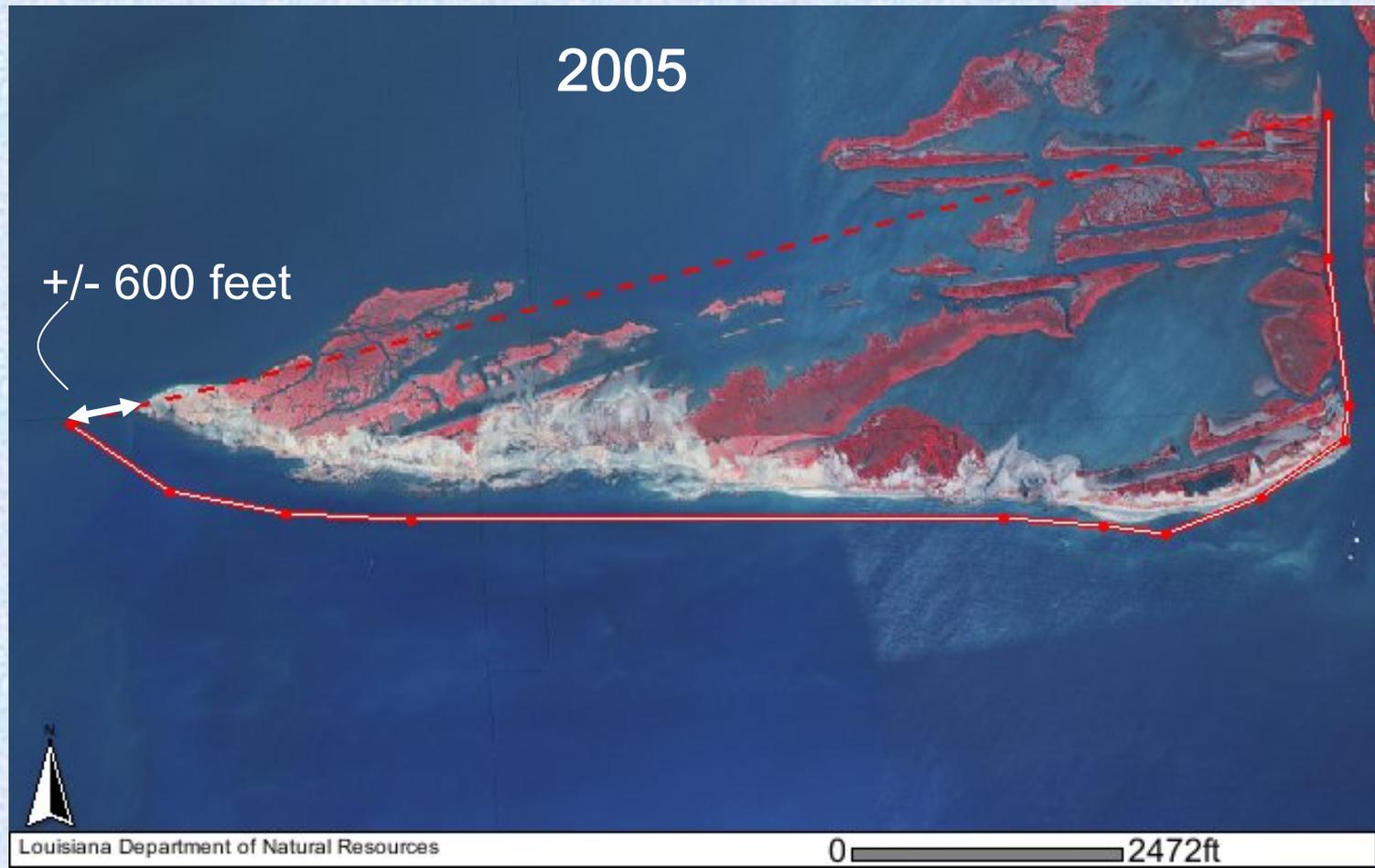
1998



2004



2005



R2-BA-10-Barataria and Terrebonne Basins
Stormwater Redirection

PPL-19 Project Nominee Fact Sheet
January 29, 2000

Project Name:

Barataria and Terrebonne Basins Stormwater Redirection Project

Coast 2050 Strategy:

Coastwide strategy: Management of pump outfall for wetland benefits

Regional Strategy: Construct small diversions with outfall management

Project Location:

Region 2 and 3. Barataria and Terrebonne Basins, Specifically: Grand Caillou, Bayou Sale, Parish Line Canal, Hayes Canal, south Port Sulphur, and Boothville area stormwater pumping stations located in Terrebonne, Jefferson/St.Charles, and Plaquemines Parishes, respectively.

Problem:

Wetlands and the bottomland hardwood swamps of Barataria and Terrebonne Basins are experiencing some of the most drastic land loss rates in the state. Suffering from a combination of subsidence, salt water intrusion, and lack of sediment, freshwater, and nutrient input, these areas are in a perpetual state of decline unless action is taken to reverse these conditions. Numerous river diversions and siphons have been constructed to replenish failing wetlands; however, these projects are costly and not available to all areas of the coast. With much of south Louisiana under forced drainage, there are numerous opportunities to optimize both drainage and the beneficial discharge of collected stormwater by retrofitting existing pumping stations. Stormwater discharge is mainly pumped either over levees and into unconfined, open water, or into canals dredged adjacent to pumping stations specifically to facilitate drainage. Stormwater, containing freshwater and to some extent nutrients, is then channelized and diffused into large open receiving bays. This freshwater could be redirected into adjacent wetlands which would serve as a dedicated source of freshwater into stressed marshes.

Proposed Project Features:

The project will re-route or manage the outfall of stormwater discharge at six sites within the Barataria and Terrebonne Basins. Depending upon location, construction would consist of rerouting and installing pipe to direct flow to adjacent wetlands, and/or installing water control structures to maximize distribution throughout the outfall area. Coordination with parish drainage personnel has been part of this preliminary process and initial site scoping, and will be closely continued throughout each phase of project selection.

Preliminary Project Benefits:

The intent of this project is to divert freshwater into marshes that are currently stressed. Limited marsh creation is anticipated; therefore, project benefits will be determined by the existing wetlands delineated within the proposed likely area of stormwater influence. A preliminary estimate of project benefits is 4,200 acres.

Identification of Potential Issues:

Beneficially redirecting stormwater drainage is a known technique and has been previously

applied and studied in south Louisiana. Since this is stormwater only, no water quality issues with the Dept. of Environmental Quality are expected. The parishes have been contacted and coordination has occurred with the Barataria-Terrebonne National Estuary Program who has considerable expertise with this technique. There may be some oyster leases within the proposed areas of influence.

Preliminary Construction Costs:

Preliminary construction cost estimate plus contingency is approximately \$2,100,000.

Preparer of Fact Sheet:

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

Bayou Sale Stormwater Pumping Site, Terrebonne Parish



Stormwater redirected area of influence

Grand Caillou Stormwater Pumping Site, Terrebonne Parish



Stormwater redirected area of influence,

Hayes Canal Stormwater Pumping Site near Port Sulpur, Plaquemines Parish

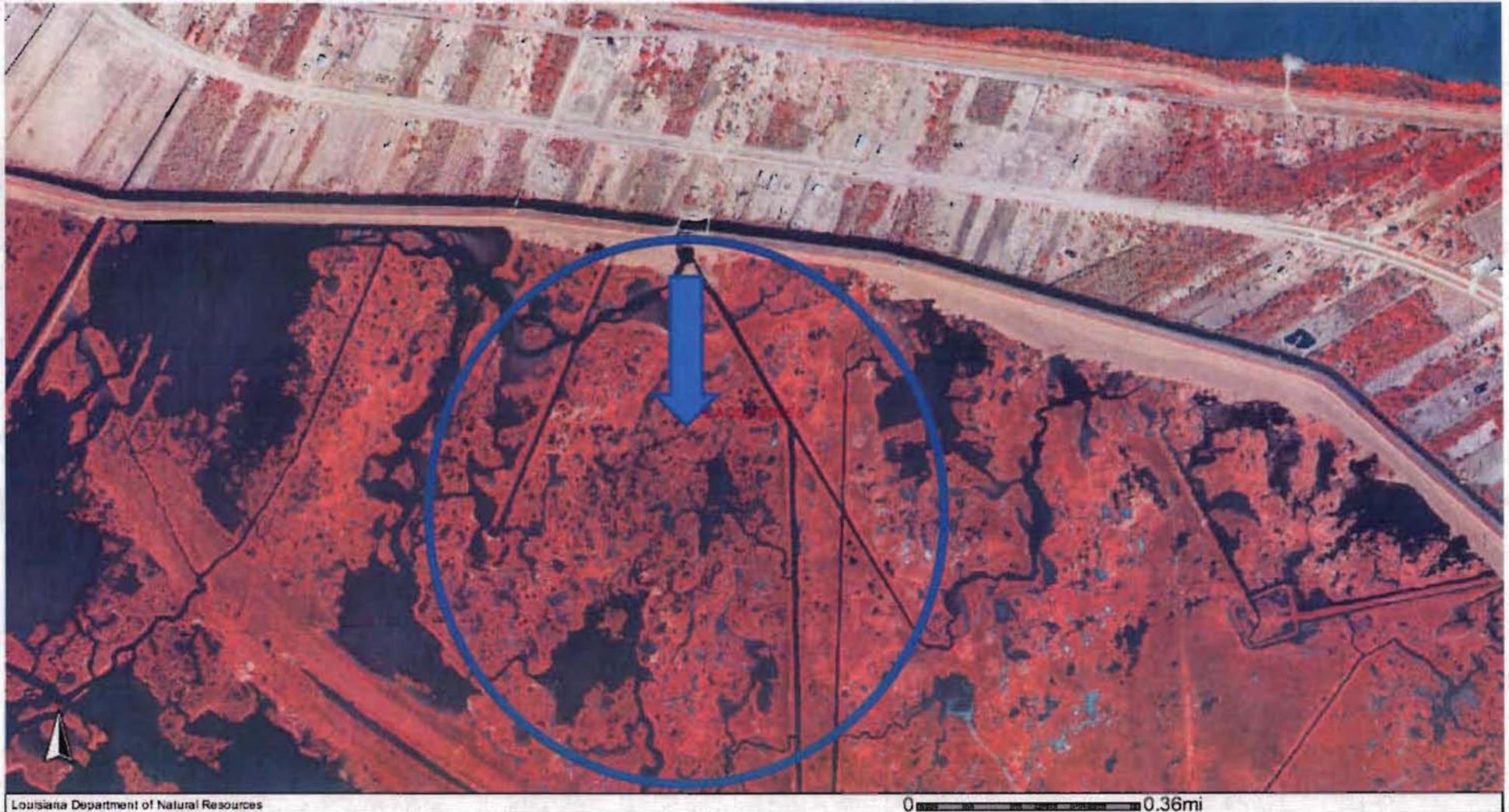


Stormwater redirect



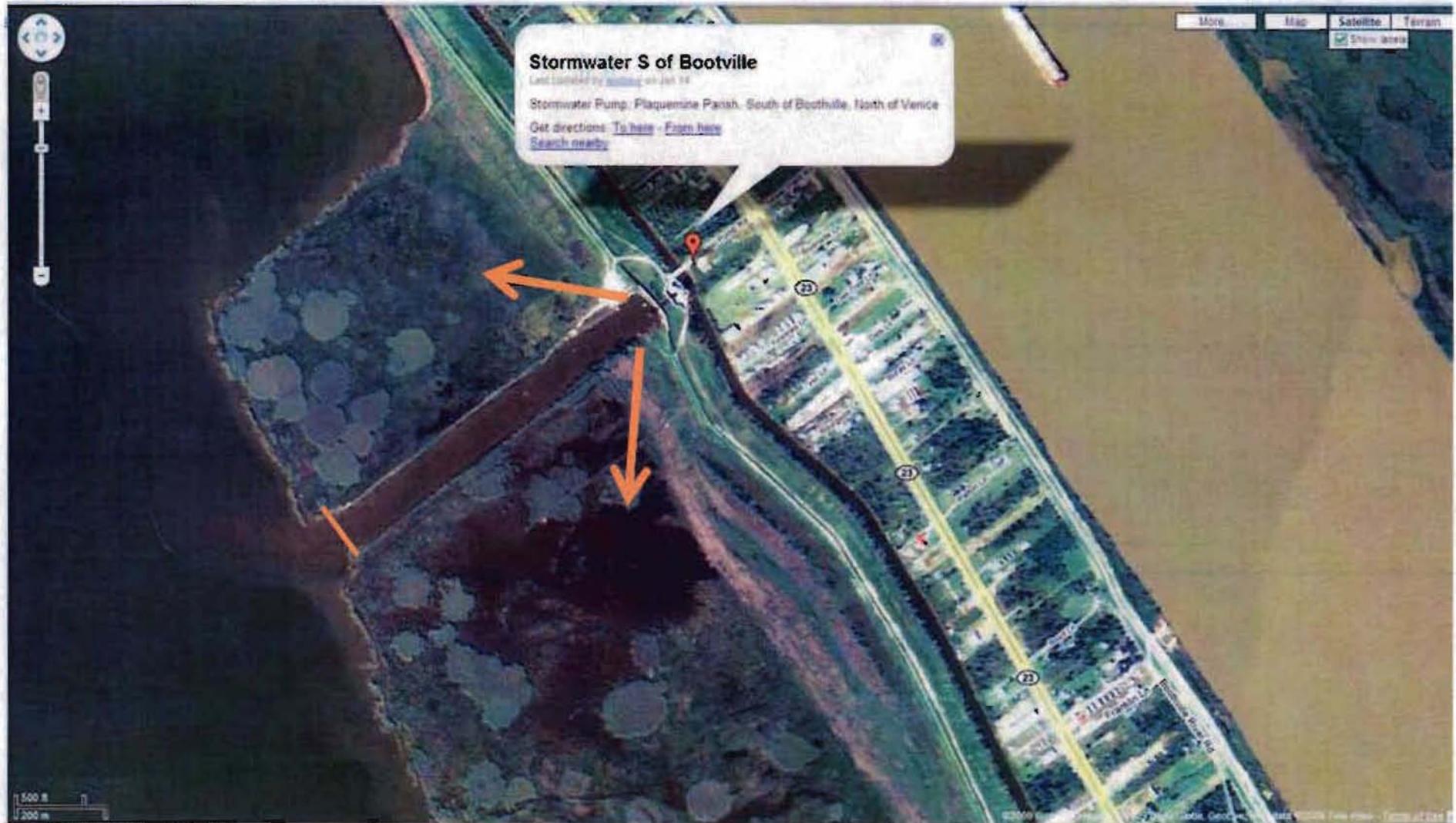
Discharge area of influence,

Stormwater Pumping Site south of Port Sulphur, Plaquemines Parish



Stormwater redirected area of influence

Stormwater Pumping Site south of Boothville, Plaquemines Parish



Stormwater redirected areas of influence



Proposed plug

Parish Line Canal Stormwater Pumping Site, St. Charles and Jefferson Parishes



○ Proposed weir with boat bay

← Redirected flow and area of influence

R2-BA-11-Bayou Grande Cheniere Marsh
Creation

19-2-BA-#11

PPL19 PROJECT NOMINEE FACT SHEET

January 29, 2009

Project Name

Bayou Grande Cheniere Marsh Creation

Coast 2050 Strategy

- Coastwide: Dedicated dredging to create, restore, or protect wetlands
- Coastwide: Utilize off-shore and riverine sand and sediment resources

Project Location

Region 2, Barataria Basin, Plaquemines Parish, near Lake Hermitage, along Bayou Grande Cheniere ridge

Problem

From 1932 to 1990, the West Point a la Hache Mapping Unit lost 38% of its marsh. Through 2050, 28% of the 1990 marsh acreage is expected to be lost. That loss is expected to occur even with operation of the West Point a la Hache Siphons. Significant marsh loss has occurred south of Lake Hermitage with the construction of numerous oil and gas canals.

Goals

The primary goal is to re-create marsh habitat in the open water areas and nourish marsh along the eastern side of the Bayou Grande Cheniere ridge. Terraces are proposed to reduce fetch in large open water bodies and to capture suspended sediment delivered via the West Pointe a la Hache siphons.

Proposed Project Features

1. Riverine sediments will be hydraulically dredged and pumped via pipeline to create approximately 500 acres of marsh in the project area.
2. Approximately 60,000 linear feet of terraces (50 acres) will be constructed to reduce fetch and turbidity and capture suspended sediment.

Preliminary Project Benefits

- 1) The total acreage benefited directly would be 550 acres (500 acres of marsh creation/nourishment and 50 acres of terraces). Indirect benefits would occur to the Bayou Grand Cheniere ridge and within the 1,000-acre terrace field.
- 2) The total net acres protected/created over the project life would be between 400-500 acres.
- 3) Background loss rates would be reduced by 50% in the marsh creation and marsh nourishment areas.
- 4) The project would help maintain the Bayou Grande Cheniere ridge.
- 5) The project would not protect any significant infrastructure.
- 6) The project would provide a synergistic effect with the Lake Hermitage Marsh Creation Project (PPL15), the West Pointe a la Hache Marsh Creation Project (PPL17), and the West Pointe a la Hache Siphon Enhancement Project (PPL3). All of these projects would work in conjunction to restore wetlands within the Lake Hermitage Basin.

Identification of Potential Issues

Numerous oil and gas canals; borrow site.

Preliminary Construction Costs

Preliminary construction costs are estimated at \$25 million, which includes 25% contingency.

Preparer of Fact Sheet

Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov

Bayou Grande Cheniere Marsh Creation

Lake Hermitage
Marsh Creation
(PPL15)

West Pointe a la Hache
Marsh Creation (PPL17)

West Pointe a la Hache
Siphons GM (PPL3)

Marsh Creation
3 cells
(500 acres)

Terrace Field
61,000 feet
(1,000 acres)



Breton Sound Basin

R2-BS-01-Monsecour Siphon

PPL19 PROJECT NOMINEE FACT SHEET
January 29, 2008

Project Name: Monsecour Siphon

Coast 2050 Strategy:

- Coastwide Common Strategies
 - Diversions and river discharge
 - Management of diversion outfall for wetland benefits
- Region 2 Regional Ecosystem Strategies:
 - Restore and Sustain Marshes: #8: Construct most effective small diversions

Project Location: Region 2, Breton Sound Basin, Plaquemines Parish, north of Phoenix, LA.

Problem: This area has been disconnected from the Mississippi River since levees were constructed during the early 20th century. The lack of overbank flooding/crevasses ensures that wetlands here do not have sufficient sediment input to maintain elevation against subsidence. In addition, drainage canals and oil and gas canals and associated spoil banks probably create some undesirable impoundment and tidal scour/saltwater intrusion in the area. In addition to impoundment caused by canals and spoil banks, the area is probably somewhat naturally impounded due to natural ridges. Aerial photography clearly demonstrates the significant loss of marsh in this area.

Goals : Reduce rate of wetland loss. Restore fresh and intermediate marsh. Increase SAV cover.

Proposed Solutions: Construct a siphon from the Mississippi River, with 1000-2000 cfs maximum capacity. The project may require additional features for delivery and outfall management.

Preliminary Project Benefits: The total acreage benefited directly and indirectly is estimated to be 5000-10000 ac. We estimate 500-1000 net acres will be protected over the project life. The anticipated loss rate reduction throughout the area of direct benefits over the project life is >75%. No project features maintain or restore structural components of the coastal ecosystem. The project may have a significant positive net impact on the Mississippi River levee, which is critical infrastructure. The project will provide a synergistic effect with the Caernarvon Diversion project, Caernarvon Diversion Outfall Management (BS-03a) and Caernarvon Outfall Management/Lake Lery SR (BS-16). No project features maintain or restore structural components of the coastal ecosystem.

Identification of Potential Issues: The proposed project has potential land rights issues.

Preliminary Construction Costs: \$15-25 million

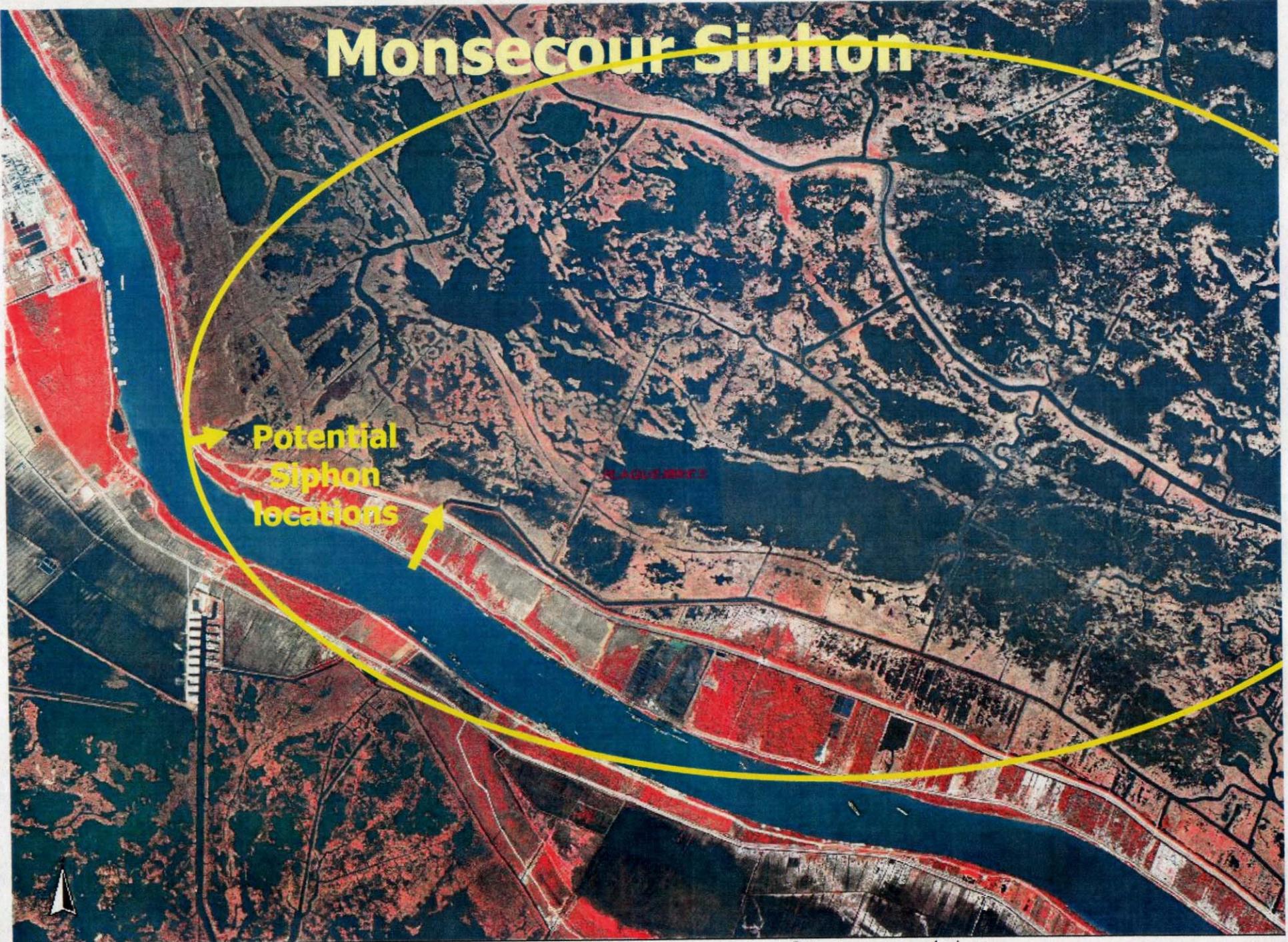
Preparer(s) of Fact Sheet:

Kenneth Teague, EPA, 214-665-6687, Teague.Kenneth@epa.gov;
Brad Crawford, EPA, 214-665-7255, Crawford.brad@epa.gov

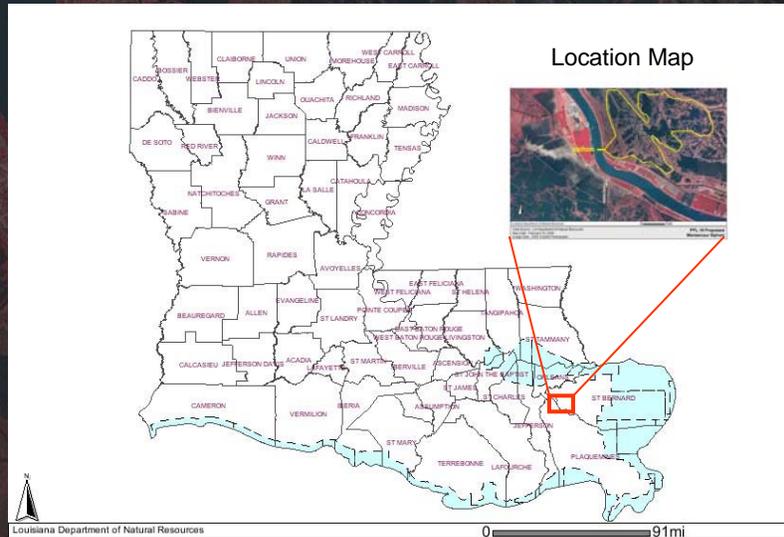
Monsecour Siphon

Potential
Siphon
Locations

LA 405 BRIDGE

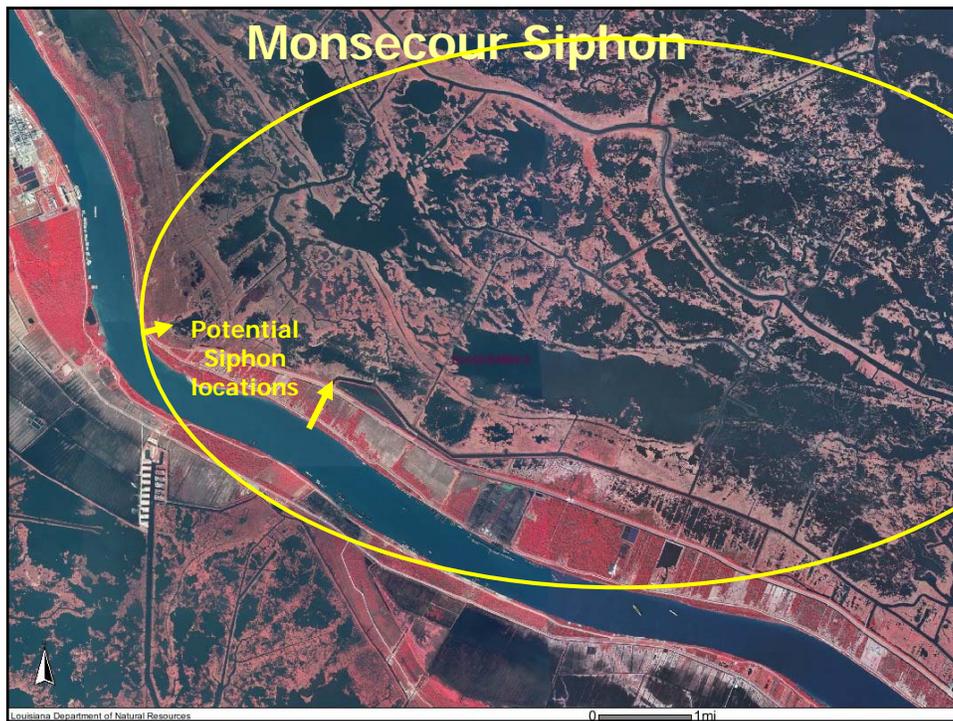


Monsecour Siphon



Data Source: LA Department of Natural Resources
Map Date: February 20, 2008
Image Data: 2005 Coastal Photographs

PPL 18 Proposed
Monsecour Siphon



Monsecour Siphon

Goals:

- Reduce landloss
- Increase SAV

Preliminary Project Benefits:

- 500-1000 net ac over 20 years

Identification of Potential Issues:

- Landrights

Preliminary Construction Costs:

- \$15-\$25 Million

This slide features the same aerial map as the first slide, but with a semi-transparent dark overlay containing text. The text is organized into four sections: Goals, Preliminary Project Benefits, Identification of Potential Issues, and Preliminary Construction Costs. A north arrow is visible in the bottom left corner of the map area.

Monsecour Siphon

Questions?

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teague.kenneth@epa.gov



R2-BS-02-Dedicated Sediment Delivery and
Water Conveyance for Marsh Creation West of
Big Mar

1/29/09

19-2-BS-#2

PPL-19 Project Nominee Fact Sheet
January 29, 2009

Project Name:

Dedicated Sediment Delivery and Water Conveyance for Marsh Creation west of Big Mar

Coast 2050 Strategy:

Coastwide strategy: Dedicated dredging to create, restore, or protect wetlands
Regional Strategy 5: Manage outfall of existing diversions

Project Location:

Region 2. Caernarvon mapping unit; located to the west, southwest of Big Mar in upper Breton Sound, Plaquemines Parish.

Problem:

The upper Breton Sound marshes have long been subjected to subsidence, salt water intrusion, altered hydrology, and storm damage, which is heightened by the channelization of the Mississippi River. Construction and operation of the Caernarvon Freshwater Diversion Project is helping to reverse land loss in this area via re-introduction of river sediment, freshwater, and nutrients that at one time created much of coastal Louisiana. Opened in 1996, the structure has led to the infilling of Big Mar, a failed agricultural impoundment that serves as the structure's primary outfall area. As Big Mar fills in, flow that used, and is intended, to go down Delacroix Canal and into the marshes southwest of Big Mar is now taking the path of least resistance down Bayou Mandeville and into Lake Lery. After the passing of Hurricane Katrina in 2005, the Breton Sound marshes were devastated and land loss rates increased to 1.87%/yr (USGS). Considerable shearing has also occurred in the area resulting in the large-scale, direct removal of marsh. Reestablishment of the Breton Sound marshes is dependent upon both the direct reconstruction of lost marsh and optimizing the flow and outfall of the Caernarvon structure. The area west of Big Mar is currently receiving little Caernarvon flow from which to naturally rebuild marsh, and the flow to the west and southwest of Big Mar is becoming increasingly impeded with its infilling. This project will result in marsh creation in the areas not likely to rebuild on its own, and help facilitate flow back into the southwest wetlands of Breton Sound.

Proposed Project Features:

Project features include approximately 500 acres of marsh creation via river mining and placement of 2.2 million cubic yards of material. In addition, a conveyance channel will be dredged from the northeast confluence of Delacroix Canal and Big Mar to the southwest corner of Big Mar where it joins with Delacroix Canal. Channel dimensions will be approximately 10,000 ft long, 100 ft wide and 5 ft deep requiring a total of 185,000 cubic yards of excavation. Material from the channel excavation will be beneficially used to create part of the marsh platform west of Big Mar. Construction of this channel will help redirect flow from the Caernarvon diversion to the southwest area of upper Breton Sound, which is currently taking the path of least resistance as Big Mar fills in through Bayou Mandeville into Lake Lery. The marsh platform will be partially contained and vegetated with indigenous intermediate species upon compaction and dewatering.

Goals:

1. Create approximately 500 acres of intermediate marsh via sediment mining of the Mississippi River.
2. Excavate a channel 10,000 ft long, 100 ft wide, and 5 ft deep through the Big Mar to facilitate Caernarvon outfall to marshes west and southwest of Big Mar.
3. Reduce erosion of adjacent interior marshes.

Preliminary Project Benefits:

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

500 acres of marsh platform benefited, plus a yet to be determined area to be benefited from increased Caernarvon flow into southwest marshes.

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

434 acres of created marsh at the end of twenty years, plus an acreage yet to be determined to be benefited from increased Caernarvon flow into southwest marshes.

- 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 hurricane protection levee and communities located along the northern boundary of Breton Sound. There are several areas where a marsh buffer no longer exists in front of the levee system, and breaches from storm activity have already been observed. Marsh creation under this project will, in part, target areas that provide direct protection to the hurricane protection levee.

- 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 critical infrastructure.

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

This project is part of the state master plan and will work in concert with several existing efforts in Breton Sound. Marsh creation sites will compliment the small USACE mitigation project near Braithwaite, and the channel excavation will facilitate flow to the outfall management structures constructed by the NRCS that depend upon flow down Delacroix canal.

Identification of Potential Issues:

No pipelines or oyster leases are in the project area. The borrow area will be the Mississippi River and a small portion of Big Mar. The landowners of both Big Mar and the surrounding marshes have been contacted and support the project concept.

Preliminary Construction Costs:

Preliminary construction cost estimate is \$14,900,000. This includes construction, containment, mobilization, vegetative plantings, and 25% contingency.

Preparer of Fact Sheet:

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

Dedicated Sediment Delivery and Water Conveyance for Marsh Creation west of Big Mar

PPL-19 CWPPRA Nominee



Marsh creation site



Proposed conveyance channel

R2-BS-03-Breton Marsh Restoration

PPL19 PROJECT NOMINEE FACT SHEET

January 29, 2009

Project Name:

Breton Marsh Restoration Project

Coast 2050 Strategy:

- Dedicated dredging for wetland creation.

Project Location:

The project area is located in Region 2, Breton Basin, Plaquemines Parish, Caernarvon mapping unit, south east of Delacroix, LA in an area south of Lake Lery between Bayou Terre aux Boeufs (near Delacroix) and River aux Chenes.

Problem:

The landfall of Hurricane Katrina in southeast Louisiana destroyed thousands of acres of marsh and other coastal habitats east of the Mississippi River. One of the areas most severely impacted was the Breton Sound Basin where it is estimated that 40.9 square miles of marsh were converted to open water. One of the most significant restoration tool used in this basin is the Caernarvon Freshwater Diversion. The operational plan of the Caernarvon Freshwater Diversion has proposed higher water discharge rates during the winter and spring to address hurricane impacts. Because much of the sediment and nutrients will be removed from the diversion water when it reaches the project area, that increase in discharge rates will have little potential to rebuild project area wetlands. Without restoration this region will begin to see the coalescence of water bodies, higher wave generated erosion rates, and an increase in salinities (from the open brackish Black Bay system), especially when the Caernarvon Freshwater Diversion has low flow conditions.

Goals:

The goal of this project is to restore marsh that was damaged by hurricane Katrina in 2005. Reestablishing this marsh would help restore marshes in the project area that once helped to moderate the effects of the brackish waters from the Black Bay system moving north into the more intermediate marshes.

Specific Goals: 1) Creation of 470 acres and nourishment of 148 acres of emergent marsh through hydraulic dredging. 2) Restore the western shoreline of Bayou Gentilly.

Proposed Solutions:

This project would attempt to restore damage marsh in the vicinity of the project which is due to hurricane Katrina. This would be done through the creation of 470 acres of low salinity brackish marsh with the use of a hydraulic dredge. Renewable Mississippi River sediments that were deposited in Lake Lery as a direct result of the Caernarvon Diversion Project will be hydraulically dredged and pumped south of Lake Lery via pipeline to create this marsh. Dredged material would be placed in marsh creation cell to a height of 1.5 to 2.0 ft NAVD 88 and contained by earthen dikes built from insitu material. These dikes would be gaped or degraded no latter that there years post construction to allow for fisheries access. It is anticipated that water depths in the marsh creation cells are relatively shallow due to it being 2005 hurricane damage. The western shoreline Bayou Gentilly would also be restored.

Preliminary Project Benefits:

- 1) *What is the total acreage benefited both directly and indirectly?* Direct benefits include creation and/or nourishment of 618 acres of marsh through hydraulic dredging.
- 2) *How many acres of wetlands will be protected/created over the project life?* This project would net approximately 466 acres of marsh throughout the life of the project.
- 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 in the area of direct benefits would be reduced by >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.* This project does not restore any structural components.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?* This project would provide protection to some oil and gas infrastructure.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* This project would work synergistically with the Caernarvon Diversion and the Caernarvon Outfall Management/Lake Lery Shoreline Restoration Project (BS-16) that has recently been approved for Phase I funding.

Identification of Potential Issues:

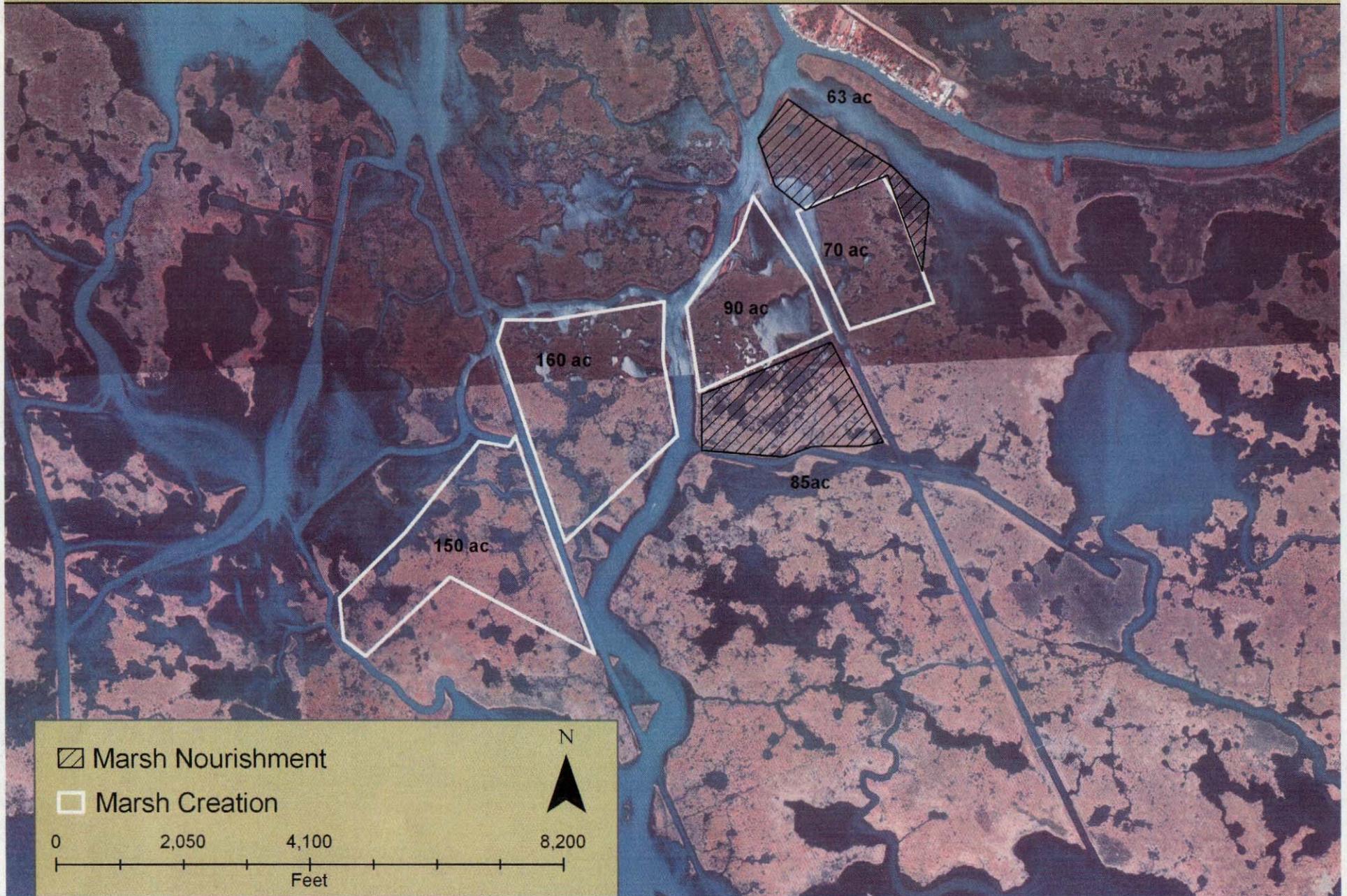
There are several pipelines in the area.

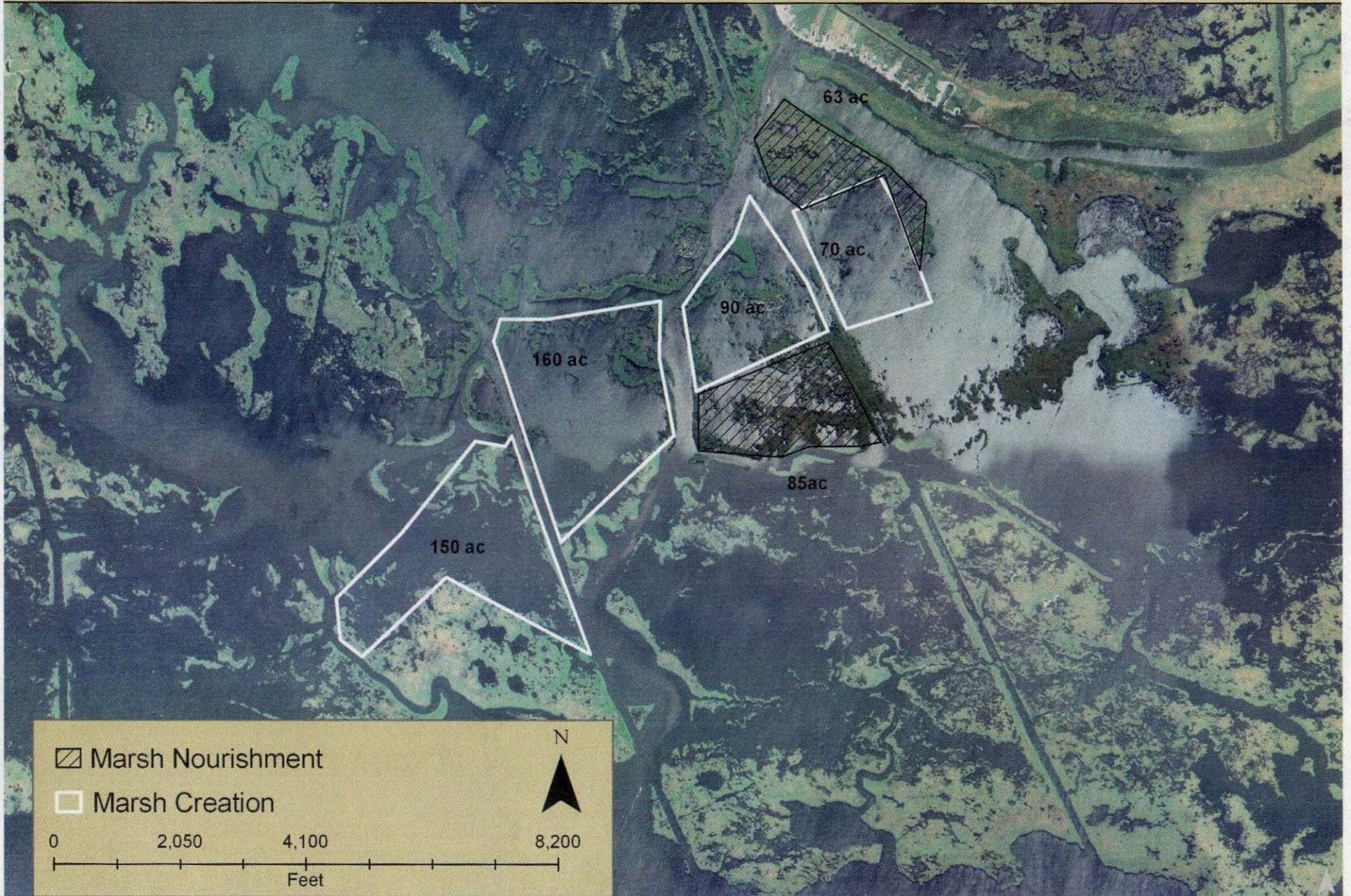
Preliminary Construction Costs:

The lump sum construction cost is estimated to be \$13.6 million and \$17 million with a 25% contingency.

Preparer(s) of Fact Sheet:

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MS RIVER BASIN

R2-MS-01-Pass a Loutre Restoration

PPL19 PROJECT NOMINEE FACT SHEET
January 29, 2009

Project Name

Pass a Loutre Restoration

Coast 2050 Strategy

Regional Strategy – Continue building and maintaining delta splays

Project Location

Region 2, Plaquemines Parish, Mississippi River Delta Basin, marshes north and south of Pass a Loutre on the Delta National Wildlife Refuge (NWR) and Pass a Loutre Wildlife Management Area (WMA).

Problem

Historically, Pass a Loutre was a major distributary of the Mississippi River. This pass carried sediments that created and maintained in excess of 120,000 acres of marsh. Pass a Loutre is not a maintained navigation channel and over time has filled in considerably and carries much less flow than it did historically. The Pass a Loutre channel has silted in and is now very shallow and narrow. The decreased channel size has much less capacity to carry fresh water and sediments and marshes historically nourished by the channel are now being starved and are subsiding at an alarming rate. In addition, a hopper dredge disposal site located at the head of Pass a Loutre has accelerated infilling of the channel.

Goals

The goal of this project is to restore an important distributary of the Mississippi River so that it will once again create new wetlands and nourish existing marsh. Dredged material will create marsh immediately and the increased fresh water and sediment carrying capacity of the channel will create marsh over time and increase the abundance and diversity of submerged aquatics.

Specific goals of the project are: 1) Enhance marsh-building processes within the project area; 2) Create approximately 587 acres of marsh with dredged material from construction of a conveyance channel; and 3) Over the 20-year life of the project, create approximately 550 acres of marsh via the construction of 12 crevasses.

Proposed Solutions

- 1) Pass a Loutre would be dredged for approximately 5.6 miles from Head of Passes to Southeast Pass. Preliminary design includes channel dimensions of -30.0ft NAVD88 by a 300-ft bottom width.
- 2) Approximately 5.0M yd³ of material would be dredged during construction of the conveyance channel. That material will be used beneficially to create approximately 587 acres of marsh on Delta NWR and Pass a Loutre WMA.
- 3) Construction of 11 crevasses and cleanout of one existing crevasse. Crevasses will be constructed to a -8.0ft by 75-ft bottom width with 1(v):2(h) side slopes.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?* Approximately 587 acres of marsh would be created from initial channel construction. Indirect benefits would occur over approximately 27,000 acres of marsh and open water habitats as a result of increased freshwater and sediment delivery (August 14, 2007 WVA).

2) *How many acres of wetlands will be protected/created over the project life?* Based on the Wetland Value Assessment conducted for this PPL17 candidate project, 1133 net acres of marsh would result from this project.

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 assumed reduction in marsh loss over the entire project area would be between 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 help maintain several natural levee ridges. The project would introduce sediment along several passes that have been sediment starved for several decades and are subsiding.

5) *What is the net impact of the project on critical and non-critical infrastructure?* Seven oil and gas companies have facilities and pipelines in this area which would benefit from an increase in marsh acreage. The loss of wetlands in this area exposes those facilities to open water wave energies resulting in expensive damages and oil spills. Protecting/creating wetlands in this area would also assist in reducing storm damages to oil and gas infrastructure and commercial development in nearby Venice, LA.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The project would provide a synergistic effect with the Delta Wide Crevasses Project (PPL6) which constructed several crevasses south of Pass a Loutre. Many of the crevasses constructed under that project depend on the sediment load delivered by Pass a Loutre. With Pass a Loutre restored, the sediment carrying capacity of the channel will be increased which will accelerate crevasse growth in the area. This project would also have a synergistic effect with several other projects on the Mississippi River Delta – Venice Ponds Marsh Creation and Crevasses (PPL15), Spanish Pass Diversion (PPL13), Benneys Bay Diversion (PPL10), an LDWF crevasse project on Pass a Loutre, and several state mitigation projects that have been constructed on the WMA.

Identification of Potential Issues

Several pipelines cross Pass a Loutre but should not significantly impact dredging activities. Impacts to the Mississippi River navigation channel would need to be investigated via modeling and other analyses.

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$28,000,000.

Preparer of Fact Sheet

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