

PPL 17

Regional Planning Team Meetings

Region 4 – January 9, 2007
Region 3 – January 10, 2007
Region 2 – January 11, 2007
Region 1 – January 11, 2007

Initial Fact Sheets and Maps

Region 1
New Orleans
January 11, 2007



ATTENDANCE RECORD



DATE(S) January 11, 2007 1:00 P.M.	SPONSORING ORGANIZATION COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LOCATION U.S. Army Corps of Engineers -New Orleans District District Assembly Room 7400 Leake Ave. New Orleans, LA
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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION I

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	TELEPHONE NUMBER
St. Tammany	Env. Specialist	985 898 2552
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* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

**Region 1
Regional Planning Team Meeting
11 Jan 07
New Orleans, LA**



**1. Welcome
and Introductions**



RPT Region 1
Leader:
Dan Llewellyn -LDNR

Announcements

- First round of RPT meetings (Jan. 9 - 11, 2007) will be held to accept project and demo nominations. **NO VOTING** will take place at these meetings.
- Voting to select project nominees for all basins will occur at the Coast-wide Voting Meeting, on Feb. 7, 2007, in Baton Rouge at the LDWF Building (2000 Quail Dr.).
- Parish representatives are asked to identify themselves and announce who will cast votes at the coast-wide voting meeting.
- Agencies will be assigned responsibilities for preparing nominee fact sheets after the coast-wide voting meeting.

Announcements

Eligible parishes for basins in Region 1 include:

Plaquemines Parish
Jefferson Parish
Orleans Parish
St. Bernard Parish
Ascension Parish
Livingston Parish

St. James Parish
St. Charles Parish
St. John the Baptist
Parish
St. Tammany Parish
Tangipahoa Parish

2. PPL17 Selection Process and Ground Rules



CWPPRA PPL 17 Process Summary

- RPT meetings Jan. 9-11, 2007 to accept ideas for projects and demos (no limit on number of projects).
- Projects must support a Coast 2050 Regional or Coastwide Strategy.
- At the coast-wide voting meeting on Feb. 7, 2007. RPTs will select 2 nominees per basin (3 each in Barataria and Terrebonne).
- RPTs will select 6 demo projects coast-wide.
- Selection is by consensus, if possible; if not by agency/ parish ranked vote.

CWPPRA PPL 17 Process Summary

- Following the coast-wide voting meeting, an agency will be assigned to each project.
- The agency will prepare a fact sheet (1 page + map) so nominees can be evaluated for costs/ benefits.
- Engineering Work Group will estimate preliminary fully funded cost.
- Engineering and Environmental Work Groups will review draft features and benefits for each nominee.
- Work groups will also review demo projects and verify that they meet demo criteria.

CWPPRA PPL 17 Process Summary

- Matrix of costs/benefits transmitted to Tech. Comm. & Coastal Protection and Restoration Authority (CPRA).
- Tech. Comm. meets Mar. 14, 2007 at 9:30 am at the Corps in New Orleans to select up to 10 PPL 17 candidate projects and up to 3 demos.
- Tech. Comm. assigns agencies to candidate projects to develop costs/benefits for Phase 0.
- Workgroups conduct field trips to evaluate benefits and calculate fully funded costs for candidates.

CWPPRA PPL 17 Process Summary

- Public meetings will be Aug. 29, 2007 in Abbeville and Aug. 30, 2007 in New Orleans to present results of Phase 0 analysis
- On Sept. 12, 2007, the Tech. Comm. will select up to 4 candidate projects (and possibly demos) to present to the Task Force for Phase 1 funding.
- On Oct. 17, 2007, the Task Force will meet to select up to 4 projects for Phase 1 funding.

3. Region 1 Coast 2050 Regional Strategies



Projects nominated should be:

- consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies
- consider CWPPRA's prioritization criteria

Restore Swamps

- Small Mississippi River diversion at Blind River including outfall management
- Small Mississippi River diversion at Reserve Relief Canal including outfall management
- Restore natural drainage patterns
- Provide diversion related flood protection where needed

Restore and Sustain Marshes

- Small Mississippi River Diversion through Bonnet Carre Spillway by pulling spillway structure pins in an opportunistic manner
- Small diversion of Mississippi River into LaBranche wetlands
- Diversion from Jefferson Parish drainage into LaBranche wetlands
- Wetland sustaining diversion of 2-5,000 cfs thru Central Wetlands at Violet diversion once MRGO is closed
- Dedicated delivery of sediment for marsh building

Protect Bay and Lake Shorelines

Maintain shoreline integrity of Lake Pontchartrain

Maintain shoreline integrity of Lake Borgne and the Biloxi Marshes

Restore and Maintain Barrier Islands

- Maintain Chandeleur Islands with offshore sand as necessary

Maintain critical landforms

- Maintain Eastern Orleans Land Bridge by marsh creation and shoreline protection

Resolve the MRGO Problem

- Close MRGO to deep-draft navigation when adequate container facilities exist on the river\
- Expedite planning for the Millennium Port
- Stabilize the entire north bank of MRGO
- Acquire oyster leases and create marsh I southern lobes of Lake Borgne
- Constrict breaches between MRGO and Lake Borgne with created marshes
- Construct a sill at Seabrook

Coast 2050 Coastwide Strategies



- Beneficial Use of Dredged Material
- Dedicated Dredging for Wetland Creation
- Herbivory Control
- Stabilization of Major Navigation Channels
- Management of Bay/Lake Shoreline Integrity
- Management of Pump Outfall
- Vegetative Planting
- Maintain or Restore Ridge Function
- Terracing

4. PPL17 Project Nominations



Demonstration Projects

- Demonstrates a new technology
- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Are unique and not duplicative in nature
- Engineering/Environmental Workgroups will select sites for proposed demonstration projects
- The RPTs will select 6 demos at the Feb 7th coast-wide voting meeting. The Tech. Comm. will select up to 3 demos in March 07
- PPL16 demos must be *re-nominated* for PPL17

5. Announcement of Coast-wide Voting Meeting



Coast-wide Voting Meeting

- **Feb. 7, 2007** in Baton Rouge to choose 2 nominees per basin (3 in Barataria and Terrebonne), and 6 demos.
- Parishes within each basin are asked today to identify who will vote at the coast-wide meeting.
- No additional projects can be nominated at the coast-wide meeting.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- No public comments accepted at the coast-wide meeting (public comments will be heard today).

Coast-wide Voting Meeting

- Each officially designated parish representative, each Federal agency, & DNR will have one vote.
- Voting will be by ranked vote.
- Each voting entity will be provided a ballot.
- Each voting entity will provide a ranked score for all projects – the highest ranking project will receive the highest vote and the lowest will receive a vote of “1”.
- Points will be totaled for all projects within each basin.

Coast-wide Voting Meeting

- The two nominees per basin (three in Barataria and Terrebonne) receiving the highest vote will be included in the list of 20 nominee projects.
- All demo projects will be voted upon in same manner with one coast-wide ballot.
- 15 minutes will be allowed for voting in each basin and for demos.

6. Announcements of Upcoming Meetings



PPL 17 Upcoming Meetings

Coast-wide Voting Mtg, 7 Feb 07, Baton Rouge
20 nominees and 6 demos selected

Technical Committee Mtg, 14 Mar 07, New Orleans
Selection of 10 candidates and up to 3 demos

Public Meetings

29 Aug 07, Abbeville
30 Aug 07, New Orleans

Technical Committee Mtg, 12 Sep 07, New Orleans
Recommend up to 4 projects for Phase I funding

Task Force Mtg, 17 Oct 07, New Orleans
Final selection of projects for Phase I funding

7. Adjourn



**R1 –PO 1 Lake Athanasio Shoreline Protection
and Marsh Creation Project**

PPL16 PROJECT NOMINEE FACT SHEET
January 24, 2007

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 regional ecosystem strategies

Protect Bay/Lake Shorelines

Restore/Sustain Marshes – dedicated delivery of sediment for marsh building

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.

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.

Proposed Solutions

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. Maintenance of the rock would be included.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? At least 276 acres of saline marsh.
- 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 moderate impact on the MRGO, a Federal navigation channel. Otherwise, the project would have marginal to no impact on critical or non-critical infrastructure, but 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: oysters, land rights, O&M, utilities/pipelines, etc.

Preliminary Construction Costs

The construction cost plus 25% contingency is estimated to be approximately \$29,000,000.

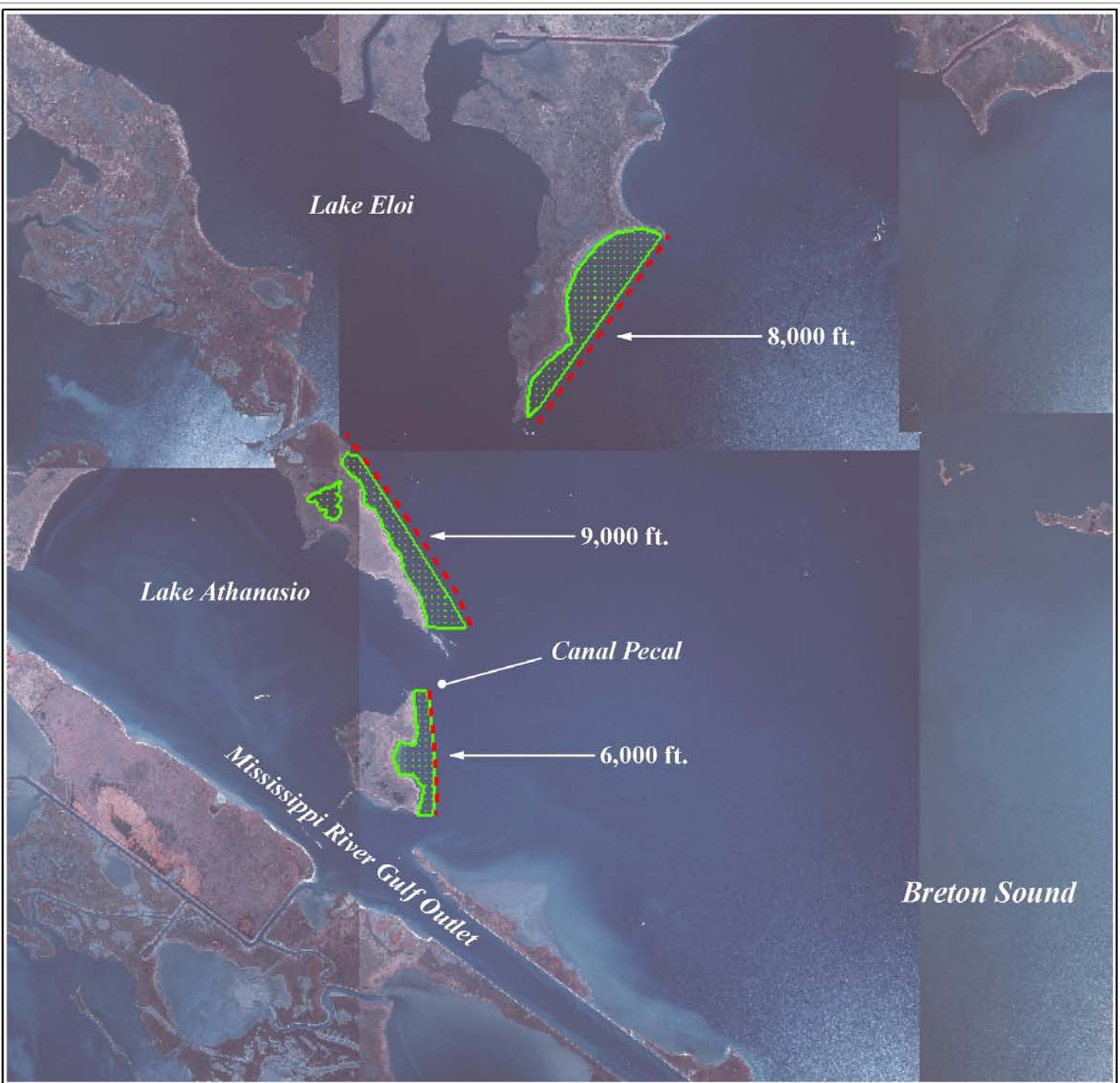
Preparer of Fact Sheet

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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 (PPL17 Project Nominee)



- - - Shoreline Protection *
- Marsh Creation *

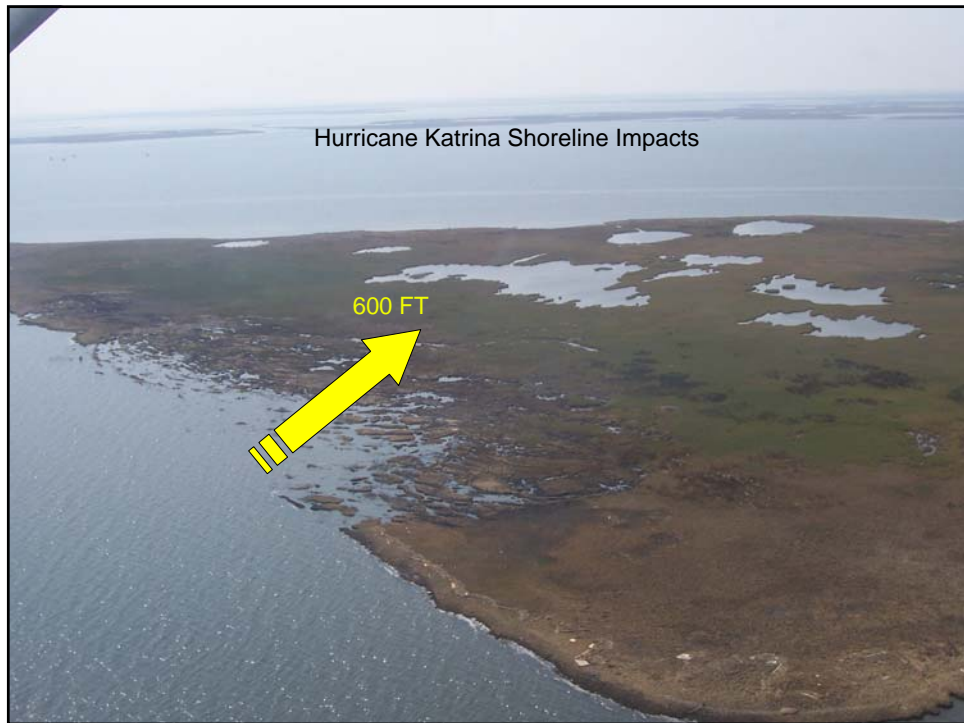
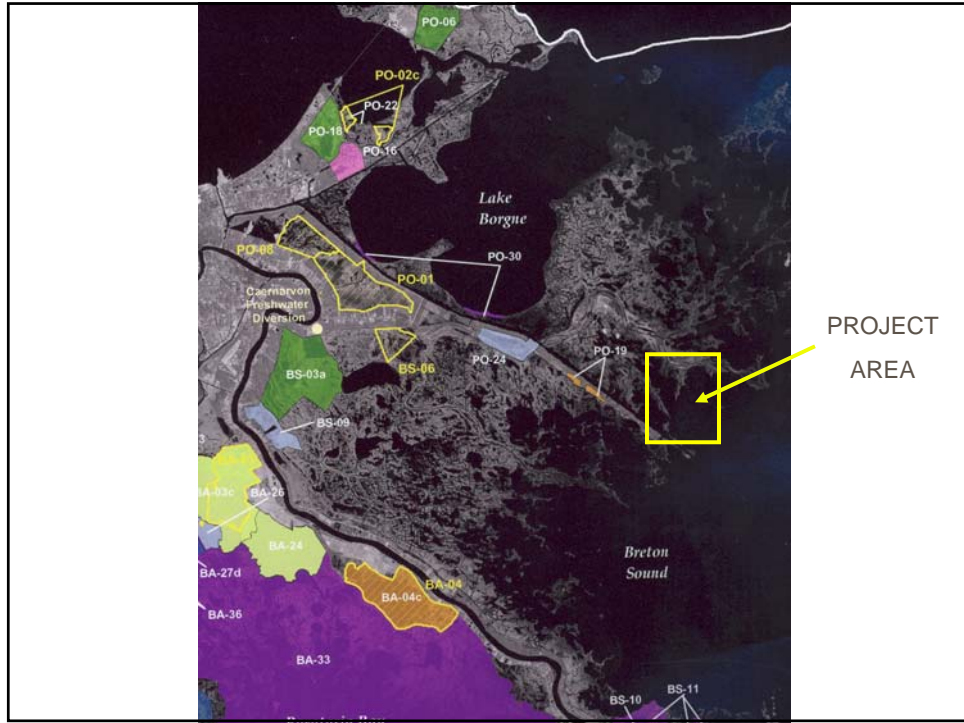
* denotes proposed features



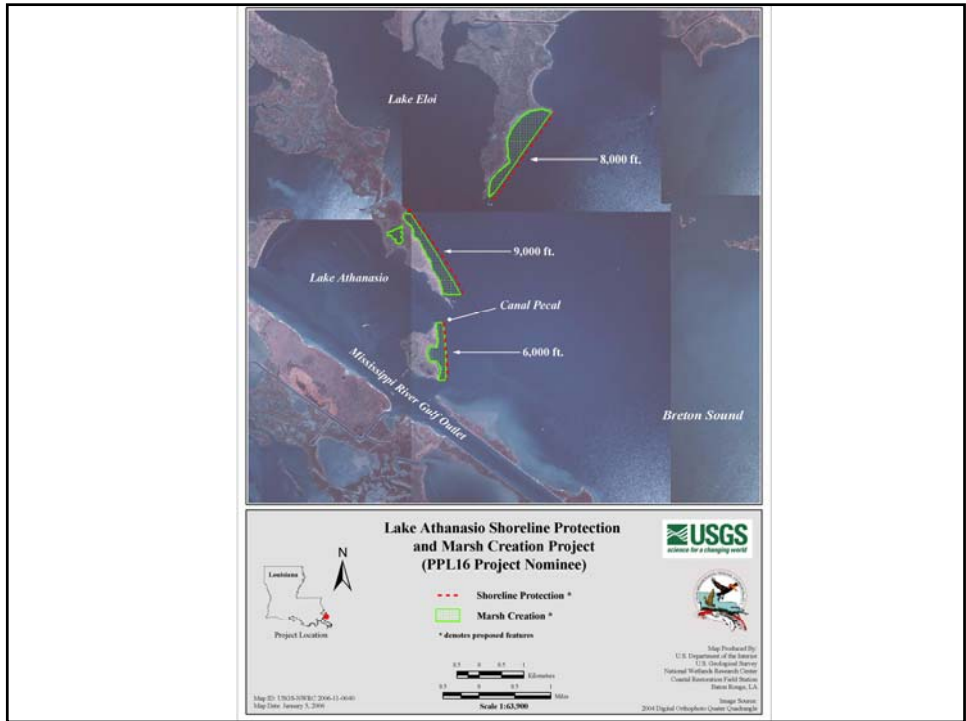
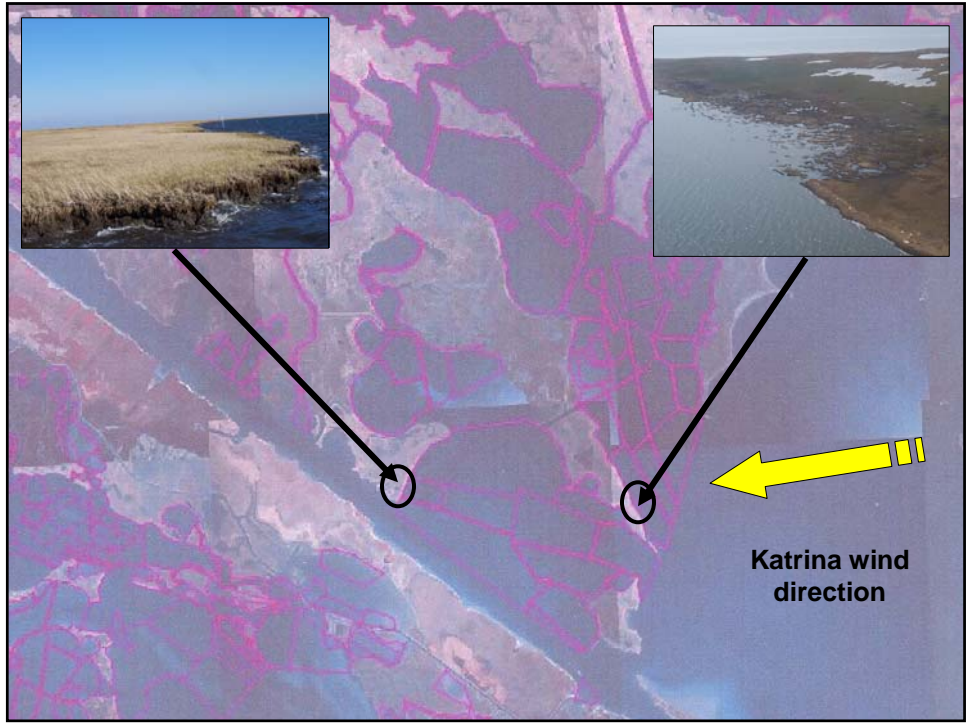
Scale 1:63,900



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







**R1 –PO 2 Bayou La Loutre Ridge Restoration
Project**

RE 1 POZ St. Bernard
Moertle
PPT

REGION 1 – RPT
PPL-17 PROJECT NOMINEE FACT SHEET
1/11/2007

Project Name

Bayou La Loutre Ridge Restoration

Coast 2050 Strategy

Coastwide Common Strategy: Maintain and Restore Ridge Functions

Project Location

Region 1, Pontchartrain Basin, St. Bernard Parish, Northeast of Mississippi River Gulf Outlet (MRGO) at the junction of Bayou La Loutre and MRGO. The project area will extend 3.3 miles up Bayou La Loutre to the east from the junction of Bayou La Loutre and the MRGO.

Problem

Historically, the Bayou La Loutre ridge was maintained by overbank flooding from waters from the Mississippi River. Since connection with the Mississippi River was cut off by flood protection levees the ridge has deteriorated due to saltwater intrusion through the MRGO and by heavy boat traffic through the bayou. The importance of the ridge as a valuable habitat feature of the area has always been realized. However, following Hurricane Katrina (2005), the importance of the ridge as a "line of defense" for the surrounding wetlands and metropolitan areas from storm surge has been more fully realized. The ridge no longer exists on the south bank of the project area and has almost completely disappeared on the north bank.

Proposed Project Features

The project calls for the restoration of 3.3 miles of the Bayou La Loutre ridge on both the north and south banks to an elevation of +8 ft NAVD. Approximately 35,000 linear feet of rock armoring would be required to protect both banks of the bayou from marine vessel wave erosion. The rock armoring would be consistent with existing bankline revetment along the MRGO. This would ensure protection of the ridge function for the 20 year life of the project. The restoration of the Bayou La Loutre ridge has been recommended by the Coastal Protection and Restoration Authority (CPRA) Preliminary Draft Plan, Biloxi Marsh Stabilization and Restoration Plan, St. Bernard Parish Coastal Restoration Plan, Lake Pontchartrain Foundation Basin's Comprehensive Habitat Management Plan, and the MRGO De-Authorization Preliminary Draft Plan,

Goals

To restore the Bayou La Loutre ridge ecosystem.

Preliminary Project Benefits

1. Restoration of ridge function.
2. Protection of adjacent emergent wetlands from wave/wake erosion.
3. Protection of the St. Bernard and New Orleans levee systems from storm surge.

Identification of Potential Issues

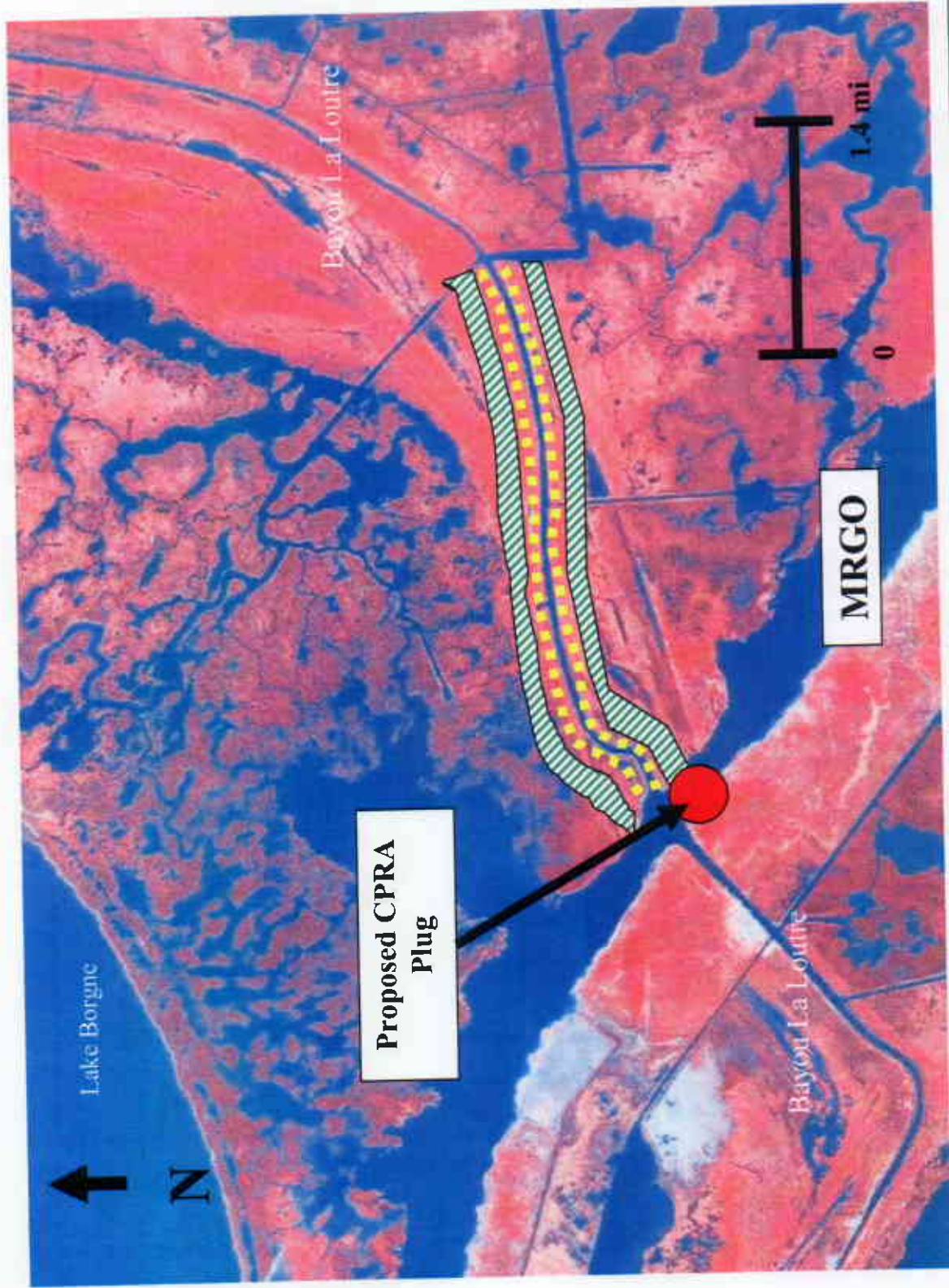
Project impacts to emergent wetlands may require compensatory mitigation.

Preliminary Construction Costs

\$15-20M


Preparer of Fact Sheet

Randy Moertle, Avery Island Inc., (985) 532-6388, rmoertle@bellsouth.net



Project Name: Bayou La Loutre Ridge Restoration

Data Source:
 Louisiana Department of Natural Resources
 From 2005 Cir DOQQ imagery

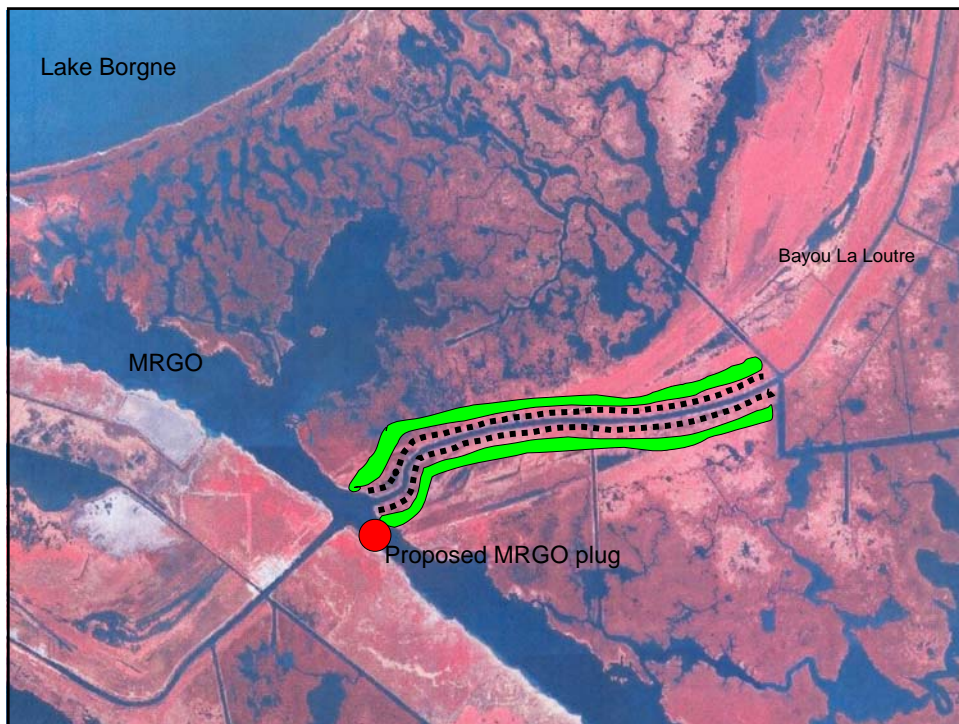
-  Ridge Restoration
-  Rock Armoring

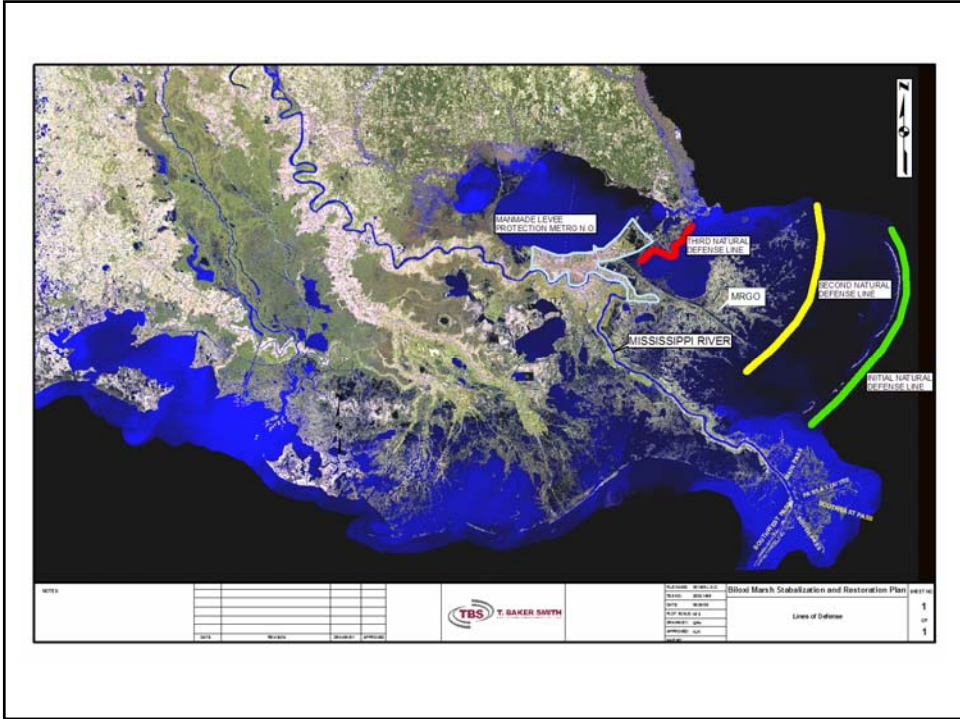
South side of Bayou La Loutre Ridge



North Side of Bayou La Loutre Ridge









**R1 –PO 3 Mississippi River Reintroduction
Near Violet Project**

Mississippi River Reintroduction Near Violet

Coast 2050 Strategy:

- Wetland sustaining diversion from the Mississippi River near Violet

Project Location:

Region 1, Lake Pontchartrain Basin, St. Bernard Parish, Central Wetlands Mapping Unit, near Violet, LA.

Problem: This area has experienced wetland loss and dramatic changes in vegetative communities due to a variety of factors including filling, subsidence, saltwater intrusion, lack of sediment and nutrient input, tropical storm activity, canal dredging and maintenance, and hydrologic modifications (impoundment).

Goals:

- Reduce wetland losses in existing marshes in the project area
- Create marsh in the project area
- Increase SAV cover in the project area
- Maintain area of shallow water habitat in the project area
- Decrease salinity in the project area and beyond

Proposed Solution:

Reintroduction of freshwater, sediment, and nutrients is proposed to maintain and nourish existing and created marshes. The proposed diversion structure would be constructed in or near the same location as the existing siphon. Project features include a gated structure with 4,000-5,000 cfs capacity. The project also includes beneficial use of all earthen materials excavated during project construction to create about 49 acres of marsh in shallow open water within the project area. The feasibility and benefits of outfall management features, including coordinated operation of the proposed diversion and existing flood gates, would be evaluated during Phase One.

Project Benefits:

The project would benefit over 18,000 acres of brackish and intermediate marsh and open water. Approximately 1,609 acres of marsh would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 53,184,577.00.

Preparers of Fact Sheet:

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Rachel Sweeney, NMFS, (225) 389-0508, Rachel.Sweeney@noaa.gov
Shannon Haynes, LDNR, (225) 342-9424, ShannonH@dnr.state.la.us

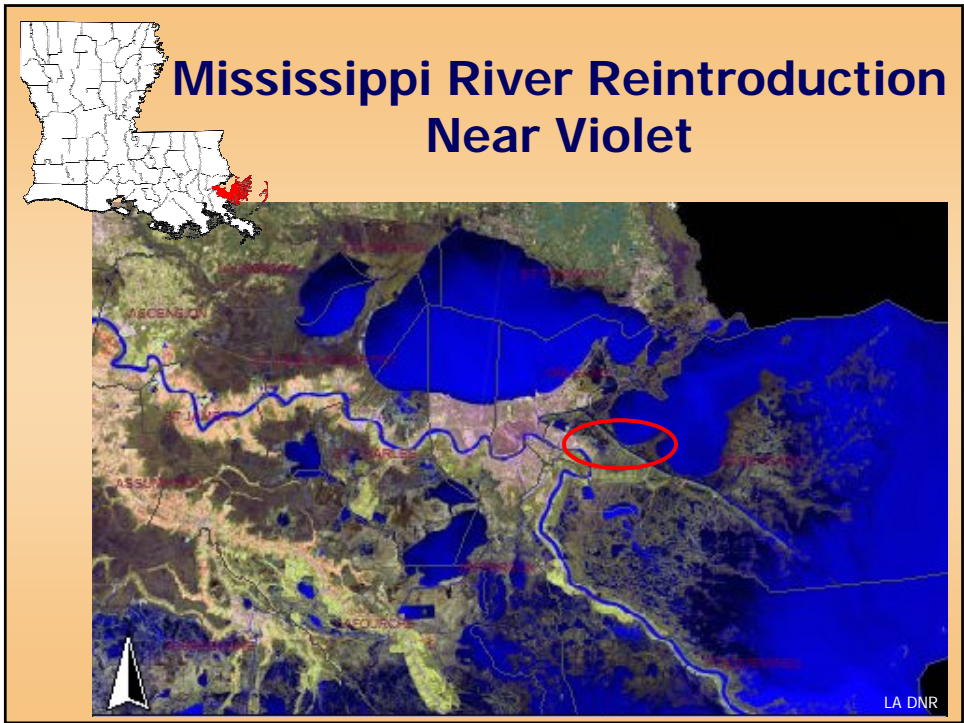


Louisiana Department of Natural Resources

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PPL 17 Proposed
Mississippi River
Reintroduction Near Violet

Data Source:
LA Department of Natural Resources
Map Date: December 2006
Image Data: 2005 Coastal Photographs



Mississippi River Reintroduction Near Violet

Goals:

- Reduce wetland losses in existing marshes in project area
- Create marsh in the project area
- Increase SAV cover and shallow water habitat in project area
- Decrease salinity in the project area and beyond

Cost/Benefits:

- >1000 acres of marsh protected/created over 20-year project life
- Est. Cost + contingency:
~\$50 million



Mississippi River Reintroduction Near Violet

Questions?

Tim Landers
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landers.timothy@epa.gov



**R1 –PO 4 Irish Bayou Shoreline Protection and
Marsh Creation Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 24, 2007

Project Name: Irish Bayou Wetland Creation and Shoreline Protection

Coast 2050 Strategy:

Region 1 Ecosystem Strategy Nos. 9, 10, and 13: Dedicated delivery of sediment for marsh building, maintaining shoreline integrity of Lake Pontchartrain, and maintaining eastern Orleans Land Bridge by marsh creation and shoreline protection.

Project Location:

Region 2, Pontchartrain Basin, Orleans Parish, South of I-10, and east of Bayou Sauvage Refuge and Irish Bayou, with borrow area in Lake Pontchartrain.

Problem:

The landfall of Hurricane Katrina in southeast Louisiana destroyed thousands of acres of marsh and other coastal habitats in the Lake Pontchartrain basin. The hurricane weakened the Lake Pontchartrain shore between the lake rim and interior marshes near Bayou Chevee. In some cases the storm removed large expanses of the shoreline and exposed interior marshes. Currently only a portion of the lakeshore is protected by a rock dike (PPL 5, PO-22). This dike was originally tied to the shoreline; however the interior marsh has eroded away. Continued shoreline erosion and future storms could create a direct path of open water connecting Lake Pontchartrain with Irish Bayou and the Bayou Sauvage Refuge.

Goals:

The project would maintain the shoreline integrity of Lake Pontchartrain and reduce the threat of Lake Pontchartrain merging with Irish Bayou and the Bayou Sauvage Refuge. The project would also help to buffer and protect the stability of the existing federal hurricane protection levee in New Orleans East. The project would also help to provide wildlife and fisheries habitats and water quality benefits, and the restored marsh vegetation would buffer/weaken storm surge in New Orleans East.

Proposed Solutions:

- Dedicated dredging to restore wetlands along the weakened shoreline and current rock dike.
 - Assuming an average 3ft fill/site
 - All 5 sites will be semi-confined and allowed to flow into the adjacent marsh of Bayou Sauvage.

Marsh Creation Site	Approximate Acres Created	Estimated Material Required (cy)
A	57	280,000
B	53	260,000
C	122	590,000
D	82	400,000
E	84	410,000
Total	398	1,940,000

- Extending the existing rock dike along the reach mouth of Chef Menteur Pass to the mouth of Little Irish Bayou.

Reach	Length (lf)	Construction elevation (NAVD88)	tons/lf	Estimated Rock Required (tons)
1	12,765	+3.0 ft	4 tons/lf	52,000
2	3,280	+3.0 ft	4tons/lf	15,000
Total	16,045			67,000

Preliminary Project Benefits:

- The project would directly create approximately 398 acres of marsh.
- The project would restore/protect a lake shoreline and preserve portions of the critical East Orleans Landbridge.
- The project will also provide protection to critical infrastructure in New Orleans east including the hurricane protection levee and the nearby I-10 corridor.
- The project provides some synergy with other projects protecting the East Orleans Landbridge and nearby mapping units including projects at Bayou Chevee, and on the Bayou Sauvage NWR.

Identification of Potential Issues:

- Rock shoreline protection projects historically require O&M.

Preliminary Construction Costs:

Estimated construction cost with 25% contingency: approximately \$13.5 Million. *Agency representative will provide supporting documentation on estimated costs of all project features.*

Preparer(s) of Fact Sheet:

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Jason Binet, USACE, (504) 862- 2127, Jason.A.Binet@mvn02.usace.army.mil

Project Map:

Irish Bayou Wetland Creation and Shoreline Protection



Legend

-  Proposed Shoreline Protection
-  Irish Bayou Marsh Creation

**R1 –PO 5 Orleans Landbridge Marsh Creation
and Shoreline Protection Project**

PPL17 PROJECT NOMINEE FACT SHEET

January 26, 2007

Project Name

“Orleans Landbridge Marsh Creation and Shoreline Protection”

Coast 2050 Strategy

- Coastwide – Maintain bay and lake shoreline integrity.
- Regional 10 – Maintain shoreline integrity of Lake Pontchartrain.
- Regional 13 – Maintain Eastern Orleans Land Bridge by marsh creation and shoreline protection.
- Mapping Unit 36 – Maintain shoreline integrity.

Project Location

Region 1, Pontchartrain Basin, Orleans Parish, East Orleans Landbridge Mapping Unit, along south shore of Lake Ponchartrain near Chef Pass and the Rigolets.

Problem

High wave energy, sea level rise and subsidence levels are impacting the wetland shorelines of Lake Pontchartrain, Chef Pass, and the Rigolets. Shorelines in the area are exhibiting increasingly high erosion rates dating since the 1980s and were highly impacted during Hurricane Katrina. Identified in both *Coast 2050* and the LCA, this critical landbridge forms a barrier between Lake Pontchartrain and Lake Borgne, an eventual passage to the Gulf of Mexico. This thin land mass of mostly brackish marsh was home to over 1,000 residents prior to the storm and protects an inland population of approximately 850,000 people in the city of New Orleans and Metairie along with billions of dollars of infrastructure and historic communities. The disappearance of shoreline and marsh in this area endangers this narrow landbridge that keeps Lake Pontchartrain from joining Lake Catherine and Lake Borgne. Continued erosion without action will result in the acceleration of the loss of the remaining marsh tidal marshes in the area.

Proposed Project Features

- Lake Pontchartrain east of Chef Pass – approximately 8,000 feet of rock protection.
- Lake Pontchartrain west of Rigolets at Hospital Wall – approximately 11,000 ft of rock protection.
- 100 acres of marsh creation behind rock protection.

Goals

- Maintain the East Orleans Landbridge by stopping shoreline erosion.
- Protect recovering communities and infrastructure located on the landbridge and inland.
- Contribute to the “multiple lines of defense” coastal protection and restoration strategy

Preliminary Project Benefits

The project will protect 500 acres by reducing the shoreline erosion rate by 100% at the highest erosion sites in Lake Pontchartrain. The project would maintain part of the Lake Pontchartrain shoreline and protect recovering communities and infrastructure. The project would complement an existing CWPPRA project: Bayou Chevee Shoreline Protection (PO-22). Shoreline protection features would maintain structural components of the East Orleans Landbridge as part of the coastal ecosystem in the Pontchartrain Basin.

Identification of Potential Issues

No known issues.

Preliminary Construction Costs

\$5-10 Million

Preparers of Fact Sheet

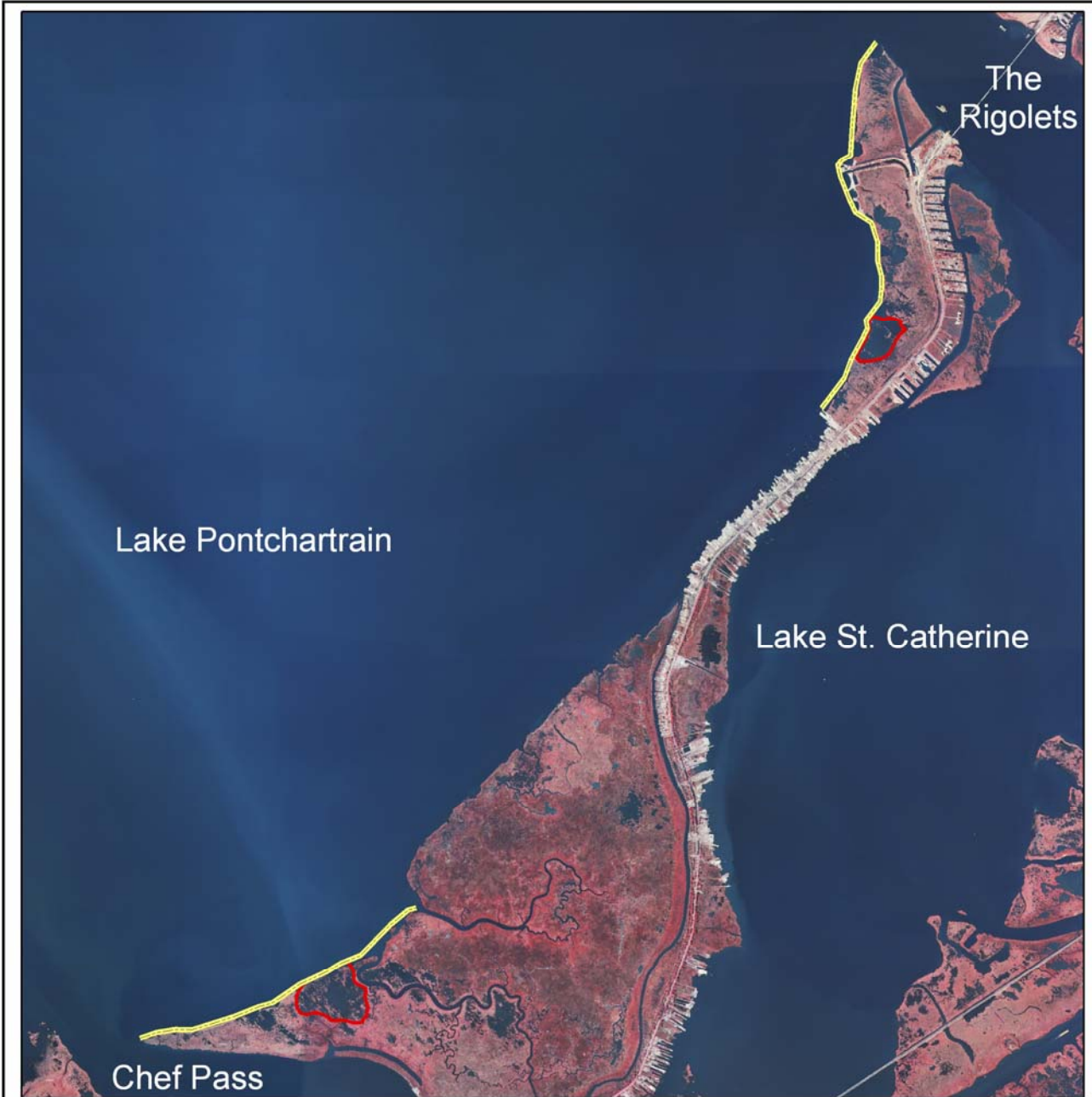
Mr. Leo Richardson, Executive Director, Lake Catherine Civic Association, lfrichardson@cox.net

Mr. John Lopez, Lake Pontchartrain Basin Foundation, johnlopez@pobox.com

Gregory Miller, Project Manager, U.S. Army Corps of Engineers, Gregory.B.Miller@usace.army.mil



Travis Creel, Project Manage, U.S. Army Corp of Engineers, Travis.J.Creel@usace.army.mil

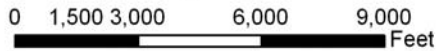
PPL17 PROJECT NOMINEE FACT SHEET
January 26, 2007



**Orleans Parish Candidate Project
PPL 17 Orleans Landbridge
Marsh Creation and Shoreline Protection**

Legend

-  Shoreline Protection
-  Marsh Creation



Map Produced By:
U.S. Army Corps of Engineers
New Orleans, La

Data Source:
2005 DOQQ Aerial Photography
Map Date: January 26, 2007
Map ID: NewOrleansLandBridgeMap.mxd

**R1 –PO 6 Orleans Landbridge (East) Marsh
Creation Project
Withdrawn by NRCS**

Orleans Land Bridge (East) Marsh Creation PPL-17 Candidate Project

Coast 2050 Strategy:

- Coastwide – dedicated dredging for wetland creation
- Regional – maintain Eastern Orleans Land Bridge by marsh creation and shoreline protection
- Mapping Unit – dedicated dredging from lakes Pontchartrain and Borgne

Project Location:

Region 1, Pontchartrain Basin, Orleans Parish, on the western side of The Rigolets and north of St. Catherine Pass.

Problem:

The marsh on the eastern portion of the Orleans Land Bridge is included as a component in the Pontchartrain Lines of Defense.

Goals:

Restore marsh areas that have been converted to shallow open water and reestablish the eastern portion of the Orleans Land Bridge.

Proposed Solution:

Restoration techniques include hydraulically dredged sediment and pump into the project area to create approximately 945 acres of marsh.

Project Benefits:

This project will create 945 acres of brackish marsh.

Project Cost:

The total fully funded cost for this project is \$XXXXX. ✓ 23M

Preparers of Fact Sheet:

Lee Richardson, (504) 835-2282, lfrichardson@cox.net

Marty Floyd, NRCS, (318) 473-7690, marty.floyd@la.usda.gov



Legend



Marsh Creation Areas
(apprx 945 ac)

**Orleans Candidate Project
PPL17 Orleans Land Bridge (East)
Marsh Creation**



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



Data Source:
2004 DOQQ Aerial Photography
Map Date: November 30, 2006
Map ID: orleans_indbrg_e.mxd

**R1 –PO 7 Cypress Restoration of Bayou
Bienvenue Central Wetland Unit Project**

PPL 17 PROJECT NOMINEE FACT SHEET

Project Name

Cypress Restoration of Bayou Bienvenue Central Wetland Unit

Coast 2050 Strategy

- Regional – Restore and maintain landbridge between MRGO and Lake Borgne with created marshes and shoreline protection.
- Regional – Maintain shoreline integrity of Lake Borgne.
- Coastwide – Management of pump and gravity-flow outfall for wetland benefits.
- Coastwide – Vegetative Planting

Project Location

Region 1, The Ponchartrain Basin, Bayou Bienvenue Central Wetland Unit (see attached map). The potential sites include the wetlands adjacent to the East Bank Sewage Treatment Plant, the spoil bank of MRGO, the wetlands between MRGO and the flood protection levees, and the wetlands bordering the western side of Lake Borgne. The wastewater treatment plants under investigation include the East Bank Sewage Treatment Plant for the S&WB and one to all seven of the wastewater treatment plants for SBPG dependent upon their consolidation plan.

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. The Bayou Bienvenue Central Wetland Unit was formerly a cypress forest that was severely affected by salt-water intrusion following construction of the MRGO.

Proposed Project Feature

- Installation of a wetland assimilation distribution system.
- Cypress planting.

Goals

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

Preliminary Project Benefits

The project will benefit between 10,000 and 15,000 acres of forested wetlands, intertidal marsh, and open water.

Identification of Potential Issues

Further inspections are needed to ensure compatibility with energy and transportation infrastructure. Hydrologic inspections are needed to determine if water control structures will be necessary to initiate cypress plantings.

Preliminary Construction Costs

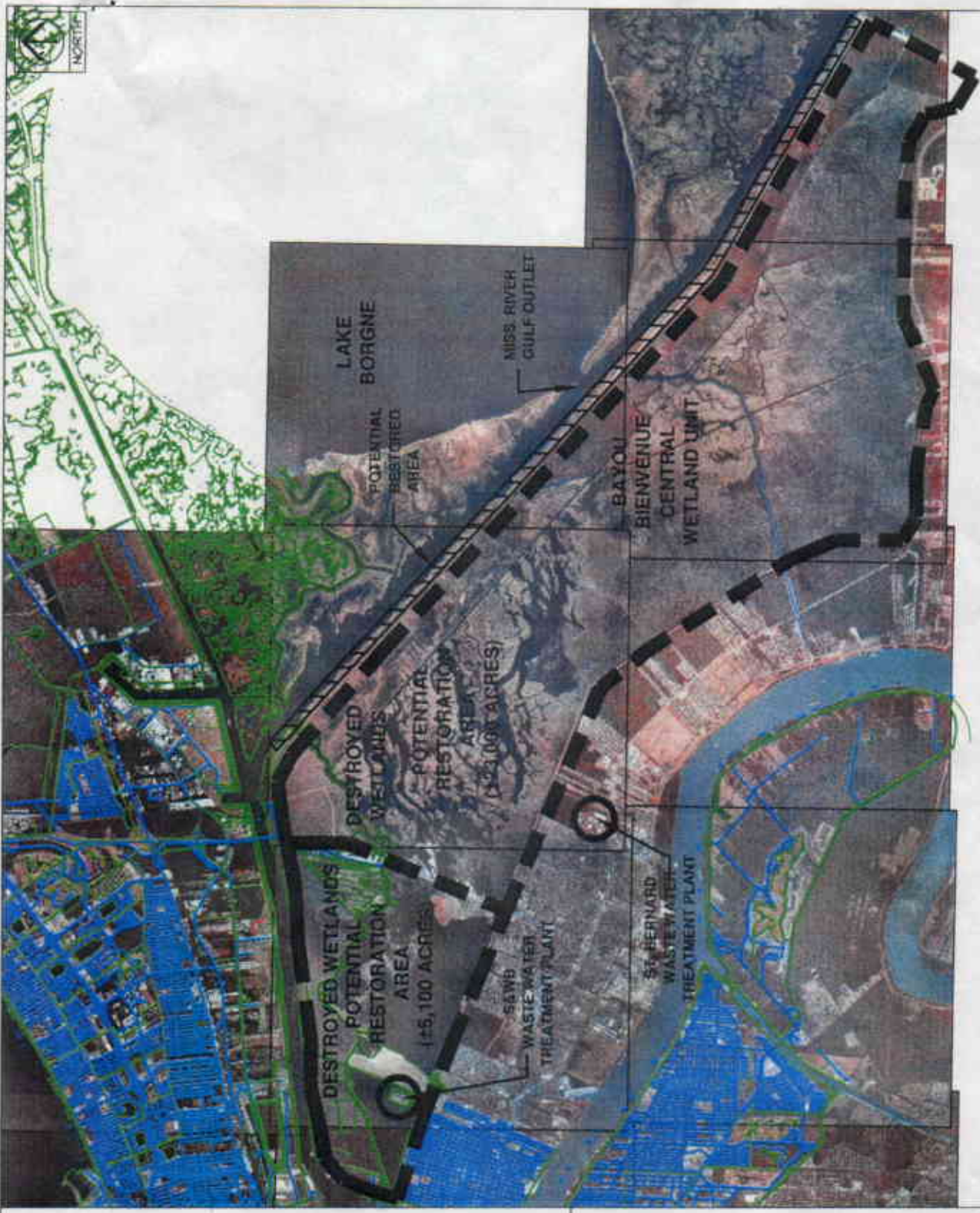
The estimated construction cost to restore the wetlands in the area and build the distribution system is \$25 million - \$30 million.

Preparer of Fact Sheet

Sarah K. Mack

Sewerage and Water Board of New Orleans

(504) 799-9908



GRAPHIC SCALE



(IN FEET)
1 inch = 10,000 ft.

REFERENCE: 1:250,000 AERIAL PHOTOGRAPHY

SEWERAGE AND WATER BOARD
OF NEW ORLEANS

**CYPRESS RESTORATION OF
BAYOU BIENVENUE CENTRAL
WETLAND UNIT**

ORLEANS PARISH, LOUISIANA

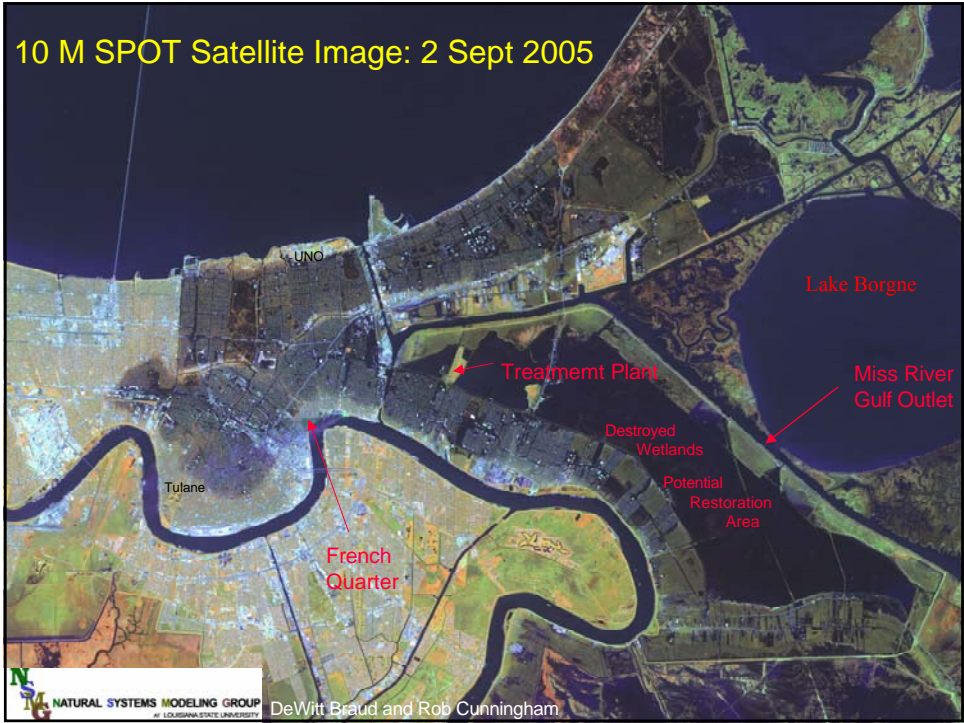
Cypress Restoration of Bayou Bienvenue Central Wetland Unit

Sewerage and Water Board
of New Orleans
&
St. Bernard Parish Government

Wastewater Infrastructure Design Using Wetland Assimilation

- Restore critical damaged infrastructure
- Enhance 10,000-15,000 acres of wetlands, re-establish cypress swamps
- Protect from future storm vulnerability
 - Orleans Parish
 - St Bernard Parish

10 M SPOT Satellite Image: 2 Sept 2005



WETLAND ASSIMILATION

DISINFECTED EFFLUENT

Fertilizer

Freshwater

Cheaper-Natural Energies

Restored Wetlands

Storm Protection

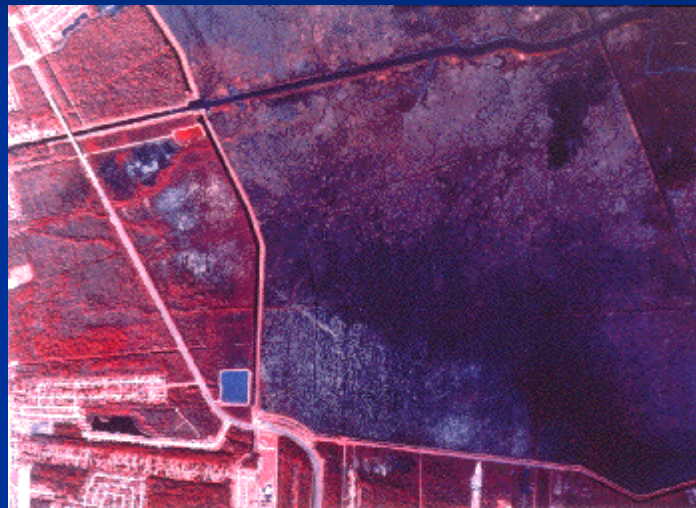
Thibodaux wetland enhancement



Cypress Restoration of Bayou Bienvenue Central Wetland Unit



St. Bernard Parish



Funding

- Delta Regional Authority
 - \$400,000
 - Feasibility and Preliminary Design
- Coastal Impact Assistance Program-CIAP
 - \$40 Million
- Implementation Funding Gap
 - \$25-\$30 Million

World Model

- Size
- Recovery
- Policy
- Port Cities
 - River-Transportation
 - Relative Water Level Rise
 - Increased Tropical Storms

Recovery Recognition S&WB & SBPG

- Innovative
- Environmental
- Economic

**Waste is a Resource
Out of Place**

**R1 –PO 8 LaBranche East Marsh Creation and
Shoreline Protection Project**

LaBranche East Marsh Creation and Shoreline Protection PPL-17 Candidate Project

Coast 2050 Strategy:

- Regional – dedicated dredging from Lake Pontchartrain
- Regional – cypress/marsh plantings
- Regional –shoreline stabilization along Lake Pontchartrain

Project Location: Region 1, Pontchartrain Basin, St. Charles Parish, north of I-10, and east of, and adjacent to, initial Bayou LaBranche Wetland Creation Project (PO-17) with same borrow area in Lake Pontchartrain. The project is bounded on the west by Fall Canal.

Problem: Currently a portion of the lake rim is protected by a rock riprap shoreline; however, a thin strip of marsh is all that currently separates Lake Pontchartrain from a ±900-acre shallow open body of water. Continued shoreline erosion and future storms could create a direct channel of open water connecting Lake Pontchartrain with the interior marshes of the LaBranche wetlands.

Goals: As with the PO-17 project, the proposed project would not only provide wildlife and fisheries and water quality benefits, but the restored marsh vegetation would buffer/weaken storm surge and reduce the threat of the merging of Lake Pontchartrain with the present waterbody in the LaBranche Wetlands. The proposed project will also provide protection to critical hurricane evacuation routes, such as I-10 and the Canadian National Illinois Central railroad.

Proposed Solutions: The project consists of three basic components including:

- (1) Marsh creation of approximately 590 acres using dedicated dredging from Lake Pontchartrain and vegetative plantings on created marsh. Three different types of area will be created or improved: subtidal, emergent marsh and wetland shrub-scrub.
- (2) Repair or replacement of one ineffective water control structure (fixed crest weir), located at the northeast corner of the project area.
- (3) A small amount of riprap, as needed, to fill in low areas in the existing armored shoreline and extending the shoreline protection to include the area from the repaired weir to Fall Canal.

Pipes, culverts, and spill boxes would be used in a managed dewatering process conducted in close conjunction with the dredging operation. The current project would use similar and successful design criteria and construction techniques derived from data collected for, and lessons learned from PO-17. Because it is similar to the PO-17 project, there probably would be minimal or no requirements for operations and maintenance for the 20-year life span of the project. As of September 2002, no maintenance has been required for the PO-17 project.

Preliminary Project Benefits: The project would create a diverse wetland open water habitat in an 800-ac area that is currently threatened with becoming an arm of Lake Pontchartrain. This project will benefit 800 acres of intermediate marsh and open water. Approximately 590 acres of marsh will be created/protected over the 20-year project life and 208 acres of subtidal area will be improved.

Constructed in April of 1994, PO-17 has provided more than 12 years of wetland benefits and will likely continue to provide benefits well beyond its 20-year prescribed life expectancy. As with the PO-17 project, the proposed project would not only provide wildlife and fisheries and water quality benefits, but the restored marsh vegetation would buffer/weaken storm surge, providing additional protection to existing infrastructure including the Lake Pontchartrain and Vicinity Hurricane Protection Levee, I-10, the Canadian National Illinois Central railroad embankment, aerial electrical lines, and non-essential infrastructure. Neither the rail embankment nor the two camps that are located south of PO-17 were significantly damaged by Hurricane Katrina while most of the camps and several portions of the rail embankment to the east were either lost or heavily damaged.

Its location north of the westbound lanes of I-10, makes the project area highly visible to motorists and would provide a readily discernible example of Louisiana's successful coastal restoration efforts. According to the Louisiana Department of Transportation and Development's most recent (2005) Average Daily Traffic Count taken for this segment of I-10, 54,687 vehicles a day pass this area. Because of its highly visible location near the New Orleans area, the project should be publicized as to its components and benefits.

Identification of Potential Issues: No potential issues have been identified as of this date. The current project, as proposed, would emulate PO-17, utilizing similar and successful design criteria and construction techniques to the maximum extent possible.

Preliminary Construction Costs: Estimated construction costs with 25% contingency is approximately \$15.5 to \$21 M. Agency representative will provide supporting documentation on estimated costs of all project features.

Preparer(s) of Fact Sheet:

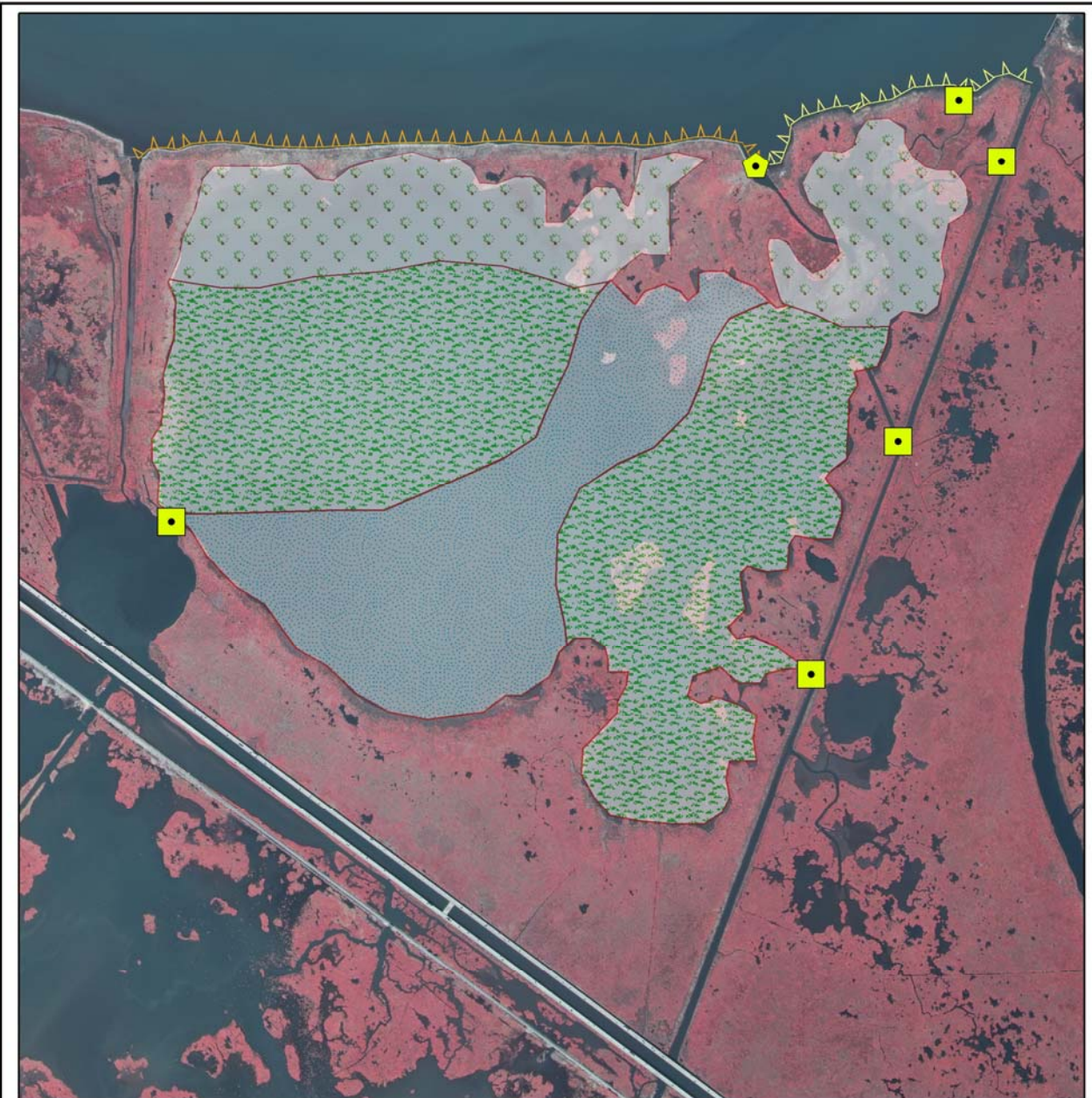
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Ed Fike, Project Scientist, Coastal Environments, Inc., Baton Rouge, LA

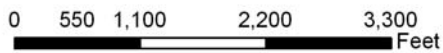
Project Map:



Legend

-  Temporary Plug
-  Weir
-  Proposed Riprap
-  Repaired Riprap
-  Subtidal-208 Acres
-  Emergent-413 Acres
-  Wetland Shrub-Scrub-171 Acres

**St. Charles Parish Candidate Project
PPL 17 LaBranche East
Marsh Creation and Shoreline Protection**



Map Produced By:
United States Department of Agriculture
Natural Resources Conservation Service
Alexandria, La
and
U.S. Army Corps of Engineers
New Orleans, La

Data Source:
2005 DOQQ Aerial Photography
Map Date: January 23, 2007
Map ID: LaBranchemap.mxd

**R1 –PO 9 Fritchie Marsh- Northshore Marsh
Creation and Terracing Project**

PPL-17 Project Nominee Fact Sheet - Revised
January 24, 2007

Project Name:

Fritchie Marsh-Northshore Marsh Creation and Terracing Project

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, Pearl River Mouth mapping unit, St. Tammany Parish.

Problem:

This area is located along the northshore within the Fritchie Marsh system. Although the PO-06 CWPPRA project was completed in 2001 to improve hydrology throughout the area, a significant portion of the Fritchie Marsh was lost due to Hurricane Katrina. Now shallow open water areas dominate the landscape which reduces the effectiveness of the PO-06 project. Over 3,600 acres of this unit were lost in the past 50 years, and another 15% is expected to be lost over the next 50 years. The long-term loss rate is approximately 0.5%/yr; however, the loss rate jumped to 13% after the 2005 storms, as evidenced by satellite and aerial imagery collected by the USGS. This once stable land mass was severely damaged by the passing of Hurricane Katrina, to the effect that in some locations marsh was stacked over nine feet high along the tree line. These marshes cannot recover without replacement of lost sediment, which is critical if the northshore marshes are to be sustained.

Proposed Project Features:

Project features include approximately 200 acres of marsh creation via hydraulic dredging and placement of 1.5 million cubic yards of material. The likely borrow locations are Salt Bayou, which has nearly silted in and could provide approximately 100,000 cy of material, and Lake Pontchartrain. Containment will be semi-confined and intermediate vegetation will be planted upon material compaction and settlement. In addition, approximately 100,000 linear feet of earthen terraces will be built to represent a 1,300 acre terrace field. The water depths in this area are approximately 1 ft and materials are conducive for terrace construction. Terraces will be constructed with a 10 foot crown and 1 on 5 foot slopes. Two rows of intermediate marsh plugs will be planted on the crown and one row on each side of the terraces upon construction completion.

Goals:

1. Create approximately 200 acres of intermediate marsh.
2. Create approximately 100,000 linear feet of terraces.
3. Reduce wave fetch and erosion of adjacent interior marshes.

Preliminary Project Benefits:

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

- 1500 acres directly and indirectly benefited from marsh creation and terrace field.
- 2) *How many acres of wetlands will be protected/created over the project life?*
270. At the end of twenty years, 180 acres of created marsh and 90 acres of emergent terraces will remain [emergent acres x (0.5%/yr loss rate x 20 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 protect the integrity of the lake shoreline from eroding from the north. Without dedicated delivery of sediment to this area, large expanses of former marsh adjacent to the lake shoreline will remain, or become larger areas, of open water.
- 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 will function synergistically with the PO-06 Fritchie Marsh project that was completed in 2001. The PO-06 project restored hydrology to what was once a stable marsh system; however, the marshes that once benefited from this project were decimated by Hurricane Katrina. The proposed project will re-establish the marsh, which will be sustained by improved hydrology constructed under PO-06.

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 project vicinity. The project is supported by the parish.

Preliminary Construction Costs:

Preliminary construction cost estimate is \$9.9M. 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

Fritchie Marsh-Northshore Marsh Creation and Terracing Project



↓ 1800 acre Marsh
Creation and
Terracing

↪ Salt Bayou Clean Out

**R1 –PO 10 Northshore Lake Pontchartrain
Marsh Restoration Project**

REI PO 10 St Tammany
USFWS
Proj Map Etc
JPG

PPL17 PROJECT NOMINEE FACT SHEET
January 11, 2007

North Shore Lake Pontchartrain Marsh Restoration Project

Coast 2050 Strategy, Region 1

- Coastwide – Dedicated Dredging to Create, Restore, or Protect Wetlands; Maintenance of Gulf, Bay and Lake Shoreline.
- Regional – (#9) Dedicated Delivery of Sediment for Marsh Building; (#10) Maintain Shoreline Integrity of Lake Pontchartrain to Protect Regional Ecosystem Values.
- Mapping Unit – (#27) Maintain Shoreline Integrity.

Project Location

Region 1, St. Tammany Parish, Lake Pontchartrain Basin, along the north shore of Lake Pontchartrain, within Big Branch Marsh National Wildlife Refuge.

Problem

Interior ponding and, to a lesser extent shoreline erosion, are the major causes of wetland loss in the project area. From 1974 to 1990 marsh loss rates averaged approximately 35 acres/year. Those high loss rates are associated with hydrologic alterations which allowed saltwater to penetrate the fresher marshes. In addition, the passage of Hurricane Katrina also contributed to the loss of as much as 3.6 square miles of wetlands within the project area. During the transition to a more brackish plant community, large ponds were formed. A narrow strip of land separates those ponds from Lake Pontchartrain. Although the shoreline erosion rates are relatively low, the shoreline is already breached in several areas, and marsh loss in the interior ponds is expected to increase if the shoreline fails.

Proposed Project Features

Sediment would be hydraulically dredged from Lake Pontchartrain and placed in cells within the ponds to create approximately 450 acres of emergent marsh with approximately 100 acres being nourished. In all the ponds, marsh would be created to widen the shoreline so that the ponds would not be breached during the course of normal shoreline retreat. Sediment would be pumped within containment dikes. Initial elevations would depend on conditions of the dredged material, but would be pumped to approximately 1.5 ft above marsh level to achieve final target elevation of +0.5 ft above marsh elevation.

Goals

The primary goal is to re-create marsh habitat in the open water areas immediately behind the shoreline within Big Branch Marsh NWR. This will maintain the lake-rim function along this section of the north shore of Lake Pontchartrain.

Identification of Potential Issues

The borrow areas in Lake Pontchartrain are located within Gulf sturgeon critical habitat.

Preliminary Construction Costs

Preliminary construction costs are estimated at \$25 million, which includes 25% contingency.
*Goose Point/Point Platte Marsh Creation (PO-33) total cost was estimated at \$21.8 million.

Preparer of Fact Sheet

Angela Trahan, USFWS, (337) 291-3137, Angela_Trahan@fws.gov

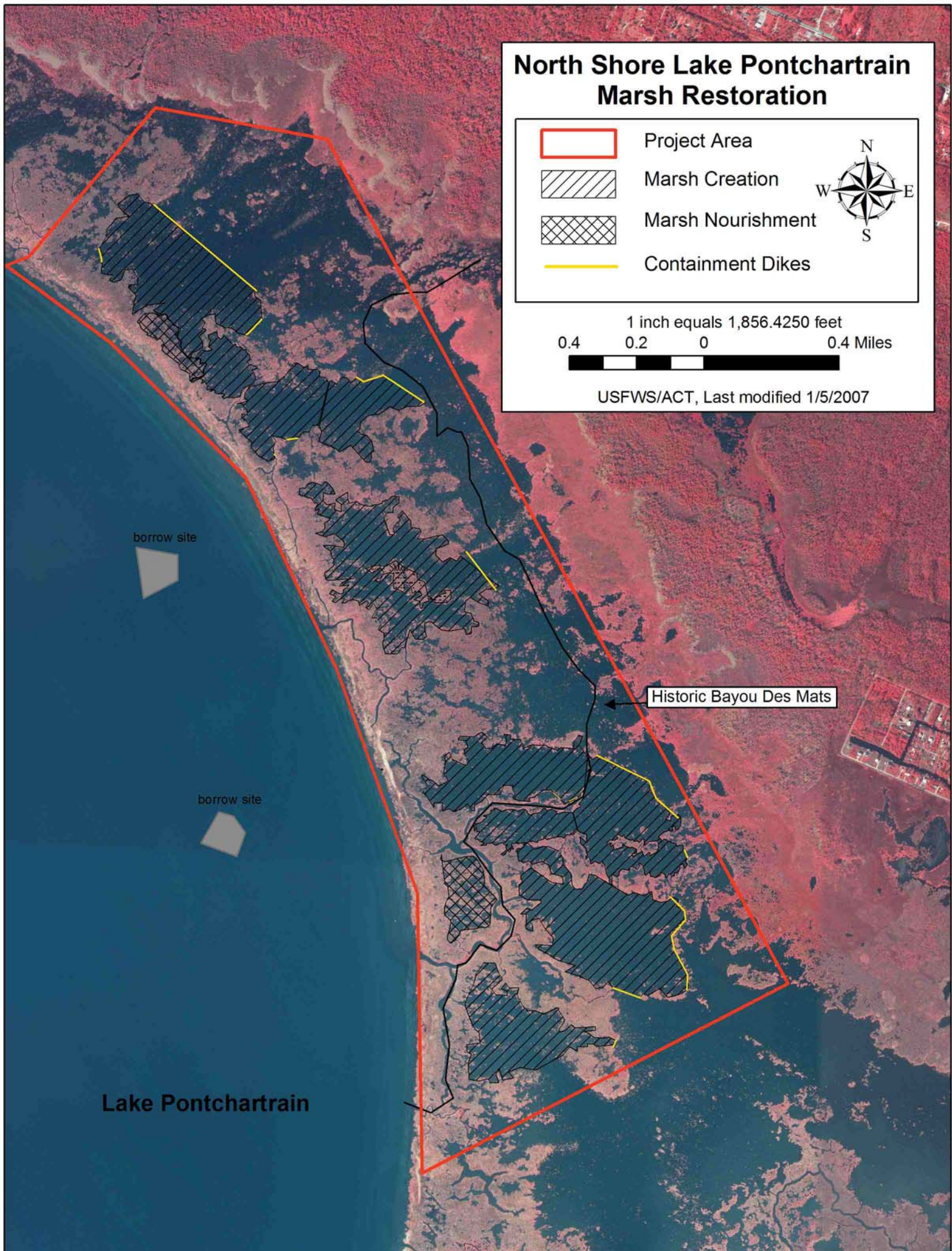
North Shore Lake Pontchartrain Marsh Restoration

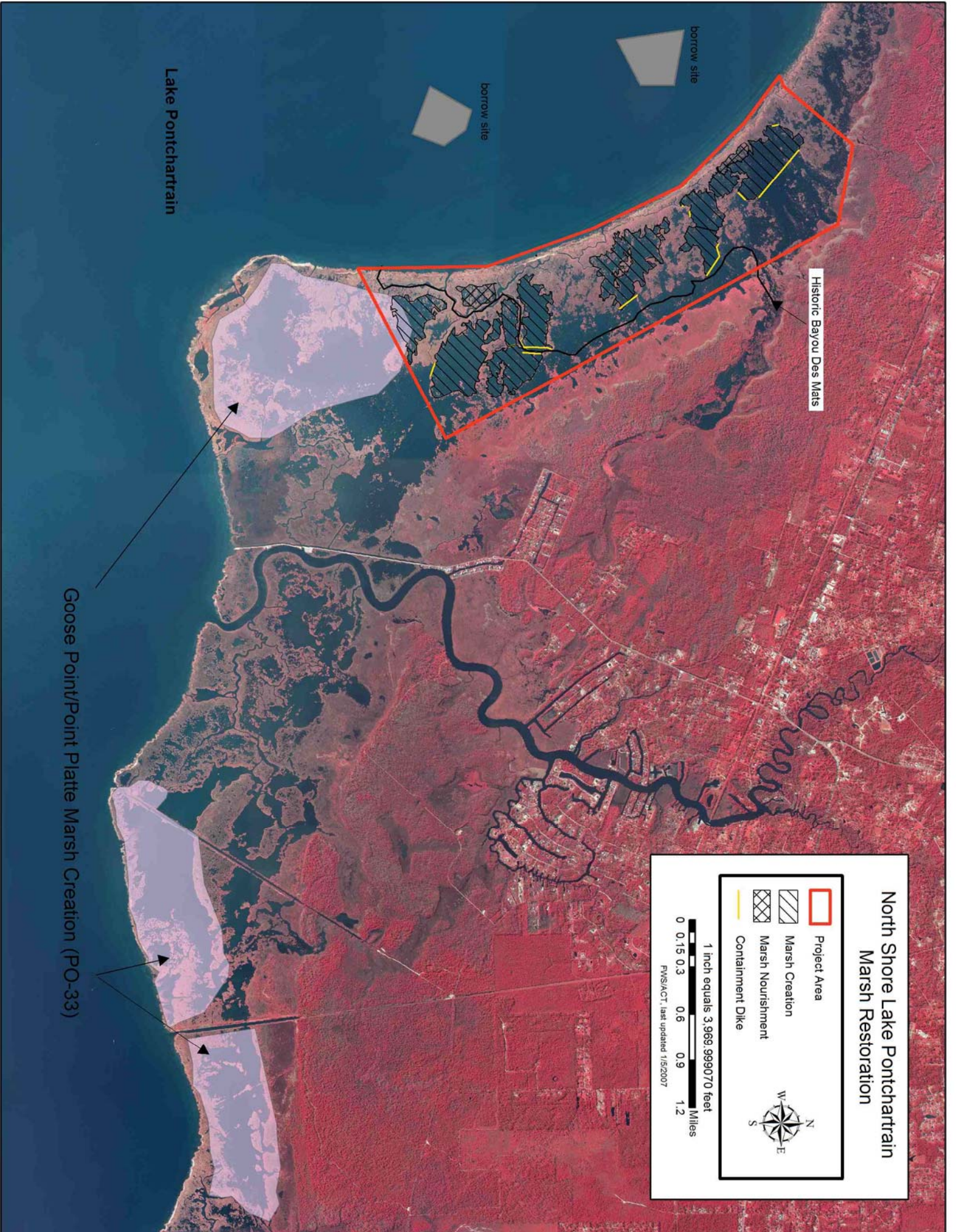
-  Project Area
-  Marsh Creation
-  Marsh Nourishment
-  Containment Dikes



1 inch equals 1,856.4250 feet
0.4 0.2 0 0.4 Miles

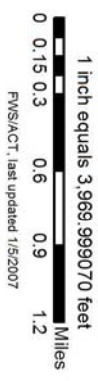
USFWS/ACT, Last modified 1/5/2007





**North Shore Lake Pontchartrain
Marsh Restoration**

- Project Area
- Marsh Creation
- Marsh Nourishment
- Containment Dike



Historic Bayou Des Mats

borrow site

borrow site

Lake Pontchartrain

Goose Point/Point Platte Marsh Creation (PO-33)

**R1 –PO 11 Hydrologic Restoration in the
Swamps West of Lake Maurepas Project**

PPL17 PROJECT NOMINEE FACT SHEET

January 11, 2007

Prepared by: Environmental Protection Agency

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 numerous crevasses in the surrounding levees, abandoned railroad embankment, and spoil banks on each side (north and south) of the Amite River Diversion Canal to facilitate water exchange. Crevasses would be strategically located as needed to maximize water exchange. Gaps in the old railroad grade, which traverses north-south across the project boundary, would be cut to facilitate better west-east hydrologic connectivity within the project area.

Project Benefits: This project was previously proposed on the PPL12 project list. 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: < \$1 million.

Risk/Uncertainty and Longevity/Sustainability: EPA and DNR have collected approximately eleven 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
Brad Crawford (214) 665-7255; crawford.brad@epa.gov
Ken Teague (214) 665-6687; teague.kenneth@epa.gov

Hydrologic Restoration in the Swamps West of Lake Maurepas

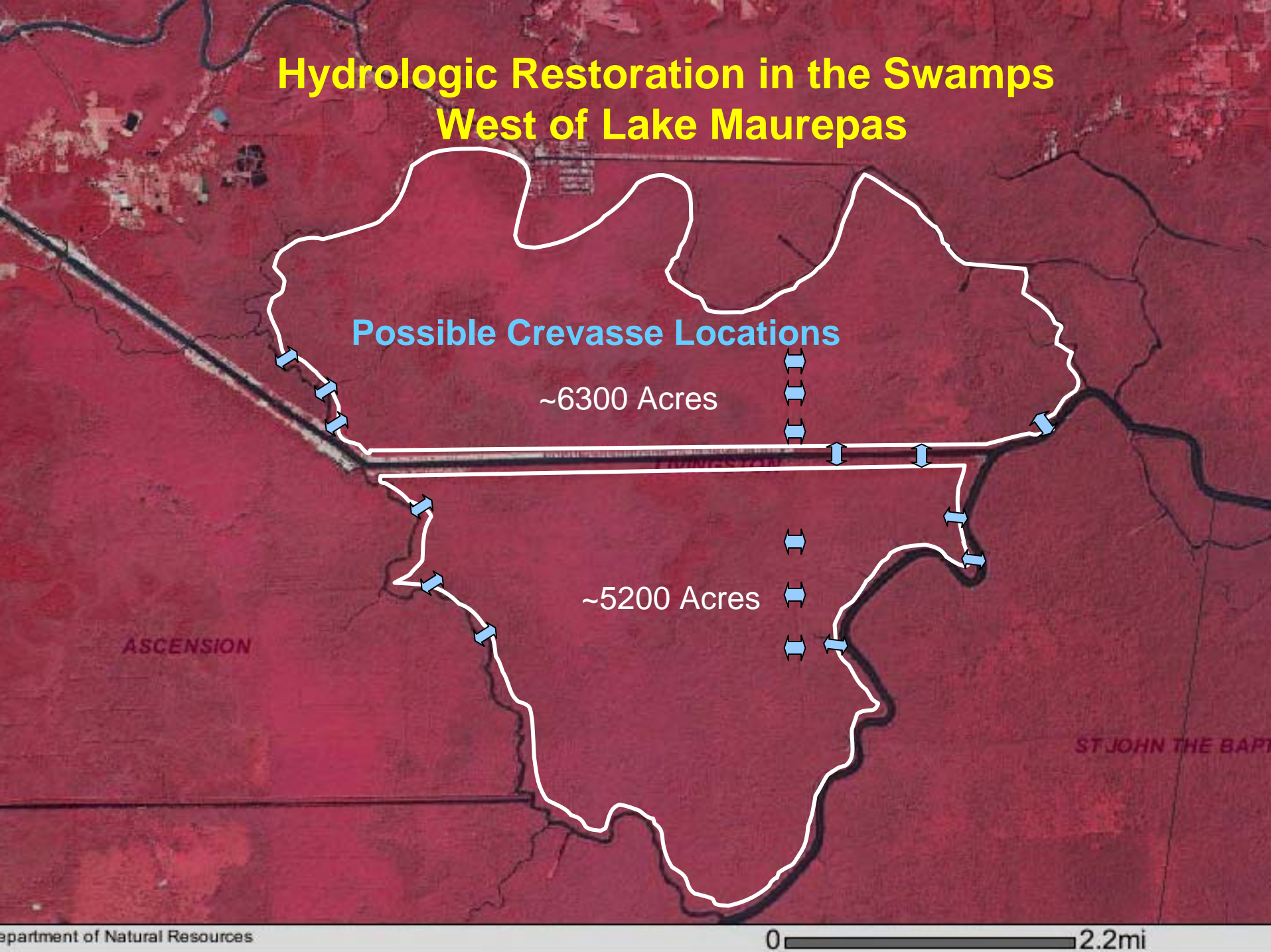
Possible Crevasse Locations

~6300 Acres

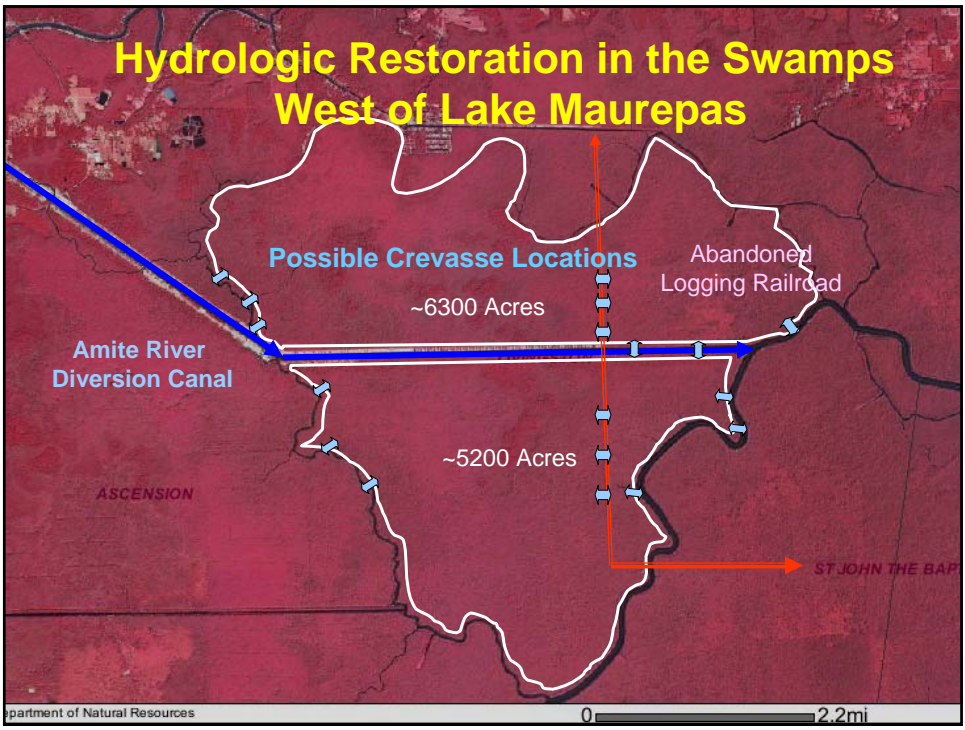
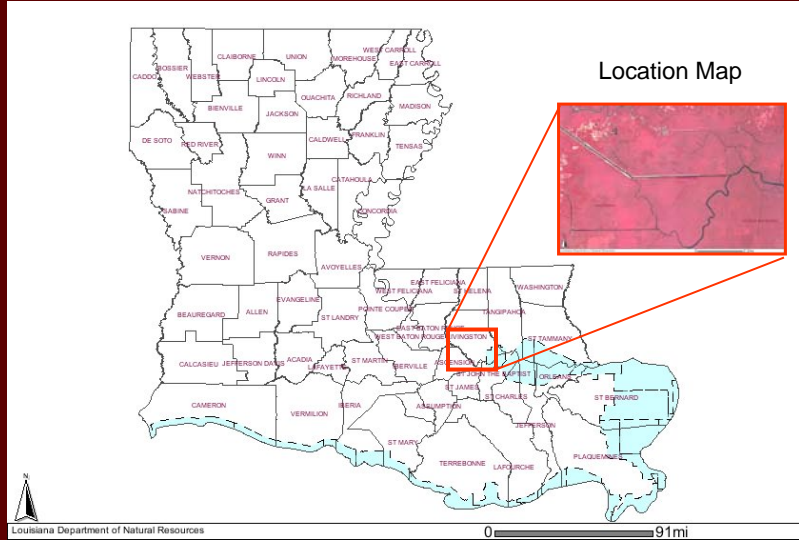
~5200 Acres

ASCENSION

ST JOHN THE BAPT



Hydrologic Restoration in the Swamps West of Lake Maurepas



Hydrologic Restoration in the Swamps West of Lake Maurepas

Goals:

- Increase productivity and regeneration
- Increase sediment accretion and nutrient load in swamp
- Facilitate flow thru swamps
- Decrease salinity spikes
- Decrease nutrient load to Lake Maurepas

Cost/Benefits

- PPL12 – 6458 Acres Benefited
- PPL12 WVA – 1878 AAHUs
- PPL17 Cost Estimate < \$1M

Department of Natural Resources

0

2.2mi

Hydrologic Restoration in the Swamps West of Lake Maurepas

Questions?



Tim Landers
Acting Team Leader
EPA Region 6
(214)665-6608
landers.timothy@epa.gov



Department of Natural Resources

0

2.2mi

**R1 –PO 12 Conkey Cove Marsh Creation and
Shoreline Protection Project**

DRAFT
PPL17 PROJECT NOMINEE FACT SHEET
January 11, 2006

Project Name:

Conkey Cove Marsh Creation and Shoreline Protection

Coast 2050 Strategy:

Coastwide Common Strategies:

- Dedicated dredging, to create, restore, or protect wetlands
- Maintenance of gulf, bay and lake shoreline integrity
- Maintain, protect, or restore ridge functions

Regional Ecosystem Strategies:

- 12. Shoreline protection of Biloxi marshes

Project Location:

Region 1, Pontchartrain Basin, St. Bernard Parish, outer edge of Biloxi marsh located between Bay Boudreaux and Chandeleur Sound

Problem:

Due to the historical and continuing wetland loss, the integrity of the outer Biloxi marsh is under threat of substantial deleterious change. The 1983 to 1990 loss rates for the Biloxi marsh is 0.31%/yr. The 2000 to 2005 loss rate likely is much higher, but completion of that analysis is pending at this time. Historic and recent land change analyses show shoreline erosion and synoptic interior wetland loss to be primary short term causes of wetland loss. Opening of passes into Chandeleur Sound threatens the ridge and bay system of the Biloxi marshes and allows increasing volumes of tidal and storm surge water to pass through the estuary. Increasing the openings from sounds to bays will fundamentally alter the regional landscape and threaten the collapse of the eastern half of the Biloxi marsh. The Biloxi marsh in general is a hydrologic barrier to maintain the estuarine gradient and to reduce storm surge (Figure 1).

Goals :

- Stabilize a key landform – an old distributary ridge separating Bay Boudreaux from Chandeleur Sound – by creating and protecting marsh
- Implement a CWPPRA scale first step to restore the Biloxi marsh
- Aid in maintaining a first line of defense of protection from shoreline erosion and storm surge reduction
- Place substrate (cultch) for oyster reef establishment

Proposed Solutions:

Approximately 180 acres of marsh would be created/restored to re-establish the structure and function of Conkey Cove. Sediment would be mined from Chandeleur Sound for the marsh creation. A 4,700-ft shoreline protection structure would be constructed to protect the sound side of the cove and restore the alignment of Live Oak Bayou and Ridge. The structure would be a combination of a riprap revetment or dike with a relatively large crushed limestone apron. The purpose of the crushed limestone apron is to serve as cultch for establishment of oyster reefs for additional shoreline protection in conjunction of the revetment. Based on discussions with the

Louisiana Department of Wildlife and Fisheries the general area near Three Mile Pass has been producing well in recent years including after the hurricanes.

Preliminary Project Benefits:

1) Approximately 1,200 acres of marsh and open water cove would be benefited both directly and indirectly by the project. 2) The project would create/protect a net of approximately 169 acres over the 20-year project life (based on 83-90 data). 3) There is an expected 50-74% expected loss reduction. 4) The project would create and maintain a bay rim and bayou ridge. 5) The project is not expected to have an effect on critical and non-critical infrastructure. 6) Although there are no constructed projects in the area, this project would be the first to build upon with future synergistic opportunities under CWPPRA, or planned LaCPR and CPRA projects identified for the Biloxi marsh.

Identification of Potential Issues:

The proposed project has the following potential issues: oysters

Preliminary Construction Costs:

The estimated construction cost is \$16.1M including 25% contingency.

Preparer(s) of Fact Sheet:

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Patrick Williams, National Marine Fisheries Service; (225)3898-0508, ext 208; patrick.williams@noaa.gov

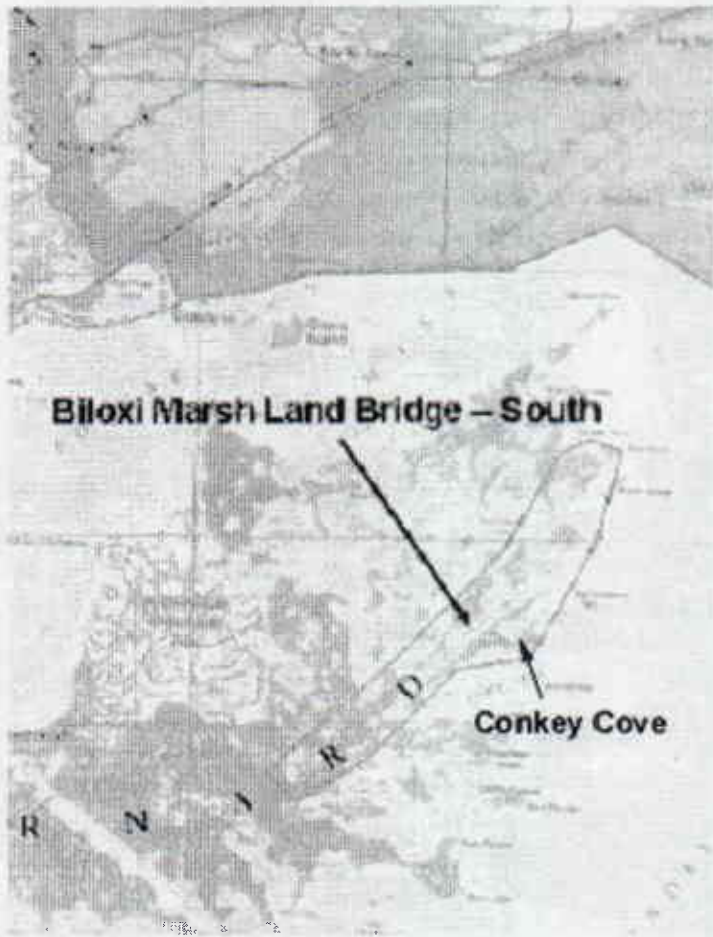
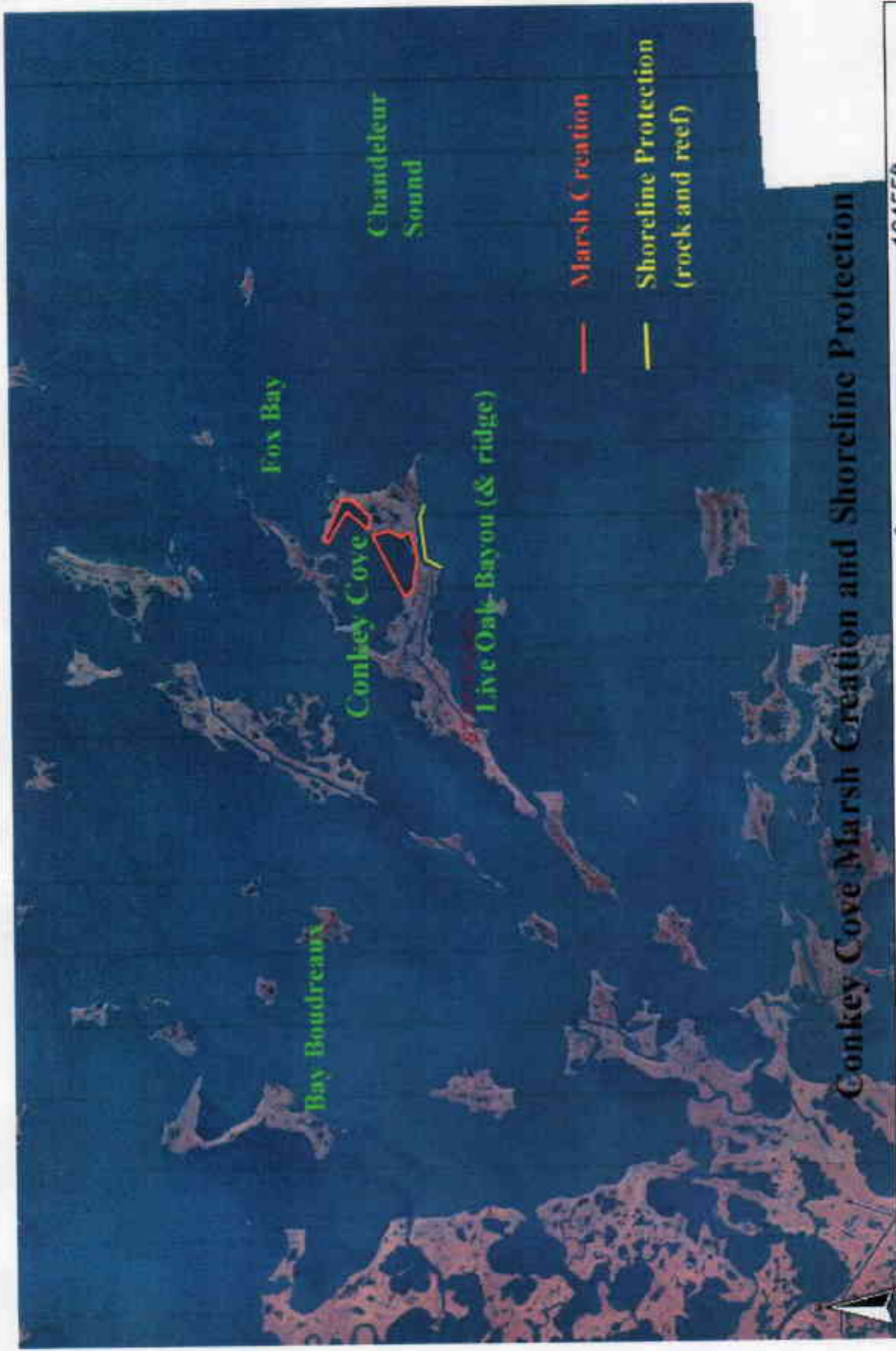


Figure 1. Outer Biloxi marsh landbridge and first line of defense.



Fox Bay

Chandeleur Sound

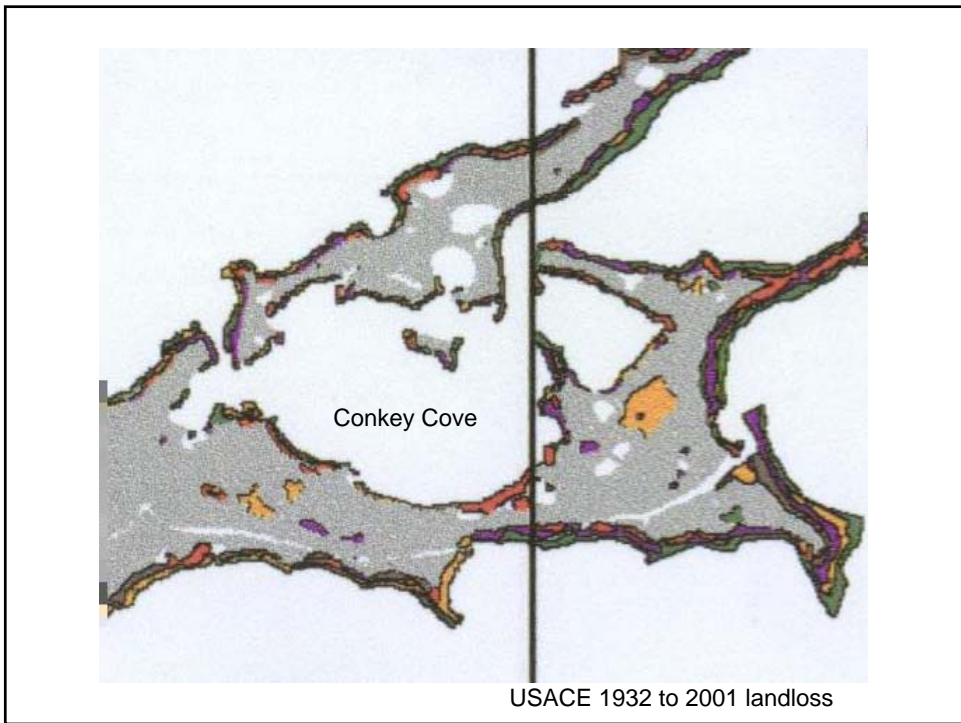
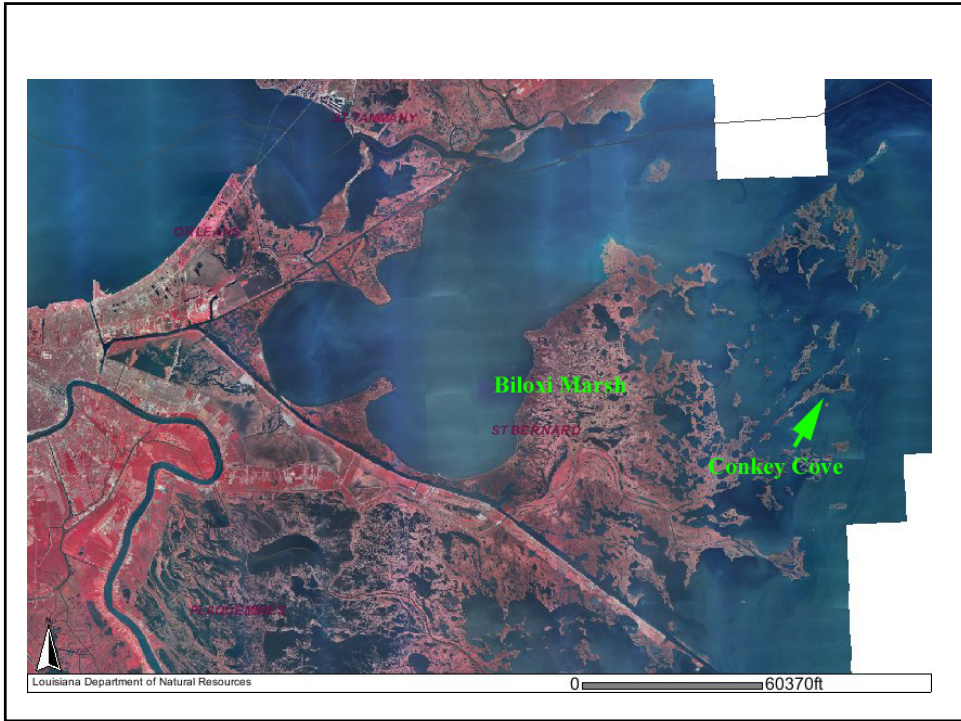
Bay Boudreaux

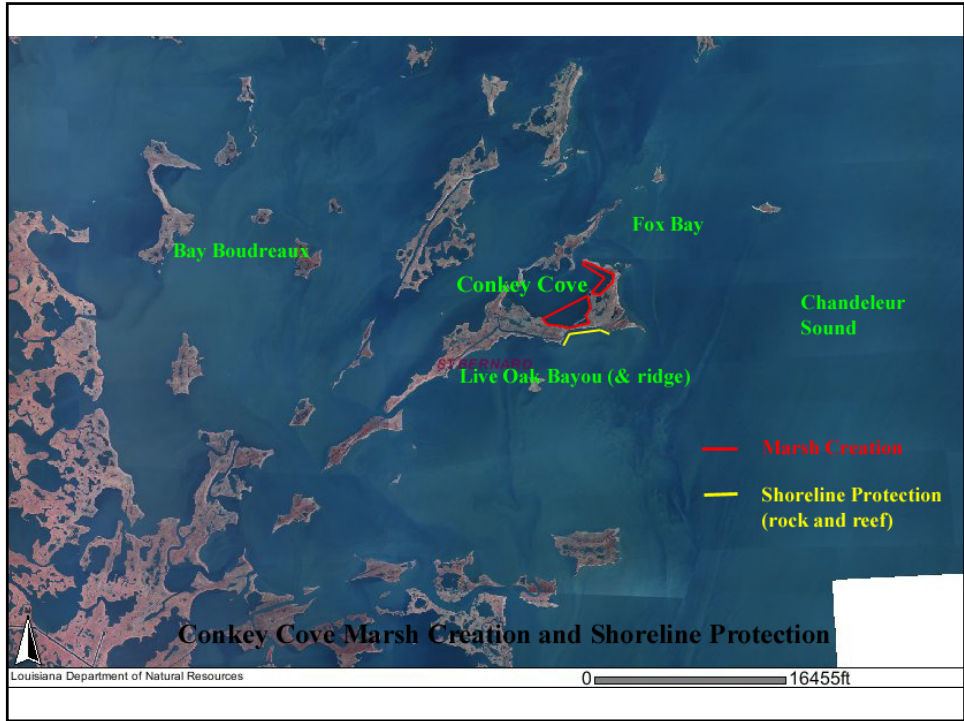
Conkey Cove

Live Oak Bayou (& ridge)

- Marsh Creation
- Shoreline Protection (rock and reef)

Conkey Cove Marsh Creation and Shoreline Protection





**R1 –PO 13 Pontchartrain Shoreline Protection in
Tangipahoa and St. John Parishes Project**

Pontchartrain Shore Protection in Tangipahoa and St. John Parishes PPL-17 Candidate Project

Coast 2050 Strategy:

- Coastwide - Maintenance of Bay and Lake Shoreline Integrity
- Regional - Maintain shoreline integrity of Lake Pontchartrain
- Mapping Unit - Shoreline Stabilization around Tangipahoa River Mouth

Project Location:

Region 1, Pontchartrain Basin, Tangipahoa and St. John Parishes, on the western side of Lake Pontchartrain.

Problem:

The marsh along the lake rim is impacted by the wave action of Lake Pontchartrain eroding into the swamps of the Manchac landbridge.

Goals:

Stop shoreline erosion along lake rim, and provide potential for sediment accumulation behind riprap and shoreline plantings.

Proposed Solution:

Rock riprap (or other appropriate hard material) placed offshore at approximately 2.5 ft water depth with fish dips having protective riprap section (see drawing); planting along shoreline (woody and/or herbaceous as appropriate); any borrow channel material to be placed between rock and shoreline

Project Benefits:

This project will benefit 3000 acres of swamp and marsh. Approximately 1435 acres of marsh will be created/protected over the 20-year project life.

Project Cost:

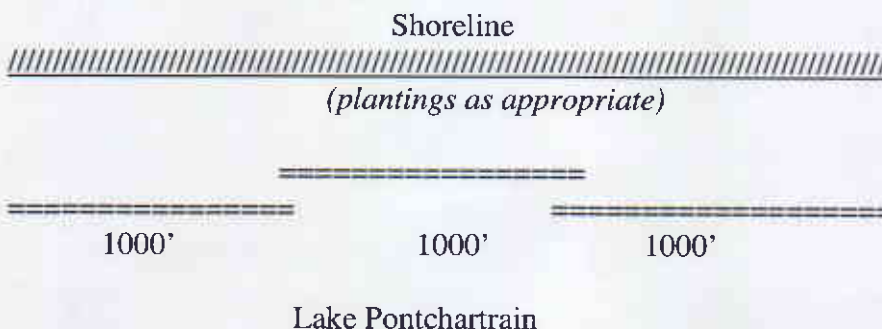
The total fully funded cost for this project is \$xxxxx. *\$6M*

Preparers of Fact Sheet:

Gordon Burgess, Tangipahoa Parish Police Jury, parishpres@tangipahoa.org

Marty Floyd, NRCS, (318) 473-7690, marty.floyd@la.usda.gov

Synergy with other projects: Ties into shoreline protection mitigation project to the south, which ties into shore protection of Turtle Cove, which ties into NAWCA shoreline protection. Combined this will encompass approximately 11 miles of shoreline protection in these two parishes.





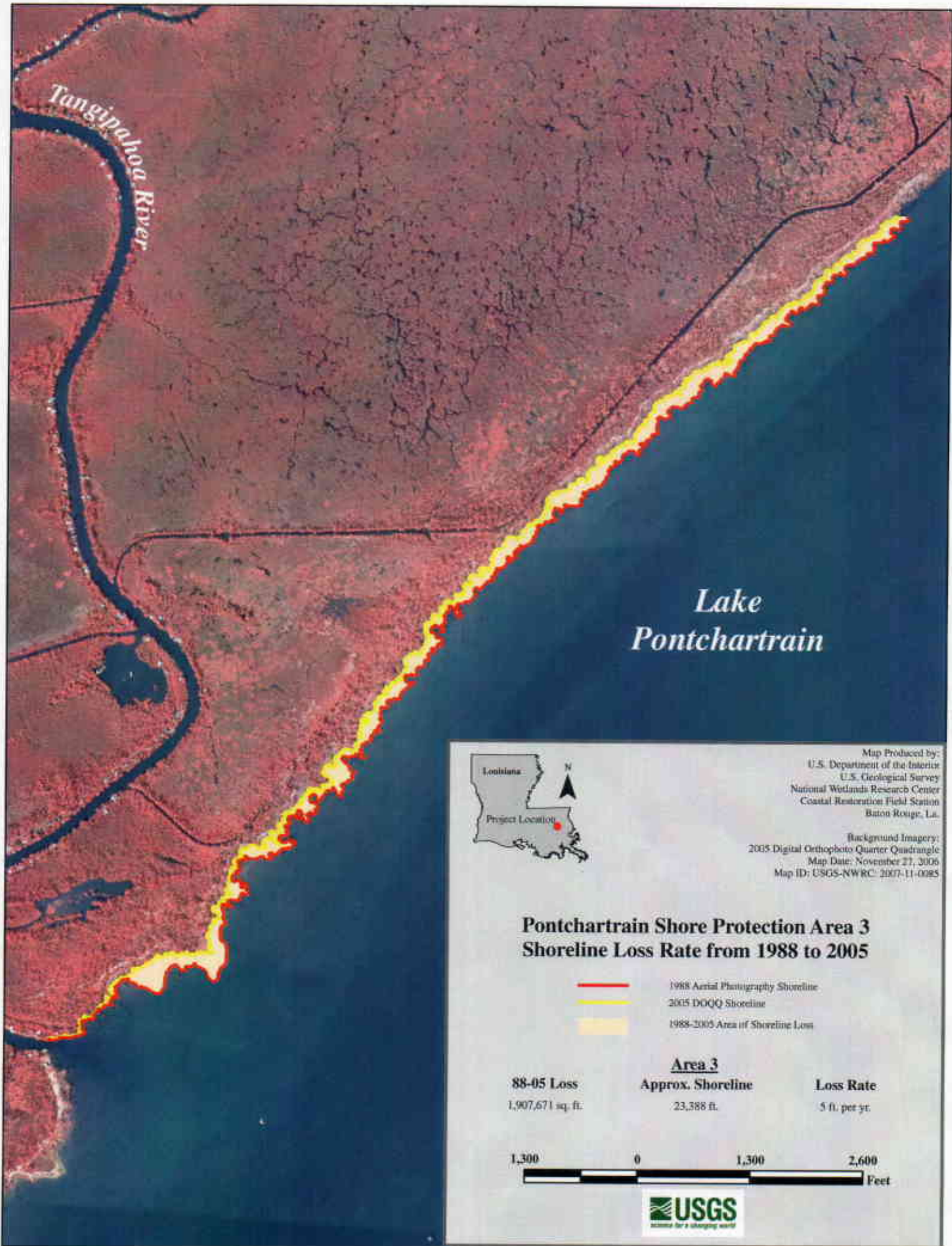
- Legend
- OLRP Proposed Shoreline Protection
 - Mitigation Breakwaters
 - NERRA Shoreline Protection
 - Turb-Cone Project



Pontchartrain Shore Protection
 PPL-17
 Tangipahoa and St. John Parishes, Louisiana



Data Source: 2005 Aerials
 Map Date: 12/5/2008
 Map ID: Pontchartrain_SP



Tangipahoa River

Lake
Pontchartrain



Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Briar Ridge, La.

Background Imagery:
2005 Digital Orthophoto Quarter Quadrangle
Map Date: November 27, 2009
Map ID: USGS-NWRC-2007-11-0085

**Pontchartrain Shore Protection Area 3
Shoreline Loss Rate from 1988 to 2005**

- 1988 Aerial Photography Shoreline
- 2005 DOQQ Shoreline
- 1988-2005 Area of Shoreline Loss

<u>Area 3</u>		
88-05 Loss	Approx. Shoreline	Loss Rate
1,907,671 sq. ft.	23,388 ft.	5 ft. per yr.



**R1 –PO 14 Freshwater Reintroduction into
LaBranche Wetlands Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 22, 2007

Project Name: Freshwater Reintroduction into La Branche Wetlands

Coast 2050 Strategy:

Region 1 # 6. Small diversion of Mississippi River water into La Branche Wetlands

A small diversion from the Mississippi River could be made into the southern La Branche marshes. The diversion is likely to prevent the loss of a moderate amount of wetlands.

Project Location:

Region 1, Pontchartrain Basin, St. Charles Parish, wetlands between Lake Pontchartrain, the Bonnet Carre' Spillway and the St. Charles / Jefferson Parish hurricane protection levees.

Problem:

Saltwater intrusion from elevated salinity in Lake Pontchartrain and due to stranded salinity caused by a lack of water circulation is stressing wetland vegetation. This is evidenced by historic "Interior Wetlands loss" around the central area of the LaBranche wetlands and bald cypress tree mortality around the western, southern and eastern perimeter of the project area. Hurricane Katrina caused significant marsh loss in the LaBranche wetlands. Historic wetland loss mapping does not capture much of the impact to the cypress swamp since dead or highly stressed trees may still standing.

Goals:

- 1) Reintroduce Mississippi River water during the spring to emulate the natural hydrologic conditions of this alluvial swamp and marsh.
- 2) River water will maintain lower salinity for fresh and intermediate wetlands
- 3) Stimulate wetland productivity and fisheries nursery for Lake Pontchartrain
- 4) Maintaining the marsh and swamp will maintain the wetland buffer between Lake Pontchartrain and the St. Charles / Jefferson Parish levees

Proposed Solutions:

Construct a siphon and improve existing canals in the Bonnet Carre' spillway to convey water to the east guide levee along the LaBranche wetlands. The control structure or pump would convey water across the east guide levee of the Bonnet Carre spillway into the LaBranche wetlands. Discharge would be between 1000 and 3000 cfs. An alternative site for conveyance would be near the Interstate 310 corridor on the southeast corner of the project area.

Preliminary Project Benefits:

Approximately 300 acres of wetland will be improved/restored over 20 years.

The project provides a synergistic effect with other approved and/or constructed restoration projects. The "Bayou LaBranche Wetlands Creation Project" PO-17 is within the project area and would benefit by increased productivity. At least two small shoreline stabilization projects along Lake Pontchartrain would continue to reduce shoreline erosion and protect wetlands benefiting from this project.

Identification of Potential Issues:

The proposed project has the following potential issues: cultural resources, utilities/pipelines, and HTRW. The water control structures and conveyance canal would be located on federal land. However the Bonnet Carre' Spillway allow various recreation uses that need to be considered such as ATV trails. The spillway also contains gas or oil pipelines and cultural features that need consideration.

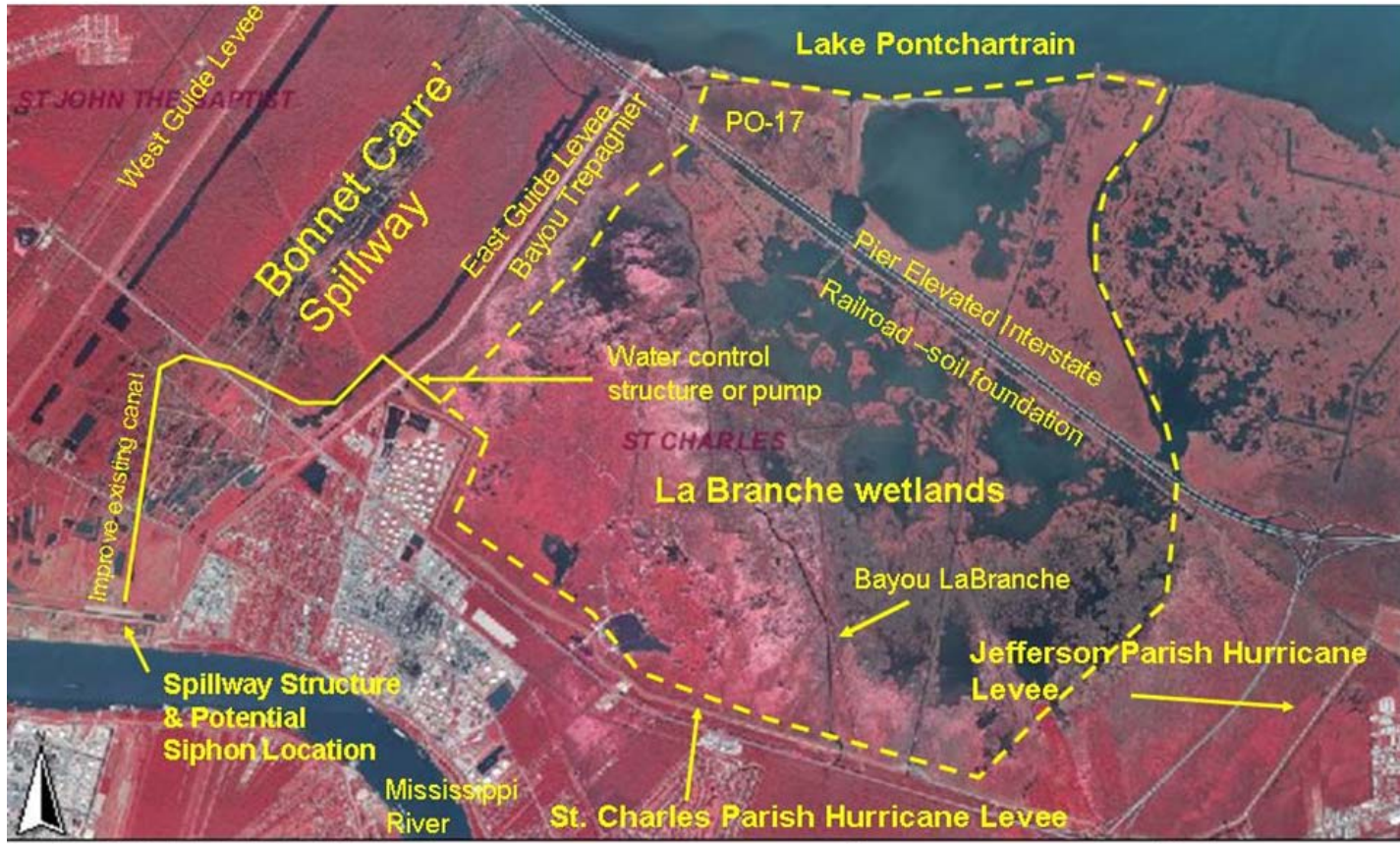
Preliminary Construction Cost + 25%

\$24 million.

Preparer(s) of Fact Sheet:

John Lopez Ph.D., Lake Pontchartrain Basin Foundation, 225-294-4998, johnlopez@pobox.com

Tim Landers, EPA, 214-665-6608, landers.timothy@epa.gov



Louisiana Department of Natural Resources

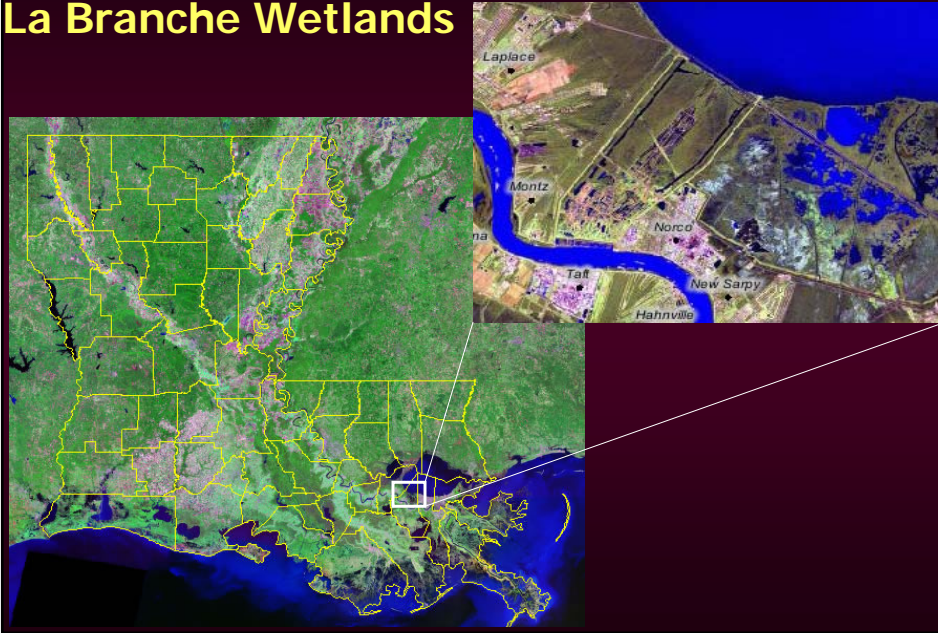
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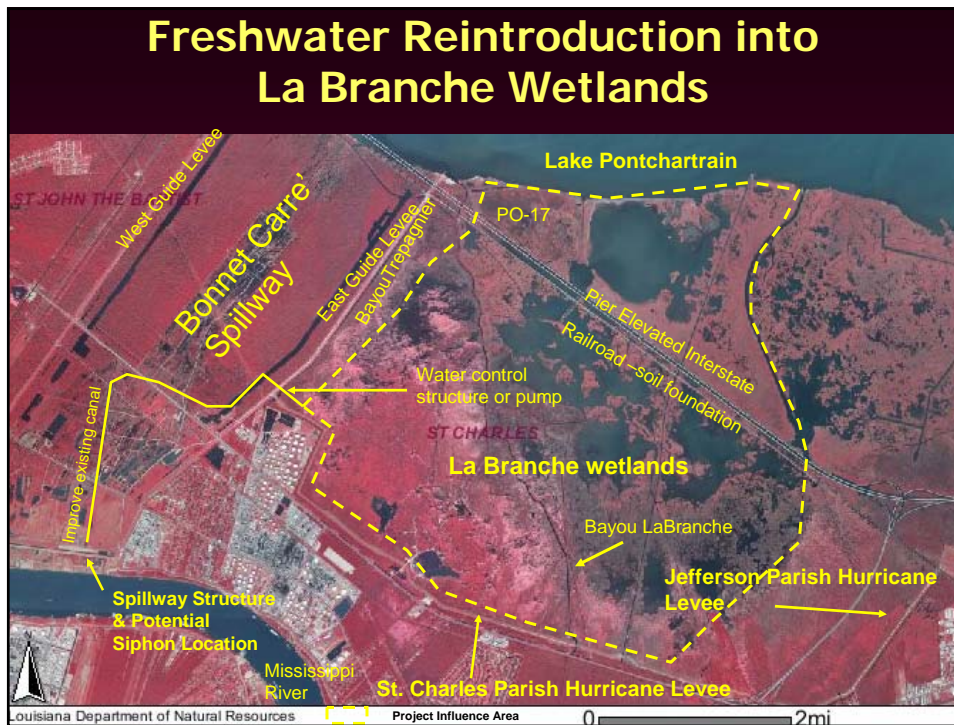
Project Influence Area

PPL 17 Proposed
Freshwater Reintroduction
into La Branche Wetlands

Freshwater Reintroduction into La Branche Wetlands



Freshwater Reintroduction into La Branche Wetlands



Freshwater Reintroduction into La Branche Wetlands

Goals:

- Reintroduce Mississippi River water into La Branche wetlands
- Reduce salinity levels in historically freshwater wetlands
- Stimulate wetland productivity and fishery nursery for Lake Pontchartrain
- Maintain the wetland buffer between Lake Pontchartrain and the St. Charles Parish levee

Cost/Benefits:

- Wetlands improved/restored: ~300 acres over 20 years
- Est. Cost: \$15-20 million
- Est. Cost + contingency: ~ \$20-25 million

Freshwater Reintroduction into La Branche Wetlands

Questions?

Tim Landers
EPA Region 6
(214)665-6608
landers.timothy@epa.gov



Region 2
New Orleans
January 11, 2006



ATTENDANCE RECORD



DATE(S) January 11, 2007 9:00 A.M.	SPONSORING ORGANIZATION COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LOCATION U.S. Army Corps of Engineers -New Orleans District District Assembly Room 7400 Leake Ave. New Orleans, LA
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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION II

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	TELEPHONE NUMBER
Tim Landers	EPA	214-665-6608
MARON FOUR	NRCS	318-473-7690
Honora Buras	LDNR	225-342-4103
Kelley Temple	LDNR	225-342-1592
DAN LLEWELLYN	DNR	225-342-5159
JASON KROLL	NRCS	318 473 7816
Brad Crawford	EPA	214 665 7255
Melanie Magee	EPA	214 665 7161
Angela Trahan	FWS	337 291 3137
Kevin Roy	USFWS	337-291-3120
PATRICK WILLIAMS	NOAA/NMFS	225-889-0508
Bren Haase	LDNR-CRD	225-342-1475
Quin Kinler	NRCS	225-382-2047
Randy Moertle	Little Lake Land Co. General Ag. Services	(985) 532-6388
Trovis Creel	USACE	504 862-1071
Mark Roberts	Burk-Klempeter, Inc.	504-486-5901
John Lopez	Lake Pontchartrain Basin Fund	225-294-4998
Chris Andry	St. Bernard Parish Gov.	(504) 278-4405
DAVID WILLIAMS	Brown + Caldwell	504-598-1747
HEATHER WARNER FINLEY	LDWF	225.765.2956
Gregory Miller	USACE	504.862.2310
Sue Howes	"	" " 2518

PARTICIPANT REGISTER (CONTINUED)

NAME	JOB TITLE AND ORGANIZATION	TELEPHONE NUMBER
Mamuel Ruiz	LDWF	225-765-2373
ANDREW MACINNIS	PIAR. PRUSA CEM	504 297-5320
Beth McCasland	USACE - Env Planning	504-862-2021
Mandy Green	LDNR - CRD	225-342-1357
KARIM BECHANGAI	LDNR - CRD	225 342 4123
DAVID LINDQUIST	LDNR - CRD	225 342 9683
Wintell Curule	CEM Adm. Lafourche Par.	985-637-7552
KEITH O'CAIN	USACE - ENR DIV.	504-862-2746
Rick Braussard	USACE - ENR DIV	504-862-2402
FAY LACHWAY	USACE	504-862-2309
Nancy Walters	National Park Service	504-589-3882
Audrey Urqu	USACE	504.862.2911
William Niesen	USACE	504-862-2037
MAX NASSAR	DUTM HARRIS	504.529.4533
Penny Roussele	DNR.	504. 430 8366
Marietta Greene	Madison Land Co	504-454-0707
James Harris	USFWS	985-882-2000
Bob Schroeder	Cit Fenstermaker	504-427-5796
Vickie Dufourc	Jeff Parish / SCI	504-347-3600
Charles Sasser	LSU	225-578-6375
Blair Hutchison	U.S. Geological Survey	225-578-7440
Garc Rauber	USACE	504-862-2543
Robert Arietti	USACE	" - 862-1672
Daniel Becker	Spartina Farms Wetland Nursery	225-766-9206
Yarrow Etheredge	TEA, Inc	504-710-5559
DON BLANCHER	TEA, Inc	251-819-4161
Marnie Winter	Jefferson Parish	504-731-4612
Wyneda Fize	City of New Orleans	504 658-4071
Rony Nettles	Grady Terre Land owner	225 937 8521
JOHN PETITSON	COE	504-862-2732
Vince Melvin	Lafourche Parish	985-632-4666
Cynthia Duet	ARCADIS	225 292 1004
PATRICK ROUSSET	PRRSANT, Power ENGINEER	504 486-0525
Wooly Craws	CRCL	504-888-7790
MAUREEN MURPHY	UNO	504-460-3719
Chank Little	FPA	24-165-6609

**Region 2
Regional Planning Team Meeting
11 Jan 07
New Orleans, LA**



**1. Welcome
and Introductions**



RPT Region 2
Leader:
Greg Miller -USACE

Announcements

- First round of RPT meetings (Jan. 9 - 11, 2007) will be held to accept project and demo nominations. **NO VOTING** will take place at these meetings.
- Voting to select project nominees for all basins will occur at the Coast-wide Voting Meeting, on Feb. 7, 2007, in Baton Rouge at the LDWF Building (2000 Quail Dr.).
- Parish representatives are asked to identify themselves and announce who will cast votes at the coast-wide voting meeting.
- Agencies will be assigned responsibilities for preparing nominee fact sheets after the coast-wide voting meeting.

Announcements

Eligible parishes for basins in Region 2 include:

Barataria Basin

Plaquemines Parish
Jefferson Parish
Orleans Parish
Ascension Parish
Assumption Parish
St. James Parish
St. Charles Parish
Lafourche Parish
St. John the Baptist Parish

Breton Sound Basin

Plaquemines Parish
St. Bernard Parish

Mississippi River Basin

Plaquemines Parish

2. PPL17 Selection Process and Ground Rules



CWPPRA PPL 17 Process Summary

- RPT meetings Jan. 9-11, 2007 to accept ideas for projects and demos (no limit on number of projects).
- Projects must support a Coast 2050 Regional or Coastwide Strategy.
- At the coast-wide voting meeting on Feb. 7, 2007. RPTs will select 2 nominees per basin (3 each in Barataria and Terrebonne).
- RPTs will select 6 demo projects coast-wide.
- Selection is by consensus, if possible; if not by agency/ parish ranked vote.

CWPPRA PPL 17 Process Summary

- Following the coast-wide voting meeting, an agency will be assigned to each project.
- The agency will prepare a fact sheet (1 page + map) so nominees can be evaluated for costs/ benefits.
- Engineering Work Group will estimate preliminary fully funded cost.
- Engineering and Environmental Work Groups will review draft features and benefits for each nominee.
- Work groups will also review demo projects and verify that they meet demo criteria.

CWPPRA PPL 17 Process Summary

- Matrix of costs/benefits transmitted to Tech. Comm. & Coastal Protection and Restoration Authority (CPRA).
- Tech. Comm. meets Mar. 14, 2007 at 9:30 am at the Corps in New Orleans to select up to 10 PPL 17 candidate projects and up to 3 demos.
- Tech. Comm. assigns agencies to candidate projects to develop costs/benefits for Phase 0.
- Workgroups conduct field trips to evaluate benefits and calculate fully funded costs for candidates.

CWPPRA PPL 17 Process Summary

- Public meetings will be Aug. 29, 2007 in Abbeville and Aug. 30, 2007 in New Orleans to present results of Phase 0 analysis
- On Sept. 12, 2007, the Tech. Comm. will select up to 4 candidate projects (and possibly demos) to present to the Task Force for Phase 1 funding.
- On Oct. 17, 2007, the Task Force will meet to select up to 4 projects for Phase 1 funding.

3. Region 2 Coast 2050 Regional Strategies



Projects nominated should be:

- consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies
- consider CWPPRA's prioritization criteria

Restore Swamps

- Construct small sediment-rich diversions with outfall management
- Restore natural drainage patterns
- Prevent diversion-related flooding by building local levees at the wetland/upland interface and local pumping; remove diverted waters from upper basin by raising Highway 90 and installing flap-gated culverts or other appropriate measures

Restore and Sustain Marshes

- Use existing or future locks (Harvey, Algiers or Empire) to divert as much water as possible.
- Manage outfall of existing diversions
- Enrich existing diversions with sediment
- Continue building and maintaining delta splays
- Construct most effective small diversions (Upper Oak, Amoretta, East and West of Empire)
- Construct sediment trap in Miss. River south of Venice and pump out to build marsh
- Construct delta-building diversion in the Myrtle Grove/Naomi area (15,000 cfs)
- Construct delta-building diversion in Bastion Bay (about 15,000 cfs)

Restore and Sustain Marshes

- Construct delta-building diversion into Benny's Bay (50,000 cfs)
- Construct delta-building diversion into American Bay (20,000-100,000 cfs)
- Construct controlled crevasses to allow diversion into Quarentine Bay and control sediment with low levees (about 50,000 cfs)
- Prevent loss of bedload into deep Gulf waters by relocating the navigation channel, not thru Bastion Bay, to reallocate water and sediment for land-building near shore

Restore and Sustain Marshes

- Dedicated dredging to create marsh near La. Highway 1
- Dedicated dredging of sediment for marsh building in Caminada Bay
- Construct large conveyance channel parallel to B. Lafourche to divert 100,000 cfs to create a delta lobe in Caminada Bay
- Gap spoil banks and plug canals in lower bay marshes

Restore, Protect and Maintain Bay, Lake and Gulf Shorelines and Barrier Islands

- Construct wave absorbers or low breakwaters at the head of bays
- Construct reef zones across bays
- Restore/maintain barrier headlands, islands and shorelines
- Extend and maintain barrier islands/shoreline from Sandy Point to Southwest Pass

Maintain Critical Landforms

- Build entire CWPPRA land bridge shore protection project
- Preserve bay/lake shoreline integrity on the land bridge
- Dedicated dredging to create marsh on the land bridge
- Build Bayou Lafourche siphon and pump project, if cost effective

Coast 2050 Coastwide Strategies



- Beneficial Use of Dredged Material
- Dedicated Dredging for Wetland Creation
- Herbivory Control
- Stabilization of Major Navigation Channels
- Management of Bay/Lake Shoreline Integrity
- Management of Pump Outfall
- Vegetative Planting
- Maintain or Restore Ridge Function
- Terracing

4. PPL17 Project Nominations



Demonstration Projects

- Demonstrates a new technology
- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Are unique and not duplicative in nature
- Engineering/Environmental Workgroups will select sites for proposed demonstration projects
- The RPTs will select 6 demos at the Feb 7th coast-wide voting meeting. The Tech. Comm. will select up to 3 demos in March 07
- PPL16 demos must be *re-nominated* for PPL17

5. Announcement of Coast-wide Voting Meeting



Coast-wide Voting Meeting

- **Feb. 7, 2007** in Baton Rouge to choose 2 nominees per basin (3 in Barataria and Terrebonne), and 6 demos.
- Parishes within each basin are asked today to identify who will vote at the coast-wide meeting.
- No additional projects can be nominated at the coast-wide meeting.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- No public comments accepted at the coast-wide meeting (public comments will be heard today).

Coast-wide Voting Meeting

- Each officially designated parish representative, each Federal agency, & DNR will have one vote.
- Voting will be by ranked vote.
- Each voting entity will be provided a ballot.
- Each voting entity will provide a ranked score for all projects – the highest ranking project will receive the highest vote and the lowest will receive a vote of “1”.
- Points will be totaled for all projects within each basin.

Coast-wide Voting Meeting

- The two nominees per basin (three in Barataria and Terrebonne) receiving the highest vote will be included in the list of 20 nominee projects.
- All demo projects will be voted upon in same manner with one coast-wide ballot.
- 15 minutes will be allowed for voting in each basin and for demos.

6. Announcements of Upcoming Meetings



PPL 17 Upcoming Meetings

Coast-wide Voting Mtg, 7 Feb 07, Baton Rouge
20 nominees and 6 demos selected

Technical Committee Mtg, 14 Mar 07, New Orleans
Selection of 10 candidates and up to 3 demos

Public Meetings

29 Aug 07, Abbeville
30 Aug 07, New Orleans

Technical Committee Mtg, 12 Sep 07, New Orleans
Recommend up to 4 projects for Phase I funding

Task Force Mtg, 17 Oct 07, New Orleans
Final selection of projects for Phase I funding

7. Adjourn



Region 2 – Barataria Basin

Proposed Projects

**R2-BA 1 West Point a la Hache Marsh
Creation Project**

DRAFT PPL17 PROJECT NOMINEE FACT SHEET

January 18, 2007

Prepared by: Environmental Protection Agency

Project Name:

West Pointe a la Hache Marsh Creation

Coast 2050 Strategy:

- Coastwide: Dedicated dredging to create, restore, or protect wetlands
- Coastwide: Off-shore and riverine sand and sediment resources
- Coastwide: Maintenance of Gulf, bay and lake shoreline integrity

Project Location:

Region 2, Breton Sound Basin, Plaquemines Parish, in the outfall area of the West Pointe a la Hache siphon.

Problem

The West Pointe a la Hache area wetlands were cut off from the historic overbank flooding of the Mississippi River with the manmade improvements to the river channel. Without continued sediment input, marshes couldn't maintain elevation due to subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion.

Proposed Project Features

A 475 acre marsh creation/marsh nourishment project using sediments from the Mississippi River.

Goals

- Convert approximately 475 ac of open water habitat to intermediate marsh.
- Maintain 400 ac of created marsh over the 20 year project life

Preliminary Project Benefits:

- 400 net ac over 20 years

Identification of Potential Issues

- Oil & Gas
- Land rights

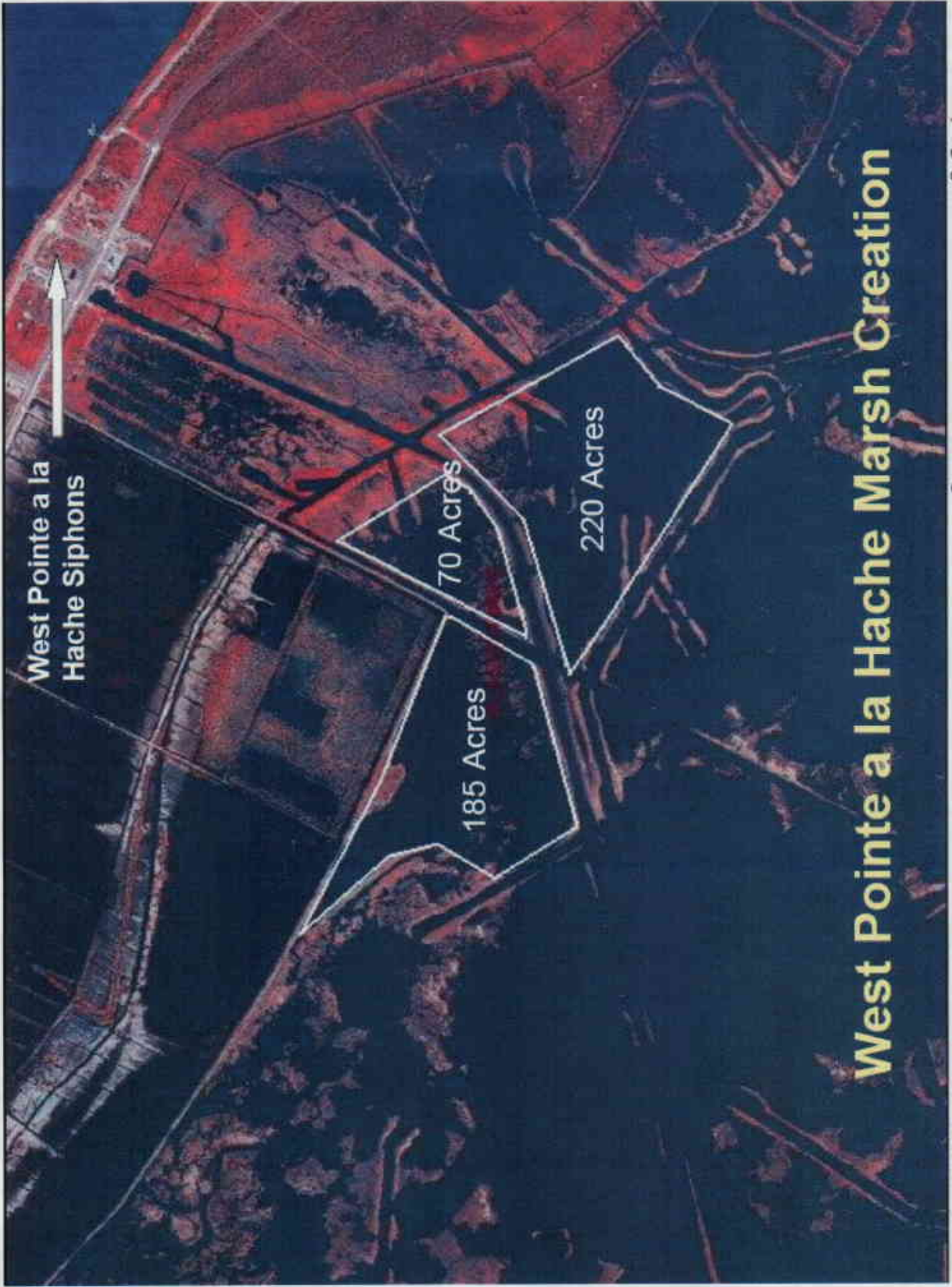
Preliminary Construction Costs + 25% Contingency

- \$18.5 million

Preparer of Fact Sheet

Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov

Brad Crawford, EPA, (214) 665-7255; crawford.brad@epa.gov



West Pointe a la
Hache Siphons

70 Acres

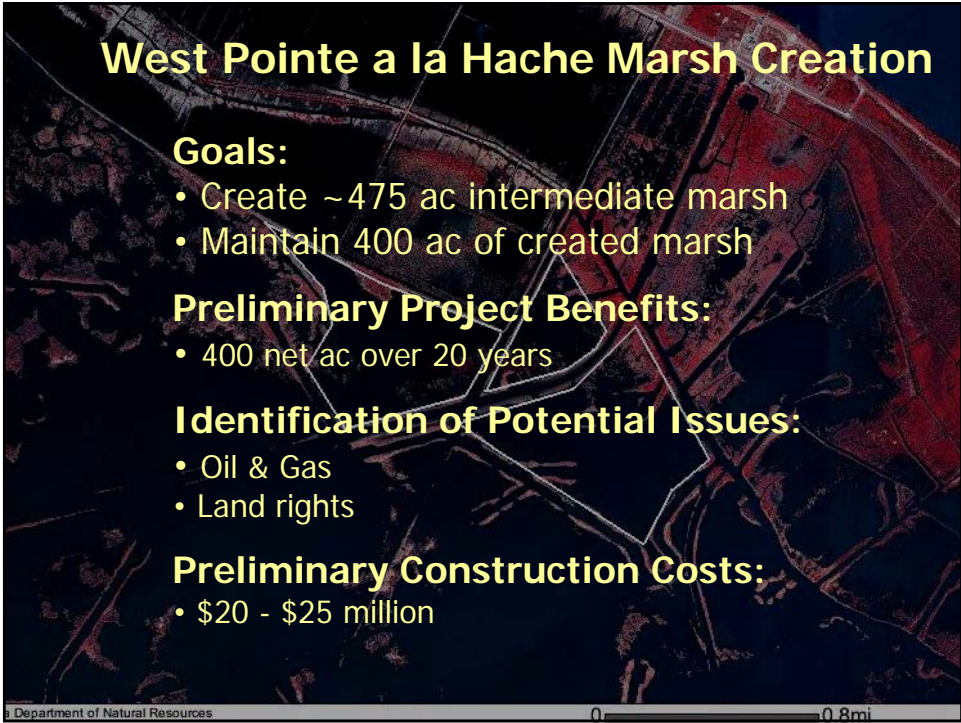
185 Acres

220 Acres

West Pointe a la Hache Marsh Creation

West Pointe a la Hache Marsh Creation





West Pointe a la Hache Marsh Creation

Goals:

- Create ~475 ac intermediate marsh
- Maintain 400 ac of created marsh

Preliminary Project Benefits:

- 400 net ac over 20 years

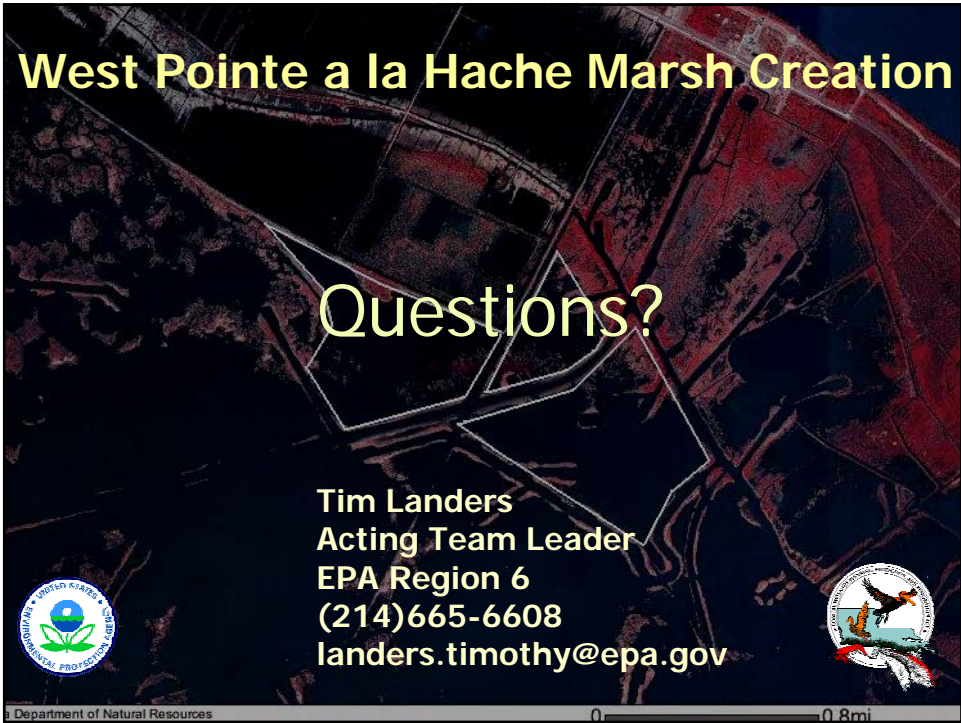
Identification of Potential Issues:

- Oil & Gas
- Land rights

Preliminary Construction Costs:

- \$20 - \$25 million



Department of Natural Resources 0 0.8mi



West Pointe a la Hache Marsh Creation

Questions?

Tim Landers
Acting Team Leader
EPA Region 6
(214)665-6608
landers.timothy@epa.gov



Department of Natural Resources 0 0.8mi

R2-BA 2 Homeplace Marsh Creation Project

PPL17 PROJECT NOMINEE FACT SHEET
January 8, 2007

Project Name

Homeplace Marsh Creation

Coast 2050 Strategy

Coastwide Strategy. Dedicated dredging for wetland creation

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 Lanoux / 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.

Proposed Project Features

600 acres of marsh creation and 175 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.

Goals

Create 600 acres of marsh and nourish 175 acres of marsh between the hurricane protection levee and Bay Lanoux / Bay de la Cheniere. The proposed marsh creation/nourishment will help protect the levee.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? 875 acres created and/or nourished.

2) How many acres of wetlands will be protected/created over the project life? 875 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

\$ 18 million

Preparer of Fact Sheet

Quin Kinler

USDA-NRCS

225-382-2047

quin.kinler@la.usda.gov



Legend

 Marsh Creation

**Plaquemines Candidate Project
Homelace Marsh Creation
(Approxiamately 875 acres)**



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



Data Source:
2004 DOQQ Aerial Photography
Map Date: November 8, 2006

~~Map Scale: 1:50,000~~

**R2-BA 3 Chenier Ronquille Barrier Shoreline
Restoration and Marsh Creation Project**

Chenier Ronquille Barrier Shoreline Restoration and Marsh Creation

24 January 2007

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 shoreline erosion has caused the shoreline to intersect open water areas, resulting in overwash and tidal inlet formation.

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. Through fill management, coarser grained materials will be sorted along the shoreline to restore a continuous sandy shoreface. Consideration will be given to restoring maritime ridge that previously existed. Sand fencing and 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 project.

Identification of Potential Issues:

The proposed project has the following potential issues: oysters.

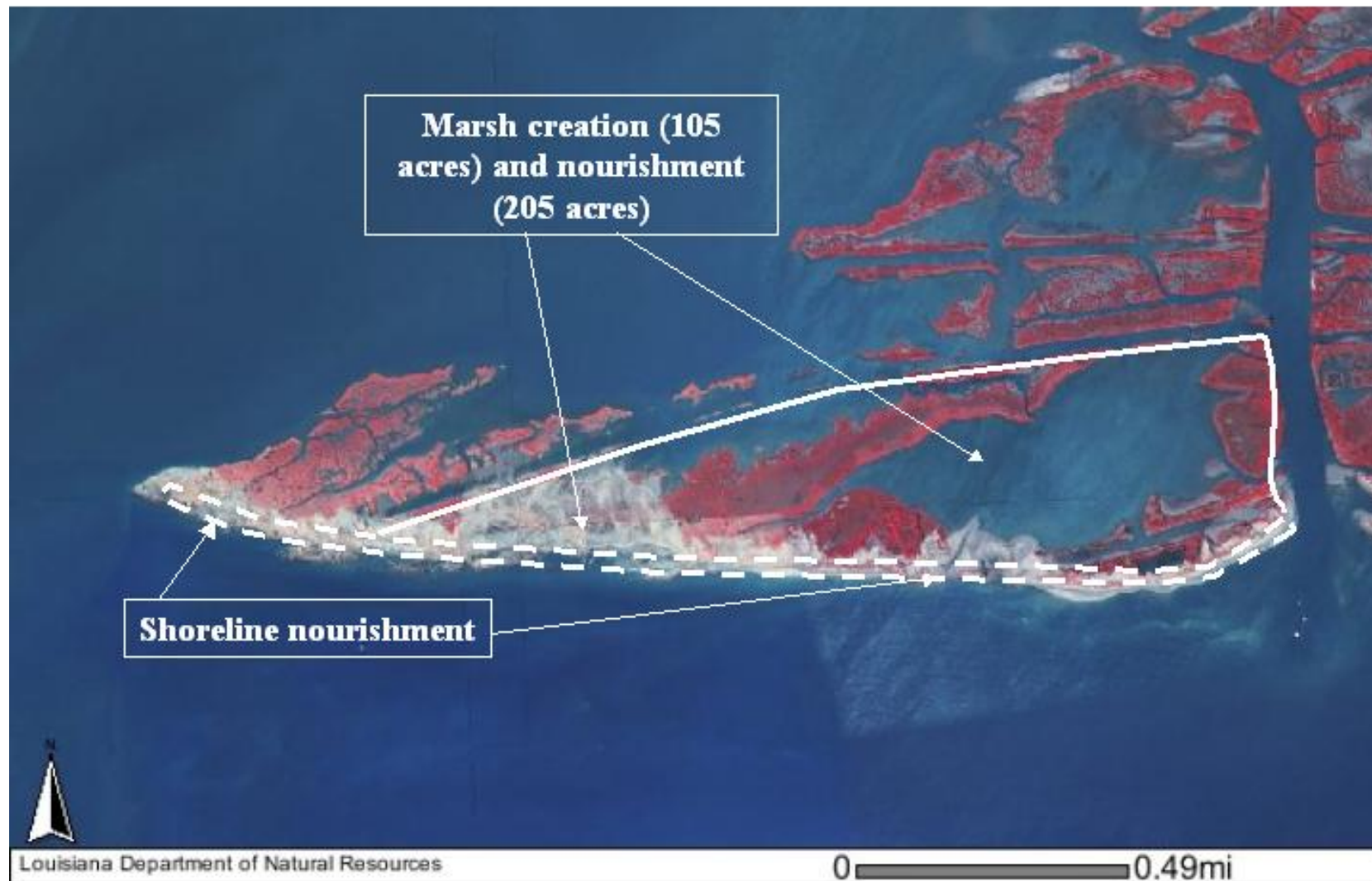
Preliminary Construction Costs:

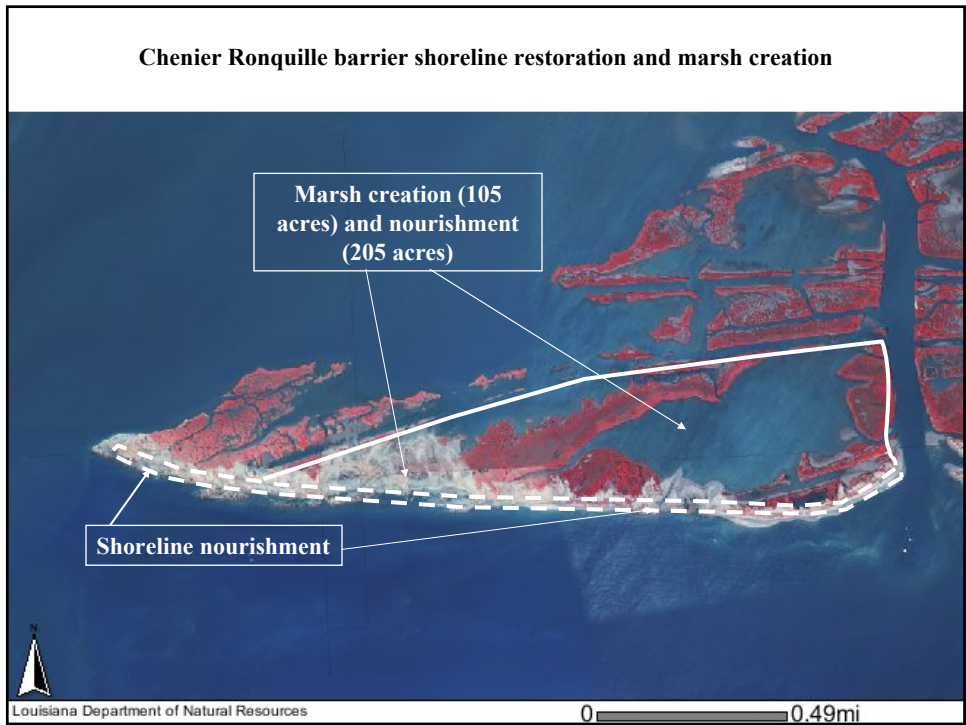
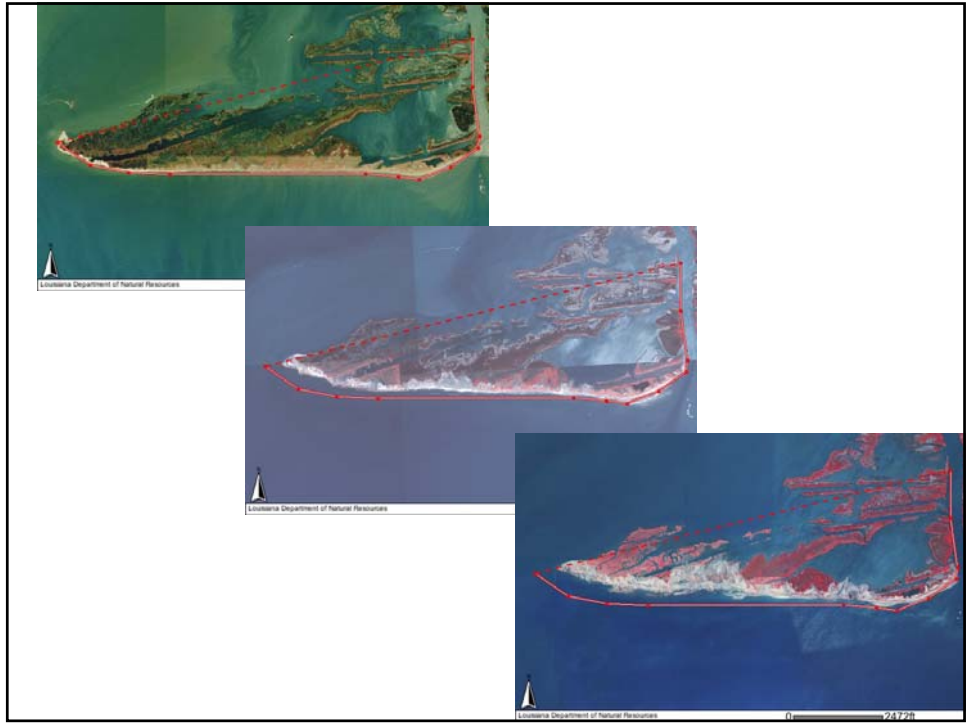
Construction costs are estimated at \$ 17,919,750 with 25% contingency

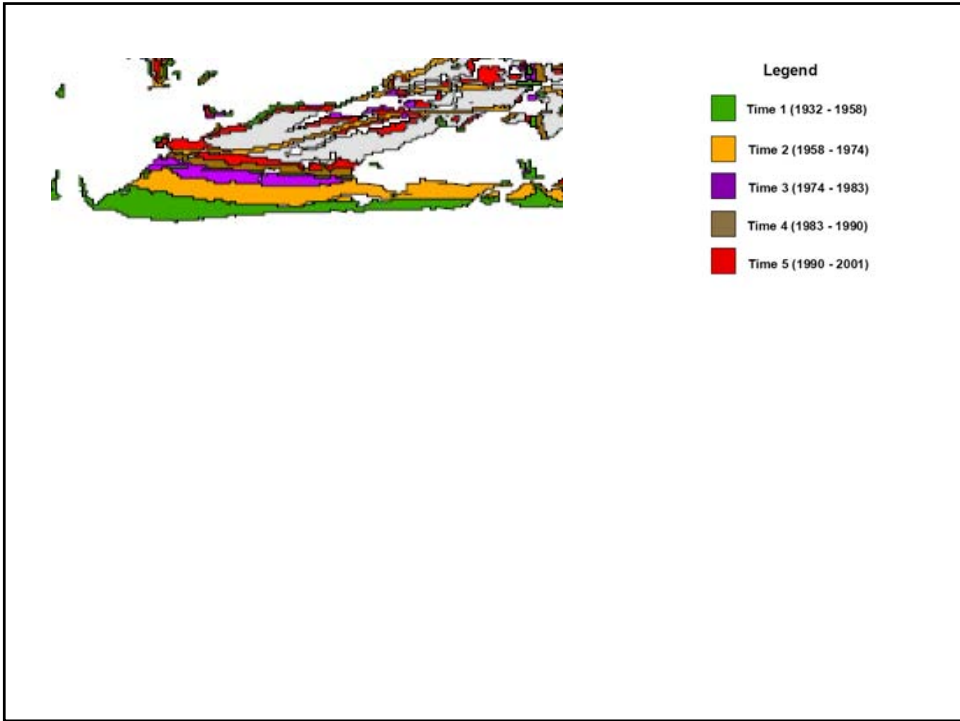
Preparer(s) of Fact Sheet:

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Chenier Ronquille barrier shoreline restoration and marsh creation







**R2-BA 4 Bayou Dupont Marsh Creation and
Ridge Restoration Project**

REDA BAY Jeff Parish (NMFS)

Draft
PPL17 PROJECT NOMINEE FACT SHEET
1/11/07

Project Name: Bayou Dupont Marsh Creation and Ridge Restoration

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, or Protect Wetlands

Project Location:

Region 2, Barataria Basin, Jefferson Parish, adjacent to Bayou Dupont southeast of the Pen

Problem:

The project would create/restore marsh and ridge and re-establish a portion of Bayou Dupont. There is widespread historic and continued rapid land loss in the project area due to altered hydrology, wind erosion, and subsidence. The 1983 to 1990 loss rate for the Myrtle Grove Mapping Unit is $-0.35\%/yr$.

Goals:

What does the project hope to accomplish? Create and nourish marsh, restore a portion of the Bayou Dupont Ridge, restore a portion of Bayou Dupont, and provide a buffer for the non-Federal Plaquemines levee.

Proposed Solutions:

The project would create approximately 135 acres and nourish 35 acres of brackish marsh via dedicated dredging of sediment from the Mississippi River. Additionally, about 12 acres of ridge would be restored along Bayou Dupont by bucket dredging material from the bayou. Preliminarily, a portion of the southern shoreline of the bayou has been identified for this work. An alternative area along the north side of the bayou is also available if it is desirable to relocate the features to that side. The intent is to scale the overall direct acreage near 200 to 250 direct acres. Opportunities to optimize acres and feature location would be explored further if the project becomes a candidate. The entire ridge would be planted and approximately 50% of the created marsh would be planted with smooth cordgrass plugs.

Preliminary Project Benefits:

1) Approximately 182 acres would be benefited both directly and indirectly. 2) Approximately 142 net acres of marsh and ridge would be protected/created over the 20-year project life. 3) The anticipated loss rate reduction throughout the area of direct benefits over the project life is 50-74%. 4) The project features restore the structural integrity of a portion of Bayou Dupont. 5) There is net impact of the project on non-critical oil and gas infrastructure and minor net impact on critical infrastructure (non-Federal levee). 6) The project would have synergy with previous small dredge projects.

Identification of Potential Issues:

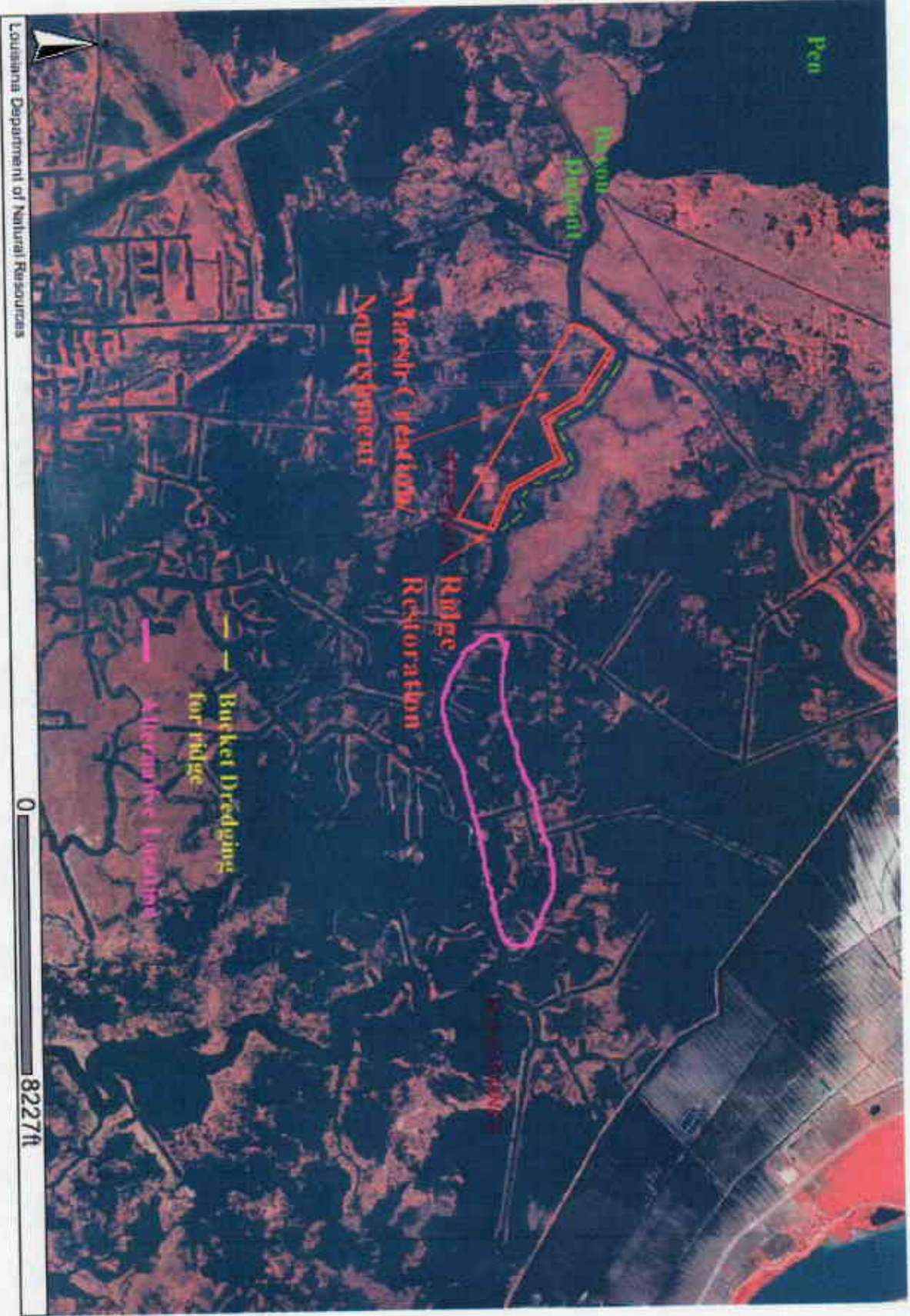
The proposed project has the following potential issues: utilities/pipelines.

Preliminary Construction Costs:

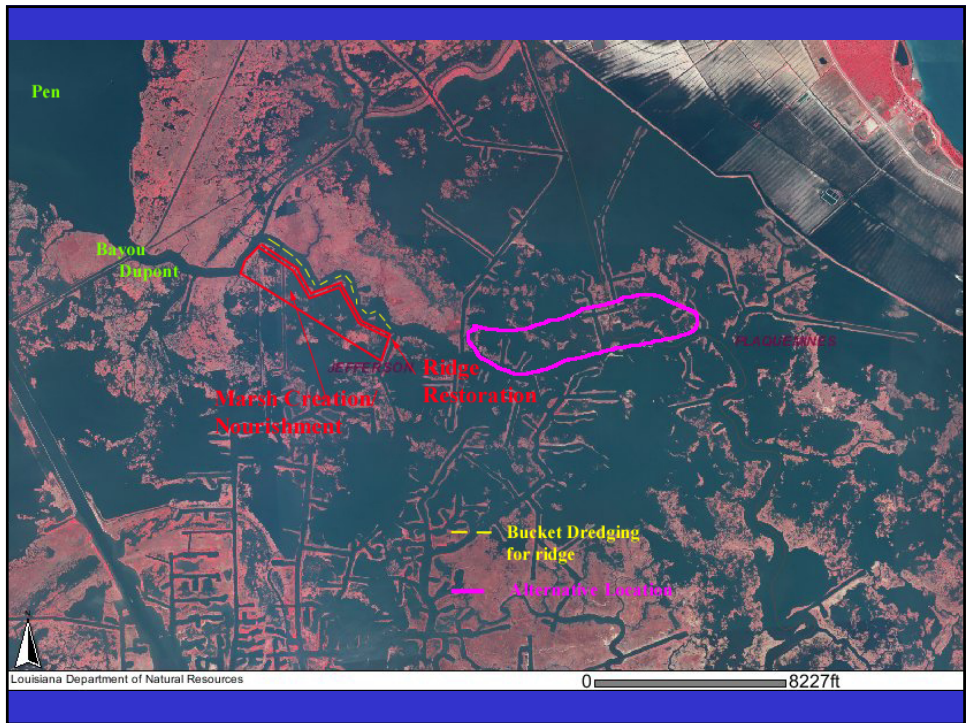
The estimated construction cost plus 25% contingency is approximately \$11.4M.

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Louisiana Department of Natural Resources



**R2-BA 5 Northeast Little Lake Marsh
Creation and Shoreline Protection Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007

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 only one or two canal through the shoreline.

Preliminary Construction Costs

\$ 13 million

Preparer of Fact Sheet

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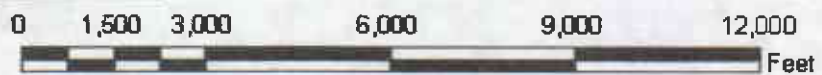


Legend

-  ~ 35,000 linear feet Shore_Protection
-  Marsh Creation ~200 Acres



NE Little Lake
 Marsh Creation/Shoreline Protection
 Jefferson Parish, Louisiana
 PPL-17



**R2-BA 6 Jean Lafitte Shoreline Stabilization
and Marsh Restoration Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 11, 2007

Project Name:

Jean Lafitte Shoreline Stabilization and Marsh Restoration Project

Coast 2050 Strategies:

Basin Strategies: 5) Create marsh with dredged material and 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 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.

Problem:

Within the past 50 years, the project area has undergone lost more than 650 acres of wetlands along the southeast shore of Lake Salvador. Since the late 1950's, annual shoreline erosion rates at the Barataria Preserve averaged 21 linear feet with a high exceeding 90 feet. The shoreline has retreated approximately 2,400 feet (55 feet per year) at the southern end of the Pipeline Canal since 1958. 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 restoring marsh would protect natural coastal resources, communities and infrastructure.

Mapped land loss by the USACE indicates sustained high shoreline erosion rates for this reach of Lake Salvador. Average shoreline retreat in the project area is 21'/year for the period 1930 to 2001. In the northern portion of the project area, Lake Salvador has nearly broken through to the Bayou Segnette Waterway, leaving only a thin portion of the spoil bank. Maximum retreat closer to the mouth of Bayou Villars for the same 71 year period is 38'/year. Shoreline retreat appears to be accelerating with rates for the 1983 to 1990 period as great as 89'/year. Shoreline retreat along the southern bank of Bayou Villars is encroaching on the Gulf Intracoastal Waterway (GIWW).

Proposed Project Features:

1. Dredge approximately 350,000 cy from Lake Salvador or from nearby Dredge Disposal Facility to create marsh behind crib and southeast of Bayou Villars.
2. Dredged material would be stacted to +3.5 feet NGVD to create 54 acres of fresh marsh
3. Close canal between GIWW and Lake Salvador and deposit fill material to +3.5 NAVD to create 40 acres of marsh.
4. Install approximately 135,000 tons of rock along 22,300 linear feet of shoreline from existing rock south of crib to southeast of Bayou Villars
5. Install structure to pinch tidal prism at Bayou Villars
6. Close channel from GIWW south of Bayou Villars

Goals:

1. Stop shoreline erosion.
2. Create and nourish marsh.

Preliminary Project Benefits:

The following questions should be addressed:

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

Directly benefited: 94 acres of marsh creation 200 acres protected from rock dike.

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

At the end of 20 years, approximately 294 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 restores 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 storm surge 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 breaking through into the Bayou Segnette Waterway and the GIWW. In addition, oil and gas infrastructure in the immediate area would be protected from storm surges.

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. There are also pipelines in the project area.

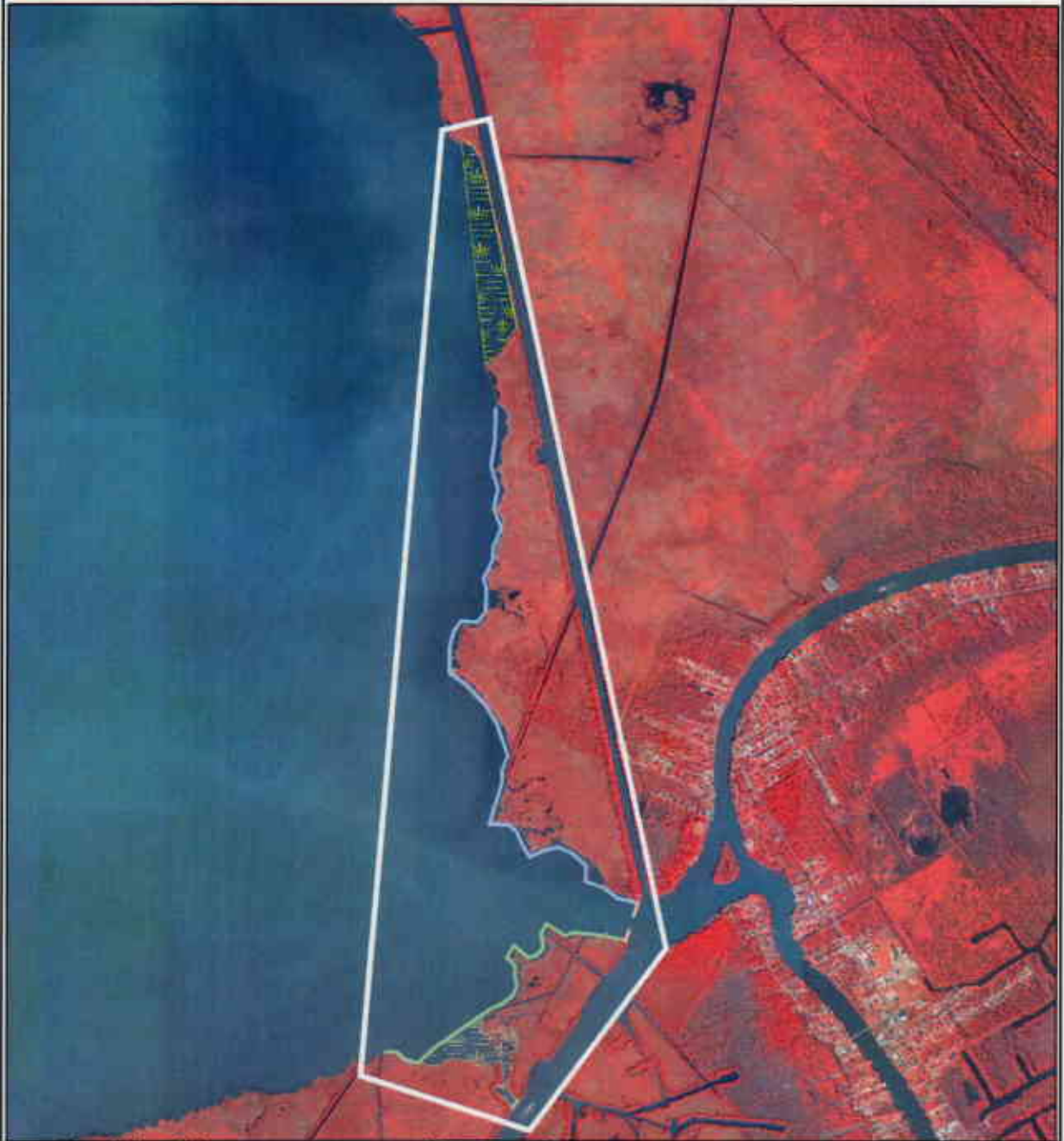
Preliminary Construction Costs:

The construction cost including 25% contingency is approximately \$15,000,000. The estimated fully funded cost range is \$20 - \$25 million.

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Jason Binet, USACE, 504-862-2127, Jason.A.Binet@mvn02.usace.army.mil

Jean Lafitte Shoreline Protection and Wetland Creation



0 0.25 0.5 1 1.5 2

Miles



Legend

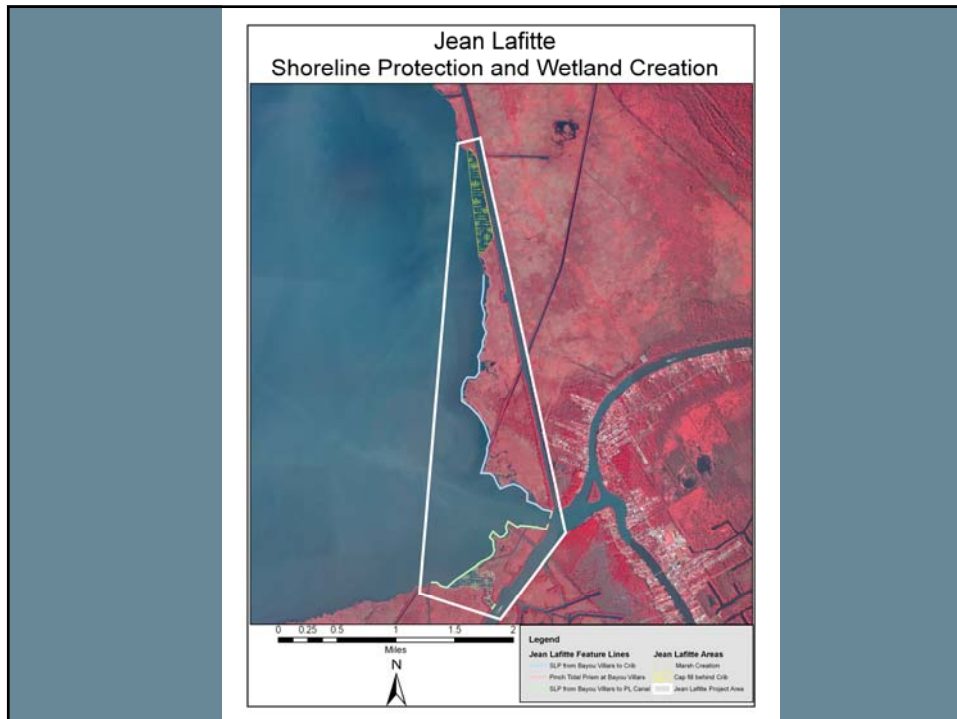
Jean Lafitte Feature Lines

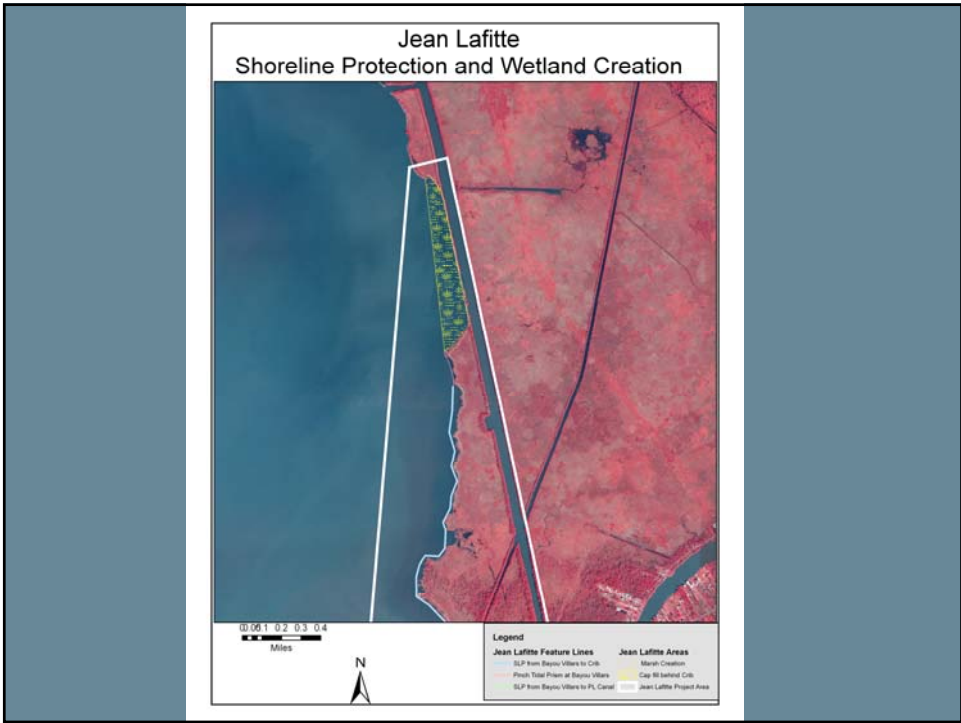
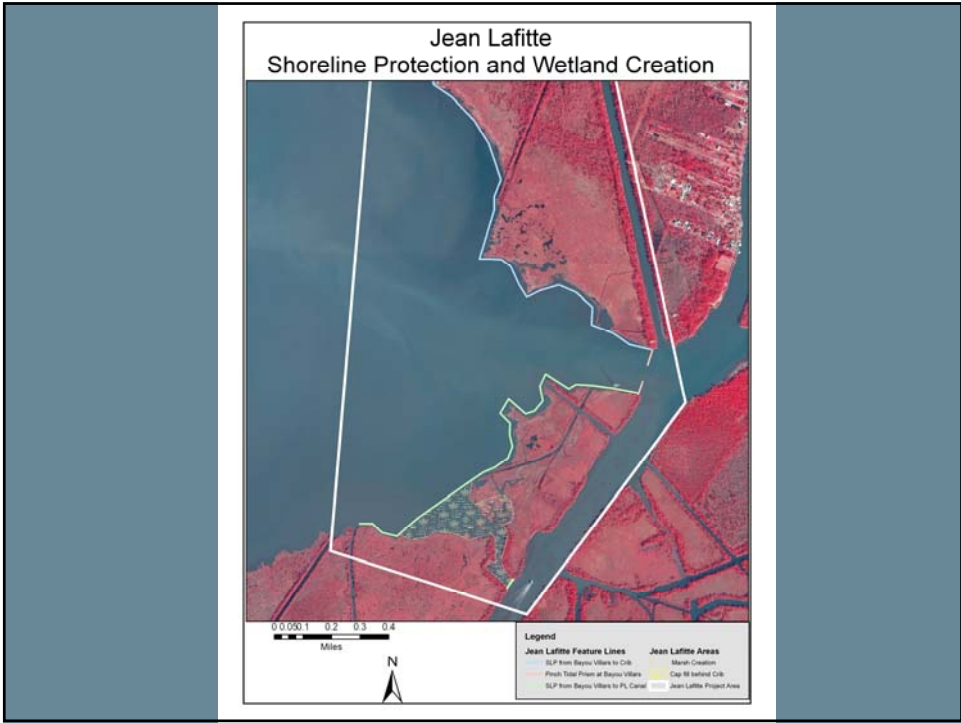
- SLP from Bayou Villars to Crib
- Pinch Tidal Prism at Bayou Villars
- SLP from Bayou Villars to PL Canal

Jean Lafitte Areas

- Marsh Creation
- Cap Sill behind Crib
- Jean Lafitte Project Area

PPL 17
RPT Project Proposal
Region II
Barataria Basin
Jean Lafitte Shoreline
Stabilization and Marsh Creation





Project Features

1. Dredge approximately 350,000 cy from Lake Salvador or from nearby Dredge Disposal Facility to create marsh behind crib and southeast of Bayou Villars.
2. Dredged material would be stacted to +3.5 feet NGVD to create 54 acres of fresh marsh
3. Close canal between GIWW and Lake Salvador and deposit fill material to +3.5 NAVD to create 40 acres of marsh.
4. Install approximately 135,000 tons of rock along 22,300 linear feet of shoreline from existing rock south of crib to southeast of Bayou Villars
5. Install structure to pinch tidal prism at Bayou Villars
6. Close channel from GIWW south of Bayou Villars

Project Benefits

1. Create approximately 54 acres of marsh behind crib and 40 acres southeast of Bayou Villars
2. Protect 200 acres of marsh from crib to southeast of Bayou Villars
3. Reduce salinity spikes in fresh marshes adjacent to Lake Salvador in vicinity of Bayou Villars

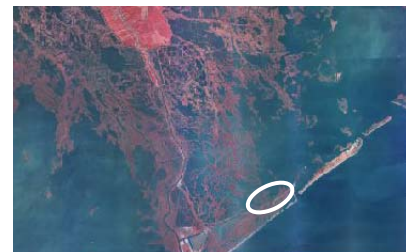
**R2-BA 7 Bayou Thunder Marsh Creation and
Shoreline Protection Project**

Bayou Thunder Marsh Creation and Shoreline Protection

24 January 2007

Coast 2050 Strategy:

Regional strategy 16 - dedicated dredging to create marsh
Caminada Bay mapping unit strategy 17 – maintain shoreline integrity.



Project Location:

Region 2, Barataria Basin, Lafourche and Jefferson Parishes, Chenier Caminada, north of Hwy 1.

Problem:

The marshes between Bays Ronflour and St. Honore and Bayou Thunder are experiencing both bay margin erosion and interior loss. Shoreline erosion estimates based on 1998 and 2005 imagery suggest that erosion rates in this area range from five feet/year to in excess of 50 feet/year in some areas. Additionally, review of aerial photography indicates that significant interior losses are occurring as well. Continued loss in this area will lead to adverse impacts to developed areas and Highway 1.

Goals:

Create 110 acres and nourish an additional 195 acres of saline marsh. Provide shoreline protection to about 1,500 feet of Bay St. Honore shoreline to complement existing protection.

Proposed Solutions:

Dedicated dredging from adjacent bays to create and nourish saline marsh. Extend breakwaters approximately 1,500 feet to northwest to provide shoreline protection.

Preliminary Project Benefits:

The project will directly benefit 305 acres (footprint) and may provide some minor indirect benefits by preventing erosion of adjacent wetlands. It is estimated that about 120 net acres will be protected/created over the project life and that the project will reduce land loss rates by 50 – 75%. The project will protect bay rims and would have a net positive impact to critical and non-critical infrastructure, although no synergistic effects with other CWPPRA projects are anticipated.

Identification of Potential Issues:

The proposed project has the following potential issues: oysters, land rights, and utilities.

Preliminary Construction Costs:

Estimated construction costs are \$16,217,313 (with 25% contingencies).

Preparer(s) of Fact Sheet:

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Bayou Thunder marsh creation and shoreline protection



**R2-BA 8 East Golden Meadow Marsh
Creation Project**

R2-BAG

PDF Map
Lafourche

PPL17 PROJECT NOMINEE FACT SHEET
January 8, 2007

Project Name
East Golden Meadow Marsh Creation

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.

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. The proposed marsh creation 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 absence of marsh east of the hurricane protection levee.

Proposed Project Features

700 acres of marsh creation. Material for marsh creation will be excavated from Little Lake.

Goals

Create 700 acres of marsh just to the east of the hurricane protection levee. The proposed marsh creation will help protect the levee.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly? 700 acres created; undetermined acres more secure inside hurricane protection levee.
- 2) How many acres of wetlands will be protected/created over the project life? 700 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 created marsh 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 new marsh will 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? Newly created marsh 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? Despite the severe land loss problem and the threatened condition of the hurricane protection levee, the nearest restoration project (Little Lake Shoreline Protection/Dedicated Dredging) is located a few miles away..

Identification of Potential Issues

The proposed project has the following potential issues: dredged material will have to be moved 5 plus miles.

Preliminary Construction Costs

\$ 24 million

Preparer of Fact Sheet

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East Golden Meadow Marsh Creation
~ 700 Acres
Lafourche Parish, Louisiana
PPL -17



**R2- BA 9 Chenier Caminada Marsh Creation
Project**

PPL17 PROJECT NOMINEE FACT SHEET- Revised
January 24, 2007

Project Name:

Chenier Caminada Marsh Creation Project

Coast 2050 Strategy:

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

Regional Strategy 16: Dedicated dredging to create marsh near LA Hwy 1

Mapping Unit 16: Dredge material from offshore to build marsh

Project Location:

Region 2, Barataria Basin, Lafourche Parish, Chenier Caminada in Fourchon, Louisiana.

Problem:

The Chenier Caminada system has undergone significant land loss and subsidence since the 1930's. Compounding with natural causes, the greatest land loss occurred in the 1970's due to altered hydrology and wind erosion of a large pond (Coast 2050 Plan). Commercial dredging of sand and storm activity have contributed to loss in this unit as well; however, a very high subsidence rate of 2.1-3.5 ft/century has been the leading cause for wetland deterioration. Considering the planning unit's proximity to and capacity for providing protection to the petrochemical facilities in Fourchon, unchecked wetland loss in this area could be detrimental to both ecological and energy resources.

Goals :

- 1.) Reestablish 500 acres of emergent marsh in open water
- 2.) Enhance 260 acres of deteriorated marsh and ridge habitat

Proposed Solutions:

To offset local subsidence and tidal energy approaching from the gulf, approximately 500 acres of marsh will be created in the shallow open water areas of Chenier Caminada. Should water depths allow, part of the 500 acres to be created will encompass the broken marsh adjacent to the LOOP facility and east side of Port Fourchon. In addition, approximately 260 acres of deteriorated marsh and chenier ridge habitat will be enhanced with the placement of thin layer (i.e., 6 inches) dredged material. The borrow material will come from near-shore Gulf waterbottom, not to impede coastal shoreline processes.

Preliminary Project Benefits:

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 760 acres
- 2) *How many acres of wetlands will be protected/created over the project life?*
684 acres [760-(0.5%/yr x 20 yrs)]
- 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%).*
In concurrence with the Environmental Working Group, anticipated reduction of the background loss rate is 50-74% for marsh creation.
- 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 both vertically enhance existing chenier ridges and help maintain the remaining ridges within the Chenier Caminada by reestablishing the marsh that once protected them from erosion.

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

This project will provide a net positive impact on critical infrastructure such that wave fetch approaching LA Hwy 1, Port Fourchon, and LOOP will be minimized with the creation and enhancement of nearly 800 acres of marsh. A net significant benefit to critical infrastructure will occur if marsh creation is completed directly adjacent to the LOOP facility.

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

This project will provide a synergistic effect with the planned LCA project along the Chenier Caminada headland. This project will provide marsh and chenier reestablishment within the interior of the system while the LCA project fortifies the drastically eroding shoreline. Together these projects will help protect one of the most important petrochemical locations in the state.

Identification of Potential Issues:

The primary landowner, Edward Wisner Donation, supports the project as does the parish. There are no known pipelines, wells, or oyster leases within the project area or immediate vicinity.

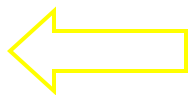
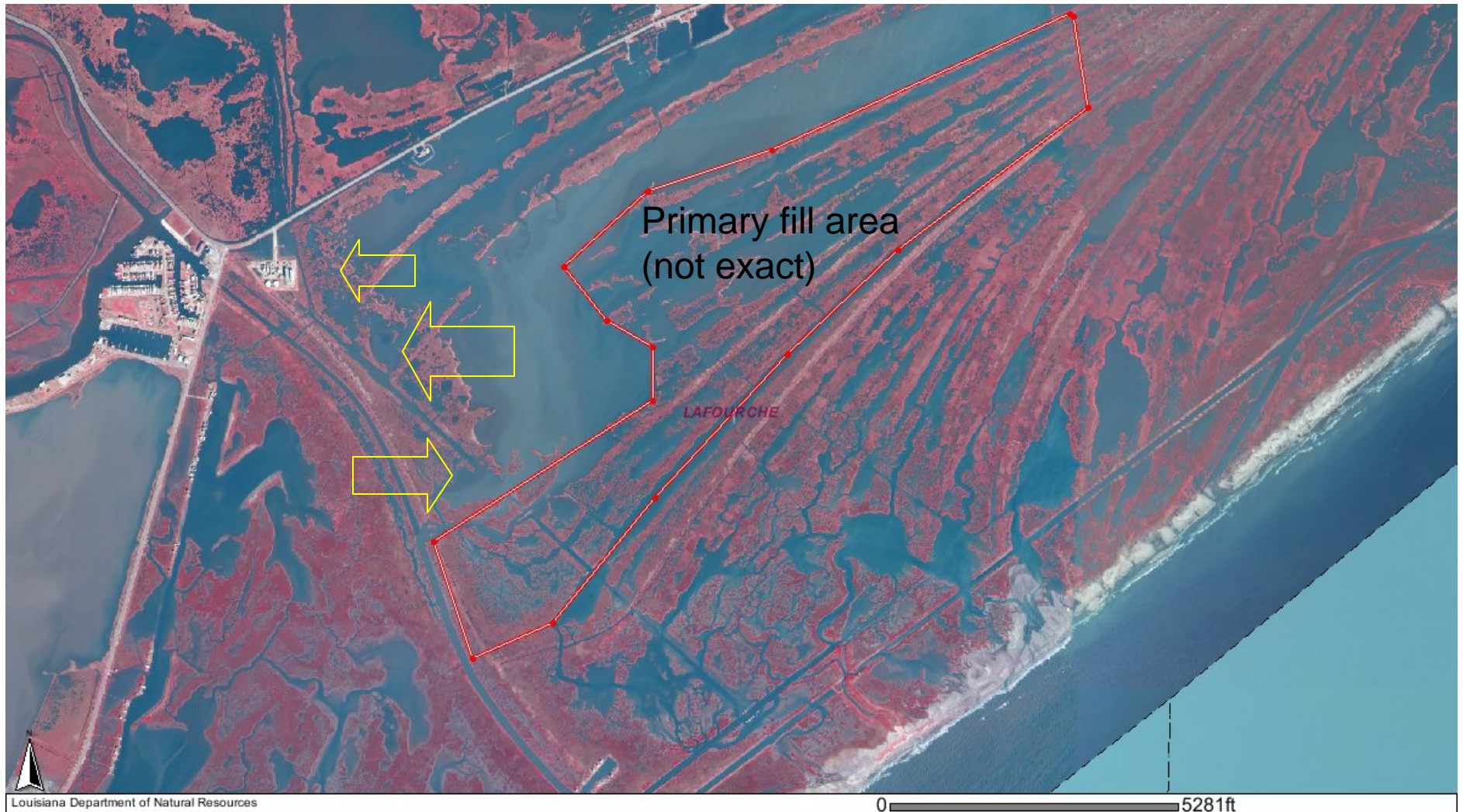
Preliminary Construction Costs:

The estimated cost for construction including marsh creation, enhancement, mobilization, and 25% contingency is \$26.8M.

Preparer(s) of Fact Sheet:

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

PPL-17 Chenier Caminada Marsh Creation Project



**Alternate locations for portion of 800
acre marsh creation/nourishment**

**R2-BA 10 Southwest Little Lake Marsh
Creation Project**

PPL-17 PROJECT NOMINEE FACT SHEET- Revised
January 24, 2007

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 500 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 3.5 mcy, which will be placed at a maximum constructed height of + 2.1 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 500 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?
500 acres
- 2) How many acres of wetlands will be protected/created over the project life?

410 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?

This project is expected to provide storm and surge protection to the LOOP reservoir that is located outside of the hurricane protection levee. Furthermore, this project will reestablish a portion of the Little Lake shoreline that is adjacent to a major pipeline corridor, and the creation of 500 acres of marsh that will provide a storm buffer to the many pipelines and wells located in Little Lake.

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

\$16,100,000. This includes construction, vegetative plantings, and 25% contingency.



Preparer of Fact Sheet

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

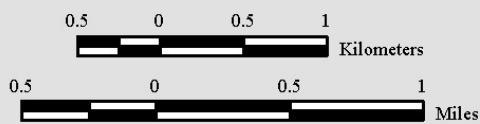


Southwest Little Lake Marsh Creation Project



-  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

**R2-BA 11 Barataria Bay Waterway Bank
Protection Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 8, 2007

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

225-382-2047

quin.kinler@la.usda.gov



Legend
~26,000 linear feet
Bank_Protection



Barataria Bay Waterway
Bank Protection
(Bayou Barataria Ridge to Bayou Maurice)
Jefferson Parish, Louisiana
PPL-17



Region 2 – Breton Sound Basin

Proposed Projects

R2- BS 1 Bohemia Mississippi River Reintroduction

DRAFT PPL17 PROJECT NOMINEE FACT SHEET

January 11, 2007

Prepared by: Environmental Protection Agency

Project Name

Bohemia Mississippi River Reintroduction

Coast 2050 Strategy

- Coastwide Strategy: Restore and sustain marshes
- Region 2 Regional Strategy: #7 Continue building and maintaining delta splays.
- #8 Construct most effective small diversions.

Project Location:

Region 2, Breton Sound Basin, Plaquemines Parish, located on the East bank of the Mississippi River across from Port Sulphur, approximately 6.5 miles upstream of the Bayou Lamoque diversion structures.

Problem

The Bohemia area wetlands were cut off from the historic overbank flooding of the Mississippi River with the manmade improvements to the river channel. This has resulted in much less land being created here than would be created naturally.

Proposed Project Features

A 5000 cfs uncontrolled diversion to reintroduce Mississippi River water into the Bohemia wetlands.

Goals

- Create 400+ ac of marsh by natural deltaic growth
- Convert brackish marsh to fresh and intermediate marsh
- Increase SAV cover
- Increase shallow water habitat

Preliminary Project Benefits:

- 400+ net ac of marsh over 20 years

Identification of Potential Issues

- Oyster Leases

Preliminary Construction Costs + 25% Contingency

- \$7 million

Preparer of Fact Sheet

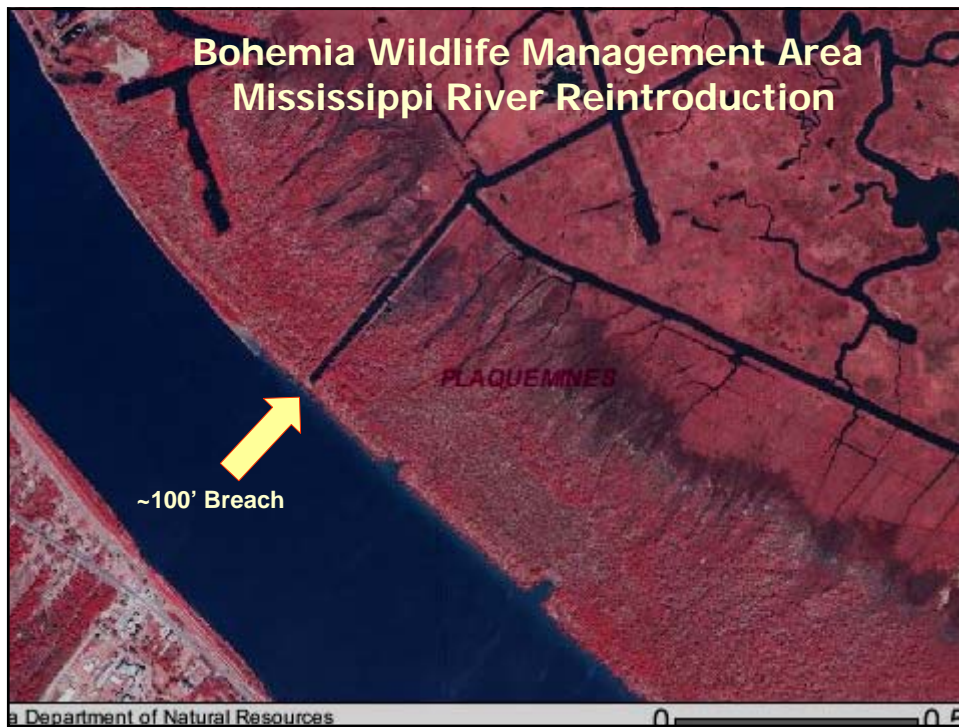
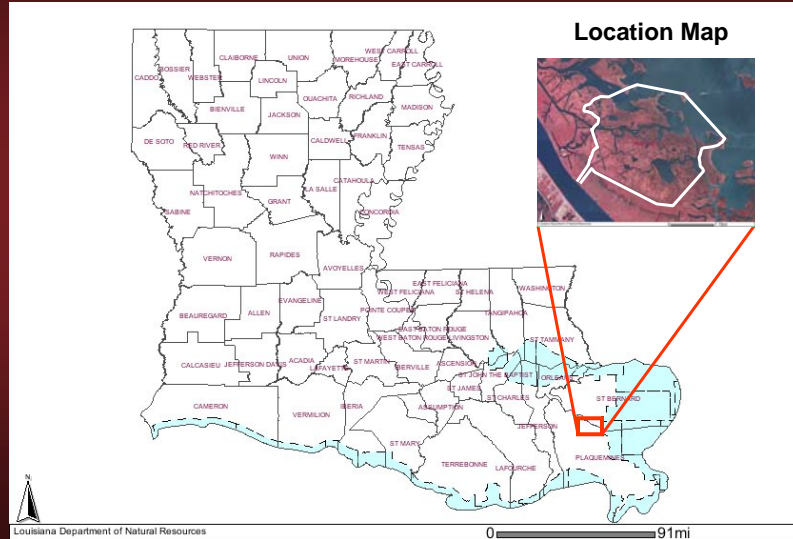
Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov

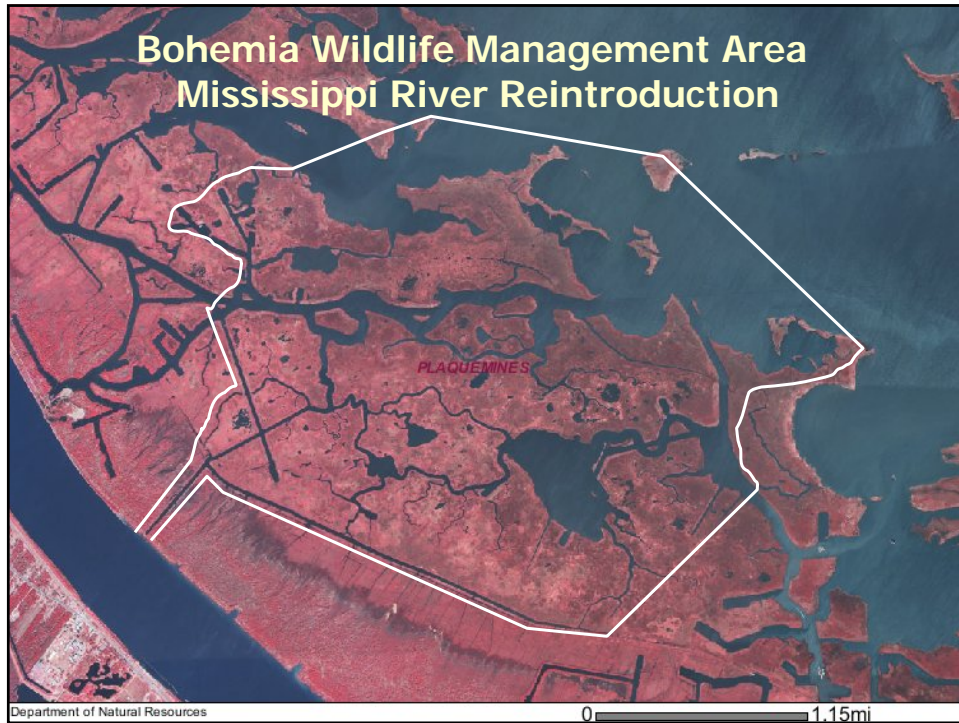
Brad Crawford, EPA, (214) 665-7255; crawford.brad@epa.gov

Bohemia Mississippi River Reintroduction



Bohemia Wildlife Management Area Mississippi River Reintroduction





**Bohemia Wildlife Management Area
Mississippi River Reintroduction**

Goals/Benefits:

- 5000+ CFS Mississippi River Reintroduction
- Create 400+ ac of marsh by natural deltaic growth
- Convert brackish marsh to fresh and intermediate marsh
- Increase SAV cover
- Increase shallow water habitat
- Dredging spoil used for marsh creation
- Incremental decrease in nutrient load to Gulf

Cost:

- < \$10 Million

Department of Natural Resources 0 1.15mi

Bohemia Wildlife Management Area Mississippi River Reintroduction

Questions?

Tim Landers
Acting Team Leader
EPA Region 6
(214)665-6608
landers.timothy@epa.gov



Department of Natural Resources

0

1.15mi

**R2-BS 2 Caernarvon Outfall Management/ Lake
Lery Shoreline Restoration Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 11, 2007

Project Name

Caernarvon Outfall Management/Lake Lery Shoreline Restoration

Coast 2050 Strategy

- Region 2 - Restore and Sustain Marshes via Managing outfall of Existing Diversions
- Coastwide – Dedicated dredging for wetland creation.
- Coastwide – Maintenance of bay and lake shoreline integrity.
- Coastwide - Vegetative Plantings

Project Location

Region 2, Breton Sound Basin, St. Bernard and Plaquemines Parishes, Caernarvon mapping unit, north and south of Lake Lery.

Problem

1) According to USGS-NWRC mapping, much of the wetlands surrounding Lake Lery were heavily damaged along with the Lake shoreline due to Hurricane Katrina. Wind/wave energy in large open water areas as well as the damaged shorelines caused by the storm may result in the expansion of Lake Lery and further loss of interior emergent vegetation.

2) Marshes to the north and east of Lake Lery have historically not benefited from the diversion as have those marshes to the south and west. It has been estimated that over 60% of water from the diversion exits directly into Lake Lery via Bayou Mandaville, while over 30% is diverted into the marshes to the west. Those marshes to the east have been deteriorating from increased salinities and a lack of freshwater from the diversion. After Katrina the two canals that transported the limited amount of freshwater eastward have been completely blocked with debris to a point where there is virtually no fresh water reaching those marshes. Furthermore, these same marshes were severely damaged from the storm and with the lack of fresh water from the diversion it is unlikely that they will be restored without some assistance.

Proposed Project Features

1) Clean out the distributary channel that would allow freshwater via the Caernarvon Freshwater Diversion to flow eastward.

2) Neck down some of the existing distributary channels to allow equal amounts of fresh water to reach the far eastern marshes.

3) Gap some distributary channels to allow the eastward flowing water to filter down to the more southern marshes.

4) If possible, put in a low level sill and neck down the channel adjacent to the Caernarvon outfall canal.

- 5) Dredge a channel from the Caernarvon Outfall Canal that would bring water into the most northern distributary channel allowing more water to be distributed to the marshes east of Big Mar.
- 6) Restore the shoreline along the southern shoreline of Lake Lery and plant the lakeward edge of that restored shoreline.
- 7) Create approximately 300 acres of interior marsh along the southern shoreline of Lake Lery.
- 8) Nourish approximately 500 acres of interior marsh around the perimeter of Lake Lery.

Goals

- Increase the amount of fresh water and sediment that had been flowing into the marshes east of Big Mar before the impacts of Katrina.
- Restore those sections of the Lake Lery shoreline that were severely impacted by Katrina.
- Restore approximately 800 acres of emergent marsh through hydraulically dredging material from Lake Lery.

Preliminary Project Benefits

- 1) **The project would directly restore approximately 800 acres of marsh and indirectly benefit approximately 16,000 acres of marsh and shallow open water.**
- 2) The anticipated loss rate reduction over the project life would be 25-49%.
- 3) This project would restore the shoreline of Lake Lery which is a structural component of the coastal ecosystem.
- 4) This project would not protect any critical infrastructure.
- 5) This project would enhance the distribution of freshwater associated with the Caernarvon Freshwater Diversion Project.

Identification of Potential Issues

Potentially there could be a navigation problem with the jack-up barge company located on Hwy. 39 which is reportedly going out of business. The Corps has \$10 mill to spend on O&M including flowage easements for the Caernarvon area, but estimated cost of flowage easements are now at \$12 mill. Very little other work may be done in this area with these funds.

Preliminary Construction Costs

The project construction cost including 25% contingency is approximately \$22,746,115.

Preparer of Fact Sheet

Robert Dubois, USFWS, (337)291-3127, robert_dubois@fws.gov
Loland Broussard, NRCS, (337)291-3069, loland.broussard@la.usda.gov



U.S. Fish & Wildlife Service - Natural Resource Conservation Service Caernarvon Outfall Management - Lake Lery Shoreline Restoration



R2-BS 3 Wills Point Marsh Creation Project

PPL17 PROJECT NOMINEE FACT SHEET



Project Name: Wills Point Marsh Creation

Coast 2050 Strategy: Marsh Creation by dedicated dredging

Project Location:

Region II, Breton Sound Basin, in the River aux Chenes and Caernarvon Mapping Units, on the east bank of the Mississippi River, approximately 68 miles above Head of Passes, in Plaquemines Parish, Louisiana.

Problem:

The project site is in close proximity to the Mississippi River and is mainly shallow open water between natural ridges. Historically, much of the project area marsh has subsided due to sediment and nutrient starvation caused by the Mississippi River levee system. Interior canal spoil banks have disrupted the natural sheet flow and impounded the area. Persistent long term herbivory by nutria has also stressed the project area. Land loss rates in the area ranged from 2.63% between 1958 and 1974, 2.82% between 1974 and 1983, and 0.517% between 1983 and 1990. More recently, Hurricane Katrina severely impacted remaining wetlands, which is expected to increase the loss rate estimated between 1990 and 2005.

Goals :

Create and nourish marsh in the project area using dedicated dredging from the Mississippi River.

Proposed Solutions:

Dredge approximately five to 6.5 million cubic yards of sediment in a single event from the Mississippi River. Material would be pumped approximately two feet above existing marsh and allowed to settle in open water and adjacent low marsh. Existing ridges and interior canal spoil banks would provide containment, but would require reinforcing in areas. The pipeline access corridor would be along the back levee paralleling Joe Brown Canal. The dredge pipe would be jacked and bored under LA Highway 39 paralleling the river.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* Either of the two separate marsh creation sites shown on the attached map are recommended for the project. The total acreage benefited indirectly in project Area 1 would be approximately 1,300 acres, including an estimated 650 acres (50%) of existing wetlands. Approximately 650 acres of new marsh would be created using this site. The total acreage benefited indirectly in project area 2 would be approximately 925 acres, including an estimated 370 acres (40%) of existing wetlands. Approximately 555 acres of new marsh would be created using this site.

Site 1: Create approximately 650 acres of new marsh and nourish approximately 650 acres of existing marsh by depositing approximately 6.5 mcy of dredged material.

Site 2: Create approximately 555 acres of new marsh and nourish 370 acres of existing marsh by depositing approximate 5.0 mcy of dredged material.

2) *How many acres of wetlands will be protected/created over the project life?* At the end of 20 years, Site 1 would have approximately 807 acres (62%) remaining compared to the future without the project, which would be approximately 118 acres (18%). This is a net benefit of 689 acres. Site 2 would have approximately 704 acres (76%) remaining compared to the future without the project, which would be approximately 67 acres (18%). This is a net benefit of 637 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%)?* The anticipated loss rate reduction throughout the area of direct benefits over the project life would be >25%.

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 to protect natural ridges including Rive aux Chenes and Tigers Ridge.

5) *What is the net impact of the project on critical and non-critical infrastructure?* What is the net impact of the project on critical and non-critical infrastructure? The project would help to buffer the hurricane protection levee (40-Arpent Levee) from storm surge, which could be critical to the Bertraville and Wills Point communities.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The project is relatively restricted from Caernarvon outfall benefits due to spoil banks and natural ridges. Introducing sediment into the project area through direct dredging would provide synergistic benefits to the mapping units that might not otherwise be realized.

Identification of Potential Issues:

Landowner issues.

Preliminary Construction Costs:

The construction cost including 25% contingency is approximately \$18 million. The estimated fully funded cost range is \$20 - \$25 million.

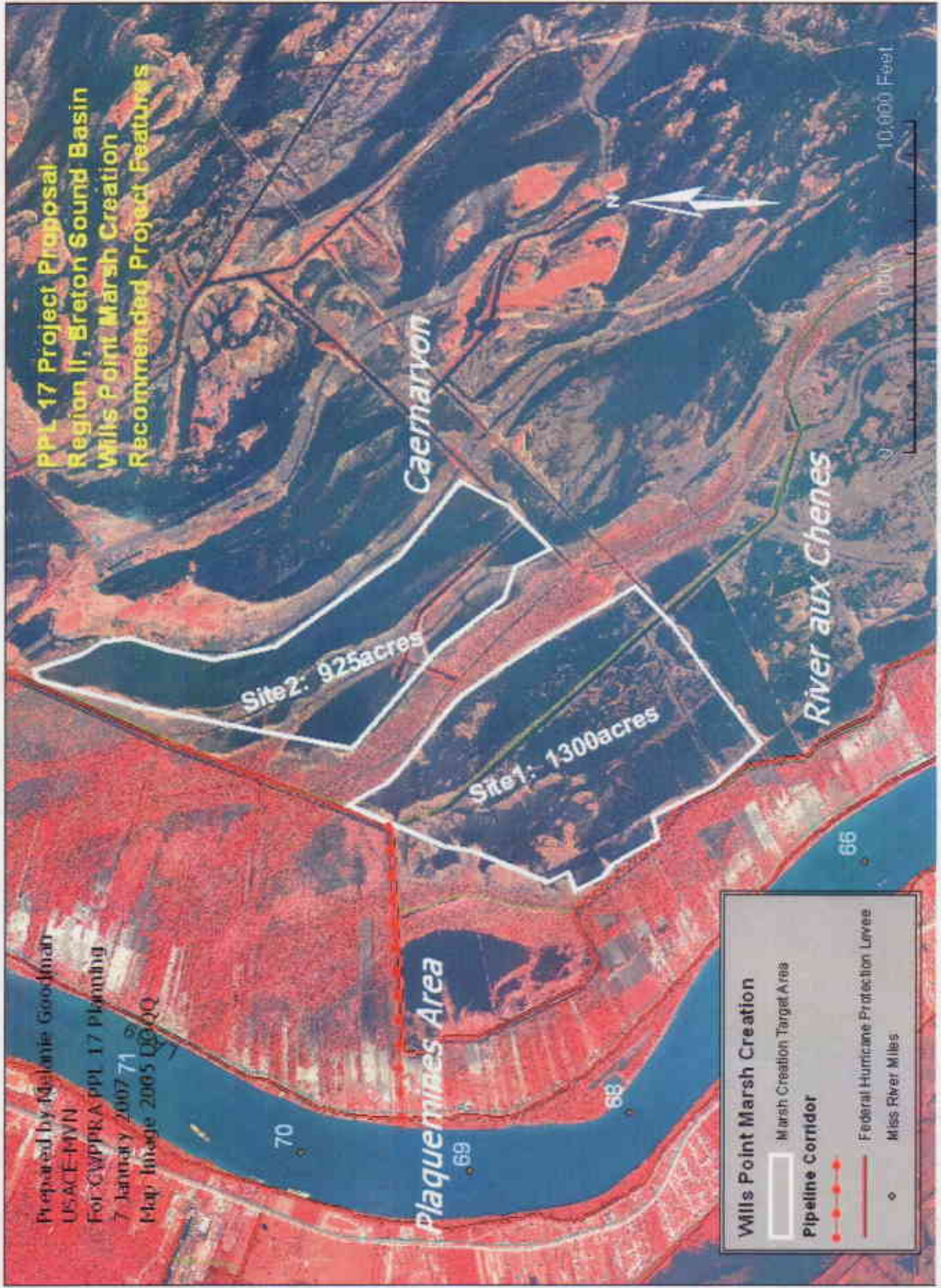
Preparers of Fact Sheet:

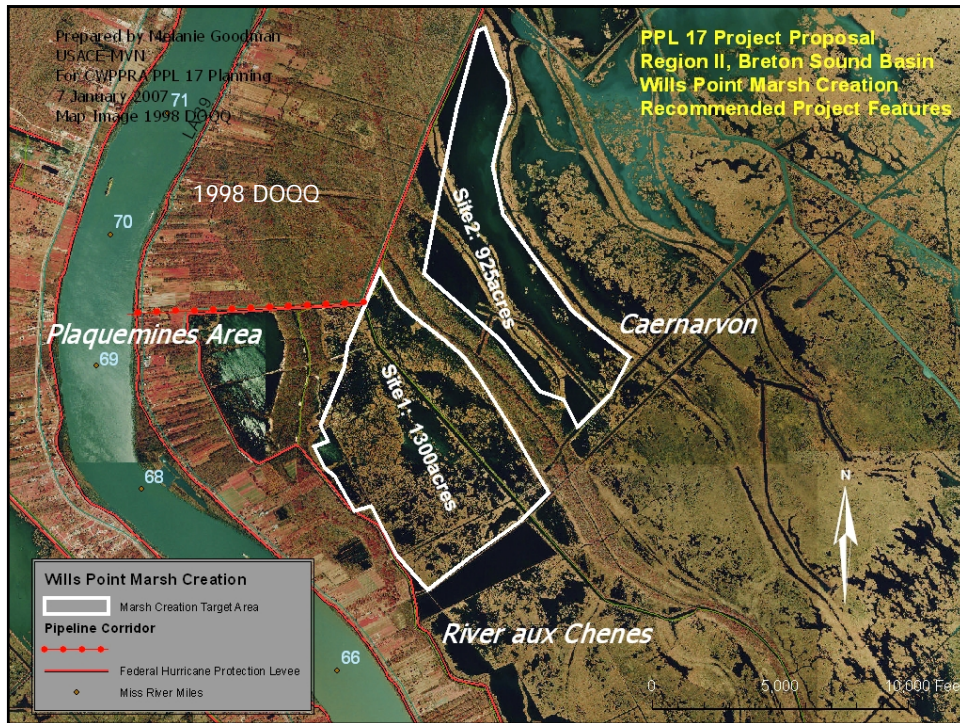
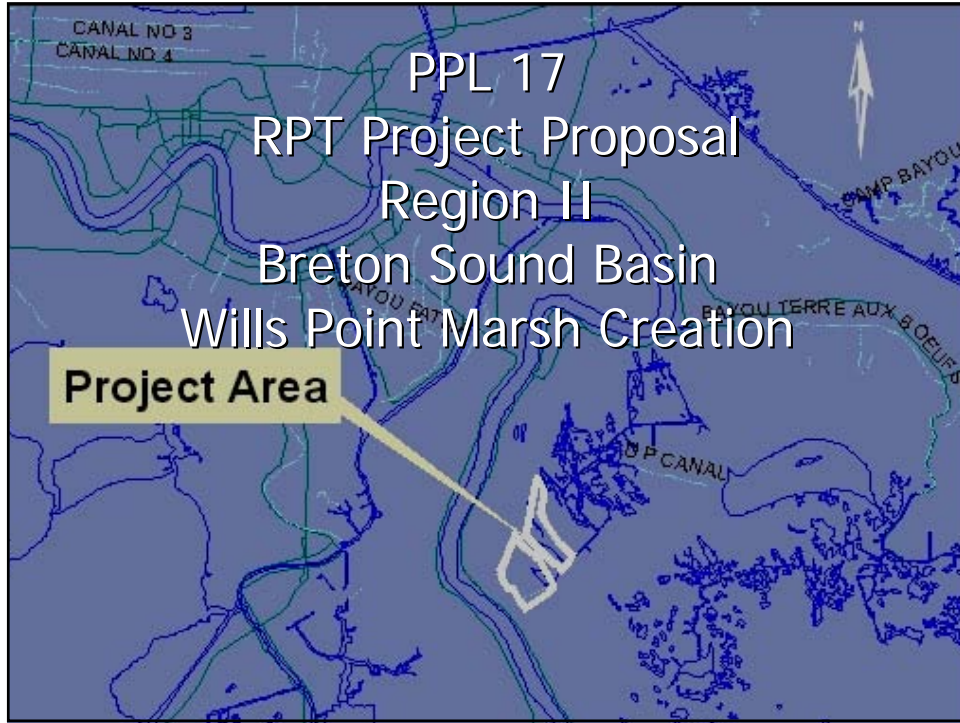
Melanie Goodman, USACE, 504-862-1940, Melanie.L.Goodman@mvn02.usace.army.mil

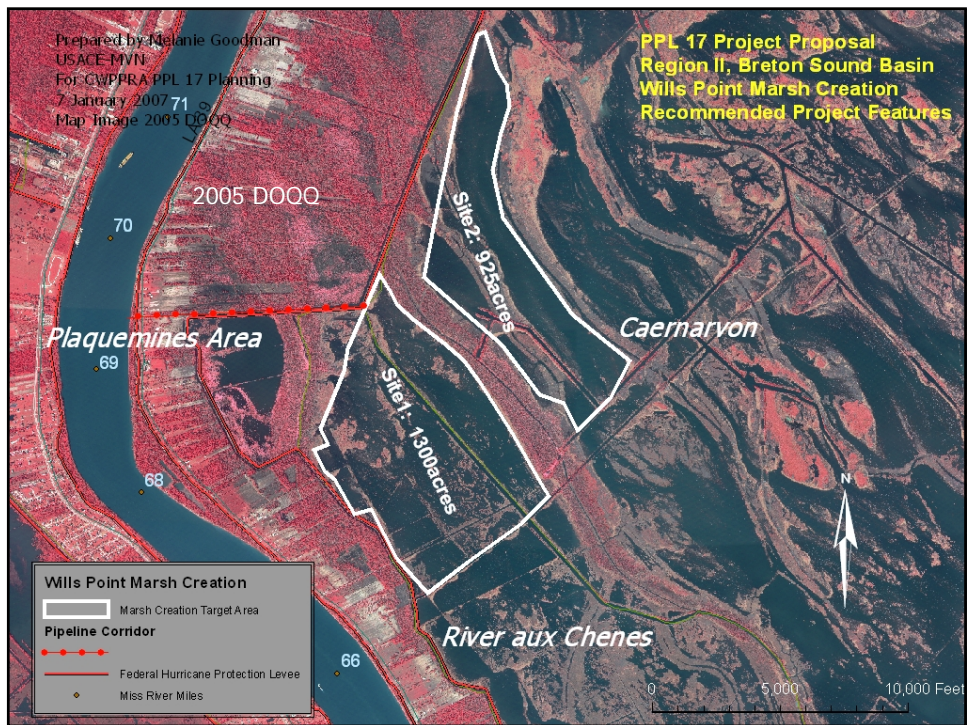
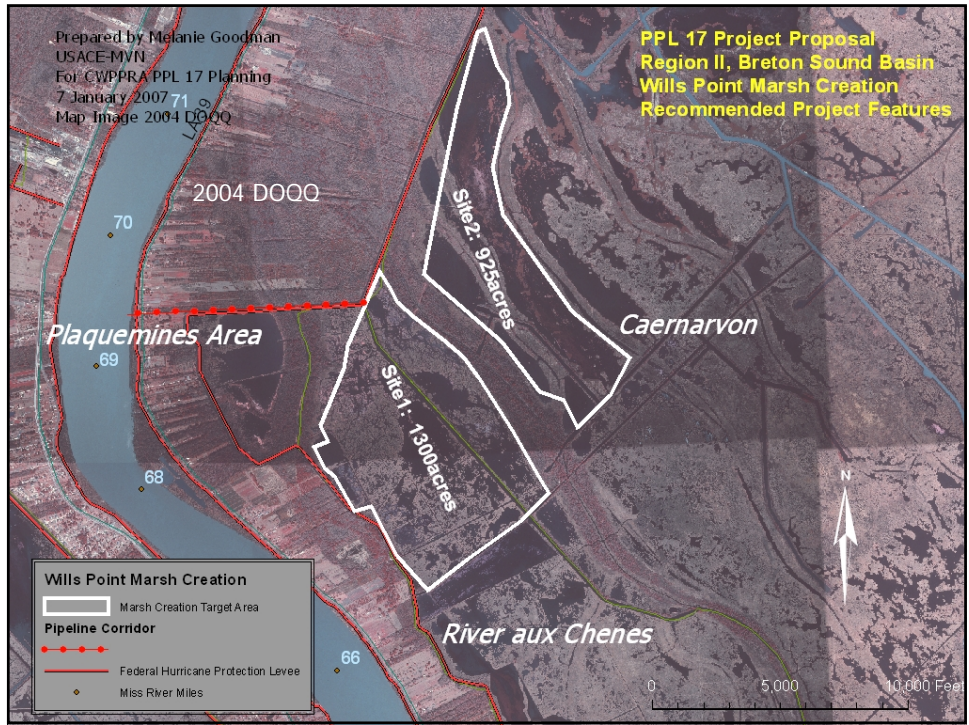
Keith O'Cain, USACE, 504-862-2746, Keith.J.O'Cain@mvn02.usace.army.mil

**PPL 17 Project Proposal
Region II, Breton Sound Basin
Wills Point Marsh Creation
Recommended Project Features**

Prepared by Melanie Goodman
USACE-MVN
For CWPRA PPL 17 Planning
7 January 2007
Map Image 2005 D0000







Project Features

- Dredge approximately five to 6.5 million cubic yards from the Mississippi River to create and nourish marsh in one of two sites.
- Existing ridges and interior canal spoil banks would provide containment with minor reinforcing.
- Install sediment delivery pipeline through Joe Brown Canal.

Project Benefits

- Create between approximately 555 acres of marsh (Site 2) and 650 acres (Site 1)
- Nourish approximately between 370 acres (Site 2) and 650 acres (Site 1) of marsh
- Provide additional protection to the 40-Arpent levee
- Provide additional protection to Rive aux Chene and Tigers Ridge.

Coast 2050 Objectives

- Dedicated Dredging for Wetland Creation

Project Costs

- Estimated construction with 25% Contingency: Approximately \$18,000,000
- Fully Funded Cost: \$20,000 to \$25,000

Region 2 – Mississippi River Delta Basin

Proposed Projects

R2-MR 1 Red Pass Crevasses Project

DRAFT PPL17 PROJECT NOMINEE FACT SHEET

December 15, 2006

Project Name

Red Pass Crevasses

Coast 2050 Strategy

Coastwide Strategy: Restore/sustain marshes

Regional Ecosystem Strategy #7: Continue building and maintaining delta splays

Project Location:

Region 2, Mississippi River Basin, Plaquemine Parish, southwest of Venice

Problem

Marshes on either side of Red Pass are rapidly deteriorating, likely due to a combination of reduced sediment input, high subsidence, and effects of oil and gas canal development. An opportunity exists to maximize land-building and marsh-maintenance by enlarging the several small crevasses connecting it to areas to the north and south.

Proposed Project Features

Enlarge existing small crevasses, or construct new ones, to move freshwater, sediment, and nutrients into shallow open water areas to build new land, and sustain existing and new land.

Goals

- Create 200 acres of emergent marsh over the project life
- Reduce the rate of loss of emergent wetlands by >75%
- Increase SAV cover in open water
- Increase the area of shallow water habitat in the project area.

Preliminary Project Benefits:

- >200 net ac of marsh over 20 years
- Increased SAV cover
- Increased shallow water habitat

Identification of Potential Issues

There may be landrights issues and oil/gas canal/pipeline issues.

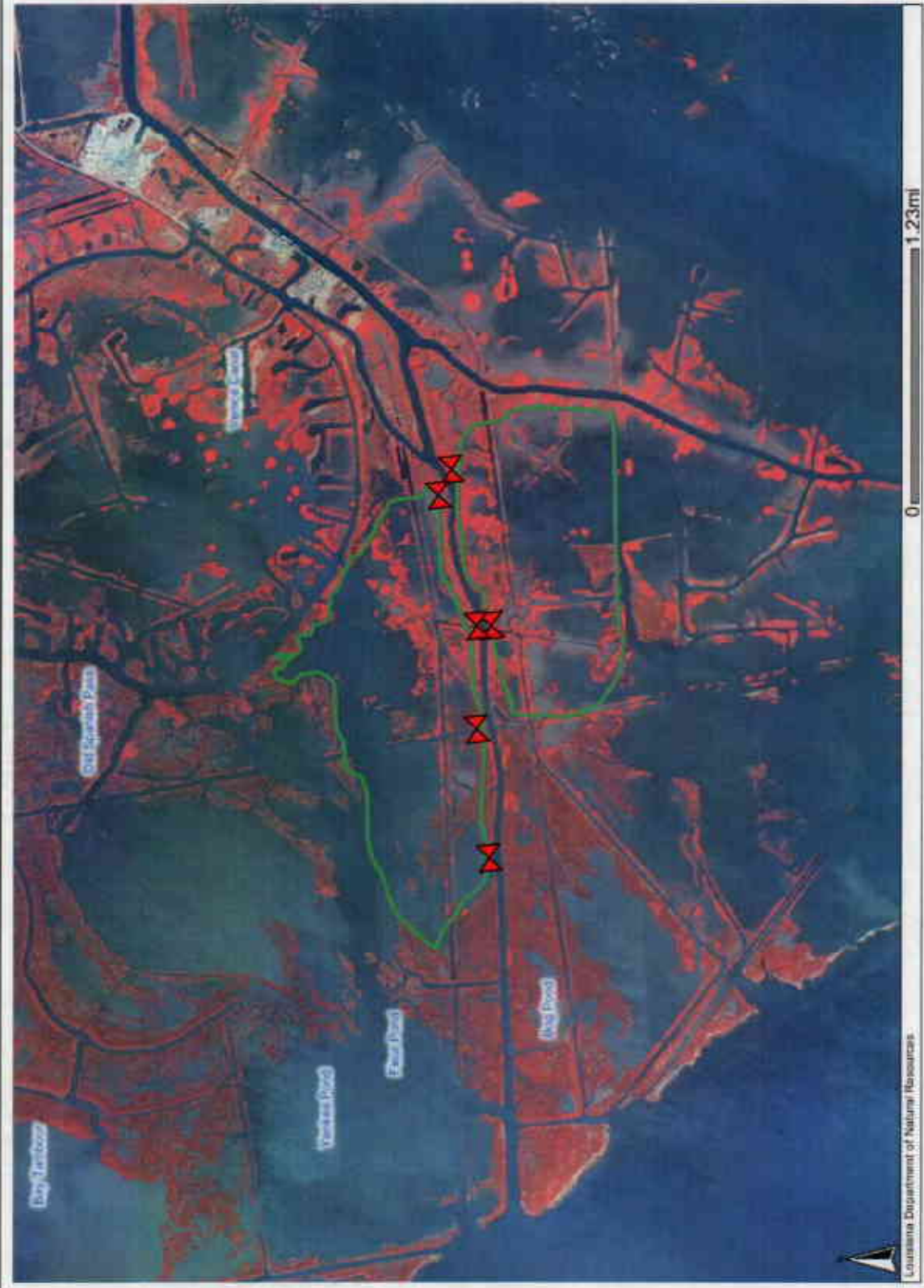
Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$1 million

Preparer of Fact Sheet

Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov

Brad Crawford, EPA (214)665-7255; Crawford.brad@epa.gov



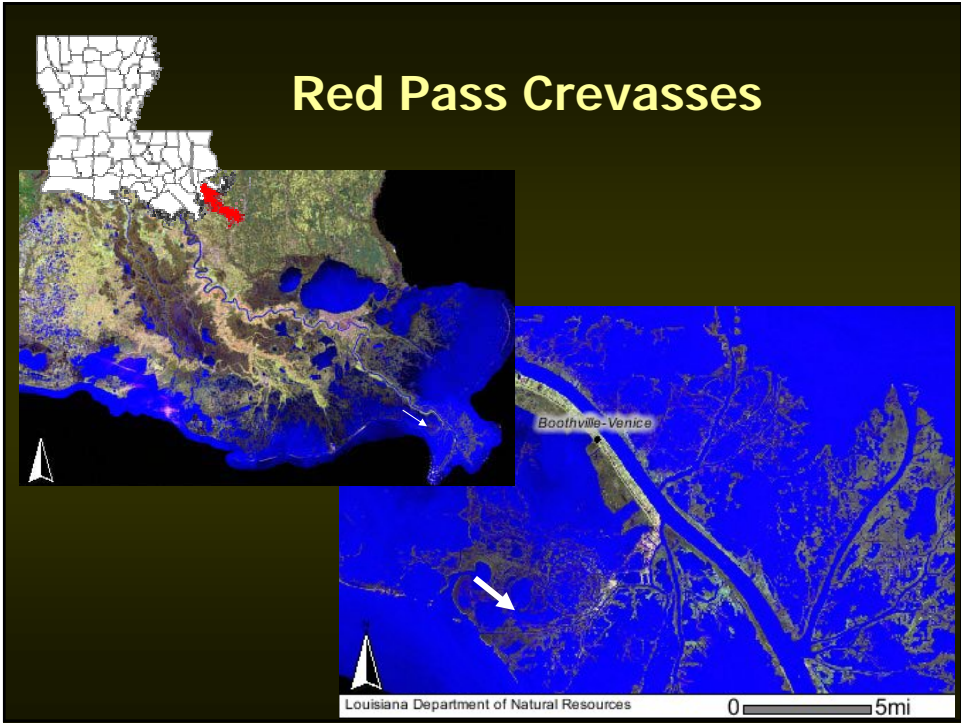
Louisiana Department of Natural Resources

Data Source:
 LA Department of Natural Resources
 Map Date: December 14, 2006
 Image Data: 2005 Coastal Photographs



Crevasse
 Project Influence Area

**PPL 17 Proposed
 Red Pass Crevasses**



Red Pass Crevasses

Goals:

- Create emergent marsh habitat
- Reduce rate of wetland habitat loss in the project influence area
- Increase SAV cover in open water
- Increase area of shallow water habitat

Cost/Benefits:

- >200 acres of marsh created over 20 years
- Increased SAV and shallow water habitat
- Est. Cost + contingency:
~ \$1 million



Red Pass Crevasses

Questions?

Ken Teague
EPA Region 6
(214) 665-6687
Teague.Kenneth@epa.gov



R2-MR 2 Pass a Loutre Restoration Project

PPL17 PROJECT NOMINEE FACT SHEET
January 11, 2007

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 artery off the Mississippi River at Head of Passes. This pass carried sediments that created and maintained in excess of 120,000 acres of marsh. With the advent of hopper dredging to maintain the Mississippi River navigation channel, heavy sediments were dumped into Pass a Loutre to facilitate removal of the unwanted material. As a result, much of the historic 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.

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.

Proposed Project Features

Pass a Loutre would be dredged for approximately 8 miles from Head of Passes to just east of Southeast Pass to restore channel flow to historic levels. Approximately 6,000,000 yd³ of material would be dredged and used to create approximately 670 acres of marsh Delta NWR and Pass a Loutre WMA. Preliminary design includes a channel with a 300-ft bottom width and 30-ft depth. Containment dikes would be constructed where needed and cleanout of existing crevasses.

Preliminary Project Benefits

- 1) Approximately 670 acres of marsh would be created from initial channel construction. Indirect benefits would occur over approximately 60,000 acres of marsh and open water habitats as a result increased freshwater and sediment delivery.
- 2) The total net acres protected/created over the project life would be between 800-1,000 acres.
- 3) The assumed reduction in marsh loss over the entire project area is approximately 20%.
- 4) The project would help maintain several natural levee ridges and lake/bay rims. The project would introduce sediment along several passes that have been sediment starved for several decades and are subsiding.

5) The project would reduce marsh loss and create new wetlands between South Pass and Pass a Loutre. 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) The project would provide a synergistic effect with the Delta Wide Crevasses Project (MR-09) 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 much greater sediment carrying capacity will feed those crevasses and accelerate their marsh-building potential.

Identification of Potential Issues

Several pipelines and one power line cross Pass a Loutre. Impacts to the Mississippi River navigation channel would need to be investigated via modeling and other analyses.

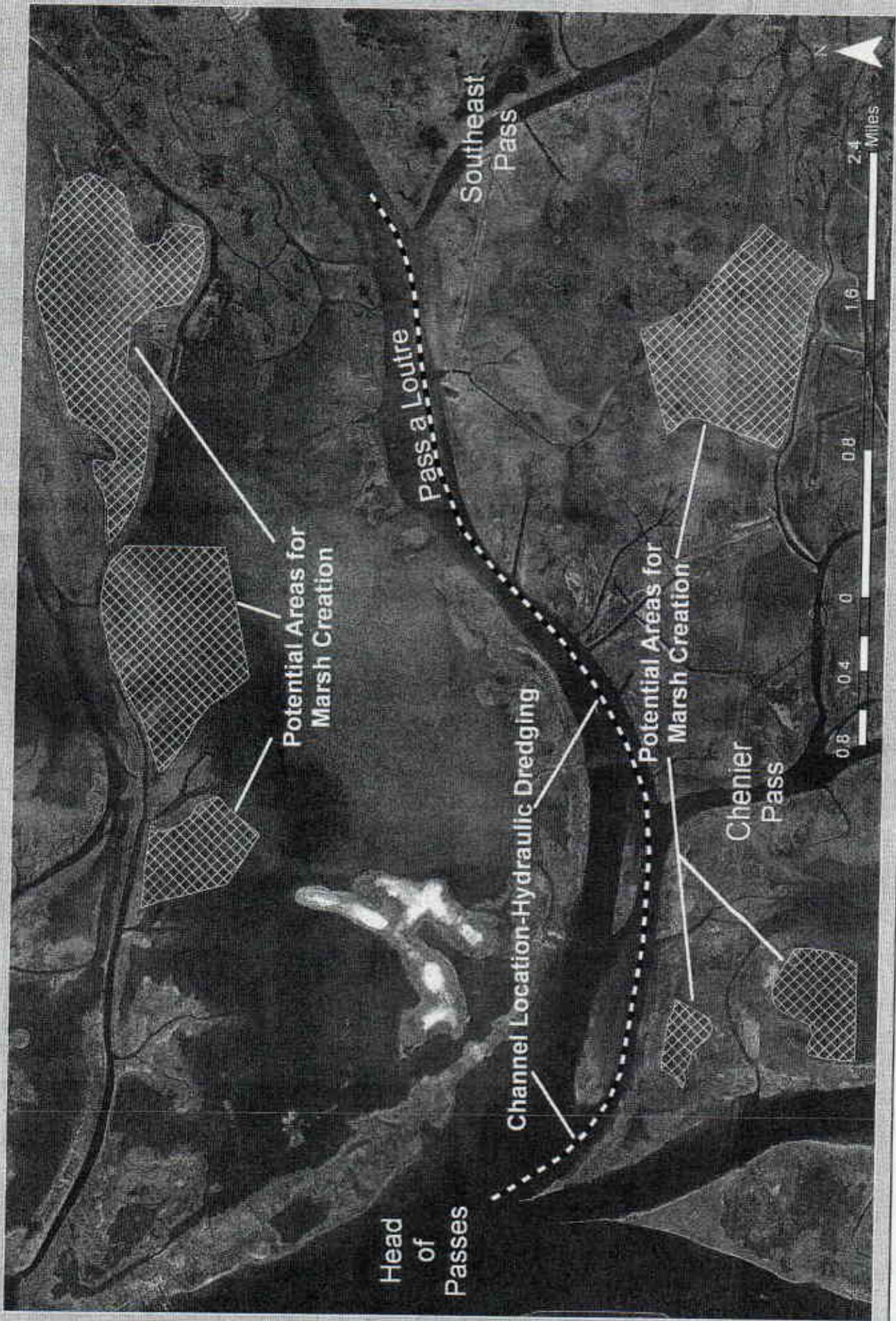
Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$21,937,500.

Preparer of Fact Sheet

Kevin Roy, U.S. Fish and Wildlife Service, 337-291-3120 email: kevin_roy@fws.gov
Todd Baker, La. Dept. of Wildlife and Fisheries, 337-962-2992, tbaker@wlf.louisiana.gov

PPL17 - Region 2 - Mississippi River Delta Basin Pass a Loutre Restoration



Region 3
Morgan City
January 10, 2006



ATTENDANCE RECORD



DATE(S) January 10, 2007 9:00 A.M.	SPONSORING ORGANIZATION COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LOCATION Morgan City Auditorium West Concourse 728 Myrtle St. Morgan City, LA
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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION III

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	TELEPHONE NUMBER
Michelle Fischer	GIS Specialist IAP World Services	(225) 578-7482
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Brod Crawford	US EPA	214 645 7255
Kevin Roy	USFWS	337-291-3120
Robert Dubois	" "	337-291-3127
RALPH LIBERMAN	LDNR/CRD	225-342-1952
Ken Teague	EPA	214-665-6687
Ronny Paille	USFWS	337-291-3117
FAY LACHNEY	USACE	504-862-2309
Dore Beck	USACE	504-862-2400
Honora Bures	LDNR/CRD	225-342-4103
MIKE CARLOSS	LDWF	337-373-0032
Edmond Mouton	LDWF	337-373.0032
Rickey Cheronin	Net Marine LLC	985-677-0309
Sue Thomas	LDWF	
Vince Melvin	Lafayette Parish	985-652-4666
Randy Moertle	Avery Island Inc.	(985) 532-6398
DAVID LINDQUIST	LDNR/CRD	225-342-9683
Mandy Green	LDNR/CRD	225-342-1357
Kelley Templet	LDNR/CRD	225-342-1592
Susan Hill	LDNR/CRD/RTS/ER	225.342.1359
Braire Hutchinson	Geographer USGS	225 578 7490

**Region 3
Regional Planning Team Meeting
10 Jan 07
Morgan City, LA**



**1. Welcome
and Introductions**



RPT Region 3
Leader:
Ronny Paille - FWS

Announcements

- First round of RPT meetings (Jan. 9 - 11, 2007) will be held to accept project and demo nominations. **NO VOTING** will take place at these meetings.
- Voting to select project nominees for all basins will occur at the Coast-wide Voting Meeting, on Feb. 7, 2007, in Baton Rouge at the LDWF Building (2000 Quail Dr.).
- Parish representatives are asked to identify themselves and announce who will cast votes at the coast-wide voting meeting.
- Agencies will be assigned responsibilities for preparing nominee fact sheets after the coast-wide voting meeting.

Announcements

Eligible parishes for basins in Region 3 include:

Terrebonne Basin

St. Mary Parish
Terrebonne Parish
Assumption Parish
Lafourche Parish
Iberia Parish
St. Martin Parish

Atchafalaya Basin

St. Mary Parish
Iberia Parish
Terrebonne Parish

Teche-Vermilion Basin

St. Mary Parish
Iberia Parish
Vermilion Parish

2. PPL17 Selection Process and Ground Rules



CWPPRA PPL 17 Process Summary

- RPT meetings Jan. 9-11, 2007 to accept ideas for projects and demos (no limit on number of projects).
- Projects must support a Coast 2050 Regional or Coastwide Strategy.
- At the coast-wide voting meeting on Feb. 7, 2007. RPTs will select 2 nominees per basin (3 each in Barataria and Terrebonne).
- RPTs will select 6 demo projects coast-wide.
- Selection is by consensus, if possible; if not by agency/ parish ranked vote.

CWPPRA PPL 17 Process Summary

- Following the coast-wide voting meeting, an agency will be assigned to each project.
- The agency will prepare a fact sheet (1 page + map) so nominees can be evaluated for costs/ benefits.
- Engineering Work Group will estimate preliminary fully funded cost.
- Engineering and Environmental Work Groups will review draft features and benefits for each nominee.
- Work groups will also review demo projects and verify that they meet demo criteria.

CWPPRA PPL 17 Process Summary

- Matrix of costs/benefits transmitted to Tech. Comm. & Coastal Protection and Restoration Authority (CPRA).
- Tech. Comm. meets Mar. 14, 2007 at 9:30 am at the Corps in New Orleans to select up to 10 PPL 17 candidate projects and up to 3 demos.
- Tech. Comm. assigns agencies to candidate projects to develop costs/benefits for Phase 0.
- Workgroups conduct field trips to evaluate benefits and calculate fully funded costs for candidates.

CWPPRA PPL 17 Process Summary

- Public meetings will be Aug. 29, 2007 in Abbeville and Aug. 30, 2007 in New Orleans to present results of Phase 0 analysis
- On Sept. 12, 2007, the Tech. Comm. will select up to 4 candidate projects (and possibly demos) to present to the Task Force for Phase 1 funding.
- On Oct. 17, 2007, the Task Force will meet to select up to 4 projects for Phase 1 funding.

3. Region 3 Coast 2050 Regional Strategies



Projects nominated should be:

- consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies
- consider CWPPRA's prioritization criteria

Restore Swamps

- Improve hydrology and drainage in Verrett Subbasin

Restore and Sustain Marshes

- Maximize land building in Atchafalaya Bay
- Lower water levels in upper Penchant Marshes
- Increase transfer of Atchafalaya River water to lower Penchant tidal marshes
- Enhance Atchafalaya River water influence to central Terrebonne marshes
- Establish multipurpose control of HNC Lock (freshwater and sediment distribution, salinity control, hurricane protection and navigation)
- Stabilize banks of navigation channels for water conveyance and erosion control

Restore and Sustain Marshes

- Dedicated delivery of sediment for marsh building by any means feasible – deliver sand from offshore or the river to build land in Timbalier Bay area.
- Construct large conveyance channel from the Mississippi River parallel to Bayou Lafourche to divert up to 100,000 cfs to create a delta lobe in upper Timbalier Subbasin, provided that any project related navigation feature not impede or interfere with the land building capacity of the channel

Restore and Protect Bay, Lake and Gulf Shorelines and Barrier Islands

- Maintain shoreline integrity and stabilize critical areas of Teche-Vermilion Bay systems, including Gulf shoreline
- Maintain shoreline integrity of Caillou, Terrebonne and Timbalier Bays
- Restore and Maintain the Isles Dernieres and Timbalier barrier island chains

Resolve Vermilion-Cote Blanche Bays salinity and turbidity

- Optimize GIWW flow into marshes and minimize direct flow into bays
- Maintain Vermilion, East and West Cote Blanche Bays as brackish
- Reduce sedimentation in bays
- Create artificial reef complex, including one from Pt. Chevreuil toward Marsh Island

Coast 2050 Coastwide Strategies



- Beneficial Use of Dredged Material
- Dedicated Dredging for Wetland Creation
- Herbivory Control
- Stabilization of Major Navigation Channels
- Management of Bay/Lake Shoreline Integrity
- Management of Pump Outfall
- Vegetative Planting
- Maintain or Restore Ridge Function
- Terracing

4. PPL17 Project Nominations



Demonstration Projects

- Demonstrates a new technology
- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Are unique and not duplicative in nature
- Engineering/Environmental Workgroups will select sites for proposed demonstration projects
- The RPTs will select 6 demos at the Feb. 7th coast-wide voting meeting. The Tech. Comm. will select up to 3 demos in March 07
- PPL16 demos must be **re-nominated** for PPL17

5. Announcement of Coast-wide Voting Meeting



Coast-wide Voting Meeting

- **Feb. 7, 2007** in Baton Rouge to choose 2 nominees per basin (3 in Barataria and Terrebonne), and 6 demos.
- Parishes within each basin are asked today to identify who will vote at the coast-wide meeting.
- No additional projects can be nominated at the coast-wide meeting.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- No public comments accepted at the coast-wide meeting (public comments will be heard today).

Coast-wide Voting Meeting

- Each officially designated parish representative, each Federal agency, & DNR will have one vote.
- Voting will be by ranked vote.
- Each voting entity will be provided a ballot.
- Each voting entity will provide a ranked score for all projects – the highest ranking project will receive the highest vote and the lowest will receive a vote of “1”.
- Points will be totaled for all projects within each basin.

Coast-wide Voting Meeting

- The two nominees per basin (three in Barataria and Terrebonne) receiving the highest vote will be included in the list of 20 nominee projects.
- All demo projects will be voted upon in same manner with one coast-wide ballot.
- 15 minutes will be allowed for voting in each basin and for demos.

6. Announcements of Upcoming Meetings



PPL 17 Upcoming Meetings

Coast-wide Voting Mtg, 7 Feb 07, Baton Rouge
20 nominees and 6 demos selected

Technical Committee Mtg, 14 Mar 07, New Orleans
Selection of 10 candidates and up to 3 demos

Public Meetings
29 Aug 07, Abbeville
30 Aug 07, New Orleans

Technical Committee Mtg, 12 Sep 07, New Orleans
Recommend up to 4 projects for Phase I funding

Task Force Mtg, 17 Oct 07, New Orleans
Final selection of projects for Phase I funding

7. Adjourn



Region 3 – Atchafalaya Basin

Proposed Projects

**R3- AT 1 East Atchafalaya Bay Sediment
Trapping Project**

RE3 AT-1 PPT
LDWF/Carloss

PPL17 PROJECT NOMINEE FACT SHEET

January 10, 2006

Project Name and Number

East Atchafalaya Bay Sediment Trapping Project

Coast 2050 Strategy

Region 3 - 2. Increase deltaic land building where feasible; 12. Maintain shoreline integrity and stabilize critical areas of Atchafalaya Bay shoreline.

Project Location

Region 3, Atchafalaya Basin, St. Mary/Terrebonne Parish, NE portion of Atchafalaya Bay adjacent to Palmetto Bayou.

Problem

Delta development in the East Atchafalaya Bay has been slow due to the high energy environment and finer sediment. However, development may be rapidly induced with assistance of a sediment trapping mechanism. The shoreline extending from Plum Island Point to Creole Bayou continues to erode at approximately 11 feet per year (USGS 2004). Vast freshwater floating marsh habitat located behind the existing shoreline is increasingly becoming prone to storms and amplified tidal influences. Enhancement of delta development in this area will rapidly create new marsh, stabilize the deteriorating shoreline, and protect existing marsh that has been increasingly vulnerable to the energies of the open bay system.

Proposed Solution

Construct approximately 60,000 linear feet of earthen terraces in the East Atchafalaya Bay extending out from Palmetto Bayou and Plumb Bayou into the bay. The terrace construction will consist of a bifurcated channel design to both direct flows and mimic deltaic formation.

Goals

The goals of the project are to 1) reduce shoreline erosion, 2) establish submerged aquatic vegetation and emergent marsh within the terraced area, and 3) encourage expanded delta development.

Preliminary Project Benefits

Approximately 35 acres of marsh will be immediately created with the construction of terraces. Because of the high suspended load in the area, it is expected that this area will expand as much as 5 times original area during the life of the project (175 acres). An additional 90 acres will be protected through the offset of wave energy and deterioration of adjacent shorelines.

Identification of Potential Issues

The proposed project has potential flowline issues.

Preliminary Construction Costs

Approximately \$2.7 million

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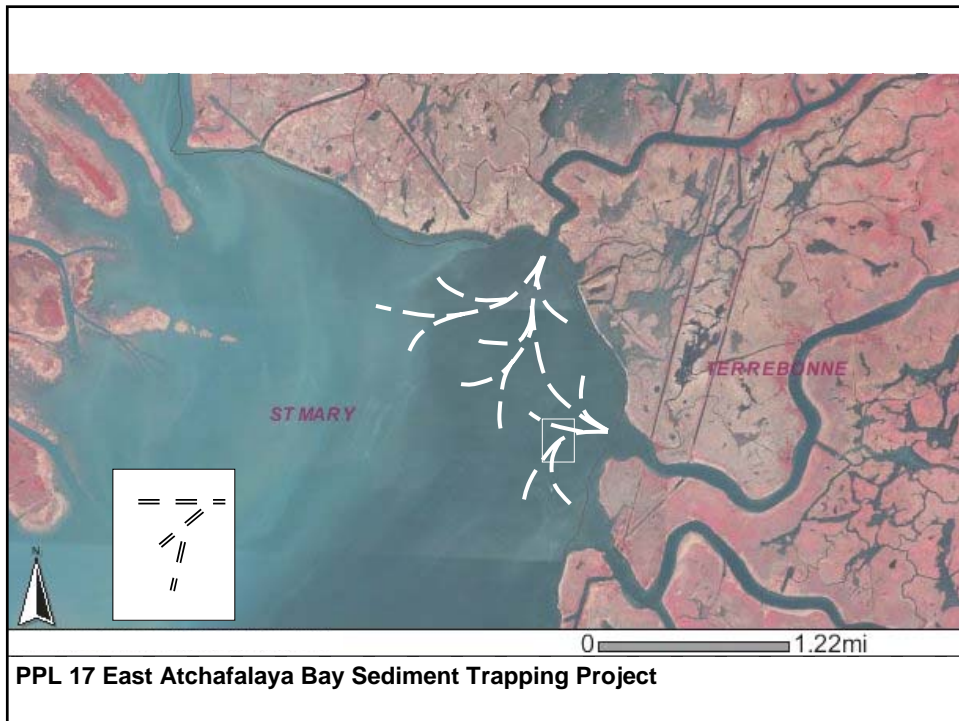
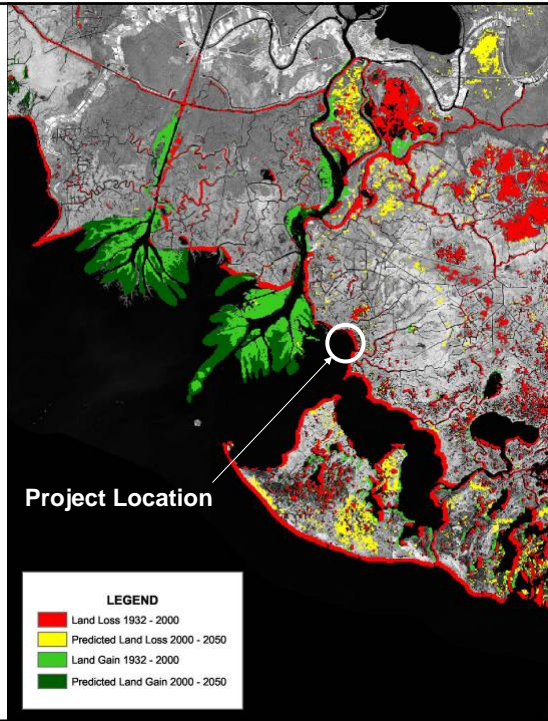
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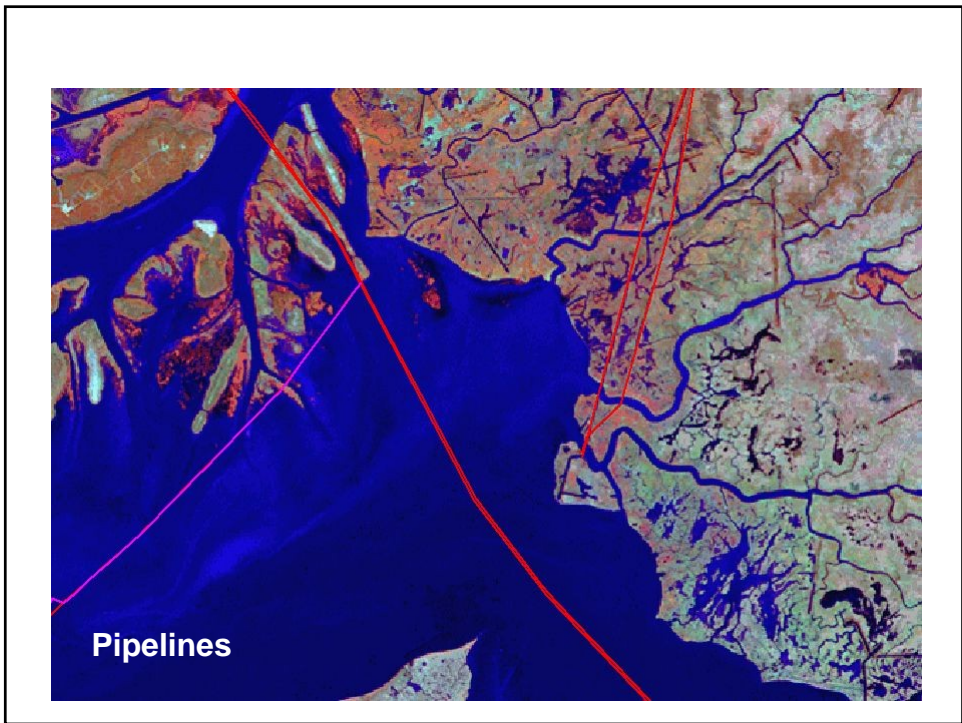
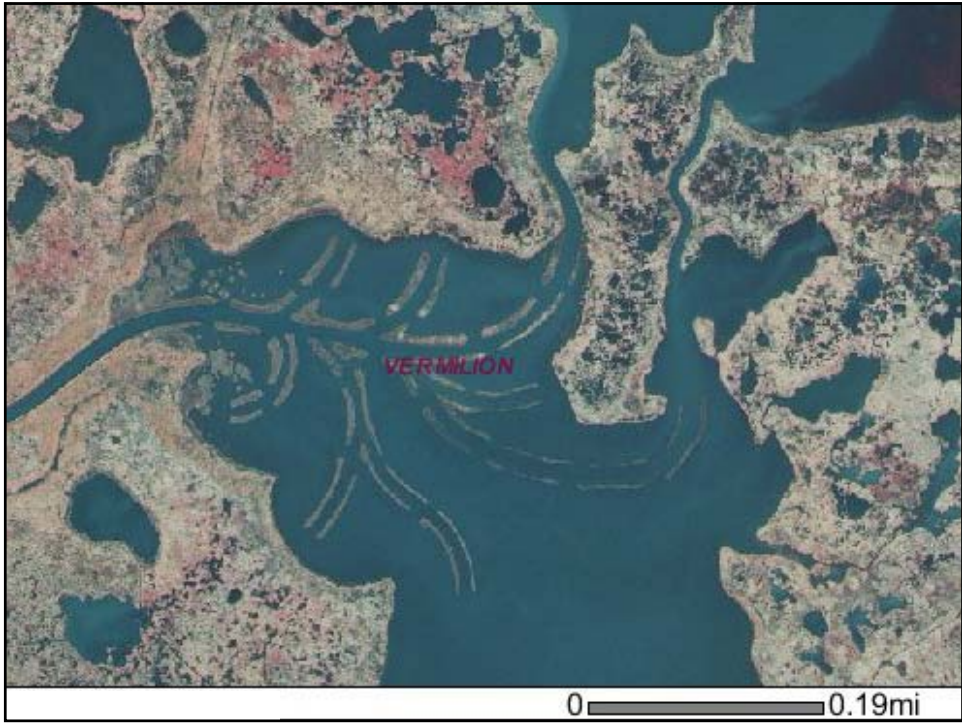


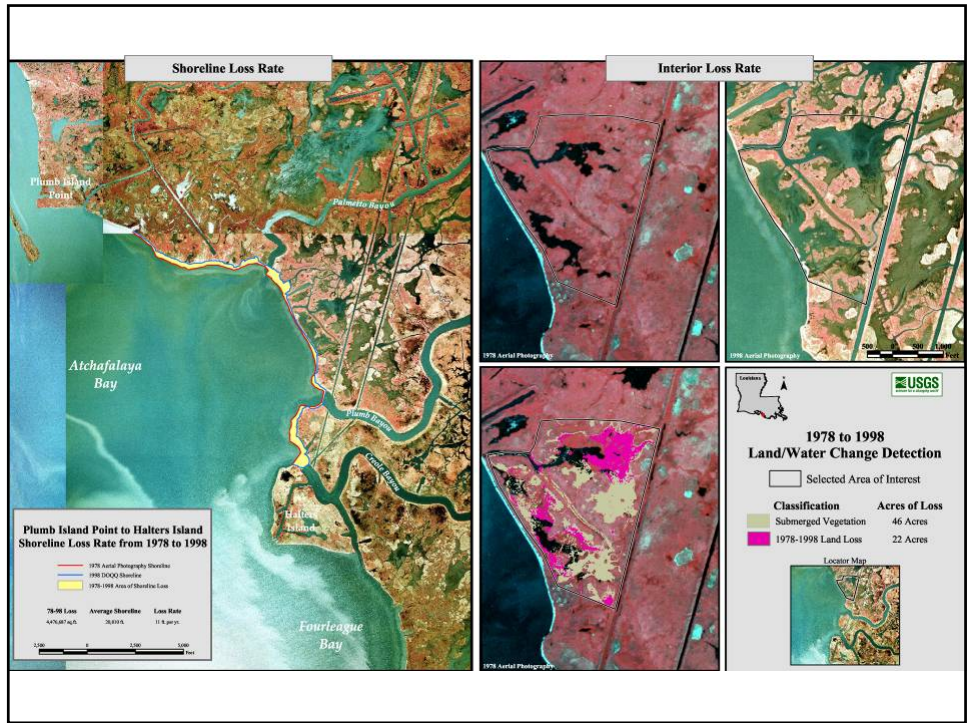
East Atchafalaya Bay
Sediment Trapping
St. Mary Parish, Louisiana
PPL-17



**PPL 17
East Atchafalaya Bay
Sediment Trapping
Project**







**R3- AT 2 Point Chevreuil Shoreline Protection
Project**

REB AT-2

PPT
NRCS
STEMMANS

PPL17 PROJECT NOMINEE FACT SHEET

January 10, 2007

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



East Cote
Blanche Bay

Bayou Sale

Hog Bayou



Shoreline Protection
Near Existing Shoreline

Pointe Chevreuil

Atchafalaya Bay

Shoreline Protection
Off Shoreline to allow
Sediment to rebuild marsh
along existing shoreline.

Shoreline Protection
TV-20 Bayou Sale Shoreline Protection

0 3000 6000 Feet

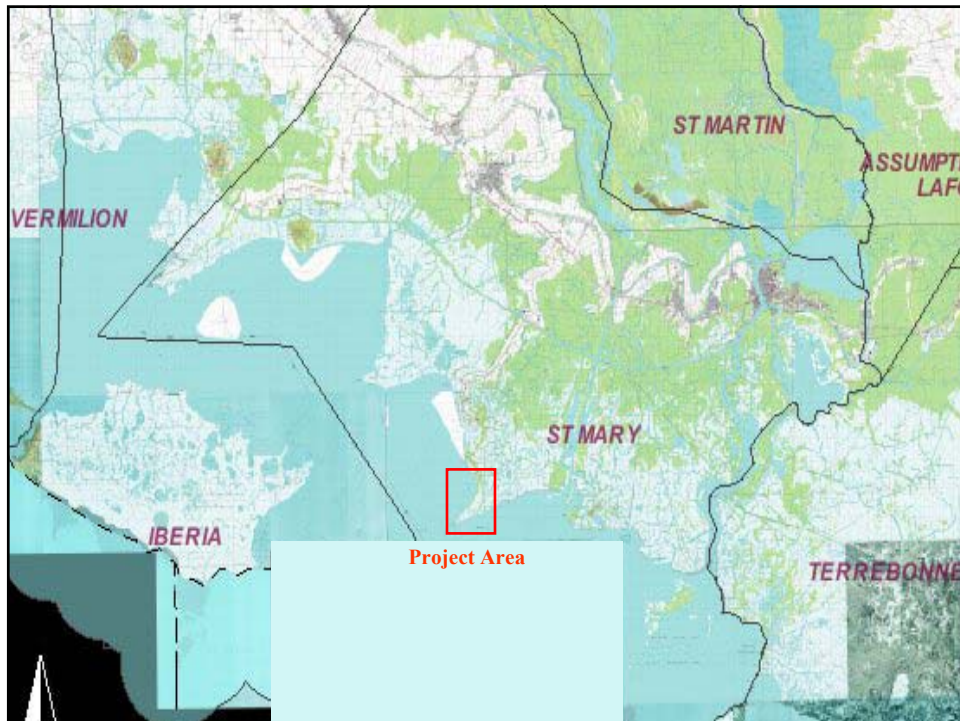
PPL 17 NOMINEE PROJECT SUBMISSION

REGION III

ATCHAFALAYA BASIN

POINT CHEVREUIL SHORELINE PROTECTION

ST MARY PARISH





POINT CHEVREUIL SHORELINE PROTECTION

ST MARY PARISH

Problems:

- Shoreline erosion rate of 13.5 feet per year
- Loss of critical natural ridge function and marsh habitat

Project Features:

- 20,000 LF of armored protection parallel to existing shoreline

Project Benefits:

- Directly protect ~ 124 ac of intermediate marsh
- Prohibit loss of rare coastal forested habitat
- Synergistic effect with TV-20 Bayou Sale CWPPRA Project

**R3- AT 3 Deer Island Pass Sediment Delivery
Project**

PPL17 PROJECT NOMINEE FACT SHEET

January 10, 2007

Project Name

Deer Island Pass Sediment Delivery

Coast 2050 Strategy

Regional Strategy – Maximize land building in Atchafalaya Bay

Regional Strategy – Dedicated delivery of sediment for marsh building

Project Location

Region 3, Atchafalaya Basin, St. Mary Parish, northern portion of the Atchafalaya River Delta near the mouth of Deer Island Bayou

Problem

A shoal between the LAR and the head of Deer Island Pass does not allow the efficient flow of water and sediment from the river into northeastern Atchafalaya Bay. Natural accretion is occurring in the bay, but a more efficient delivery of sediment to that area would enhance marsh-building processes. Also, wave action is resulting in erosion along the eastern bank of the LAR north of Deer Island Bayou. A GIS comparison of the 1990 and 2005 shoreline position reveals that erosion of the LAR east bank ranges from 12 feet per year to a maximum of 22 feet per year.

Goals

The project would accelerate deltaic land-building in the northeast portion of Atchafalaya Bay which would result in the formation of 264 acres of emergent wetlands over the project life. The project would also create 68 acres of marsh with dredged material from the construction of a sediment delivery channel. The created marsh will protect existing marsh from erosion along the eastern bank of the LAR. In addition, maintenance of the sediment delivery channel would create a total of 35 acres of marsh over the project life.

Proposed Project Features

A 5,280-foot-long, 280-foot-wide, and 12-foot-deep sediment delivery channel will be hydraulically dredged across the shallow flat between the LAR and the northern end of Deer Island Pass. Dredged material from the sediment delivery channel will be placed in three marsh creation cells (68 acres total) along the eastern bank of the LAR. The sediment delivery channel will be re-dredged at target years 6, 11, and 16 to maintain channel efficiency.

Preliminary Project Benefits

1) Initial construction would result in the creation of 68 acres of marsh. Shoreline erosion along the eastern bank of the Lower Atchafalaya River would be prevented and directly protect 50 acres of marsh. An additional 35 acres of marsh would be created with material dredged during maintenance events. Indirect benefits would occur through increased delta growth and reduced shoreline erosion along the northeast Atchafalaya Bay shoreline in the vicinity of Palmetto Bayou. A preliminary estimate is that the project would promote development of 264 additional acres of marsh.

2) Total net acres protected/created by the project are 216 acres.

- 3) Shoreline erosion along the east bank of the LAR would be completely stopped. Land building rates in northern Atchafalaya Bay would increase significantly.
- 4) The project would help to maintain the rim of Atchafalaya Bay, a structural component of the ecosystem.
- 5) The project would not protect critical or non-critical infrastructure.
- 6) This project would work synergistically with other projects on the Atchafalaya River Delta to promote land building such as Atchafalaya Sediment Delivery, Big Island Mining, and Castille Pass Sediment Delivery.

Identification of Potential Issues

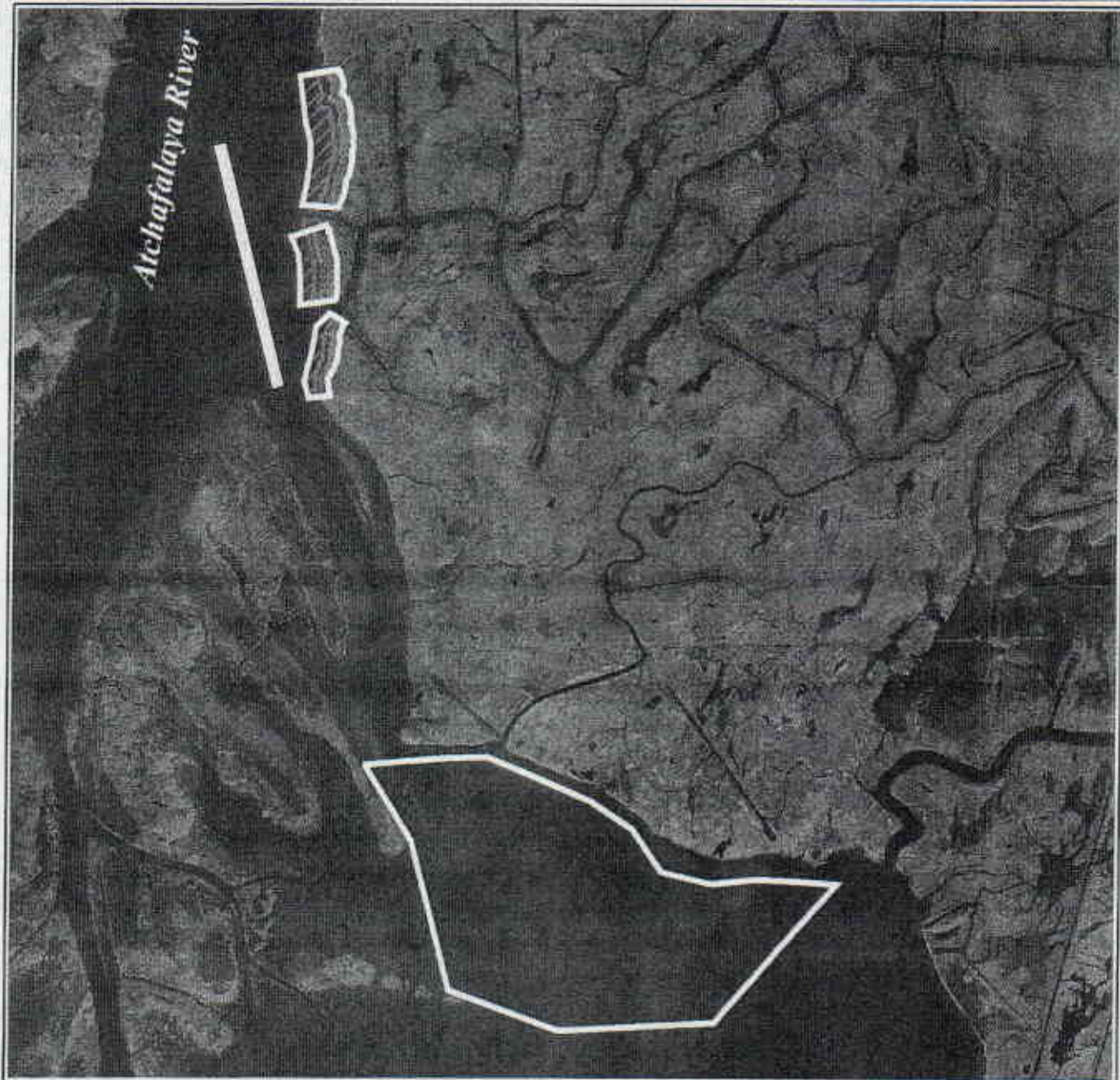
The greatest potential issue associated with this project would be the potential for project-induced sedimentation of the LAR navigation channel. That issue would be resolved through hydrologic modeling and associated consultations with the Corps, as previously done when engineering other CWPPRA projects within the Lower Atchafalaya River Delta. Reclamation may be another potential issue.

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$ 3,022,569. The estimated fully funded cost is \$8,775,000.




Preparer of Fact Sheet

Kevin Roy, U.S. Fish and Wildlife Service, 337-291-3120 email: kevin_roy@fws.gov



Deer Island Pass Sediment Delivery (PPL16 Candidate Project)



-  Marsh Creation *
-  Sediment Delivery Channel *
-  Project Boundary

* denotes proposed features



Scale 1:47,000



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

Image Source:
2005 Digital Orthophoto Quarter Quadrangle

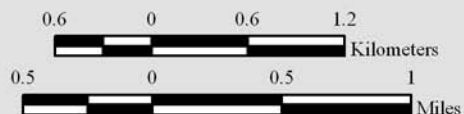


Deer Island Pass Sediment Delivery (PPL16 Candidate Project)



- Marsh Creation *
- Sediment Delivery Channel *
- Project Boundary

* denotes proposed features



Scale 1:47,000



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

Image Source:
2005 Digital Orthophoto Quarter Quadrangle

**R3- AT 4 Point Au Fer to East Side of
Atchafalaya River (Navigation Channel)
Project**

PPL17 Project Nominee Fact Sheet

January 24, 2007

Project Name:

Point Au Fer to East side of Atchafalaya River (Navigation Channel) Project

Coast 2050 Strategy:

Region 3 Regional Ecosystem Strategy #16: Create an artificial reef complex including one from Pt. Chevreuil toward Marsh Island.

Project Location:

Region/Subprovince 3, Atchafalaya Basin, St. Mary Parish western tip of Point Au Fer Island, along the Gulf of Mexico

Problem:

The oyster shell reefs that composed the historic Atchafalaya Bay Barrier Reef were removed by shell dredging during the past several decades to gather aggregate for industrial construction purposes. With the loss of the reef, Atchafalaya Bay and surrounding bays have been subjected to increased wave action, increased fluctuation of water levels, and potentially, less sediment from the Atchafalaya River may be retained in the estuary/wetland system, instead being flushed onto the continental shelf off Atchafalaya Bay. Loss of the reef has also resulted in increase shoreline erosion at Point Au Fer. By reducing water exchange and wave energy, the proposed reef structure may increase deltaic growth within the Lower Atchafalaya River Delta, and may increase suspended sediment introduction to Terrebonne Basin marshes adjoining Atchafalaya Bay and Four League Bay.

Goals:

1. Create approximately 1 mile of riprap dike beginning at the breach east of Point Au Fer and continuing towards Eugene Island along the Gulf spit shorelines
2. Create approximately 2.5 miles of submerged breakwater from Point Au Fer towards Eugene Island
3. Reduce shoreline erosion along parts of the eastern shoreline of Atchafalaya Bay, and the outer reaches of the eastern side of the Atchafalaya Delta
4. Reduce wave height in Atchafalaya Bay
5. Increase sediment retention in Atchafalaya Bay

Proposed Solutions:

Create a breakwater complex to replace the natural reef that was mined for its shell by installing a foreshore riprap dike along the Gulf spit shorelines and a slightly submerged breakwater extending from Point Au Fer westerly towards Eugene Island (in advance of the Navigation Channel). As with any fixed height structure, maintenance events are anticipated not only due to the low bearing capacity substrate, but also to counteract the effects of rise in sea level.

Preliminary Project Benefits:

The total acreage benefited both directly and indirectly is estimated to be 100 acres. It is estimated 50 acres of wetlands will be protected over the project life. The anticipated loss rate reduction throughout the area of direct benefits over the project life is estimated to be $\leq 25\%$. The proposed structures should restore physical protection functions of historic reefs.

Identification of Potential Issues:

The proposed project has the following potential issues: O&M, utilities/pipeline

Preliminary Construction Costs:

Estimated Construction Cost	\$ 23,925,725
Estimated Construction Cost + 25% contingency	\$ 29,907,156

Preparer(s) of Fact Sheet:

Tim Landers, EPA Region 6, (214) 665-6608, landers.timothy@epa.gov



Louisiana Department of Natural Resources

0 0.84mi



Proposed Project Features:



Riprap dike



Submerged Breakwater

**PPL 17 Proposed
Point Au Fer to East Side of
Atchafalaya River (Navigation
Channel) Project**

Region 3 – Terrebonne Basin

Proposed Projects

**R3 –TE 1 North Catfish Lake Hydrologic
Restoration and Shore Protection Project**

RJ TE-1 Lafourche Pn
PPT

PPL 17 PROJECT NOMINEE FACT SHEET

1/10/2007

Project Name

North Catfish Lake Hydrologic Restoration 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. Strategy 13. Construct interior reefs to protect lake shoreline and/or for restoring hydrology.

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 to major tidal exchange points and reduce the tidal prism that has increased dramatically as a result of large navigation channel cuts and deterioration of the north shore of Catfish Lake. The project will reduce salinity by decreasing predominant tidal influence from the south and increase the freshwater influence of Grand Bayou Blue from the north. The project will stop shoreline erosion along the north shore of Catfish Lake.

Proposed Project Features

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 points to the west of the project extent. Some marsh will be created through use of flotation material and the newly protected shoreline will be planted with smoothcord grass.

Goals

The project will reduce the 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 hydrologic 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 shoreline protection will stop 27.7 ft of average annual erosion across 27,500 linear feet which is equivalent to 17.4 acres per year or 349 acres over 20 years. The restoration of historic hydrology between Bayou Lafourche and Bayou Point au Chien ridge will reduce salinities by significantly reducing the tidal passage through large navigation cuts and increase the effectiveness of the freshwater introduction modifications currently being planned for Grand Bayou Blue.

Identification of Potential Issues

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

Preliminary Construction Costs




\$5.5 million

Preparer of Fact Sheet

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



Legend

-  Rock_Lined_Barge_Bay
-  Plug
-  Shoreline_Protection

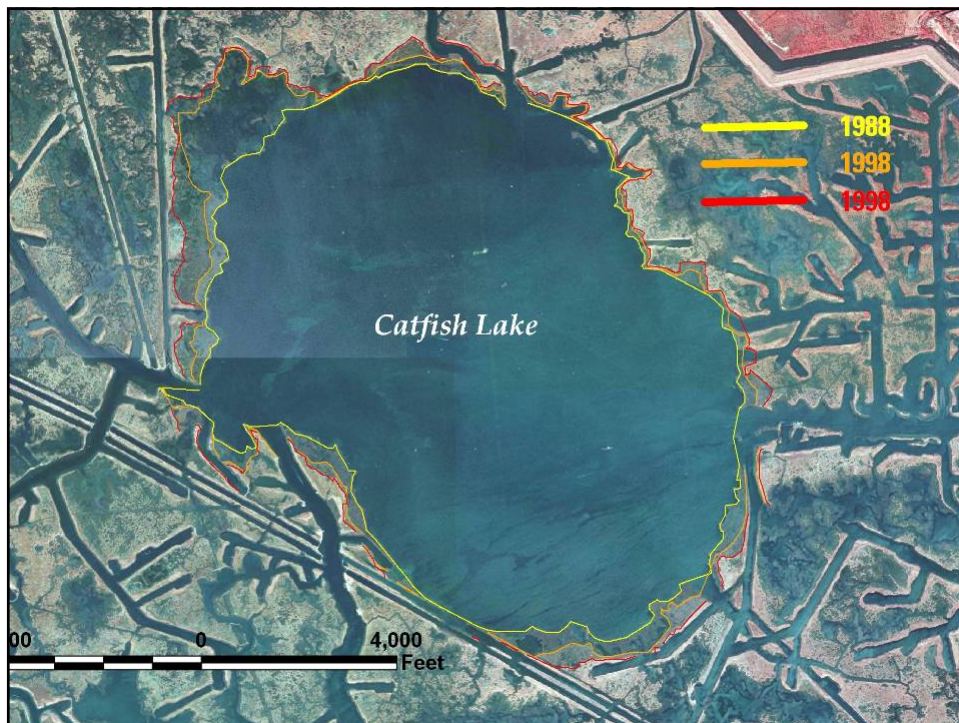
North Catfish Lake
Hydrologic Restoration and Shoreline Protection
Lafourche Parish, Louisiana
PPL-17

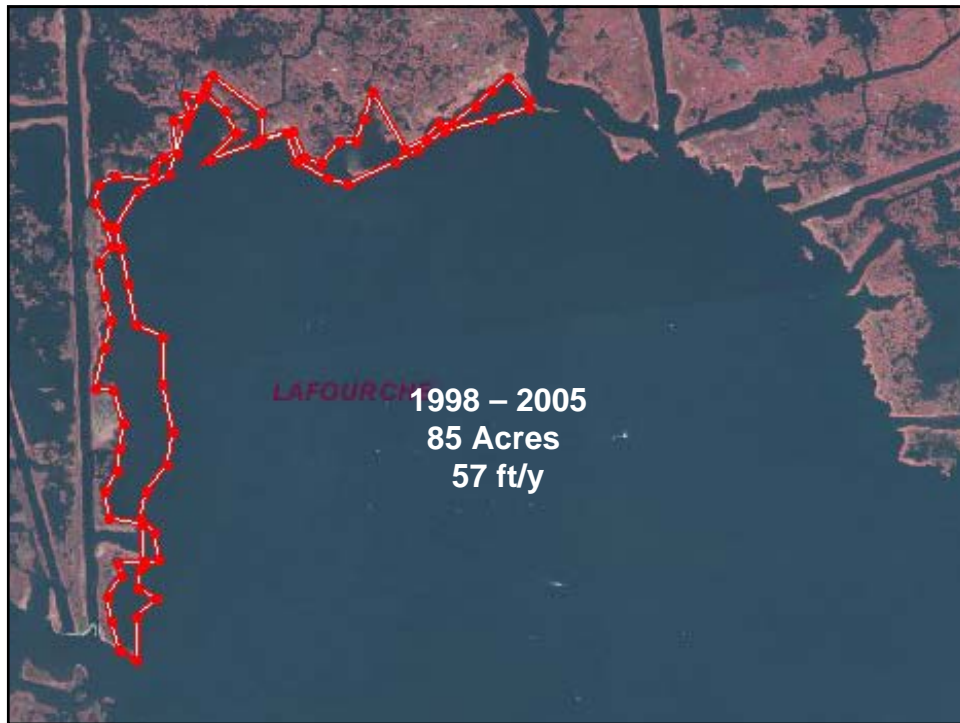
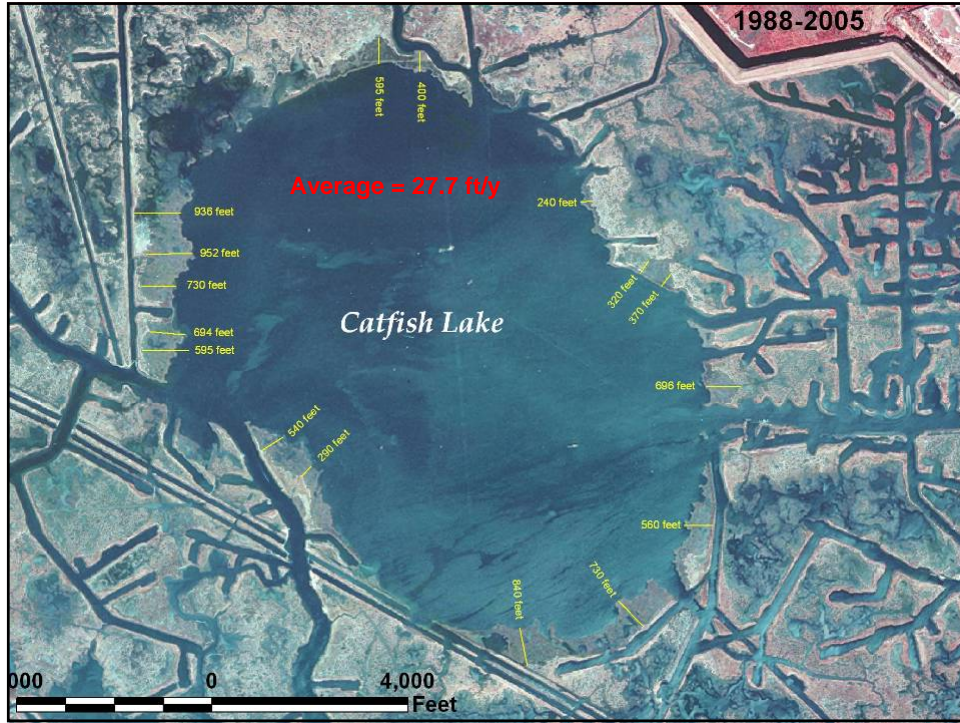


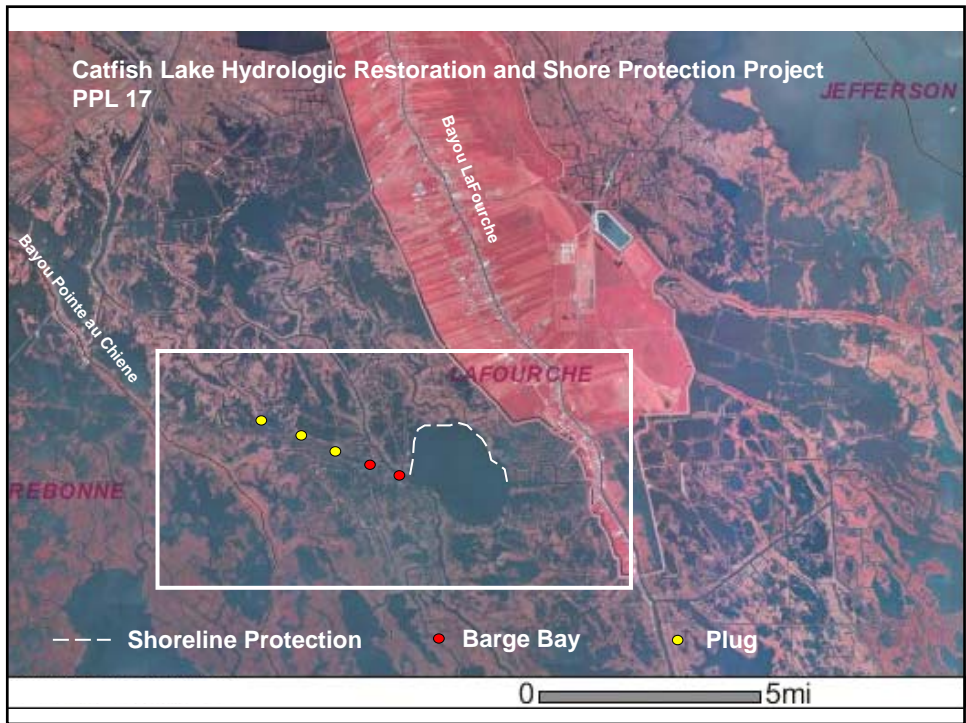
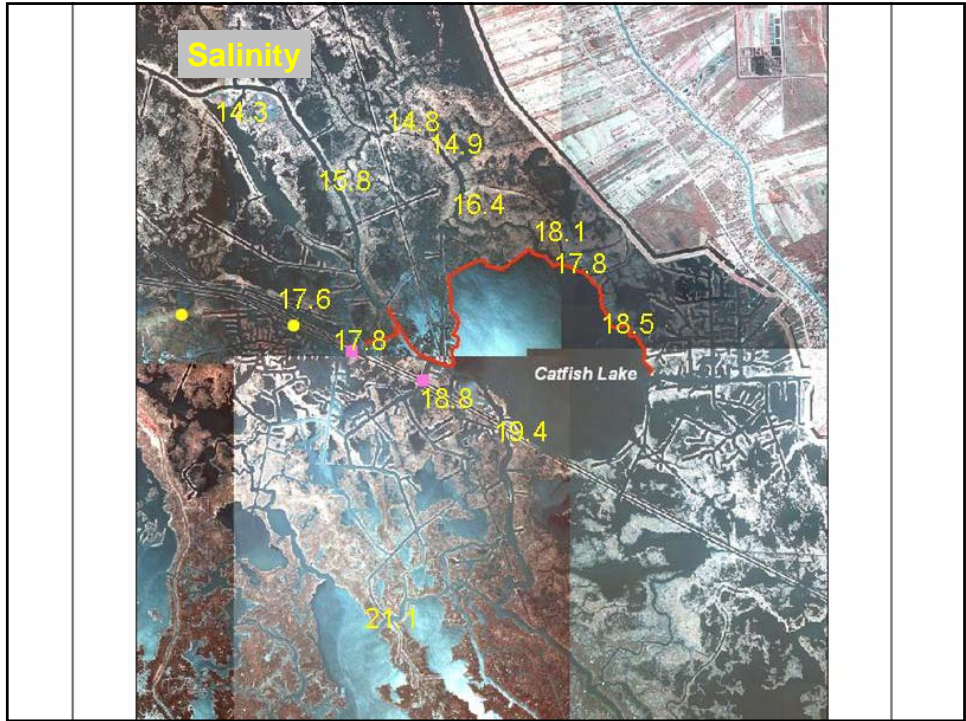
PPL 17

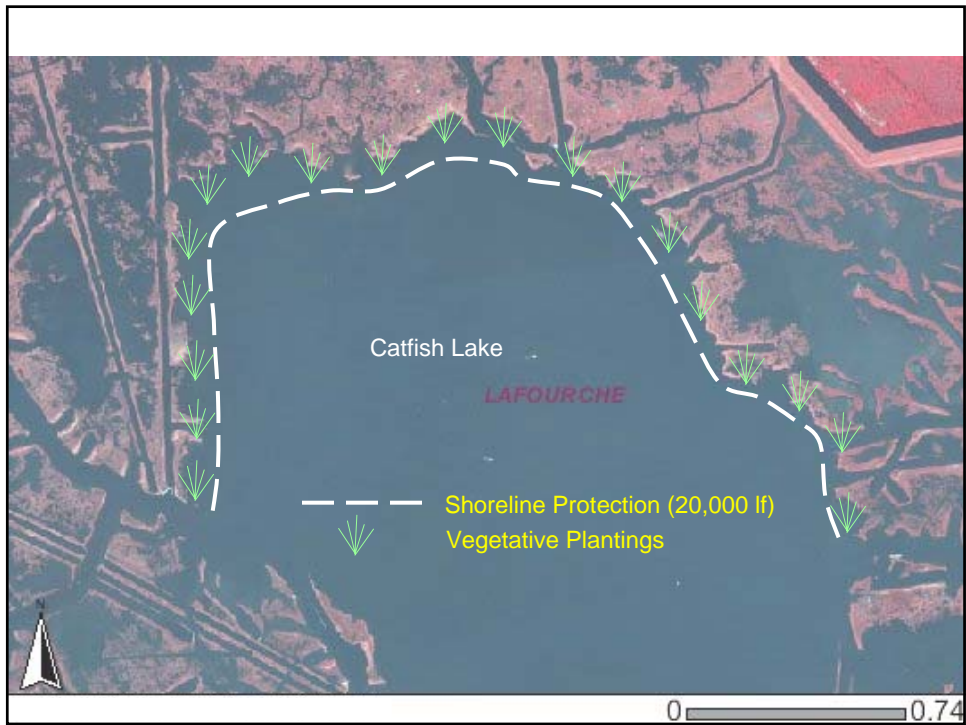
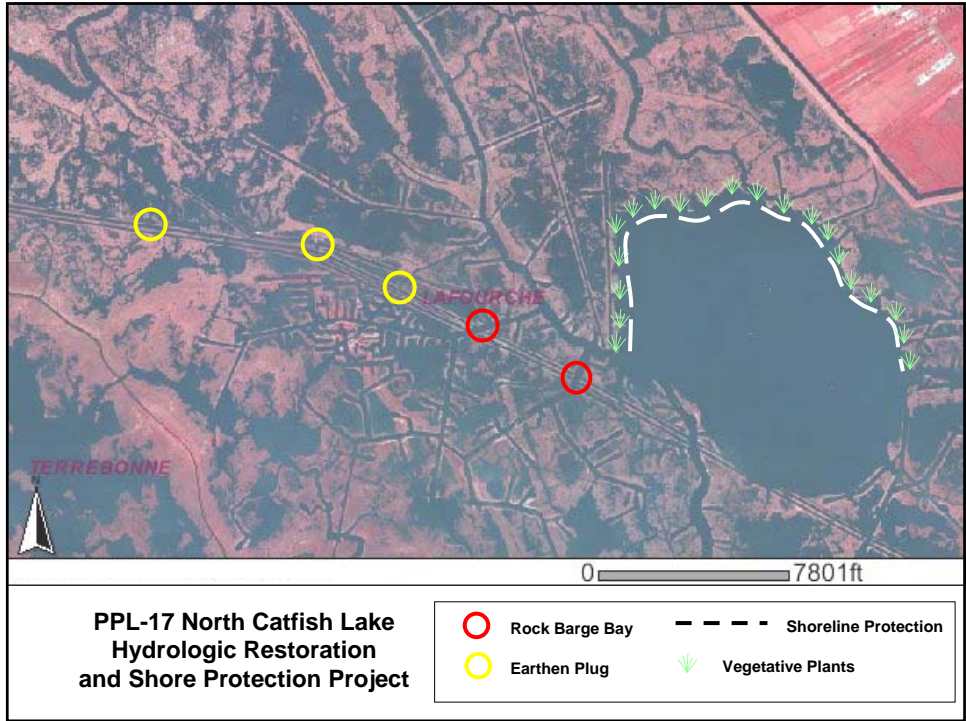
Catfish Lake Hydrologic Restoration and Shore Protection

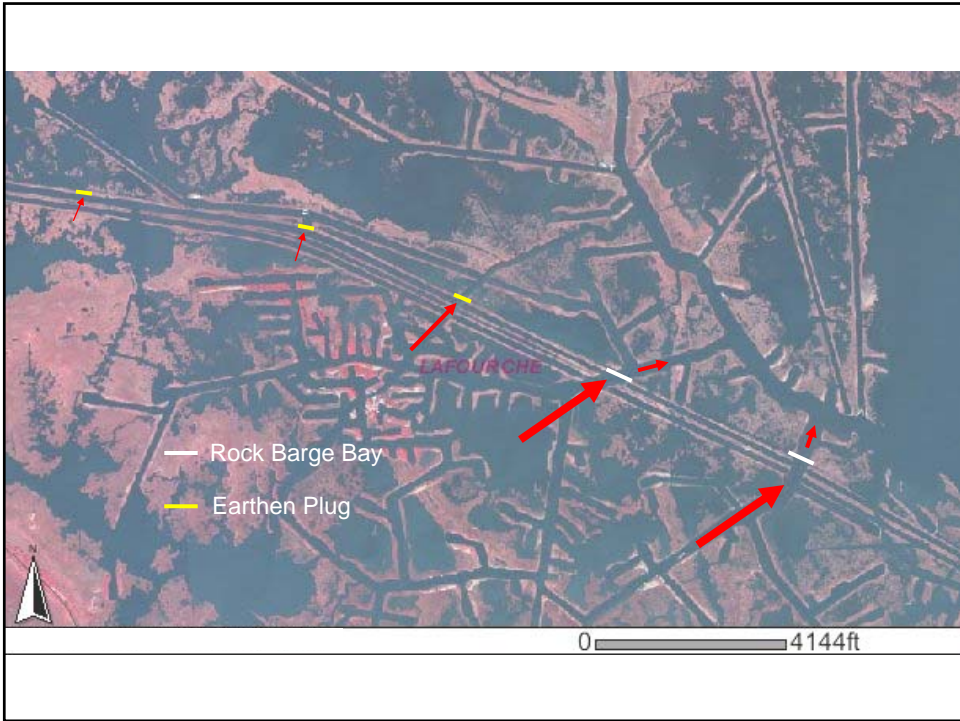
Terrebonne Basin, Lafourche Parish











**R3 –TE 2 Hanson Marsh Bank Stabilization
Project**

RE 3 TE 2

USFWS
Roy
Photo

PPL17 PROJECT NOMINEE FACT SHEET
January 10, 2007

Project Name

Hanson Marsh Bank Stabilization

Coast 2050 Strategy

Coastwide Strategy – Stabilization of Major Navigation Channels

Regional Strategy – Stabilize banks of navigation channels for water conveyance

Project Location

Region 3, Terrebonne Parish, southwest of Houma on the Mandalay National Wildlife Refuge, north of the GIWW

Problem

The project area has experienced rapid marsh deterioration since the mid 1950s and continues to lose marsh at an alarmingly high rate. Construction of the GIWW has altered the natural hydrology of the area. The fresh floating marshes in the area formed under low-energy conditions and stable water levels. Direct connectivity with the GIWW has resulted in rapid water level fluctuations during frontal passages and extreme tidal events. Navigation traffic on the GIWW also causes surges of water to rapidly enter and exit the area which causes break-up of the fragile floating marsh substrate. The altered hydrology and rapid water level fluctuations make it difficult for stands of desirable emergent vegetation (i.e., seed-producing annuals) and quality submerged aquatic vegetation to become established.

Goals

- 1) Stabilize the banks of the GIWW and prevent erosion of marsh habitat.
- 2) Prevent rapid water exchange between the Hanson Unit and the GIWW.

Proposed Project Features

The proposed project consists of 4,100 linear feet of bankline stabilization along the northern side of the GIWW. Project costs are based on a fiberglass sheetpile wall.

Preliminary Project Benefits

- 1) The total acreage benefited directly would be approximately 19 acres assuming an erosion rate of 10ft/yr along the GIWW. Indirect benefits would occur over approximately 180 additional acres of marsh and open water as a result of reduced wave energy and reduced water exchange with the GIWW.
- 2) The total net acres protected/created over the project life would be approximately 19 acres.
- 3) Bankline erosion along the GIWW would be reduced by 100% assuming that the structures are completely effective at stopping erosion from vessel wakes. In addition, there may be a slight reduction in marsh loss within the interior of the Hanson Unit.
- 4) The project would not maintain any structural component of the coastal ecosystem.
- 5) The project would not protect any significant infrastructure.

6) The project has no synergistic effect with other projects.

Identification of Potential Issues

At this time, no significant issues have been identified for this project. Similar bankline protection features have been constructed on Mandalay NWR under the Mandalay Bank Protection Demonstration Project.

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$1,637,500.

In 2004, this project was awarded a grant under the North American Wetlands Conservation Act (NAWCA) for \$765,000. However, project costs have increased significantly since the 2005 hurricane season and the grant funds are now insufficient to construct the project. However, with additional project partners, NAWCA funds could be used to construct the full project. Without additional funding, project partners are at risk of losing \$765,000 in NAWCA funds.

Preparer of Fact Sheet

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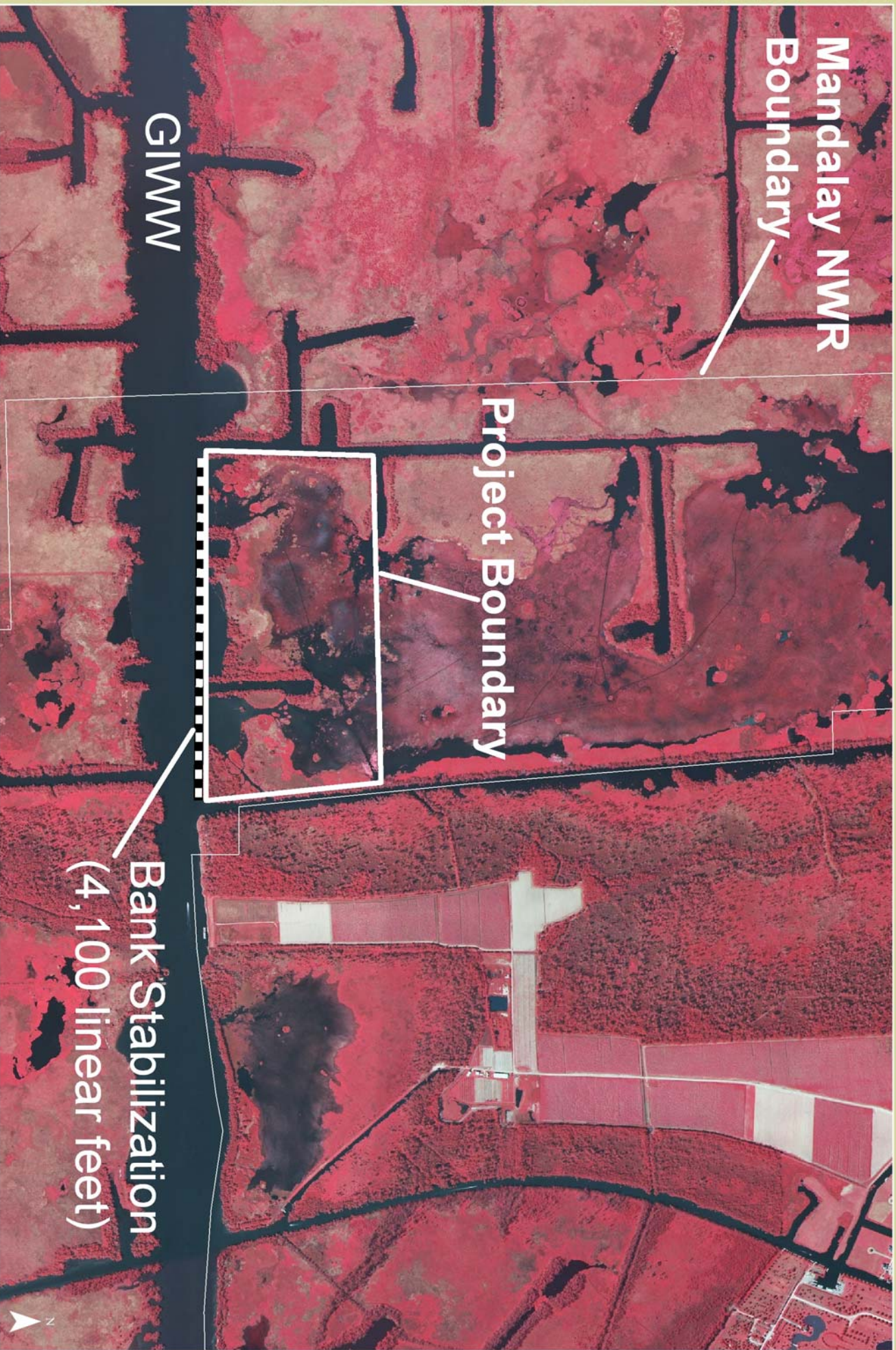
Paul Yakupzack, U.S. Fish and Wildlife Service, 985-853-1078 paul_yakupzack@fws.gov



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Hanson Marsh Bank Stabilization



**Mandalay NWR
Boundary**

Project Boundary

GIMWW

**Bank Stabilization
(4,100 linear feet)**



**R3 –TE 3 North Lost Lake Shoreline Protection
and Hydrologic Restoration Project**

R3

TE3

Photo
Roy USGS

PPL17 PROJECT NOMINEE FACT SHEET
January 10, 2007

Project Name

North Lost Lake Shoreline Protection and Hydrologic Restoration

Coast 2050 Strategy

Regional Strategy – Dedicated delivery of sediment for marsh building

Regional Strategy – Increase transfer of Atchafalaya River water to lower Penchant tidal marshes

Coastwide Strategy – Maintenance of Bay and Lake Shoreline Integrity

Project Location

Region 3, Terrebonne Parish, southwestern Terrebonne Basin from Lake Pagie to the western side of Lost Lake

Problem

Shoreline erosion around Lost Lake threatens fragile interior marsh as the lake rim erodes and breaches form creating greater tidal connectivity. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy may result in more erosion. Significant marsh loss has occurred between Lake Pagie and Bayou DeCade to the point that little structural framework remains separating those two waterbodies. West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events.

Goals

- 1) Reduce shoreline erosion around Lost Lake and protect the lake rim integrity.
- 2) Address interior marsh loss with terraces to prevent future breakup from wave erosion.
- 3) Prevent the coalescence of Bayou DeCade and Lake Pagie and extend the landbridge function of the North Lake Mechant Landbridge Project.
- 4) Increase fresh water and sediment delivery to marshes west of Lost Lake.

Proposed Project Features

The proposed project consists of several features to protect marsh, create marsh and extend the landbridge function of the North Lake Mechant Landbridge Project to the west. Marshes north, east, and west of Lost Lake serve an important function as an intermediate zone buffering fresh marshes to the north from the higher salinities found to the south. Features include:

- 1) Shoreline protection (i.e., 30,600 feet of vegetative plantings) and marsh nourishment (160 acres) along the northern and western Lost Lake shoreline to protect the structural integrity of the lake rim.
- 2) Terracing (approximately 56,000 linear feet or 30 acres) to reduce fetch in deteriorated marsh northeast of Lost Lake.
- 3) Marsh creation (300 acres) between Lake Pagie and Bayou DeCade to prevent the coalescence of those two waterbodies and restore/protect some key features of structural framework (i.e., lake rim and bayou bank) in the area. This feature will compliment features to be built under the North Lake Mechant Landbridge Project.

4) At certain times of the year, Carencro Bayou is an excellent source of fresh water and sediments from the Atchafalaya River/Four League Bay system. However, delivery of that water into the marshes west of Lost Lake is limited by a series of fixed-crest weirs which limit water exchange. An opportunity exists to increase freshwater and sediment delivery by removing some of the fixed-crest weirs and installing more open structures.

Preliminary Project Benefits

- 1) The total acreage benefited directly would be 490 acres (460 acres of marsh creation/nourishment and 30 acres of terraces). Indirect benefits would occur over approximately 5,000 additional acres of marsh as a result of reduced fetch and increased fresh water and sediment delivery.
- 2) The total net acres protected/created over the project life would be between 400-500 acres.
- 3) Shoreline erosion along Lost Lake would be reduced by 50% with vegetative plantings. Background loss rates would be reduced by 50% in the marsh creation and marsh nourishment areas. Marsh loss in the area west of Lost Lake would be reduced with increased fresh water and nutrients. The assumed reduction in marsh loss in that area is approximately 20%. Overall, the reduction in marsh loss across the project area would be in the range of 25% to 50%.
- 4) The project would help maintain the Lost Lake shoreline which is a structural component of the coastal ecosystem.
- 5) The project would not protect any significant infrastructure.
- 6) The project would provide a synergistic effect with the North Lake Mechant Landbridge Restoration Project located to the east. The concept of protecting this important landbridge would be extended to the west with this project. Other CWPPRA projects which protect marsh in this important area include the Brady Canal Hydrologic Restoration Project and the Penchant Basin Natural Resources Plan. This project would work synergistically with those projects to protect marsh in this portion of the western Terrebonne Basin.

Identification of Potential Issues

At this time, no significant issues have been identified for this project. Lost Lake contains no oyster leases and maintenance costs for the project would be low.

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$16,158,429.

Preparer of Fact Sheet

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U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

North Lost Lake Shoreline Protection and Hydrologic Restoration



**R3 –TE 4 Falgout Canal Terracing and
Freshwater Enhancement Project**

R3 TE4 NRCS PDT

PPL17 PROJECT NOMINEE FACT SHEET
1/10/2007

Project Name

Falgout Canal Terracing and Freshwater Enhancement Project

Coast 2050 Strategy

Region 3, Strategy 4: Enhance Atchafalaya River influence to Terrebonne marshes, excluding upper Penchant marshes.

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 historical flow patterns by construction of various navigation channels, including the Houma Navigation Canal (HNC) and the Falgout Canal. Because of these barriers, the prevailing hydrologic influence is confined to southern tidal flows, which has resulted in elevated salinity and land loss in historically fresh and intermediate marshes. The project would expand the zone of Atchafalaya beneficial influence by modifying water flow patterns to reconnect these areas of need. The marshes are expected to benefit from reduced salinity and increased nutrients and sediment.

Proposed Project Features

Three sets of six 36" culverts will 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 will be constructed in the broad shallow open water south of Falgout Canal to facilitate marsh development. The earthen terraces will be shaped into a bifurcated channel design to promote freshwater conveyance while providing terrace functions of marsh creation and reduction of fetch across broad open water areas. The bifurcated channel terrace design mimics natural delta formation.

Goals

The project will reestablish historical 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 loss 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

Much of the project area has degraded to open water on the northern end. The 50,000 linear feet of terracing will be constructed within the large shallow open water areas and create approximately 67 acres of new marsh. Approximately 310 acres of marsh exists within the project area of approximately 1500 areas. The addition of nutrients and sediment is expected to create an additional 50 acres of marsh for a total of 117 acres created over the 20 year life of the project. The southern end of the project area consists of fragmented marsh that will benefit from additional nutrients.

Identification of Potential Issues

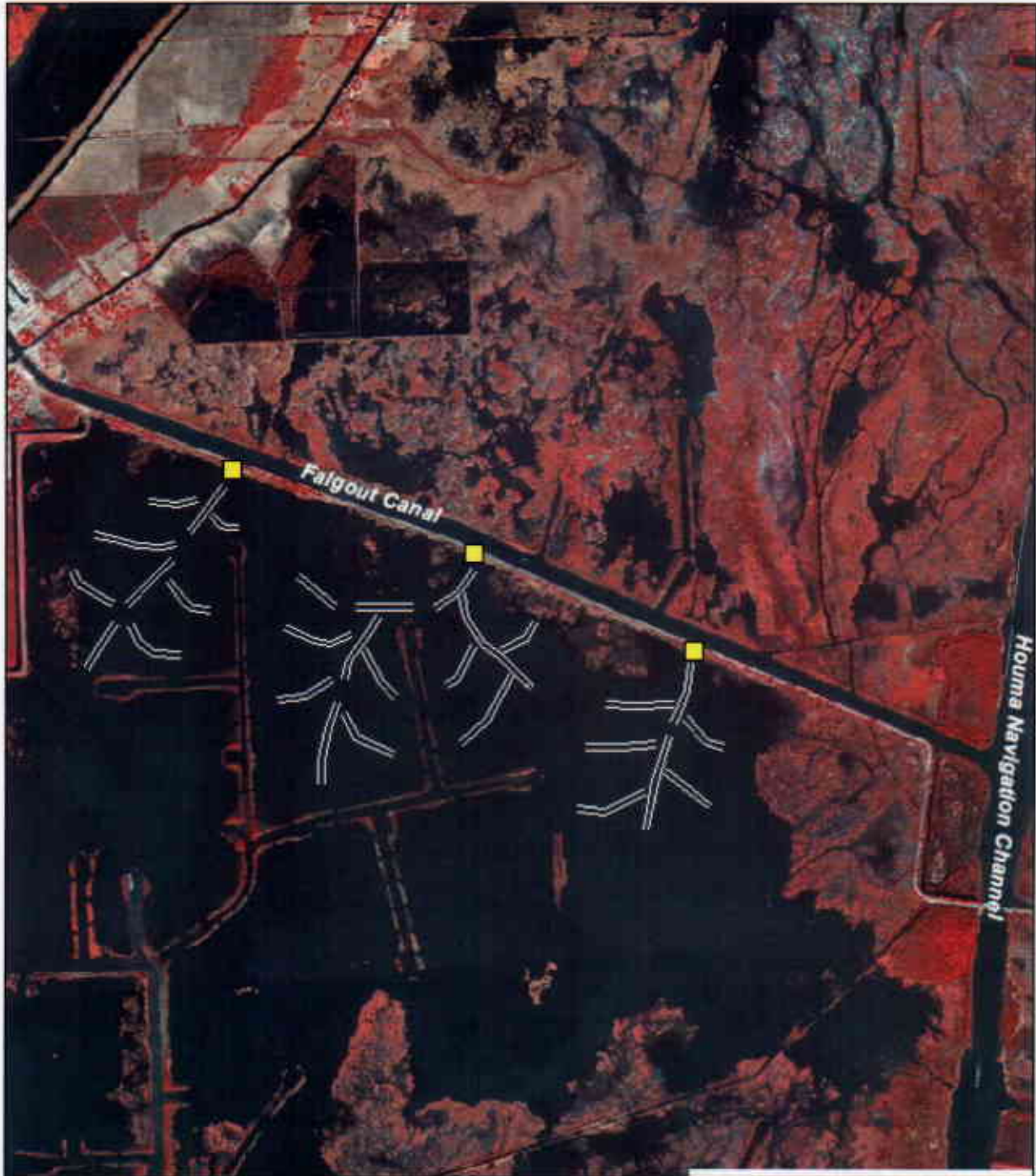
The proposed project has the following potential issues: Landrights and O&M.

Preliminary Construction Costs

\$2.5 million

Preparer of Fact Sheet

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



Legend

-  Culvert
-  Terraces



Falgout Canal Terracing
and Freshwater Introduction
Terrebonne Parish, LA
PPL-17



PPL 17

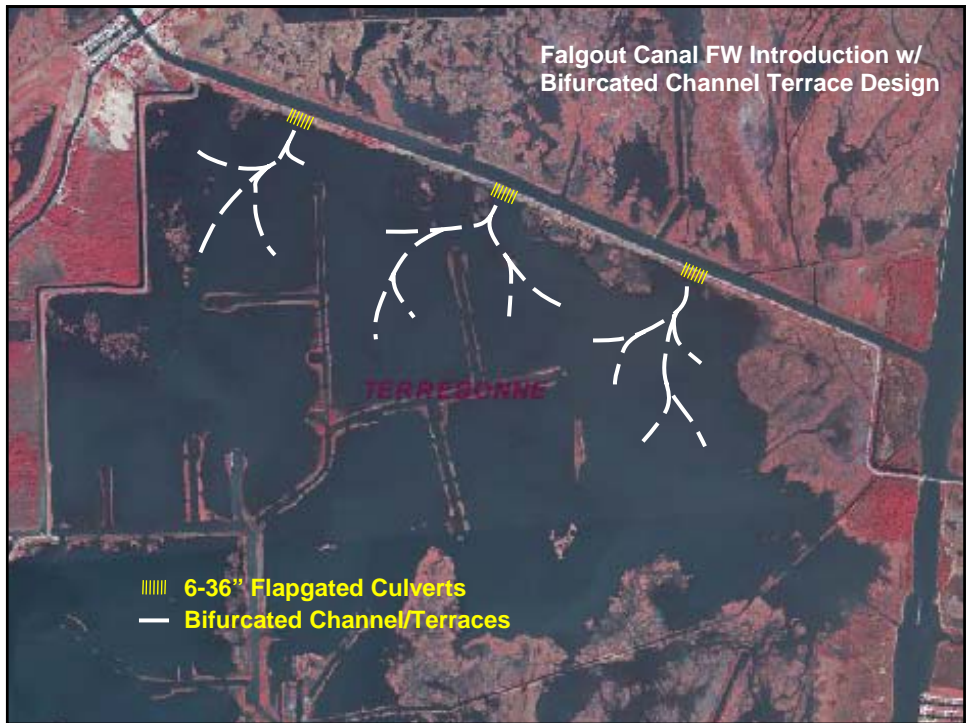
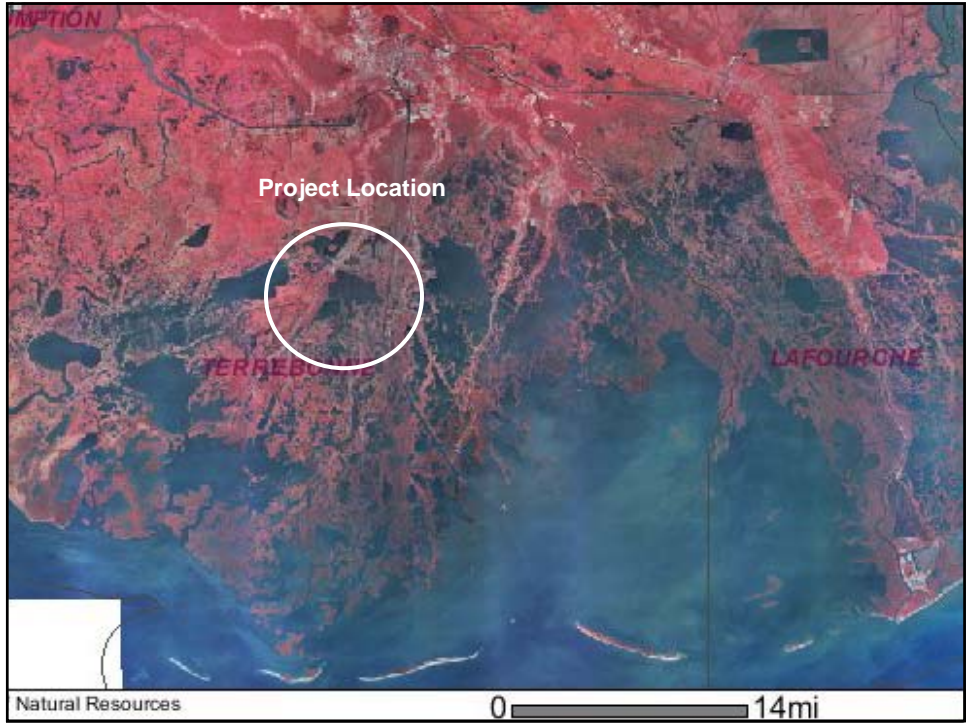
**Falgout Canal Terracing and Freshwater
Enhancement Project**

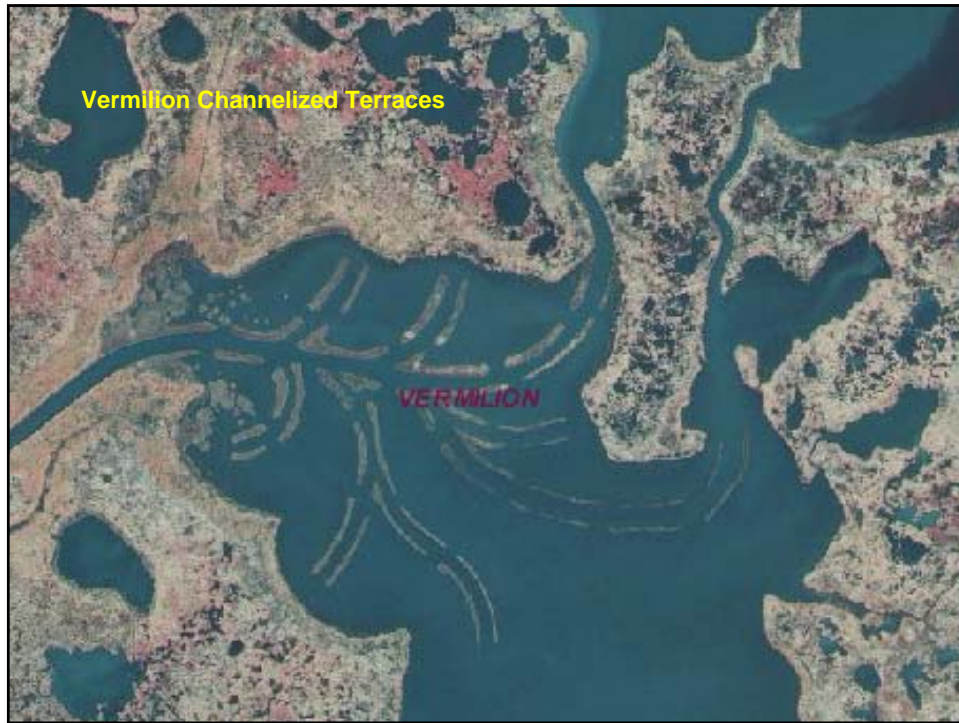
Terrebonne Parish

A significant flow of Atchafalaya River water moves through Minors Canal into Lake Decade and via the GIWW through the Houma Navigation Canal. The Falgout Canal provides a substantial lateral conveyance of this freshwater between Lake Decade and the Houma Navigation Canal. The marsh complex located to the south of the canal is completely isolated from this freshwater.

This historically intermediate marsh area is currently almost exclusively influenced by tidal saline waters from the south. Consequently, the marsh and swamp areas have been nearly completely degraded to open water.

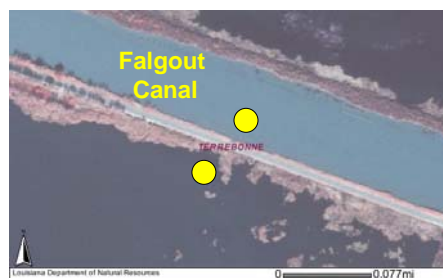
The project will reestablish the historic North-South hydrologic connection by extending the influence of Atchafalaya waters into this area and provide the benefits of nutrients, sediments, and freshwater to begin sustainable recovery. To jump-start the restoration process a series of channelized terraces will be constructed to optimize the efficiency of freshwater conveyance to the south, create marsh in otherwise shallow degraded open water, and provide wind-breaks to allow for sediment fallout and vegetation development.





NRCS Field Salinity

	Falgout Canal	Across Falgout Cnl Rd
April 4, 2006	2.1 ppt	12.9 ppt
September 21, 2006	2.1 ppt	8.7 ppt



**R3 –TE 5 Central Terrebonne Freshwater
Enhancement Project**

PPL17 PROJECT NOMINEE FACT SHEET
1/10/2007**Project Name**

Central Terrebonne Freshwater Enhancement Project

Coast 2050 Strategy

Region 3, Strategy 4: Enhance Atchafalaya River influence to Terrebonne marshes, excluding upper Penchant marshes.

Project Location

Region 3, Terrebonne Basin, Terrebonne Parish, Central Terrebonne marshes extending from South of Lake Decade through Lake Mechant south to Bayou Dularge Ridge.

Problem

The Bayou Delarge Ridge historically restricted the Gulf marine influence into Central Terrebonne marshes forming a diagonal restriction extending from northeast to southwest, where the Atchafalaya influence is prominent. The Grand Pass is currently a 900 ft wide artificial cut through the Bayou Delarge Ridge south of Lake Mechant. The pass is mainly used by commercial and recreational fisherman as a shortcut to the gulf and has greatly eroded to a point of approximately 36 feet deep that well exceeds optimal utility. The expansion of the pass to its current size has allowed for a substantial alteration of historic salinity and hydrology and consequently a broad area of the Central Terrebonne marshes are currently suffering some of the highest loss rates in the state.

Proposed Project Features

Structure consisting of rock barge bay would be constructed to reduce size of opening to no more than 80' wide and 15' deep. The project would reestablish the historic ridge function of the Bayou Delarge that separated Lake Mechant from the gulf and moderate salinities that have greatly impacted the marshes to the north of Lake Mechant. The project will also increase the Atchafalaya influence in the area by modifying the current structure located in Liners Canal north of Lake Decade and provide maintenance dredging at Minors Canal.

Goals

The project will reestablish historic hydrologic and salinity conditions by reducing the artificial intrusion of Gulf marine waters via the Grand Pass into the Central Terrebonne marshes while enhancing the influence of the Atchafalaya River waters into the area.

Preliminary Project Benefits

Preliminary analysis indicates that the project could reduce the cross-section of the pass by as much as 80%, which would have a significant effect on marine tidal transfer to Lake Mechant. The hydrologic modifications to Liners and Minors canal are expected to increase freshwater conveyance to the region by 500-1000 cfs.

Identification of Potential Issues

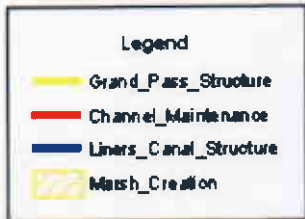
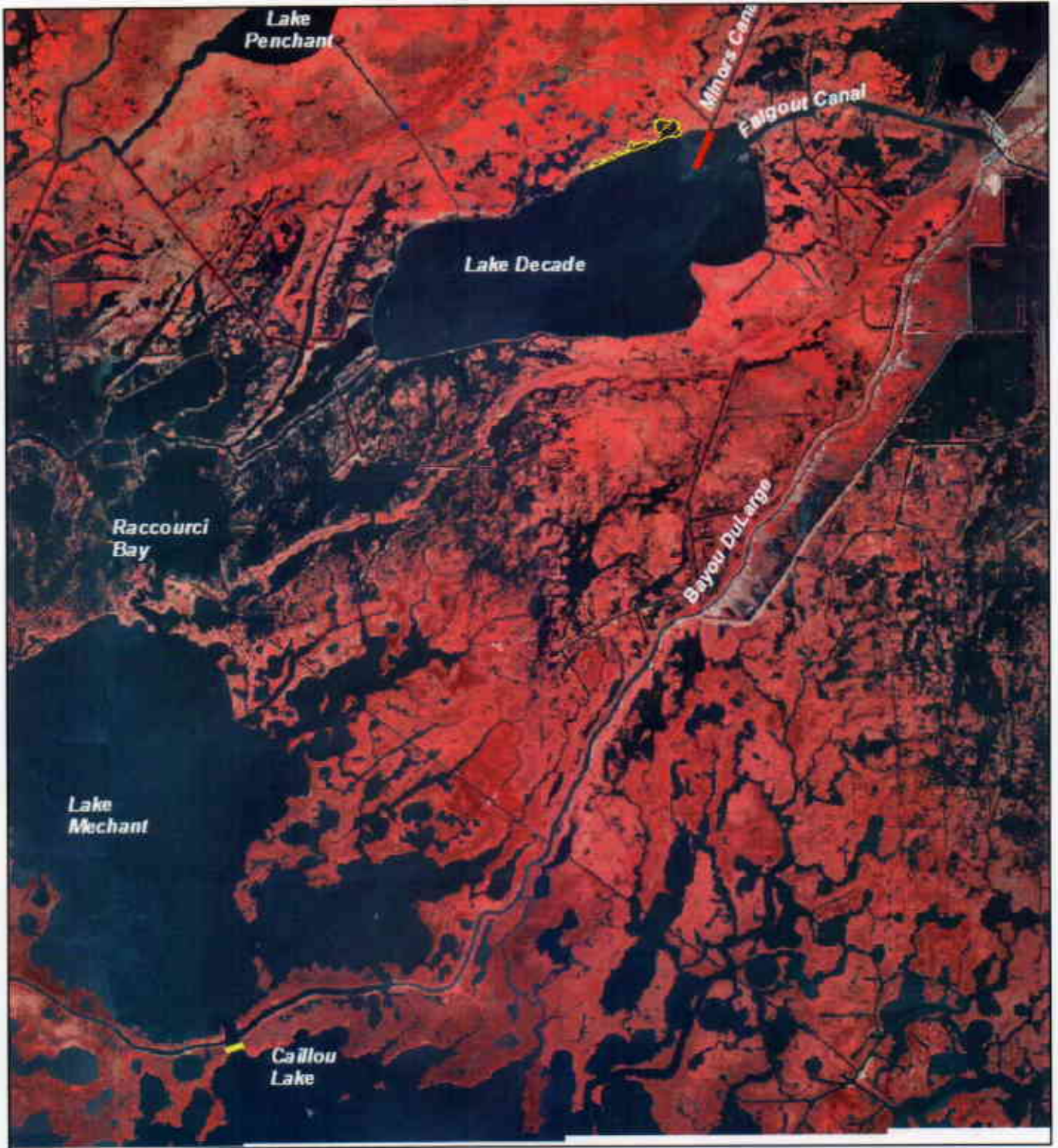
The proposed project has the following potential issues: Landrights and O&M.

Preliminary Construction Costs

\$4.5 million

Preparer of Fact Sheet

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



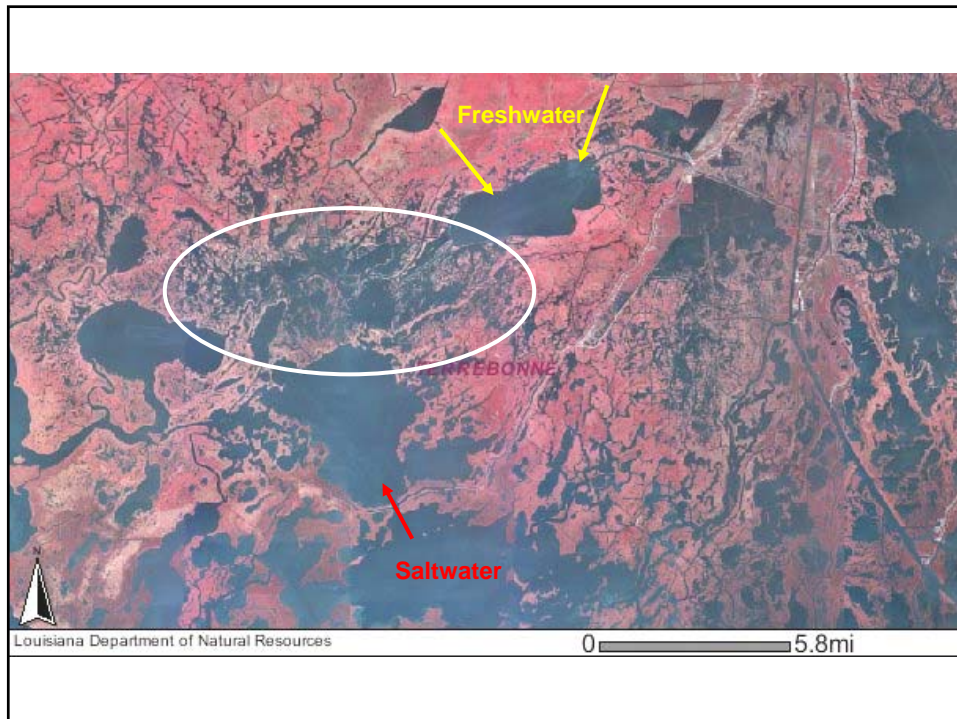
Central Terrebonne Enhancement
 PPL-17
 Terrebonne Parish, Louisiana



PPL-17

Central Terrebonne Freshwater Enhancement Project Terrebonne Parish

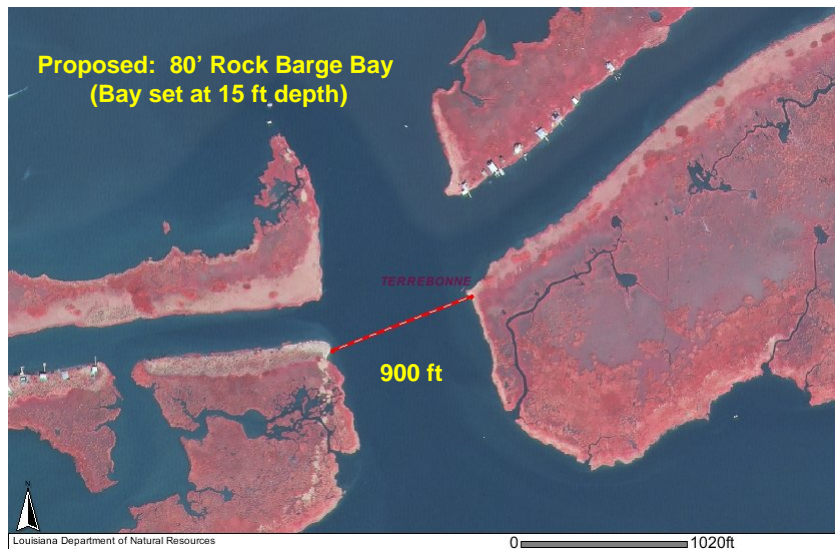
Grand Pass is currently 900 ft wide. Structure consisting of rock barge bay would be constructed to reduce size of opening to 80' wide. The project would reestablish the historic ridge that separated Lake Mechant from the gulf and moderate salinities that have greatly impacted the marshes to the north of Lake Mechant. The project will also increase the Atchafalaya influence in the area and decrease the intrusion of Gulf marine waters into the interior fresh and intermediate marshes.



Bayou Dularge Ridge Function Restoration Project



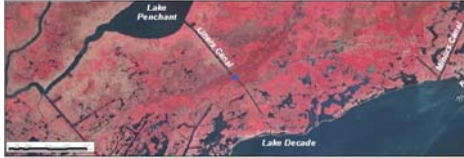
**Proposed: 80' Rock Barge Bay
(Bay set at 15 ft depth)**



Grand Pass Structure



Liners Canal Structure



**Minors Canal Outfall
Maintenance/Marsh Creation**



**R3 –TE 6 Wine Island Restoration and
Nourishment Project**

PPL17 PROJECT NOMINEE FACT SHEET
Wine Island Restoration and Nourishment
24 January 2007

Project Name: Wine Island Restoration and Nourishment

Coast 2050 Strategy: one coastwide common strategy (beneficial use of dredged material from maintenance operations).

Project Location: Coast 2050 Region 3, Terrebonne Basin, Terrebonne Parish.

Problem: Based upon July 2000 surveys, Wine Island now has an area of about 34 acres including the 23-acre rock enclosure. Due to the dynamic nature of barrier islands, open water areas exist within the rock cell. Without additional material, it is likely the rock dike will eventually enclose only open water. The rock dike may also become slightly submerged presenting a significant boating hazard. Material from maintenance dredging on the Cat Island Pass bar channel has been historically deposited on two shoals adjacent to the navigation channel on the right descending bank.

Proposed Project Features: Project features include mining a stockpile of material dredged from the HNC. HNC dredging is scheduled every two years by the U.S. Army Corps of Engineers, New Orleans District. Material removed from the Cat Island Pass bar channel (Mile 0.0 to Mile - 4.5) is proposed for use in this project. Newly restored areas within the rock dike will be planted with various species in an effort to reduce future erosion

Goals: The project goals are to extend the life of Wine Island and re-introduce additional material into the sediment-starved environment. By filling in the open water areas, the navigation hazard from the rocks in open water will be eliminated.

Preliminary Project Benefits: approximately 15 to 20 acres

Identification of Potential Issues: pipeline utilities. Construction would be performed during 1 October to 1 April time window to avoid the brown pelican nesting season.

Preliminary Construction Costs:

\$ 6,765,000

\$8,456,250 with 25% contingency

Fact Sheet Prepared by:

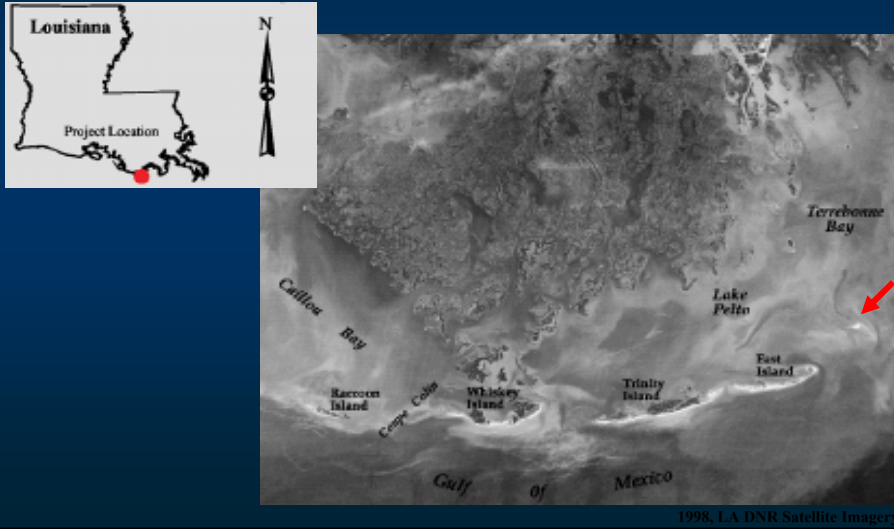
Patricia A. Taylor, P.E., EPA Region 6, (214) 665-6403, Taylor.Patricia-A@epa.gov

Wine Island Restoration and Nourishment



— ■ — Proposed marsh creation
and vegetative plantings

Wine Island Restoration and Nourishment



Source: University of New Orleans (UNO), 2001. Beneficial Use of Dredged Material Disposal History Along Select Navigational Channels in Louisiana. Prepared for the U.S. Army Corps of Engineers, New Orleans District, May 2001

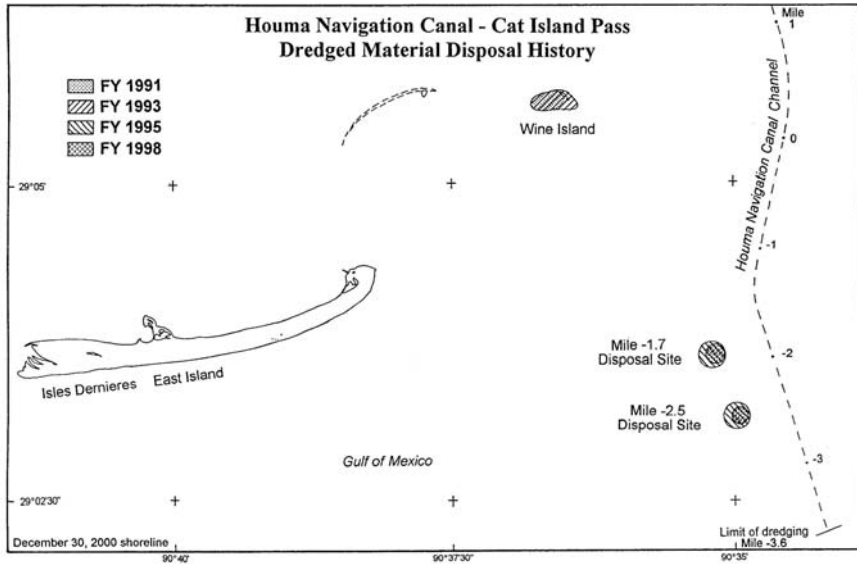


Figure 12B. The dredged material disposal history for the Houma Navigation Canal, Louisiana - Bar Channel/Cat Island Pass Reach BUMP study area through FY 2000.



Wine Island Restoration and Nourishment

Goals:

- Extend the life of Wine Island
- Re-introduce material into sediment-starved shoreline
- Fill in open water areas on the island
- Protect Terrebonne estuary and vegetated wetlands from direct exposure to Gulf

Cost/Benefits:

- 15-20 acres will be directly created/restored
- Preservation of important bird (i.e. Black Skimmer) nesting habitat
- Est. Cost: ~ \$6.8 million
- Est. Cost + contingency: ~ \$8.5 million



Wine Island Restoration and Nourishment

Questions?

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**R3 –TE 7 East Island Breach, Barrier Island
Restoration Project**

PPL17 PROJECT NOMINEE FACT SHEET
East Island Breach, Barrier Island Restoration
24 January 2007
Prepared by EPA Region 6

Project Name and Number: East Island Breach, Barrier Island Restoration – 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.

Problem: A breach on the eastern end of East Island that developed in 2005, increased to approximately 4,000 feet in length due to Hurricanes Katrina and Rita. The New Cut restoration (TE-37) CWPPRA project does not address this breach, or extensive beach and back barrier marsh restoration on the eastern end behind the breach. This area is exposed to considerable wave action and sand movement not only on the Gulf shore, but also on the backside of the island.

Proposed Project Features: Proposed project features consist of unconfined placement of dredged material of the breach on the eastern end on East Island. The dredged material will increase the footprint of the island by addressing the breach, increasing the width of East Island in order to provide a suitable platform to work with the natural migration of the islands, and creating additional back barrier marsh. Substantial economic savings in engineering and design can result from utilizing the data gathered for the New Cut restoration project. Availability of the geotechnical investigation and modeling results is expected to save approximately \$500,000 in the engineering and design (Phase I) costs and more importantly, expedite project design efforts.

Goals: The project goals are:

- 1) introduce new sand into this sand-starved environment;
- 2) extend the life of the barrier island by increasing its width;
- 3) create approximately 200 acres of intertidal marsh using new dredged material;
- 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.

Preliminary Project Benefits: approximately 200 acres.

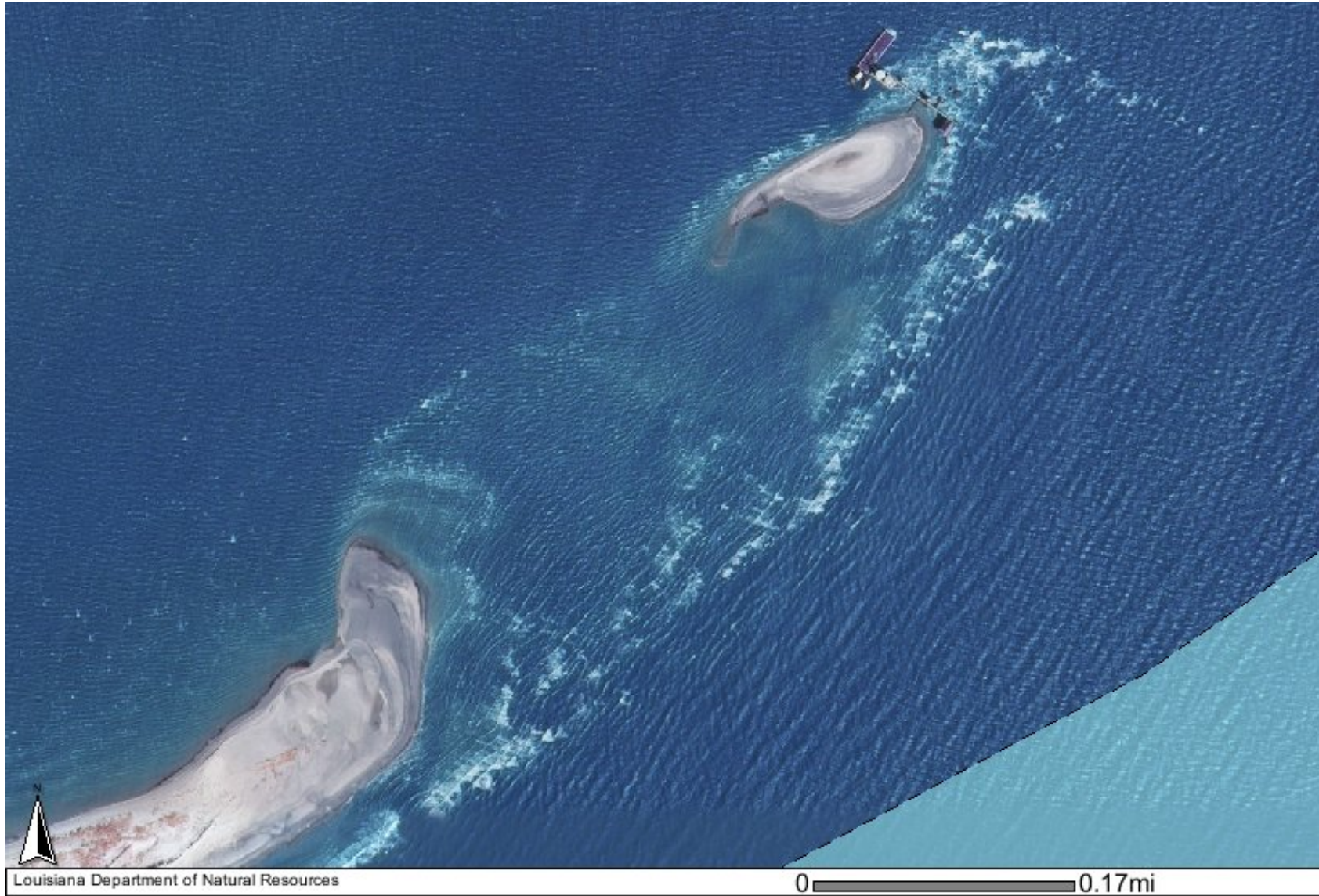
Identification of Potential Issues: The proposed project has the following potential issues: land rights and oyster leases.

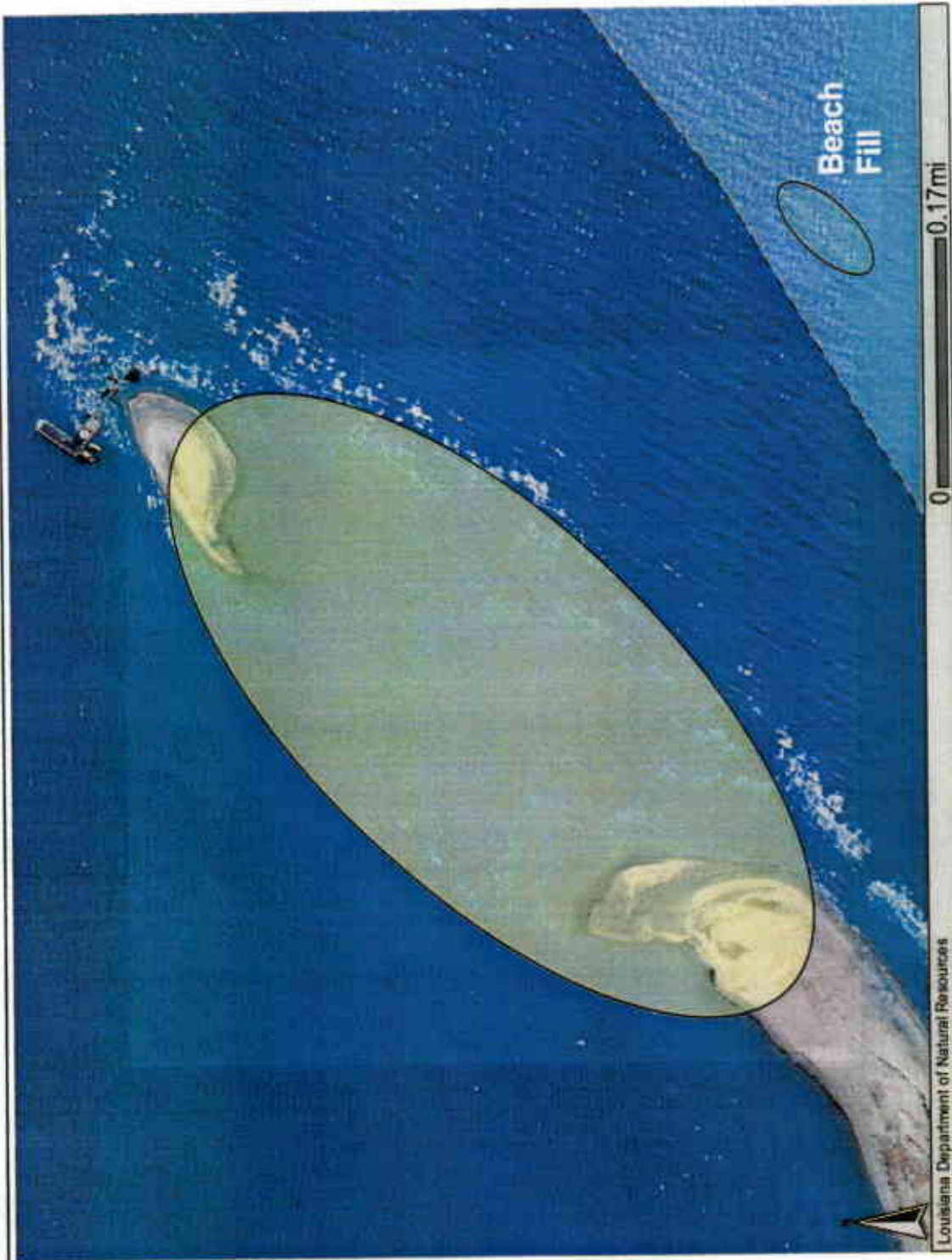
Preliminary Construction Costs:
\$16,840,000
\$21,050,000 with 25% contingency

Preparers of Fact Sheet:

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

East Island Breach

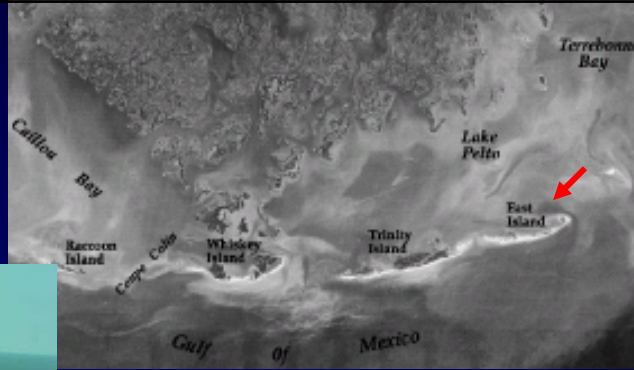




**PPL 17 Proposed
East Island Breach Barrier
Island Restoration**

**Data Source:
LA Department of Natural Resources
Map Date: December 2006**

East Island Breach Barrier Island Restoration



1998, LA DNR Satellite Imagery



East Island Breach Barrier Island Restoration



East Island Breach Barrier Island Restoration

Goals:

- Increase life of barrier island by increasing width
- Use dredged material to increase intertidal marsh
- Provide back barrier platform to enable successful island migration
- Protect Terrebonne estuary and vegetated wetlands from direct exposure to Gulf

Cost/Benefits:

- ~200 acres of wetland created/protected over project life
- Est. Cost: ~ \$16.8 million
- Est. Cost + contingency: ~ \$21 million

East Island Breach Barrier Island Restoration

Questions?

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**R3 –TE 8 Beach and Back Barrier Marsh
Restoration - East Island Project**

REB TE-8

PPT
EPA
Landers

PPL17 PROJECT NOMINEE FACT SHEET
Beach and Marsh Restoration East Island
10 January 2007
Prepared by EPA Region 6

Project Name and Number: Beach and Back Barrier Marsh Restoration – East Island, 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. This barrier island is part of the Isles Dernieres and the project area is 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 of 17 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 subjecting East Island to sustained wave action. Although the New Cut restoration (TE-37) CWPPRA project is under construction, it does not address the breach. The TE-37 project also does not provide for extensive beach and back barrier marsh restoration on the eastern end of East Island. This easternmost area sustains considerable wave action and material movement not only on the Gulf shore, but also on the backside of the island and fortification is needed.

Proposed Project Features: 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). Proposed project features consist of two components:

- unconfined placement of dredged material extending the width of the back barrier marsh of East Island; and,
- unconfined placement of beach fill on East Island.

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 restoration project. For example, the Wine Island Pass offshore borrow area, the source recently identified for the TE-37 project, 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 expected to be

used in constructing TE-37. The wave modeling performed in association with the New Cut project is still applicable. Availability of the geotechnical investigation and modeling results is expected to save approximately \$500,000 in the engineering and design (Phase I) costs and more importantly, expedite project design efforts.

Goals: The project goals are:

- 1) Add sand into this sand-starved environment;
- 2) extend the life of this barrier island by increasing their width;
- 3) create approximately 200 acres of intertidal marsh using new dredged material;
- 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.

The overall project objectives are to fortify and extend the life of this barrier island and capitalize on the success of previous CWPPRA barrier island restoration projects.

Preliminary Project Benefits:

- 1) The total acreage benefited directly is 200 acres.
- 2) 200 acres of wetlands will be protected/created over the project life.
- 3) The anticipated loss rate reduction throughout the area of direct benefits over the project life is proposed to be <25%.
- 4) This project maintains a critical barrier island habitat and structural component of the coastal ecosystem.
- 5) The project is expected to have a net positive impact on critical and non-critical infrastructure.
- 6) 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, current under construction.

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

Preliminary Construction Costs:

Item:	Work or Material	Quantity	Unit	Unit Cost	Amount
1.	Mobilization/Demobilization	1	LS	\$1,000,000	\$ 1,000,000
2.	Dredging/Marsh Creation (in place)	1,930,000	CY	\$8.33/cy	\$ 16,076,900

5.4 mcy available at borrow location, 2.5 mcy used for TE-37
 2.9 mcy available for project based upon 1.5 to 1.0 cut to fill ratio = 1.93 in place
 cost based upon pre-hurricane award of \$5.55 (BA-37) per cubic yard
 assuming cost of fuel is 50% of dredging cost per cubic yard (\$2.775)
 cost of diesel fuel has doubled since award (\$2.775 X 2 = \$5.55)
 estimated cost of dredging = \$5.55 + \$2.78 = \$8.33

3.	Vegetative plantings – 2 phases - \$100,000 each	\$ 200,000
4.	Sand fencing – 2 phases, single row 20,000 linear feet @ \$7.00/LF	\$ 140,000
	Estimated Construction Cost	\$ 17,416,900
	Estimated Construction Cost + 25% contingency	\$ 21,771,125

Preparers of Fact Sheet:

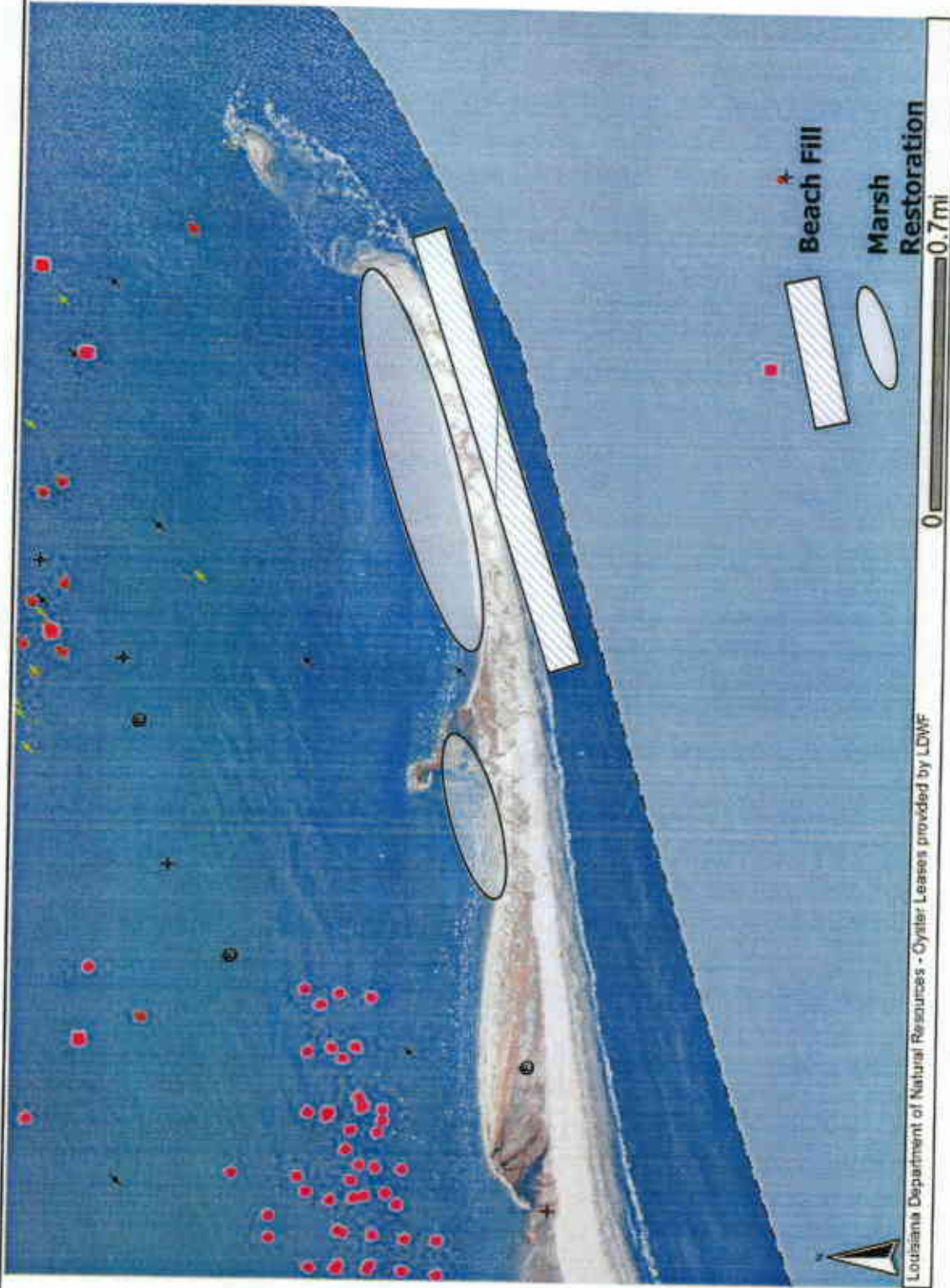
Patricia A. Taylor, P.E., EPA Region 6, (214) 665-6403

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

References:

(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.



**PPL 17 Proposed
Beach and Marsh Creation
East Island**

Data Source:
LA Department of Natural Resources
Map Date: December 2006



Beach and Marsh Restoration East Island

Goals:

- Increase life of barrier island by increasing width
- Use dredged material to increase intertidal marsh
- Provide back barrier platform to enable successful island migration
- Protect Terrebonne estuary and vegetated wetlands from direct exposure to Gulf

Cost/Benefits:

- ~200 acres of wetland created/protected over project life
- Est. Cost: ~ \$17.5 million
- Est. Cost + contingency: ~ \$21.8 million

Beach and Marsh Restoration East Island

Questions?

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**R3 –TE 9 Beach and Back Barrier Marsh
Restoration - Trinity Island Project**

RE 3 TE 9

PPT
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Landers

PPL17 PROJECT NOMINEE FACT SHEET
Beach and Marsh Restoration Trinity Island
10 January 2007
Prepared by EPA Region 6

Project Name and Number: Beach and Back Barrier Marsh Restoration – Trinity Island, 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. This barrier island is part of the Isles Dernieres and the project area is 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 Trinity Island was -38.4 feet per year (Connor et al. 2004). Barrier island restoration projects using hydraulic fill were more effective in increasing the survivability of these islands than the use of hard structures (Penland et al. 2003). The New Cut restoration (TE-37) CWPPRA project, currently under construction, does not provide for extensive beach and back barrier marsh 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. Continued dredging in the California Canal along with Gulfside shoreline erosion has reduced the width of the island to the extent it has become a potential site for breaching if no mitigation is carried out now. Mitigation/renourishment of the Gulfside and maintenance of the marsh at this stage will be much more cost effective instead of waiting until the island further degrades by breaching and becomes more narrow in width.

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

- unconfined placement of dredged material extending the width of the back barrier marsh of Trinity Island; and,
- unconfined placement of beach fill on the Gulf face of Trinity Island.

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 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 expected to be used in constructing TE-37. The wave modeling performed in association with

the New Cut project is still applicable. Availability of the geotechnical investigation and modeling results is expected to save approximately \$500,000 in the engineering and design (Phase I) costs and more importantly, expedite project design efforts.

Goals: The project goals are:

- 1) Add sand into this sand-starved environment;
- 2) extend the lives of the barrier islands by increasing their width;
- 3) create approximately 200 acres of intertidal marsh using new dredged material;
- 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.

The overall project objective is to fortify and extend the life of this barrier island. Implementing this project at this time capitalizes on the success of previous CWPPRA barrier island restoration projects.

Preliminary Project Benefits:

- 1) The total acreage benefited directly is 200 acres.
- 2) 200 acres of wetlands will be protected/created over the project life.
- 3) The anticipated loss rate reduction throughout the area of direct benefits over the project life is proposed to be <25%.
- 4) This project maintains a critical barrier island habitat and structural component of the coastal ecosystem.
- 5) The project is expected to have a net positive impact on critical and non-critical infrastructure.
- 6) 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, currently under construction.

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

Preliminary Construction Costs:

Item:	Work or Material	Quantity	Unit	Unit Cost	Amount
1.	Mobilization/Demobilization	1	LS	\$1,000,000	\$ 1,000,000
2.	Dredging/Marsh Creation (in place)	1,930,000	CY	\$8.33/cy	\$16,076,900
	5.4 mcy available at borrow location, 2.5 mcy used for TE-37				
	2.9 mcy available for project based upon 1.5 to 1.0 cut to fill ratio = 1.93 in place				
	cost based upon pre-hurricane award of \$5.55 (BA-37) per cubic yard				
	assuming cost of fuel is 50% of dredging cost per cubic yard (\$2.775)				
	cost of diesel fuel has doubled since award (\$2.775 X 2 = \$5.55)				
	estimated cost of dredging = \$5.55 + \$2.78 = \$8.33				
3.	Vegetative plantings				\$ 200,000

4. Sand fencing – 2 phases single row 20,000 linear feet@ \$7.00	\$ 140,000
Estimated Construction Cost	\$17,416,900
Estimated Construction Cost + 25% contingency	\$21,771,125

Preparers of Fact Sheet:

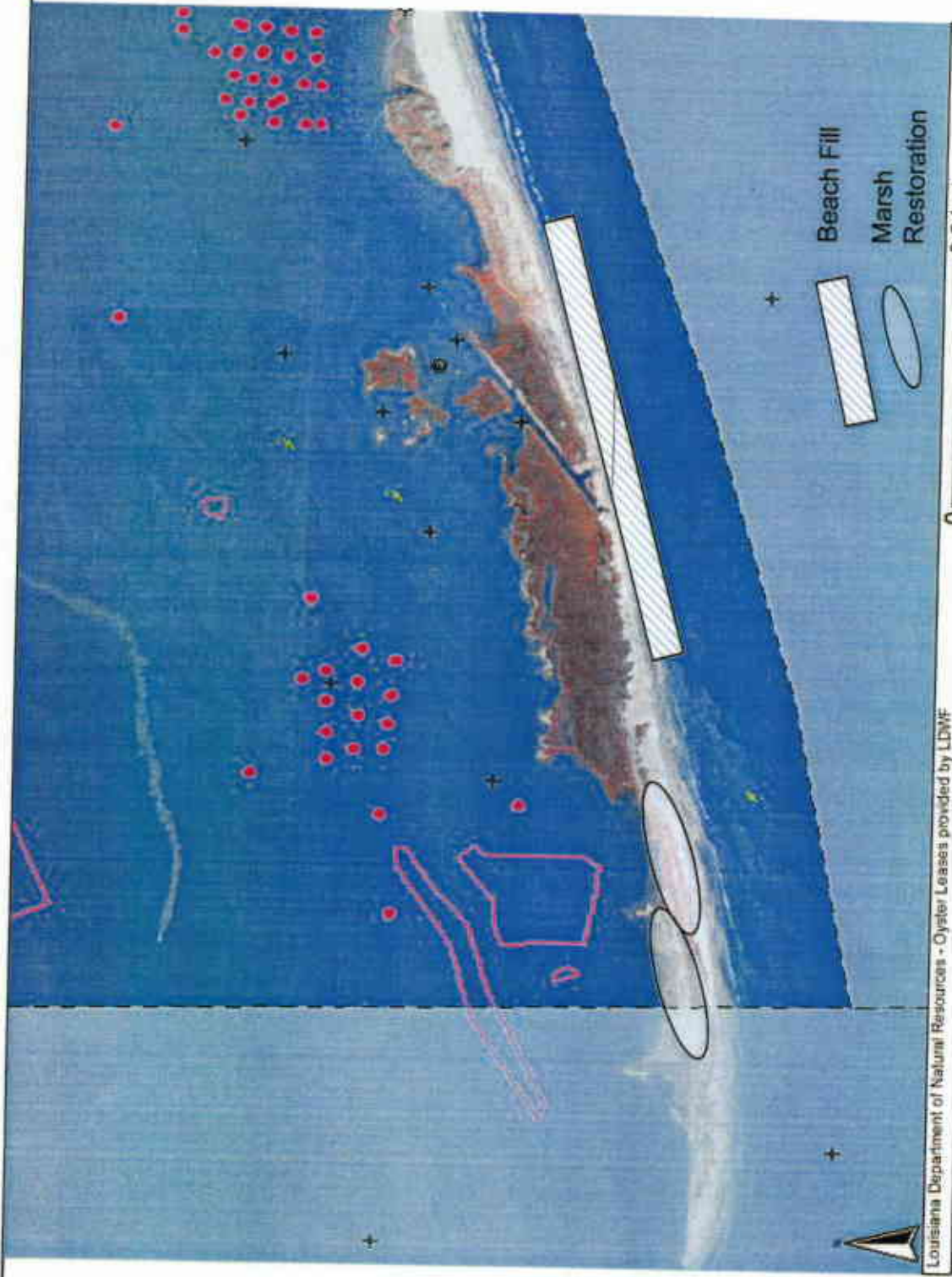
Patricia A. Taylor, P.E., EPA Region 6, (214) 665-6403

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

References:

(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.

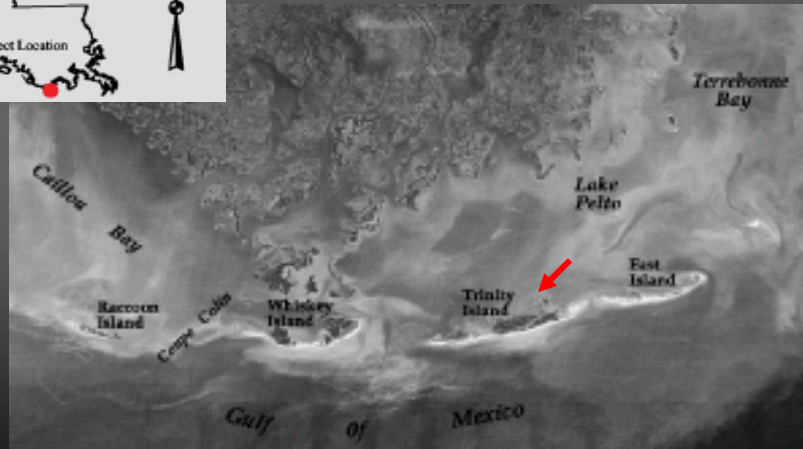


Louisiana Department of Natural Resources - Oyster Leases provided by LDWF

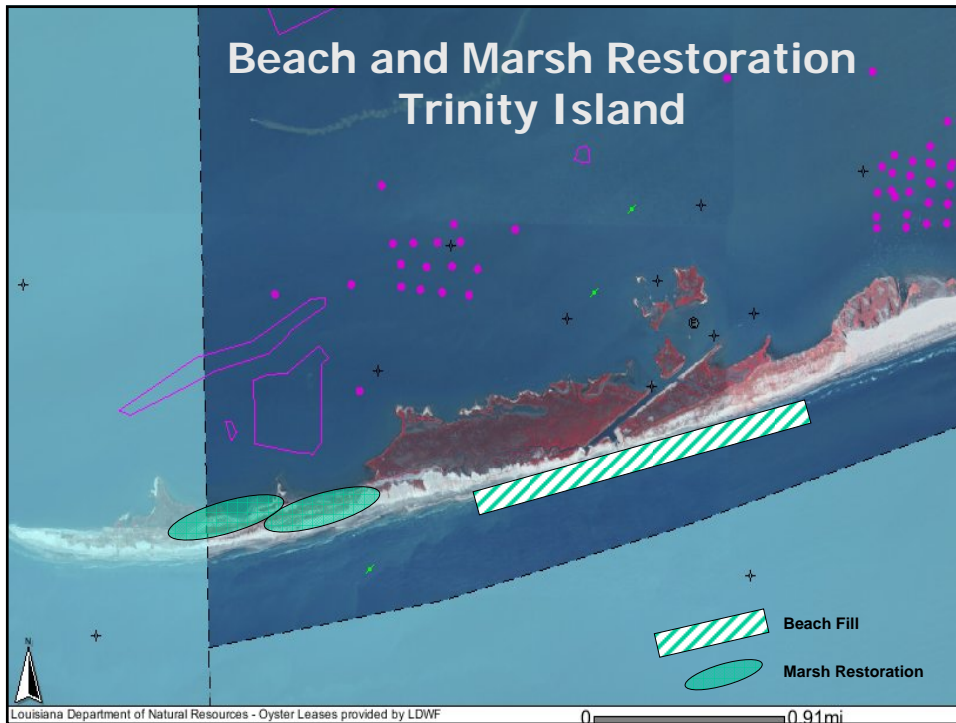
Data Source:
 LA Department of Natural Resources
 Map Date: December 2006

**PPL 17 Proposed
 Beach and Marsh
 Restoration Trinity Island**

Beach and Marsh Restoration Trinity Island



Beach and Marsh Restoration Trinity Island



Beach and Marsh Restoration Trinity Island

Goals:

- Improve habitat quality and extend longevity of Trinity Island
- Use dredged material to increase intertidal marsh
- Provide back barrier platform for island migration
- Protect Terrebonne estuary and vegetated wetlands from direct exposure to Gulf

Cost/Benefits:

- ~200 acres of wetland created/protected over project life
- Est. Cost: ~ \$17.4 million
- Est. Cost + contingency: ~ \$21.8 million

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Beach and Marsh Restoration Trinity Island

Questions?

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epa.gov



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**R3 –TE 10 Lake Boudreaux/ Lake Quitman
Landbridge Project**

PPL17 CANDIDATE PROJECT FACT SHEET
January 10, 2007

Project Name:

Lake Boudreaux/Lake Quitman 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:

The south bank of Lake Boudreaux has experienced high marsh erosion rates due to wind driven waves and high water. This loss of emergent marsh that separates Lake Boudreaux from Lake Quitman has resulted in an increase in the amount of high saline waters entering Lake Boudreaux from Robinson Canal. This saline water has caused the marshes in the upper end of Lake Boudreaux to convert from fresh/intermediate marshes to intermediate/brackish marshes.

Goals:

- 1) Halt shoreline erosion along the southern shoreline of Lake Boudreaux.
- 2) Create 284 acres of marsh and nourish 103 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.

Proposed Solution:

- 1) Stop shoreline erosion through the constructing 21,000 linear feet of rock dike along the southern shoreline of Lake Boudreaux.
- 2) Reduce water exchange between Lake Boudreaux and Lake Quitman through creation and nourishment of emergent marshes along the southern shoreline of Lake Boudreaux through the deposition of hydraulically dredged 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 and/or stabilizing salinities within Lake Boudreaux. Low salinity marshes north of Lake Boudreaux should benefit from a reduction in water exchange between Lake Boudreaux and high saline water via Robinson Canal. **Total direct project benefits from shoreline protection include the direct protection of over 409 acres of existing and/or newly created marsh and the creation without direct shoreline protection of 140 acres of marsh.** Also, this project should enhance benefits associated with the West Lake Boudreaux Shoreline Protection and Marsh

Creation project and Lake Boudreaux Freshwater Introduction project.

Project Cost:

The construction cost including 25% contingency is approximately \$19,785,008.

Identification of Potential Issues:

At this time, the only potential issues that could affect this project would be one oyster lease that is located within the navigation channel.

Sponsoring Agency and Contact Person:

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



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Lake Boudreaux/Lake Quitman Landbridge



**R3 –TE 11 Terrebonne Bay Shoreline Protection
Comprehensive Plan Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 10, 2007

Project Name:

Terrebonne Bay Shoreline Protection Comprehensive Plan

Coast 2050 Strategy:

Coastwide Strategy: Maintenance of Bay and Lake Shoreline Integrity

Region 3 Strategy #11- Maintain shoreline integrity of marshes adjacent to Caillou, Terrebonne, and Timbalier Bays

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, The southern most contiguous land mass from Bayou Terrebonne east to a point just east of Bayou de Mongue.

Problem:

Halt shoreline erosion in the northern most portions of Terrebonne Bay. Shoreline erosion has been calculated to be between 1 and 85 ft/yr. This rapid loss of land has dramatically increased the tidal prism in the area and directly contributed to the ongoing flooding problems of many communities in the area including the town of Montegut.

Goals :

- 1) Halt shoreline erosion
- 2) Reduce water exchange between Terrebonne Bay and interior lakes during normal tidal events and small storms.

Proposed Solutions:

A floatation canal would be dredged parallel to northern most reaches of Terrebonne Bay and material dredged from that floatation canal would be used to create an earthen dike. Because of the anticipated poor quality of the soils in the Terrebonne Bay area (they may not support large quantities of weight such as rock), that dike would be protected by a series of concrete mats, anchored on both back (marsh side) and front sides (bay side). The dike would be approximately 3.5 foot high with a crown width of 5 feet. The front side portion of the dike would be extended to the minus 2 foot contour so as to reduce the chances of under cutting of the concrete mats and would have a large side slope i.e., 5:1 to 8:1 and a back side slope of 3:1. This could be one part of a comprehensive plan to protect the northern shoreline of Terrebonne Bay from further erosion and could include marsh creation behind the proposed shoreline protection. This would also work synergistically with any future freshwater introductions that have been suggested north of Terrebonne Bay.

Preliminary Project Benefits:

- 1) Using 1978 and 2005 DOQQ maps, erosion rates within the project area range from 1 to 85 ft/yr, with an average erosion rate being at least 25 ft/yr. **This project would directly benefit approximately 300 acres of emergent brackish marsh within the 20 year project life through a reduction in shoreline erosion. An additional 300 acres of indirect benefits could be realized through a reduction in wind induced waves.**
- 2) If the proposed project were to be constructed the loss rate would be expected to be reduced over 75% throughout the area of direct benefits over the project life.

3) This project would help maintain the Terrebonne Bay shoreline as well as many other small lakes and marsh ponds. If this becomes part of a comprehensive plan it could help with the flooding problems in the Montegut area associated with prolonged southern winds and small storms.

Identification of Potential Issues:

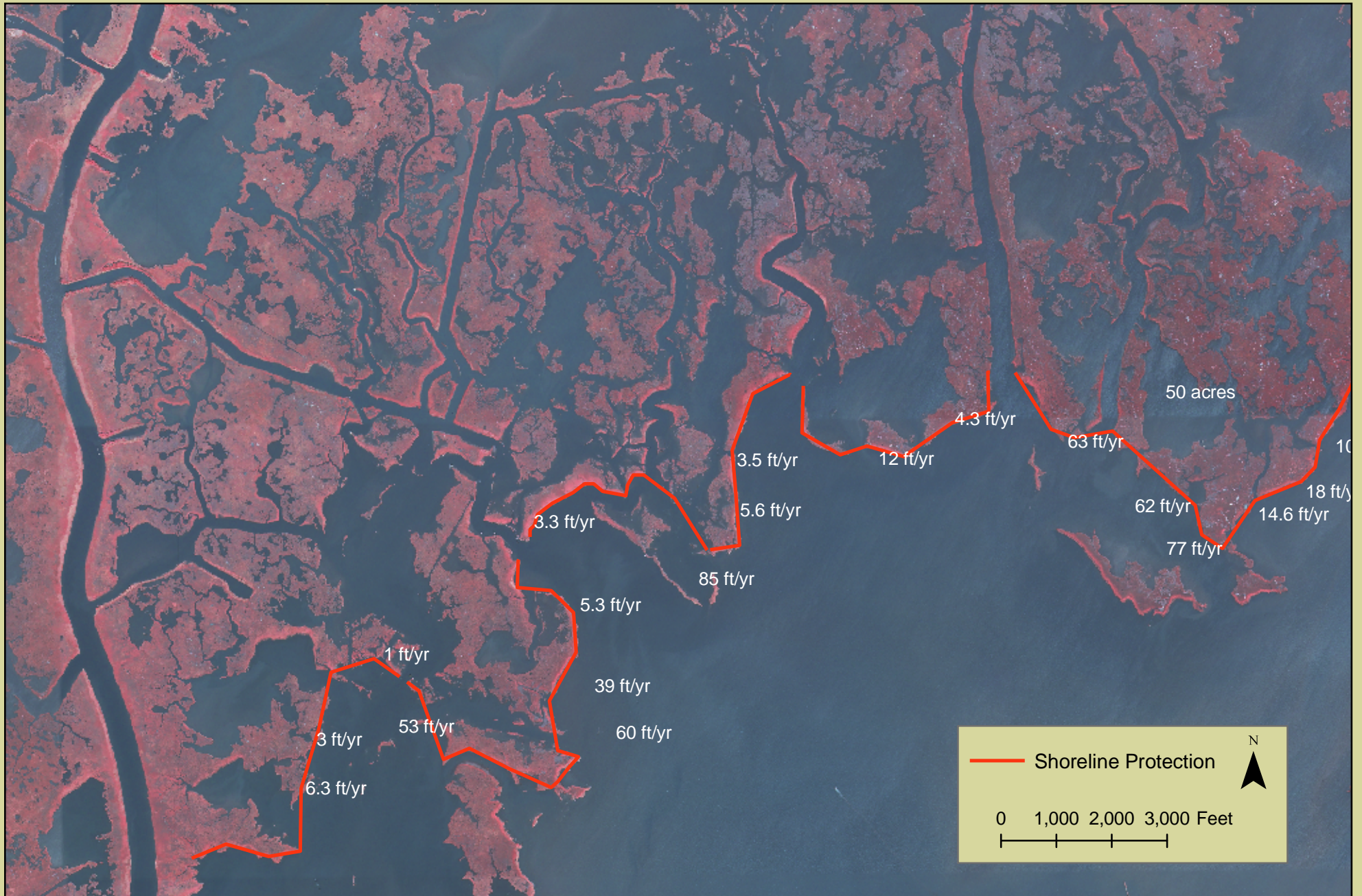
There are several oyster leases and one pipeline that are potential issues with this project.

Preliminary Construction Costs:

The construction cost including 25% contingency is approximately \$28,119,543.

Preparer(s) of Fact Sheet:

Robert Dubois, USFWS, (337) 291-3127, robert_dubois@fws.gov



**R3 –TE 12 Southeast Lake Boudreaux Marsh
Creation and Terracing Project**

PPL17 PROJECT NOMINEE FACT SHEET- Revised
January 24, 2007

Project Name:

Southeast Lake Boudreaux Marsh Creation and Terracing Project

Coast 2050 Strategy:

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

Boudreaux Mapping Unit

Establish and Protect Ridge Function and Beneficial Use of Dredged Material

Project Location:

Region 3, Terrebonne Basin, Boudreaux Mapping Unit, southeast Lake Boudreau

Problem:

The interior marshes of Terrebonne Parish have experienced tremendous 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 marshes has exposed significant infrastructure to open water conditions, and has made the area less suitable for fisheries and wildlife. The proposed project would re-establish lost marsh via placement of dredged sediment and terracing. The project would provide direct protection to the Petite Caillou Ridge and significant infrastructure including LA Hwy 56, which is currently subjected to wave energy entering from Lake Boudreaux. The 1983 to 1990 loss rate of the Boudreaux mapping unit is 1.8%/yr, with a subsidence rate of 1.1 to 2.0 ft/century. Loss rates based on newer analyses of infrared photography and satellite imagery indicate rapid land loss resulting predominantly from subsidence.

Goals:

Project goals include 1) creating emergent marsh and associated edge habitat, 2) reduce the wave erosion impacting the Petite Caillou ridge, and 3) constructing terraces and secondarily promote conditions more conducive to the colonization of submerged aquatic vegetation (SAV) than presently exist.

Proposed Solutions:

The project consists of both marsh creation and terracing by dedicated dredging to create habitat and provide buffer protection to the Petite Caillou Ridge and LA Hwy 56. Approximately 250 acres of intertidal brackish marsh will be created using material from Lake Boudreaux. In addition, approximately 30,000 linear feet of earthen terraces (3 ft height, 10 ft crown with 1:5 slopes) will be constructed with a marsh buggy within the shallower water bodies flanking the existing marshes. Upon completion, the constructed areas will be vegetated with indigenous marsh species to predominantly include *Spartina alterniflora*.

Preliminary Project Benefits:

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

500 acres will be benefited from this project, equally divided between the marsh creation and terrace field.

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

230 acres. 205 acres of marsh platform (250 ac - 0.9%/yr x 20 years) and 25 acres of emergent terraces (31 acres emergent terrace – 0.9%/yr x 20 years) are anticipated to remain after twenty 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%).*

In concurrence with the Environmental Working Group, anticipated reduction of the background loss rate is 50-74% for marsh creation and terracing.

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 help re-establish part of the natural lake rim of Lake Boudreaux, as well as help maintain the structural framework function of the Bayou Petite Caillou Ridge.

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 the Bayou Petite Caillou ridge that contains LA Hwy 56. In addition, substantial benefits to non-critical infrastructure including camps, residences, and oil and gas infrastructure are anticipated.

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

This project would provide a synergistic effect with the Madison Bay project that was approved for Phase 1 under PPL-16. The projects in combination would help secure the Bayou Terrebonne and Bayou Petite Caillou ridges, LA Hwy 56, and other commercial and private infrastructure. In addition, the projects together would stabilize and help prevent the possible coalescence of Lake Boudreaux with Terrebonne Bay.

Identification of Potential Issues:

In speaking with the Parish, the landowners are in support of this project. There are no oyster leases in either the potential borrow area or disposal area. There are a couple wells and a few pipelines that will require landrights coordination.

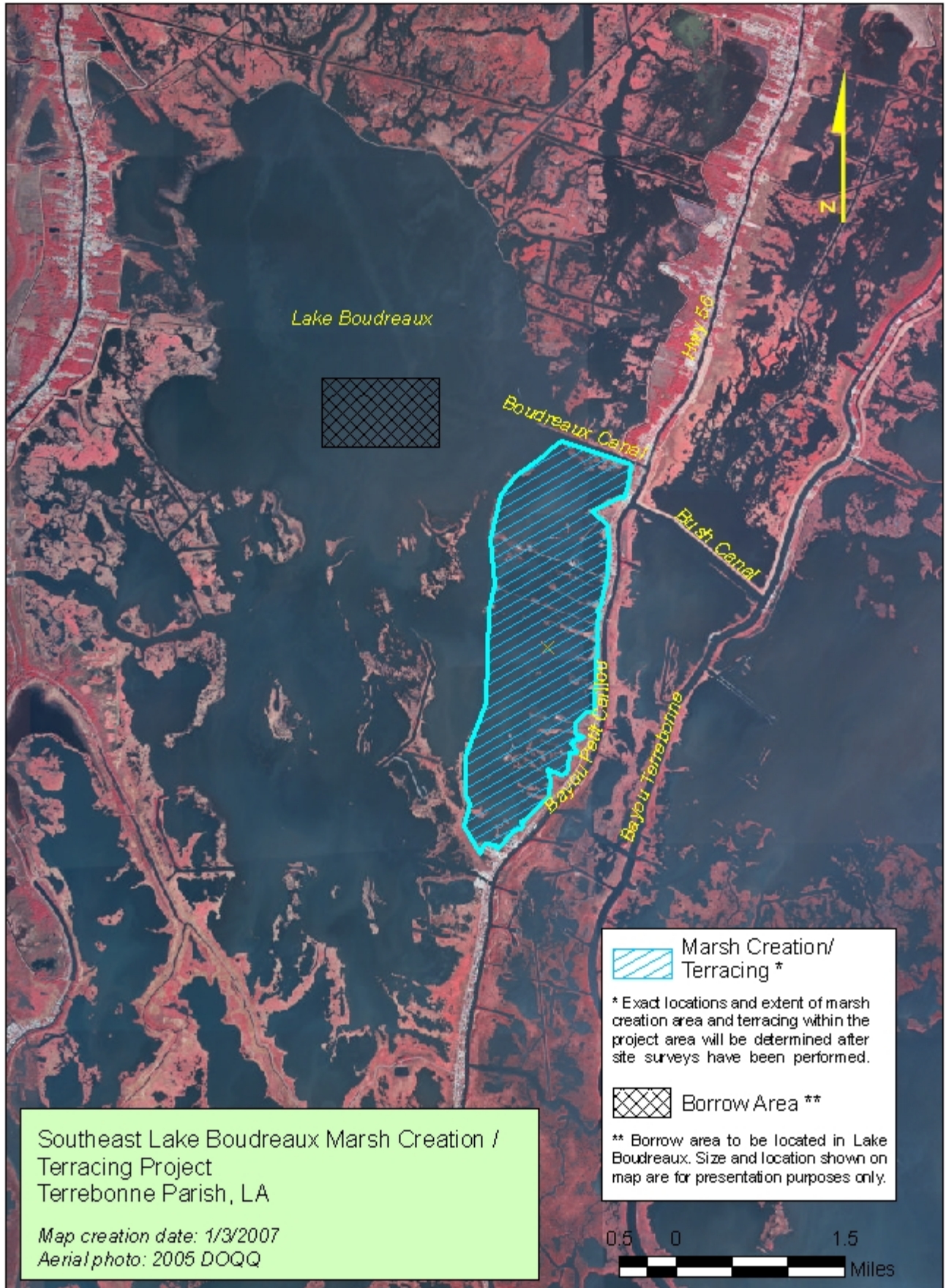
Preliminary Construction Costs:

Total construction costs including marsh creation, earthen terracing, vegetative plantings, mobilization, and 25% contingency is estimated at \$11.8M.

Preparer(s) of Fact Sheet:

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

Daniel Dearmond, LDNR, (985) 449-5103, danield@dnr.state.la.us



Region 3 – Teche/Vermilion Basin

Proposed Projects

R3- TV 1 Vermilion Bay Vegetative Planting and Maintenance Project

REGION 3 – RPT
PPL-17 PROJECT NOMINEE FACT SHEET
Revised - 1/19/2007

Project Name

Vermilion Bay Vegetative Planting and Maintenance (Formerly North Vermilion Bay Planting & Maint.)

Coast 2050 Strategy

Region 3. #12. Maintain shoreline integrity and stabilize critical areas

Project Location

Region 3, Teche/Vermilion, Iberia and Vermilion Parishes, Vermilion Bay shoreline extending from Southwest Point (Vermilion Parish) 69 miles east to Shark Bayou (Iberia Parish).

Problem

The TV-13a Oak/Avery Hydrologic Restoration project included 5.1 miles of vegetative plants along the north Vermilion Bay shoreline between Oaks and Avery Canals. In addition, Avery Island Inc. in conjunction with the Natural Resource Conservation Service (NRCS) has been planting the north shore of Vermilion Bay with smooth cordgrass (*Spartina alterniflora*) since 1990. The plantings have been highly successful in reducing the rate of shoreline erosion by capturing and accreting sediments from the Atchafalaya River and proving quite resilient in the wake to two major hurricanes – Lili and Rita. However, some site specific areas of the vegetative planting areas become denuded annually due to hurricane and other wave generated conditions.

Proposed Project Features

The project calls for annual vegetative planting of impacted areas along the shoreline of Vermilion Bay through a maintenance planting program. A reconnaissance of the entire Vermilion Bay shoreline would be conducted to determine the most suitable locations for the vegetative planting of smooth cordgrass. Ten rows of smooth cordgrass plugs would be installed on two foot centers. During FY08, vegetative planting would be installed along an estimated (20 miles of shoreline). During the next four years, maintenance plantings would be conducted at each site to ensure project success.

Goals

This project would stabilize 20 miles of the Vermilion Bay shoreline through a series of intensive low-cost vegetative plants.

Preliminary Project Benefits

Vegetative planting and maintenance along the Vermilion Bay shoreline have been extremely successful at halting shoreline erosion and retreat between Avery Canal and Weeks Island. In many areas, established plantings have captured the westerly sediments moving down the GIWW from the Atchafalaya River and Wax Lake Outlet causing accretion and advancement of the plantings seaward into the Bay. This project would create emergent marsh and protect the existing shoreline.

Identification of Potential Issues

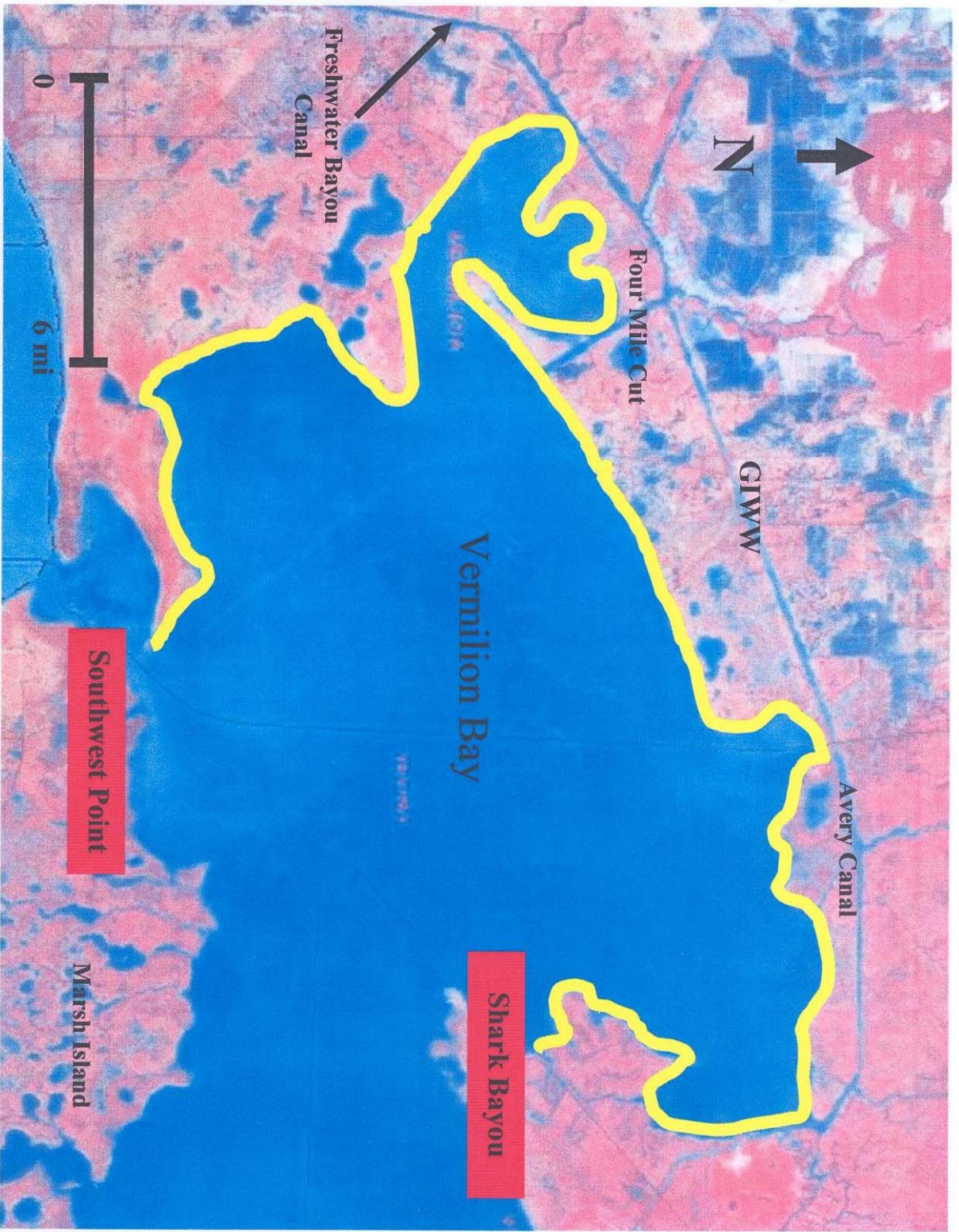
None identified

Preliminary Construction Costs

\$1 million

Preparer of Fact Sheet

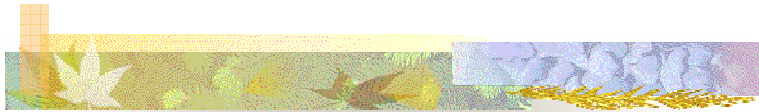
Randy Moertle, Avery Island Inc., (985) 532-6388, rmoertle@bellsouth.net



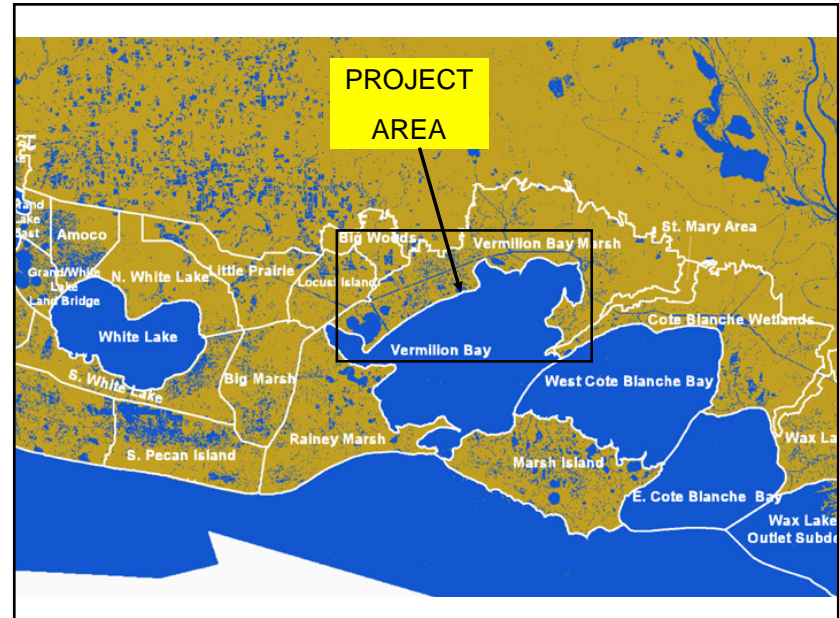
Project Name: Vermilion Bay Vegetative Planting and Maintenance
(± 20 miles of planting with 4 yrs of maintenance planting)

Data Source:
Louisiana Department of Natural Resources
From 2005 Cir DOQQ imagery

NORTH VERMILION BAY SHORELINE VEGETATIVE PLANTING & MAINTENANCE



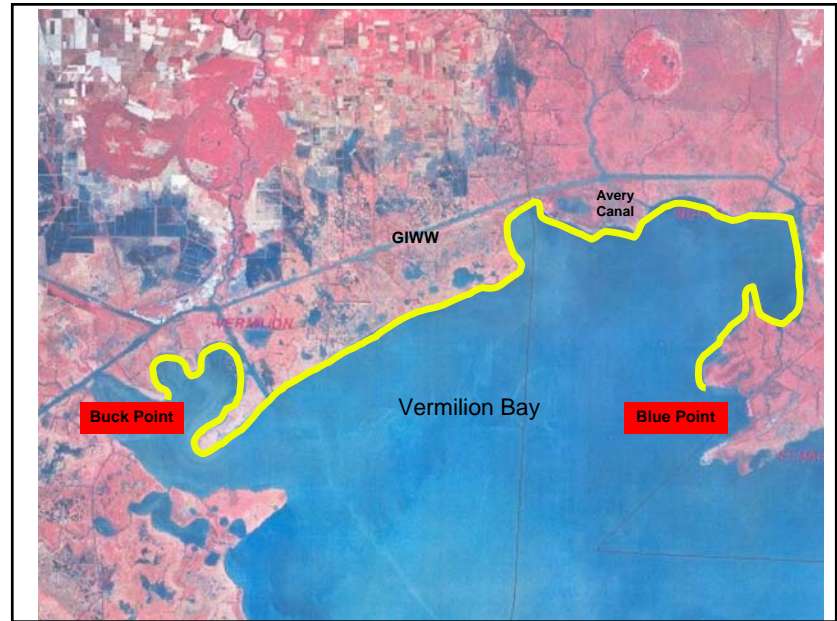
REGION 3
PROJECT PRIORITY LIST 17
NOMINATION



COAST 2050 STRATEGIES

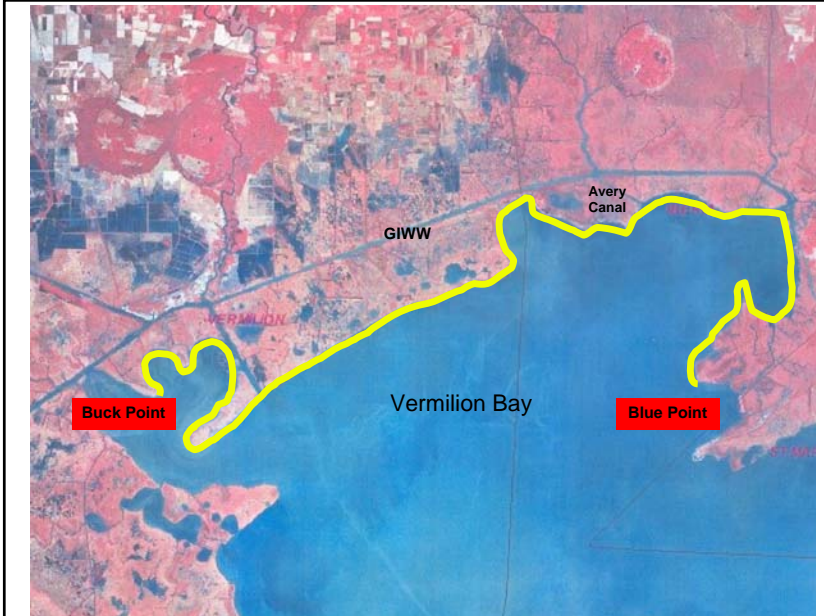
- Maintain shoreline integrity and stabilize critical areas of Teche/Vermilion Bay Systems













PROJECT OBJECTIVES

- Arrest bay shoreline erosion through maintenance of vegetative plantings for a minimum of 5 years to ensure establishment of plantings
- Demonstrate that maintenance of vegetative plantings can provide low cost shoreline protection
- Demonstrate that maintenance of vegetative plantings can accrete land seaward

**R3- TV 2 Vermilion Bay Shoreline Protection
and Marsh Creation Project**

R53 TV-2 PPT
NRCS

PPL17 PROJECT NOMINEE FACT SHEET
1/10/2007

Project Name

Vermilion Bay Shoreline Protection and Marsh Creation Project

Coast 2050 Strategy

Region 3. #12. Maintain shoreline integrity and stabilize critical areas of Vermilion, East, and West Cote Blanche, Atchafalaya, Calliou, Terrebonne, and Timbalier Bay systems including the Gulf shoreline.

Project Location

Region 3, Teche/Vermilion, Iberia Parish, North shore of Vermilion Bay extending 1.5 miles west of Avery Canal

Problem

The TV-13a Oak/Avery Hydrologic Restoration project included 5.1 miles of vegetative plants along the north Vermilion Bay shoreline between Oaks and Avery Canals. The plantings have been highly successful in reducing the rate of shoreline erosion by capturing and accreting sediments from the Atchafalaya River, proving quite resilient in the wake of two major hurricanes – Lili and Rita. However, a 1-mile stretch just west of Avery Canal has remained a problem because a preexisting shoreline breach that has eroded beyond the natural lake rim, into organic interior marshes, and has proven too unstable for plantings alone. To complicate matters, the breach has broken through into a location keyway canal and threatens to undermine the remaining lake rim and a vast marsh complex. As a result, the lake rim will require reconstruction using some form of shoreline protection.

Proposed Project Features

The project calls for reestablishing lake rim function by constructing approximately 9,300 linear feet of wave dampening structure consisting of rock, sheet piles, or other method determined most feasible through further investigation. The structure will reconnect the solid lake rim on either side of the breach and new marsh will be created behind the shoreline protection.

Goals

The project will repair 1.5 miles of lake rim and complete the restoration of over 10 miles of north Vermilion Bay shoreline by repairing a breach into the interior marsh that threatens to undermine a much broader area.

Preliminary Project Benefits

Stop erosion in an area that has lost over 100 ft per year of shoreline in some areas and averages approximately 56 ft per year loss. Create approximately 108 acres of new marsh.

Identification of Potential Issues

None identified

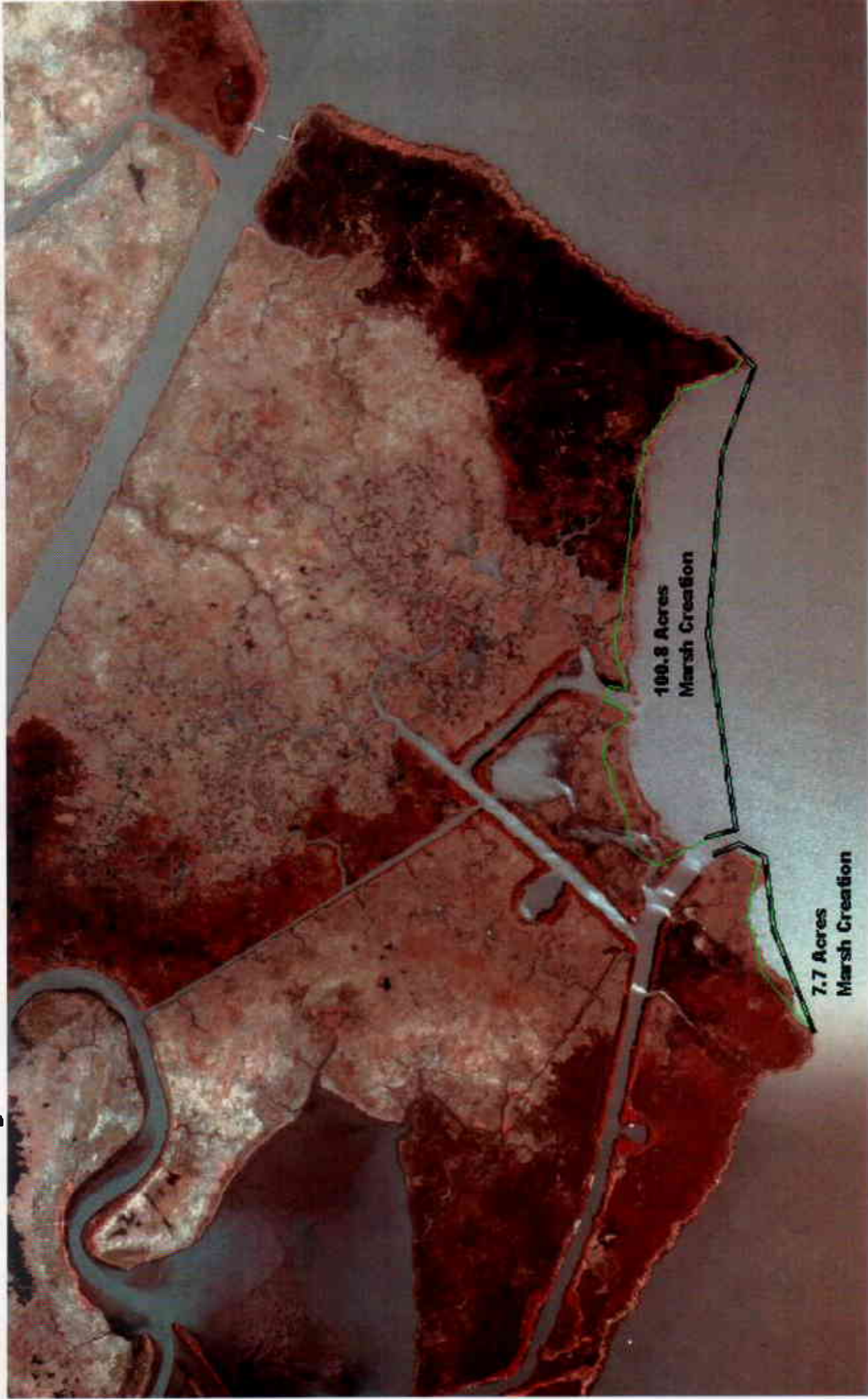
Preliminary Construction Costs

\$5 million

Preparer(s) of Fact Sheet

Charles Stemmans, NRCS, (337) 369-6623, charles.stemmans@la.usda.gov
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

Vermillion Bay Shoreline Protection and Marsh Creation Project



Vermillion Bay PPL 17

 Planned Structure Location

 Vermillion Bay Marsh Creation



Vermilion Bay Shoreline
PPL 17
Iberia Parish
Region 3
Teche/Vermilion Basin

1-30-40 Aerial Photo



3-2-98 Tigre Lagoon DOQQ

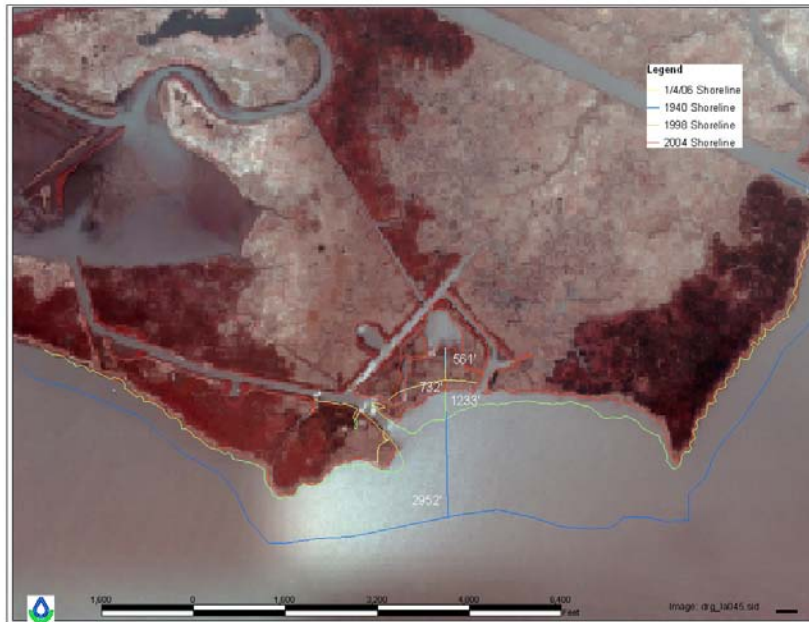


2004 DOQQ Mosaic



Shoreline Erosion

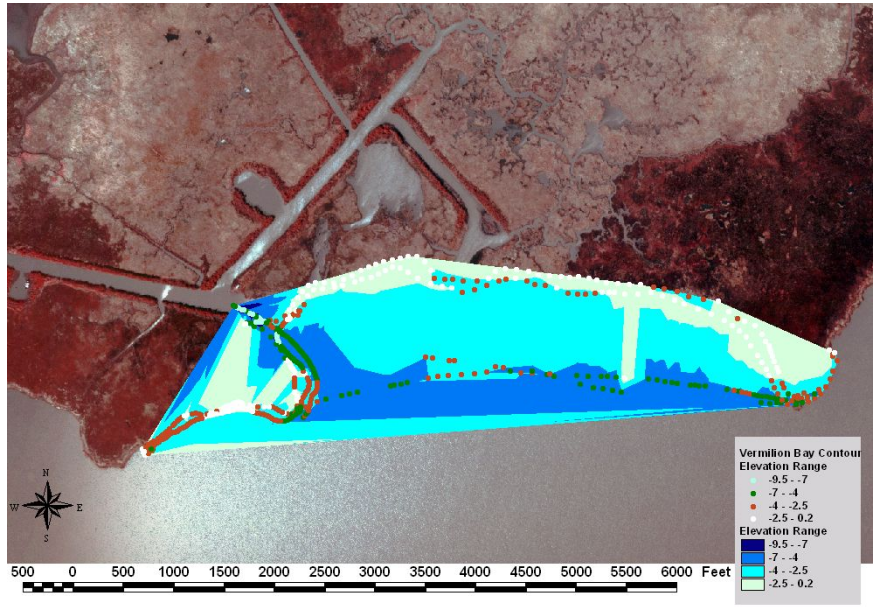
Distance from shoreline to point 1940, 1998, 2004 & on 1/4/06



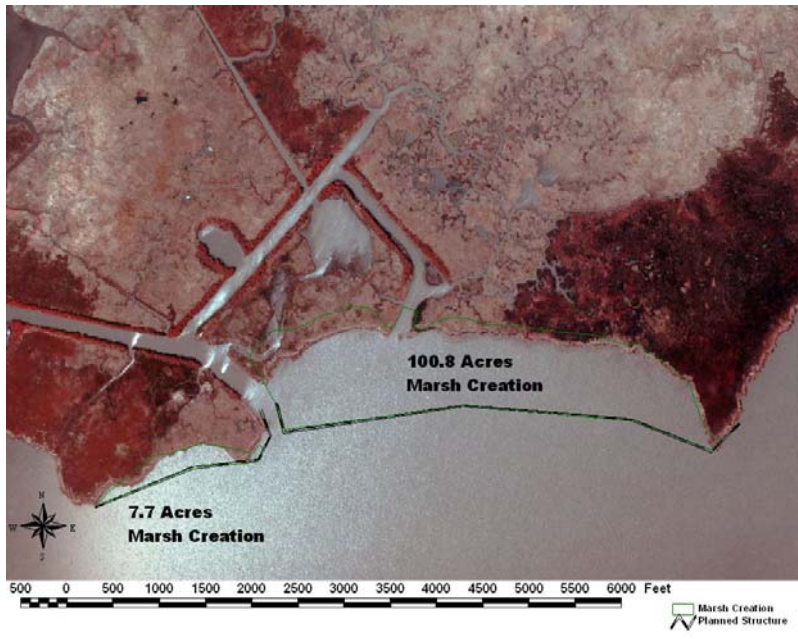
Shoreline Erosion

DESCRIPTION	FEET	LABEL	DATE OF FLIGHT	TIME YEARS	SHORELINE EROSION ft/yr
Distance to shoreline in 1940 = 2952'	2952	1940 Shoreline	01/01/40		
Distance to shoreline in 1998 = 1233'	1233	1998 Shoreline	03/01/98	57.37	29.96
Distance to shoreline in 2004 = 732'	732	2004 Shoreline	02/15/04	5.87	85.29
Distance to shoreline on 1-4-06 = 561'	561	1/4/06 Shoreline	01/04/06	1.86	91.92

Vermilion Bay Shoreline



Vermilion Bay Shoreline



**R3- TV 3 Four Mile Canal Freshwater
Redistribution Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 24, 2007

Project Name

4-Mile Canal Freshwater Redistribution

Coast 2050 Strategy

Regional: #2 Increase deltaic land building where feasible
#6- Stabilize banks and/or cross-sections of any navigation canal for water conveyance and/or for restoring hydrology of adjacent marshes
#7- Maintain or direct Atchafalaya River water or other freshwater sources and sediment through the Gulf Intracoastal Waterway or other water sources
#8- Dedicated delivery and /or beneficial use of sediment for marsh building by any feasible means
#10 - Restore historic hydrologic conditions of major tidal exchange points or prevent adverse tidal exchange points between Gulf/lake, lake/marsh, bay/marsh, Gulf/bay, and marsh/navigation channel locations
#13- Construct interior islands and/or reefs to protect bay/lake shorelines and/or restore hydrology
#15 – Optimize Gulf Intracoastal Waterway flows into marshes and minimize direct flow into bays
#17 Reduce sedimentation in bays

Coastwide: Stabilization of the width and depth of major navigation channels.

Mapping Unit: Vermilion Bay Marsh (81) Stabilize Banks of Navigation channels and canals
(82)- Protect Bay/ Lake Shorelines
(83) – Stabilize banks of navigation channels and canals.

Project Location

The project is located in Region 3, Teche/Vermilion Basin, Vermilion Parish, along the navigation channel referred to as the 4-mile Cut due south of Intracoastal City.

Problem

A majority of the freshwater and sediments available from the Vermilion River are diverted southward into Vermilion Bay via the 4-Mile Channel and bypass adjoining wetlands and open water areas. The 4-Mile Channel has enlarged from a 300 ft. constructed width to currently a 950 ft. wide channel due to wake action from commercial and recreational marine traffic.

Wave energy has eroded the west bank of the Four Mile Canal navigation channel. The southern portion of Vermilion River, between the Four Mile Canal Terracing Project terrace fields, has silted in.

Proposed Solution

Construction of a low sill weir across the 4-Mile Channel approximately 1 mile north of its confluence with Vermilion Bay. Adjoining rock abutments would be installed immediately upstream and downstream of the proposed structure to prevent further erosion of the channel bank lines. The weir would still allow unrestricted access to commercial marine traffic. Dredge the lower section of the Vermilion River that has silted in. Dredge spoil would be placed in marsh lobes along Four Mile canal to recreate the canal bank. Openings would be left to

allow for small boat traffic and water flow into the terrace fields of the TV-18 terraces for sediment trapping. Both the dredge spoil and what remains of the west bank would be armored with rock using light weight aggregate to minimize the load. Maintenance would include maintaining the rock armor only. No plantings necessary in this area, as seed bank is established.

Goals

Restore the historic cross-sectional area of the 4-Mile Channel to authorized project dimensions which would further enhance the redirection of freshwater and sediments from the Vermilion River and GIWW systems into adjoining wetlands and open water areas. Use dredge spoil to create channel shoreline that has eroded. Establish and armor Four Mile Canal West Bank.

Preliminary Project Benefits

Restore to some degree the historic distributary patterns of the Vermilion River system thereby stabilizing water salinity levels and increasing sediment input in adjoining wetlands. The project will significantly enhance the availability of sediments for the adjoining TV-12 Little Vermilion Bay Sediment Trapping CWPPRA Project. Approximately 20 acres of marsh would be directly created, an undetermined amount indirectly through increased sedimentation, and additional acres benefited from a loss rate reduction of 25-49%.

The project area of impact is anticipated to be large due to the hydrologic redistribution, but also difficult to determine. For the sake of comparison the following estimate is provided. The TV-18 project area is 2648 acres. Assuming the proposed project would affect 2648 acres of marsh in the area, and the LDNR 1999 estimated loss rate in Vermilion Bay Marsh of 0.45% yearly between 1974 and 1990, a reduction in that loss of 25-49% would equate to 111 acres of marsh preserved.

Identification of Potential Issues

Pipelines are in the area limit the extent of the armoring and dredging.

Preliminary Construction Costs

The approximate construction cost for this project is estimated around \$5 million, including a 25% construction contingency.

Preparer of Fact Sheet

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





Bart Devillier/NRCS/(337) 893-5664/ bart.devillier@la.usda.gov

Joy Merino, NOAA, 337-291-2109/ joy.merino@noaa.gov

Four Mile Freshwater Redistribution

PPL17 Candidate



-  Rock Armor
-  Dredge spoil marsh creation
-  Dredging area
-  Rock Dike with boat bay

**R3- TV 4 Marone Point Shoreline Protection
Project**

PPL 17 Project Nominee Fact Sheet
January 10, 2007

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






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

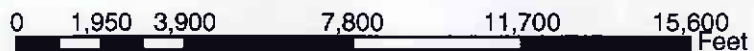
Charles Stemmans/NRCS/ (337) 369-6623 charles.stemmans@la.usda.gov

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.



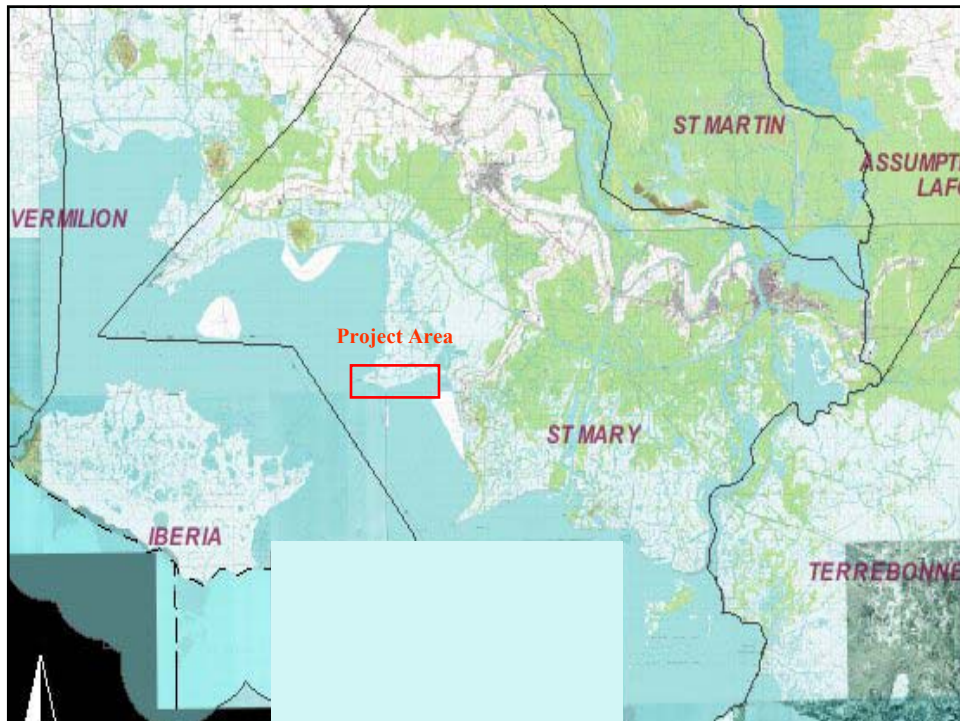
PPL 17 NOMINEE PROJECT SUBMISSION

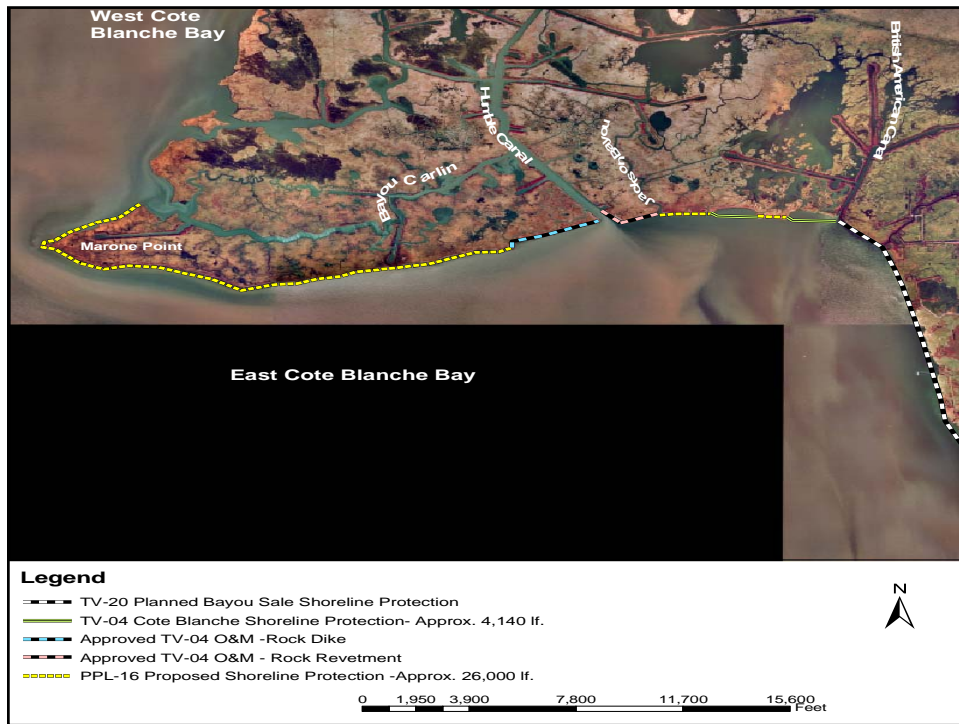
REGION III

TECHE / VERMILION BASIN

MARONE POINT SHORELINE PROTECTION

ST MARY PARISH





MARONE POINT SHORELINE PROTECTION

ST MARY PARISH

Problems:

- Shoreline erosion rates of 15 – 20 feet per year
- Circumvention & disruption of interior drainage patterns
- Increasing interior marsh loss rates

Project Features:

- 26,000 LF of armored protection parallel to existing shoreline

Project Benefits:

- Directly protect ~ 179 ac of fresh/intermediate marsh
- Reduce interior marsh loss rates
- Synergistic effect with 2 CWPPRA Projects (TV-4 & TV-20)

**R3- TV 5 Coastal Wetland Restoration by
Backfilling Oil & Gas Canals in St. Mary Parish
Project**

BE3 TV-5

DRAFT PPL17 PROJECT NOMINEE FACT SHEET

December 14, 2006

Project Name

Coastal Wetland Restoration by Backfilling Oil & Gas Canals in St. Mary Parish

Coast 2050 Strategy

Coastwide Strategy: Restore/sustain marshes

Project Location:

Region 3, ~~Atchafalaya~~ Basin, St Mary Parish, Marone Point area, west of Highway 317
Teche-Vermilion

Problem

Canal dredging is known to have contributed significantly to land loss in Louisiana, yet little has been done to effectively reverse the damage caused by canals and spoil banks. Directly, canals have turned marsh to open water, and spoil banks have replaced marsh with an upland environment. Indirectly, spoil banks restrict water flow above and below the marsh surface and cause both increased periods of flooding and drying of the marsh behind them. Increased flooding can lead to stress and mortality of marsh vegetation, while drying the soil increases subsidence through the oxidation of organic matter. These hydrologic alterations also limit sediment deposition in the adjacent marshes.

Proposed Project Features

This project will backfill canals in strategic landscape positions to maximize the restoration of natural hydrologic conditions. Backfilling has been successful in the past at restoring single canals in a variety of locations, but it has never been attempted as a strategy to restore open water areas surrounding the canal. Removing the spoil banks in a strategic manner will allow the natural marsh drainage networks to reemerge, and allow for higher marsh sedimentation through a more natural flooding cycle.

Goals

- Create 200 acres of emergent marsh over the project life
- Reduce the rate of loss of emergent wetlands surrounding the canals by >75%
- Increase SAV cover in open water
- Increase the area of shallow water habitat in the project area.

Preliminary Project Benefits:

- Net creation of 200 ac of emergent marsh in 20 years
- Protect another 100 ac of emergent marsh from loss over 20 years
- Increase SAV and shallow water habitat

Identification of Potential Issues

There may be landrights issues and oil/gas canal/pipeline issues.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$600,000

Preparer of Fact Sheet

Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov



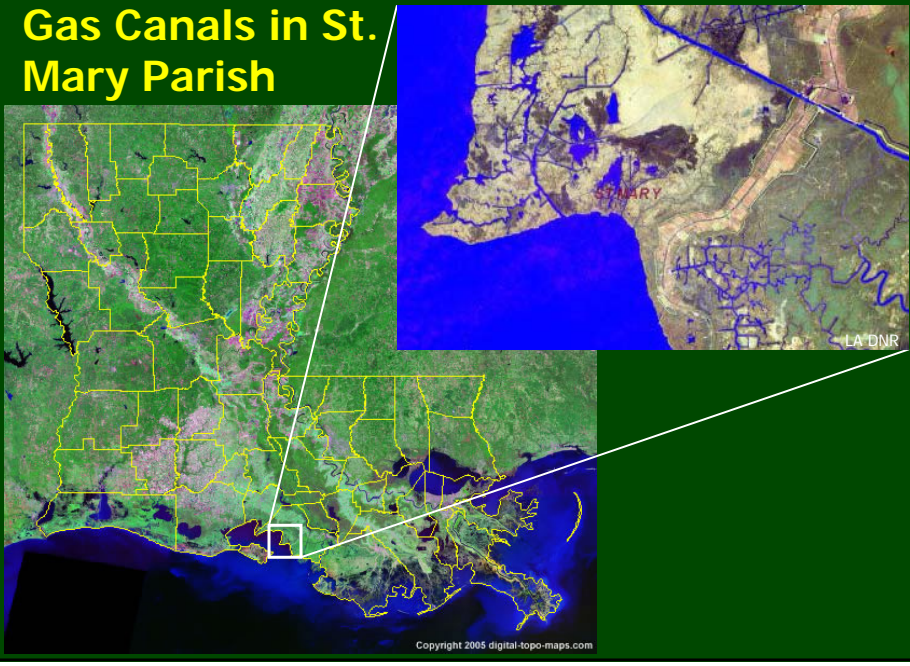
Louisiana Department of Natural Resources

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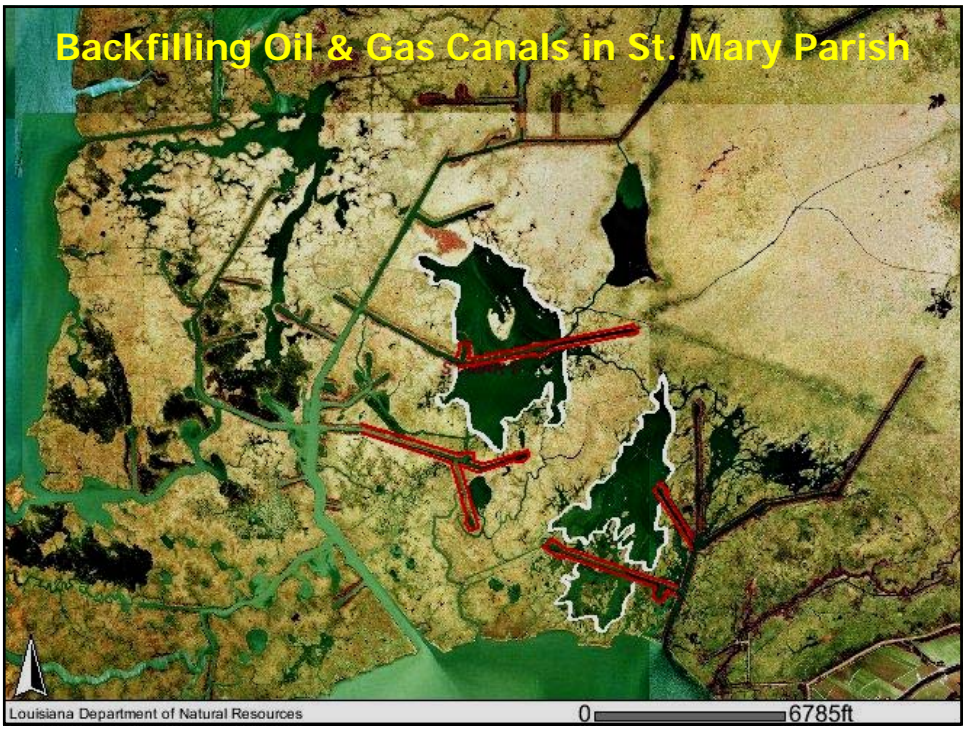
PPL 17 Proposed
Backfilling Oil & Gas
Canals in St. Mary Parish

Data Source:
LA Department of Natural Resources
Map Date: December 2006

Backfilling Oil & Gas Canals in St. Mary Parish



Backfilling Oil & Gas Canals in St. Mary Parish



Backfilling Oil & Gas Canals in St. Mary Parish

Goals:

- Create emergent marsh habitat
- Reduce rate of wetland habitat loss surrounding the canals by 75%
- Increase SAV cover in open water
- Increase area of shallow water habitat

Cost/Benefits:

- ~200 acres of emergent marsh created over 20 years
- Protect ~100 acres of marsh from loss over 20 years
- Est. Cost + contingency: ~ \$600K

Backfilling Oil & Gas Canals in St. Mary Parish

Questions?

Ken Teague
EPA Region 6
(214) 665-6687

Teague.Kenneth@epa.gov



Region 4
Rockefeller Wildlife Refuge
January 9, 2007



ATTENDANCE RECORD



DATE(S) January 9, 2007 10:00 A.M.	SPONSORING ORGANIZATION COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LOCATION Rockefeller Wildlife Refuge Rockefeller Refuge Grand Cheniere, Louisiana
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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION IV

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	TELEPHONE NUMBER
Darryl Mark	Senior Fish & Wildlife Biol. / USFWS	337-291-3111
Kelley Templet	CRS / DNR	225-342-1592
Susan Hill	DNR / RTS / ER Susan.hill@la.gov	225.342.1359
Mandy Green	DNR / ER	225-342-1357
DAVID LINDE VIST	DNR / ER	225-342-9683
Randy Moertle	M.O. Miller Estate	(985) 532-6388
FM HESS	LDWF	(337) 538-2276
Sherill SAENZ	Varim. / m	337 893 0368
Troy Mallach	NRCS	337 / 291-3064
TINA HALL	Cameron Police Jury	337 / 905-1189
SARAH HENNINGTON	MVN Corps of Engineers	504-862-2504
Ken Teague	EPA	214-665-6687
Sam Hants	COE	504.862.2518
Scott Wilkinson	LDEQ - SWCO	337/491-2667
Curt MacCortel	BLACK LAKE LAND Co.	337-802-9548
Billy Eakin	LDEQ	337-491-2667
Bart Devillier	NRCS	337-893-5664 Ext. 3
Honora Buras	LDNR	225-342-4103
JOHN PETITBON	COE	504-862-2732
Erick Swenson	LSU	225 578 2730
MICHAEL HARRISON	BIOLOGIST MGR, LDWF - LAKE CHARLES	337-491-2579
Rick Braussard	USACE	504.862.2402

**Region 4
Regional Planning Team Meeting
9 Jan 07
Rockefeller Refuge, LA**



**1. Welcome
and Introductions**



RPT Region 4
Leader:
Darryl Clark - FWS

Announcements

- First round of RPT meetings (Jan. 9 - 11, 2007) will be held to accept project and demo nominations. **NO VOTING** will take place at these meetings.
- Voting to select project nominees for all basins will occur at the Coast-wide Voting Meeting, on Feb. 7, 2007, in Baton Rouge at the LDWF Building (2000 Quail Dr.).
- Parish representatives are asked to identify themselves and announce who will cast votes at the coast-wide voting meeting.
- Agencies will be assigned responsibilities for preparing nominee fact sheets after the coast-wide voting meeting.

Announcements

Eligible parishes for basins in Region 4 include:

Calcasieu-Sabine Basin

Cameron Parish
Calcasieu Parish

Mermentau Basin

Cameron Parish
Vermilion Parish

2. PPL17 Selection Process and Ground Rules



CWPPRA PPL 17 Process Summary

- RPT meetings Jan. 9-11, 2007 to accept ideas for projects and demos (no limit on number of projects).
- Projects must support a Coast 2050 Regional or Coastwide Strategy.
- At the coast-wide voting meeting on Feb. 7, 2007. RPTs will select 2 nominees per basin (3 each in Barataria and Terrebonne).
- RPTs will select 6 demo projects coast-wide.
- Selection is by consensus, if possible; if not by agency/ parish ranked vote.

CWPPRA PPL 17 Process Summary

- Following the coast-wide voting meeting, an agency will be assigned to each project.
- The agency will prepare a fact sheet (1 page + map) so nominees can be evaluated for costs/ benefits.
- Engineering Work Group will estimate preliminary fully funded cost.
- Engineering and Environmental Work Groups will review draft features and benefits for each nominee.
- Work groups will also review demo projects and verify that they meet demo criteria.

CWPPRA PPL 17 Process Summary

- Matrix of costs/benefits transmitted to Tech. Comm. & Coastal Protection and Restoration Authority (CPRA).
- Tech. Comm. meets Mar. 14, 2007 at 9:30 am at the Corps in New Orleans to select up to 10 PPL 17 candidate projects and up to 3 demos.
- Tech. Comm. assigns agencies to candidate projects to develop costs/benefits for Phase 0.
- Workgroups conduct field trips to evaluate benefits and calculate fully funded costs for candidates.

CWPPRA PPL 17 Process Summary

- Public meetings will be Aug. 29, 2007 in Abbeville and Aug. 30, 2007 in New Orleans to present results of Phase 0 analysis
- On Sept. 12, 2007, the Tech. Comm. will select up to 4 candidate projects (and possibly demos) to present to the Task Force for Phase 1 funding.
- On Oct. 17, 2007, the Task Force will meet to select up to 4 projects for Phase 1 funding.

3. Region 4 Coast 2050 Regional Strategies



Projects nominated should be:

- consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies
- consider CWPPRA's prioritization criteria

Restore and Sustain Wetlands

- Operate locks in Mermentau basin to evacuate excess water
- Operate Calcasieu Lock to evacuate water after building new lock on a parallel channel for navigation.
- Manage Mermentau watershed to reduce rapid inflow to Lakes Subbasin
- Move water N to S across Hwy 82 in Mermentau Basin

Restore and Sustain Wetlands

- Restore connection of original Mermentau River to Gulf and constrict Ship Channel to authorized dimensions
- Dedicated dredging of sediment for wetland creation in Region 4
- Maintain Atchafalaya River water and sediment inflow thru the GIWW into the Mermentau Basin

Salinity Control in Calcasieu/Sabine Basin

- Control Calcasieu Ship Channel between Gulf and Calcasieu Lake
- Maintain Sabine River inflow
- Salinity control at Sabine Pass
- Salinity reduction in Sabine Lake at the Causeway
- Salinity control on east shoreline of Sabine Lake
- Salinity control of GIWW east of Sabine River

Restore, Protect and Maintain All Shorelines in Calcasieu/Sabine Basin

- Stabilize Grand/White Lake shorelines
- Stabilize Gulf shoreline in vicinity of Rockefeller Refuge
- Stabilize Gulf shoreline from Calcasieu Pass to Johnson's Bayou
- Maintain Atchafalaya mudstream in Gulf
- Restore longshore sediment flow across mouth of Calcasieu Pass
- Restore longshore sediment flow across mouth of Mermentau River Ship Channel

Maintain critical landforms

- Prevent coalescence of Grand and White Lakes
- Prevent coalescence of Grand Lake and GIWW

Coast 2050 Coastwide Strategies



- Beneficial Use of Dredged Material
- Dedicated Dredging for Wetland Creation
- Herbivory Control
- Stabilization of Major Navigation Channels
- Management of Bay/Lake Shoreline Integrity
- Management of Pump Outfall
- Vegetative Planting
- Maintain or Restore Ridge Function
- Terracing

4. PPL17 Project Nominations



Demonstration Projects

- Demonstrates a new technology
- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
 - Are unique and not duplicative in nature
 - Engineering/Environmental Workgroups will select sites for proposed demonstration projects
 - The RPTs will select 6 demos at the Feb. 7th coast-wide voting meeting. The Tech. Comm. will select up to 3 demos in March 07
 - PPL16 demos must be *re-nominated* for PPL17

5. Announcement of Coast-wide Voting Meeting



Coast-wide Voting Meeting

- **Feb. 7, 2007** in Baton Rouge to choose 2 nominees per basin (3 in Barataria and Terrebonne), and 6 demos.
- Parishes within each basin are asked today to identify who will vote at the coast-wide meeting.
- No additional projects can be nominated at the coast-wide meeting.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- No public comments accepted at the coast-wide meeting (public comments will be heard today).

Coast-wide Voting Meeting

- Each officially designated parish representative, each Federal agency, & DNR will have one vote.
- Voting will be by ranked vote.
- Each voting entity will be provided a ballot.
- Each voting entity will provide a ranked score for all projects – the highest ranking project will receive the highest vote and the lowest will receive a vote of “1”.
- Points will be totaled for all projects within each basin.

Coast-wide Voting Meeting

- The two nominees per basin (three in Barataria and Terrebonne) receiving the highest vote will be included in the list of 20 nominee projects.
- All demo projects will be voted upon in same manner with one coast-wide ballot.
- 15 minutes will be allowed for voting in each basin and for demos.

6. Announcements of Upcoming Meetings



PPL 17 Upcoming Meetings

Coast-wide Voting Mtg, 7 Feb 07, Baton Rouge
20 nominees and 6 demos selected

Technical Committee Mtg, 14 Mar 07, New Orleans
Selection of 10 candidates and up to 3 demos

Public Meetings
29 Aug 07, Abbeville
30 Aug 07, New Orleans

Technical Committee Mtg, 12 Sep 07, New Orleans
Recommend up to 4 projects for Phase I funding

Task Force Mtg, 17 Oct 07, New Orleans
Final selection of projects for Phase I funding

7. Adjourn



Region 4 – Mermentau Basin

Proposed Projects

R4- ME 1 900 Acre Terracing Project

R4-ME#1

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007

Region 4 – RPT Meeting at Rockefeller Wildlife Refuge

Project Name
900 Acre Terracing

Coast 2050 Strategies

- Coastwide Common Strategies
 - Terracing
- Region 4 mapping unit strategies
 - Terracing and plantings along northern boundary of unit

Project Location

Region 4, Mermentau Basin. Vermilion Parish. This project is bordered to the north by Hwy. 82 at Pecan Island and extends south for 1.5 miles. The project area is 755 acres in size and is located just west of the existing Pecan Island Terracing (ME-14) project.

Problem

In the mid-150s continuous dikes were constructed and water pumped off the marsh, transforming the area into dry pasturelands. As a result of oxidation, the soil elevation has subsided 1 to 2 feet. Deterioration and loss of the perimeter levees in recent years has converted much of the area to open water. Between 1998 and 2005, approximately ±320 acres of California bulrush (*Scirpus californicus*) and other emergent vegetation have been lost due to wind drive erosion and the high salinity conditions created by Hurricane Rita. It is anticipated that the entire project area will be converted to open water in the near future which will result in the net loss of emergent wetlands and aquatic fisheries habitat.

Proposed Project Features

The proposed project features consist of constructing 70,000 linear feet of terraces in 500 ft sections with a 50 ft break between each terrace.

Goals

The goals of the project are:

- 1) Increase land to water ratios by constructing approximately 100 acres of earthen terraces.
- 2) Increase land to water ratios by creating over 100 acres of land over 20 years after construction.
- 3) Increase percent cover of SAV in remaining open water areas to 50%.
- 4) Establish emergent vegetated marsh on planted terraces.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly?
 - 900 acres
- 2) How many acres of wetlands will be protected/created over the project life?
 - There would be 160 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%)?
 - <25%
- 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?
 - This project should provide some protection to Hwy. 82 from storm surge.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
 - This type project has (Pecan Island Terracing [ME-14]) has already been constructed just to the east.
 - The Freshwater Introduction South of Hwy. 82 (ME-16) will flow in and through the project area.
 - Should the South Pecan Island Freshwater Introduction (ME-23) be constructed, freshwater from White Lake could be diverted directly into the project area for the control of salinities and for nutrient input into the area.

Identification of Potential Issues

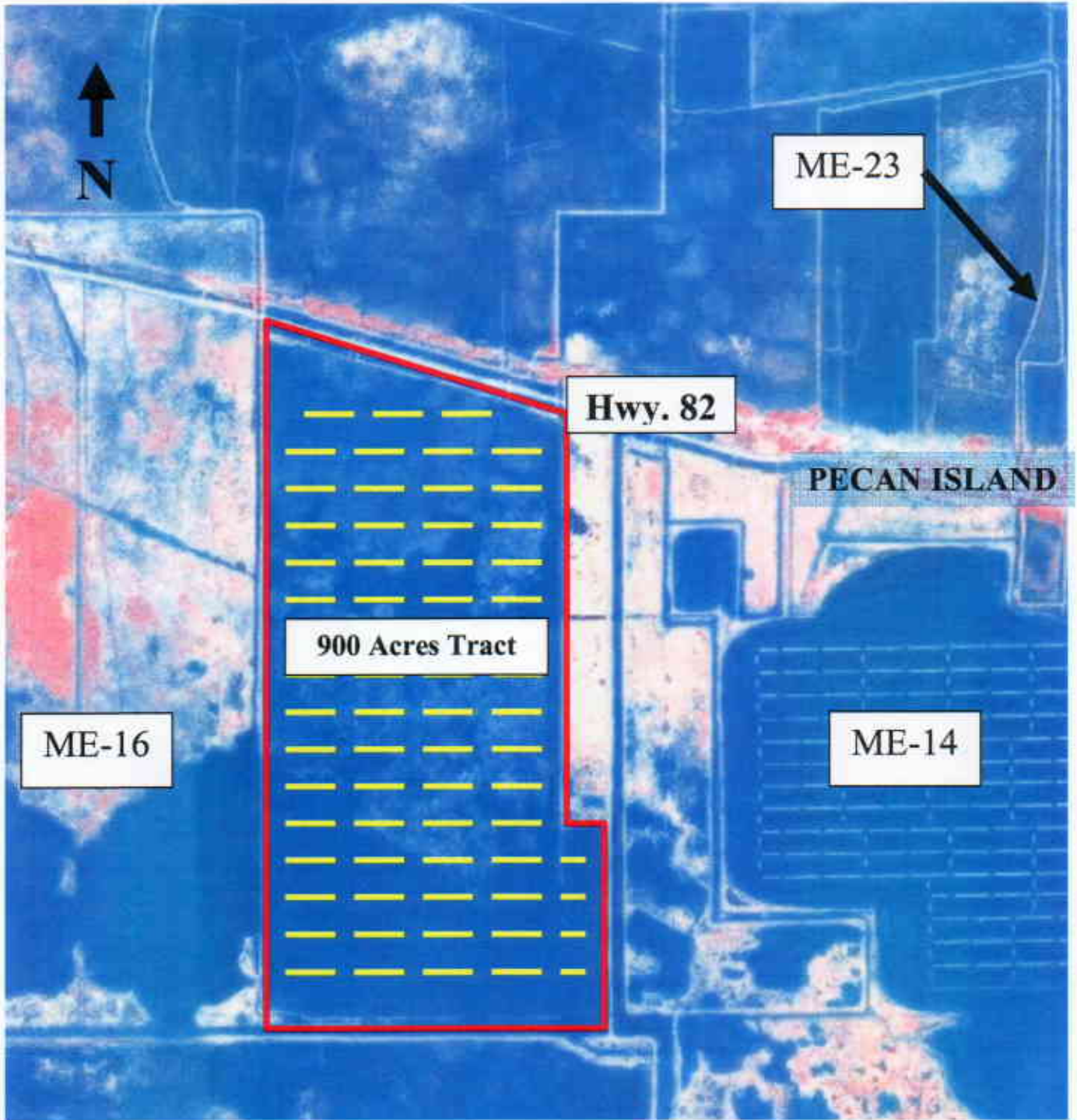
There are no potential issues identified at this time.

Preliminary Construction Costs

The construction cost plus 25% contingency is estimated to be approximately \$1,500,000.

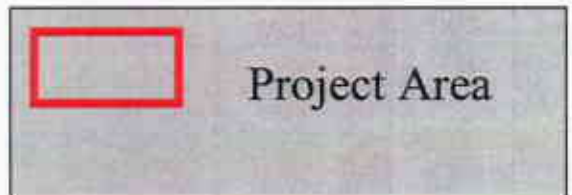
Preparer of Fact Sheet

Randy Moertle, M.O. Miller Estates; (985) 532-6388; rmoertle@bellsouth.net



Project Name: 900 Acres Terracing

Data Source:
Louisiana Department of Natural Resources
Coastal Restoration Division
From 2005 Cir DOQQ imagery
Map produced January 8, 2007



R4- ME 2 Mermentau Spillway Project

PPL17 PROJECT NOMINEE FACT SHEET

January 9, 2007

Mermentau Spillway

Coast 2050 Strategy

Ecosystem Management: Goal 1: Assure vertical accumulation to achieve sustainability.

Failure to achieve self-maintenance in the system means either the system cannot be sustained, or the system must be maintained artificially with large ongoing investments of labor, energy, and materials.

Regional: 1. Eliminate adverse hydrologic conditions, including elevated water levels and extreme salinity spikes.

Revised Regional Ecosystem Strategies: 8. Restore historic hydrologic and salinity conditions throughout Region 4 to protect wetlands from hydrologic modification.

Project Location

Region 4, Mermentau Basin, Cameron Parish, Big Burn Mapping Unit, on the west bank of the Mermentau River.

Problem

The project will reduce prolong periods of inundation by relieving flooding stress in the Big Burns sub basin of the Mermentau watershed particularly during, and after, high rainfall events. Currently, elevated water levels in Big Burns must sheet flow across Little Chenier Road south into an even smaller watershed. This results in prolong high water levels and stress to vegetation in the Big Burns sub basin. In this region, there is no significant source of sediments. Therefore, vertical accumulation and marsh sustainability must be achieved predominately by organic production.

Proposed Project Features

The project proposes to construct a spillway structure with stop log bays in the bank of the Mermentau River north of Little Chenier. That structure would allow excess water to flow into the river and reduce the amount of time vegetation is inundated in the Big Burns sub basin.

Goals

- 1.) Reduce the amount of time that vegetation is inundated after high rainfall and/or surge events.
- 2.) Reduce high salinity impacts to fresh and intermediate marshes by promoting rapid drainage into the Mermentau River.

Preliminary Project Benefits

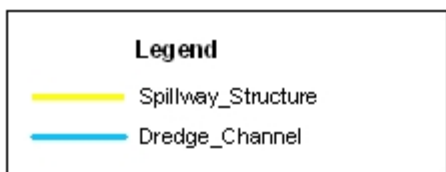
The project is designed to decrease marsh loss and allow the evacuation of excess water. The total area benefited is 65,000 acres. This project maintains the marshes in the Big Burns sub basin and has a positive net impact on critical infrastructure (highways, oil and gas).

Preliminary Construction Costs:

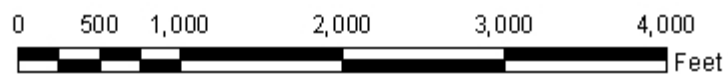
Preliminary cost estimates are approximately \$ 2 Million.

Preparers of Fact Sheet

Troy Mallach, NRCS troy.mallach@la.usda.gov and Ted Joanen, Miami Corporation



Mermentau Spillway
PPL17
Cameron Parish, Louisiana



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



**R4- ME 3 West Club Hydrologic Restoration
Project**

R4- PPL17-MER#3

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007

Region 4 – RPT Meeting at Rockefeller Wildlife Refuge

Project Name

West Club Hydrologic Restoration

Coast 2050 Strategies

- Region 4 mapping unit strategies
 - Improve Hydrology

Project Location

Region 4, Mermentau Basin. Cameron Parish. This project is bordered to the north by Hwy. 82 at Grand Chenier and extends south for 2.5 miles. The project area is 1,100 acres in size and is located just west of the existing South Grand Chenier Hydrologic Restoration (ME-20) project.

Problem

In the mid-1950s continuous dikes were constructed and water pumped off the marsh, transforming the area into dry pasturelands. The soil oxidized which lowered elevations of the land. Since the 1970s the area has been managed through levees and water control structures for waterfowl and estuarine fisheries organisms. As a direct result of Hurricane Rita (September 24, 2005), the levees were overtopped and breached with high salinity sea water. Between 1998 and 2005, it is estimated that ±550 acres of emergent vegetation has been loss due to the high salinities and uncontrolled water exchange. This computes to a loss of ±78 acres/year. It is anticipated that the remaining 550 acres will be converted to open water in the near future if the present conditions persist. The result will be a net loss emergent wetlands and aquatic fisheries habitat.

Proposed Project Features

The proposed project features consist of reconstructing approximately 4,500 linear feet of levee along the northwest corner and refurbishment of approximately 2,500 linear feet of existing levee. In addition, a 48” stop-log, flap-gate water control structure would need be put in the northwest corner of the project area to replace an existing structure and a new structure would be placed on the eastern boundary of the project area to facilitate drainage and prevent further saltwater intrusion.

Goals

The goals of the project are:

- 1) To develop hydrologic restoration of the area.
- 2) To maintain existing emergent vegetation.
- 3) To enhance and encourage the growth of emergent vegetation in open water areas created by Hurricane Rita and from extreme salinity events.

Preliminary Project Benefits

- 1) What is the total acreage benefited both directly and indirectly?
 - 1,100 acres
- 2) How many acres of wetlands will be protected/created over the project life?
 - There would be 500 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%)?
 - <25%
- 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?
 - This project should provide some protection to Hwy. 82 from storm surge.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
 - This type project is directly south of the South Grand Chenier Hydrologic Restoration (ME-20) and could receive benefits from the freshwater introduction component of the project.

Identification of Potential Issues

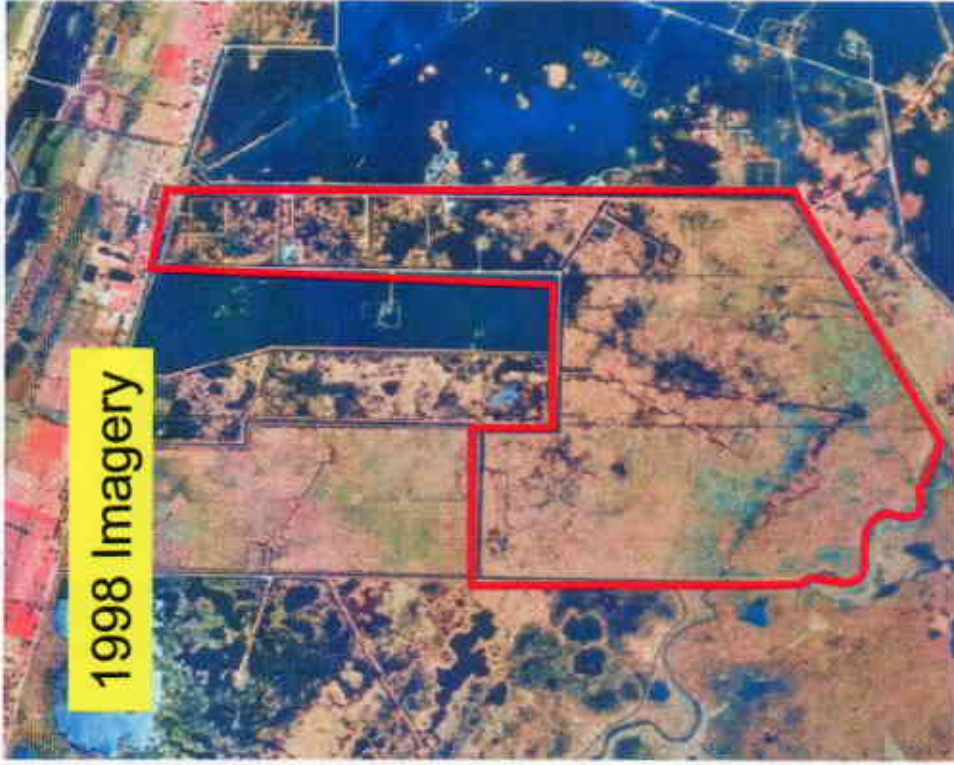
The only potential issues identified at this time would be pipeline and oil and gas servitudes.

Preliminary Construction Costs

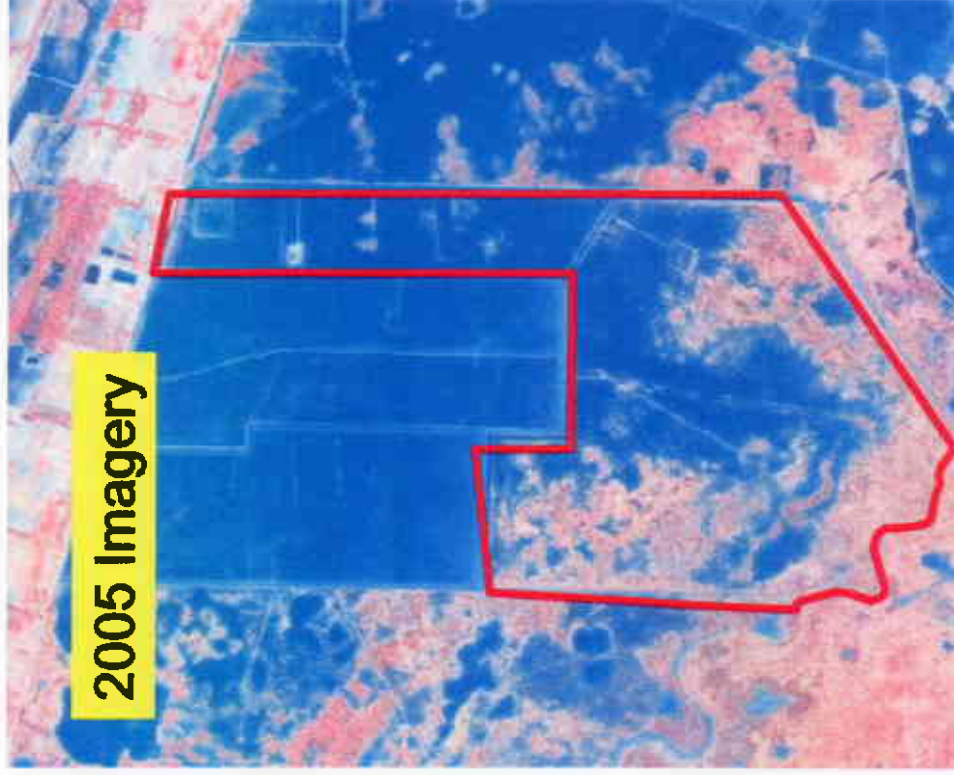
The construction cost plus 25% contingency is estimated to be approximately \$500,000.

Preparer of Fact Sheet

Randy Moertle, M.O. Miller Estates; (985) 532-6388; rmoertle@bellsouth.net



1998 Imagery

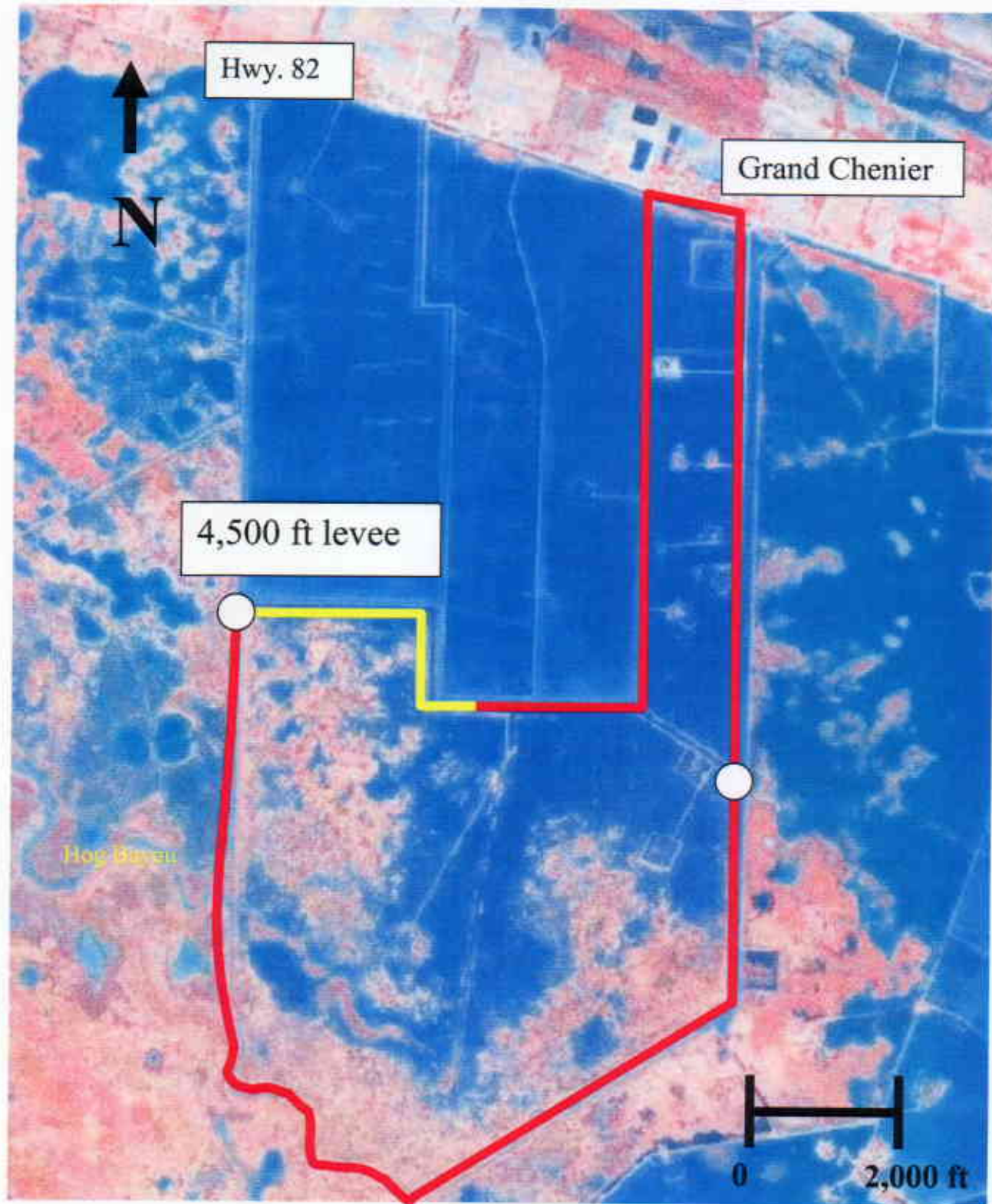


2005 Imagery

West Club – Land loss between 1998-2005 approximately 550 acres.



Project Area



Project Name: West Club Hydrologic Restoration

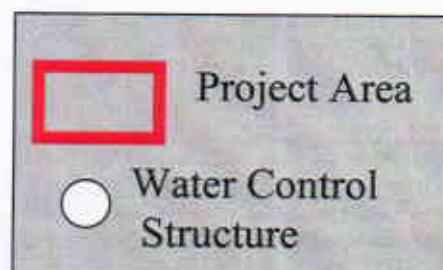
Data Source:

Louisiana Department of Natural Resources

Coastal Restoration Division

From 2005 Cir DOQQ imagery

Map produced January 8, 2007



**R4- ME 4 Lacassine Pool South Levee Protection
Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007 (Revised January 25, 2007)

Project Name:

Lacassine Pool South Levee Protection Project

Coast 2050 Strategy:

Coastwide Common Strategy of:

Stabilization of the width and depth of major navigation channels and other water bodies at their point of intersection.

Project Location:

Region 4, Mermentau and Calcasieu/Sabine Basins, Cameron Parish, Gulf Intracoastal Waterway (GIWW) between east pool levee and the Bell City Ditch.

Problem:

The north bank of the GIWW is eroding at a rate of 2 to 3 feet per year (range from 1 to 6 feet/yr). Lacassine Pool south levee could be breached in 30 - 40 years.

Goals :

1. Maintain integrity of Lacassine Pool south levee.
2. Maintain GIWW channel.

Proposed Solutions:

- 1) Acreage affected would be Lacassine Pool (16,000 acres), GIWW, and Lake Misere
- 2) 16,000 + acres would be protected.
- 3) It is anticipated that this project would decrease the loss rate by more than 75%.
- 4) This project would protect the GIWW and south pool levee.
- 5) Existing Lacassine Pool infrastructure would be protected.
- 6) This project would directly enhance the planned pool restoration projects.

Preliminary Project Benefits:

Lacassine Pool would be maintained as a prime waterfowl wintering habitat, and the GIWW channel would be stabilized.

Identification of Potential Issues:

The proposed project has the following potential issues: breach of Lacassine Pool levee and siltation of GIWW channel.

Preliminary Construction Costs:

Riprap material and installation (33,100 feet)	\$5,020,167
Mobilization	\$50,000
Demobilization	\$50,000
Total	\$5,120,167

Preparer of Fact Sheet:

Wayne Syron

U. S. Fish and Wildlife Service

Lacassine National Wildlife Refuge

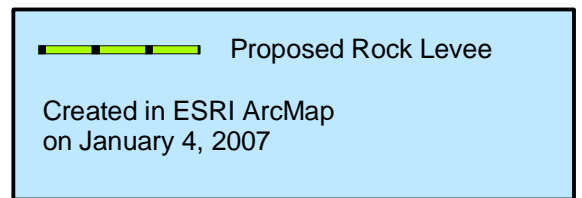
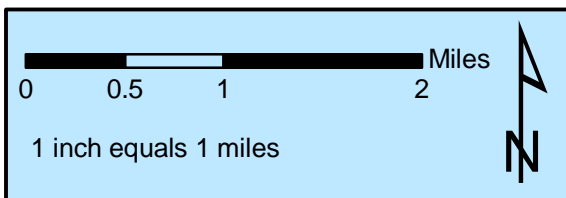
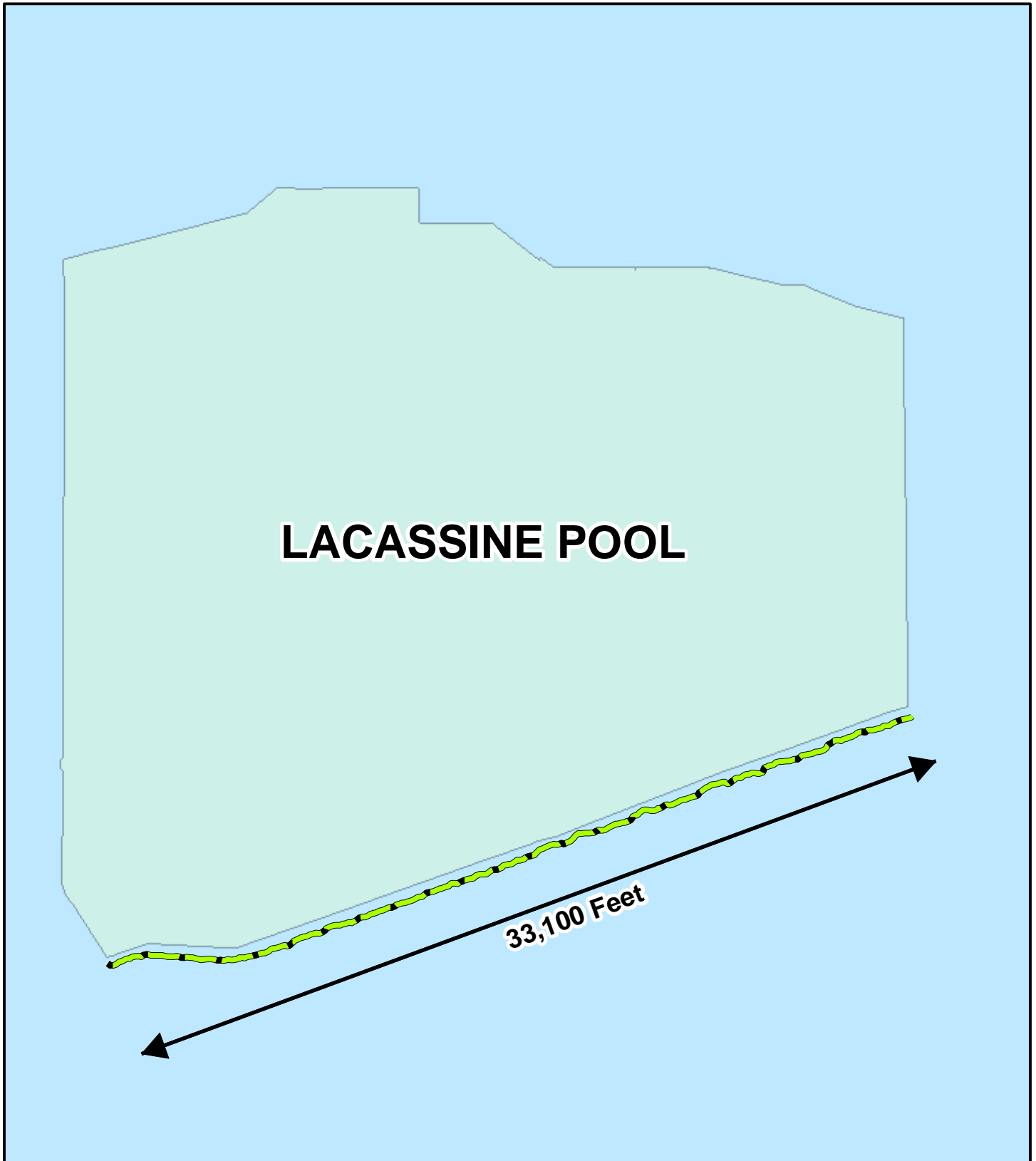
337/774-5923

email: wayne_syron@fws.gov

Project Map:

See attached.

LACASSINE POOL SOUTH LEVEE PROTECTION PROJECT





Erosion Rates Per Year



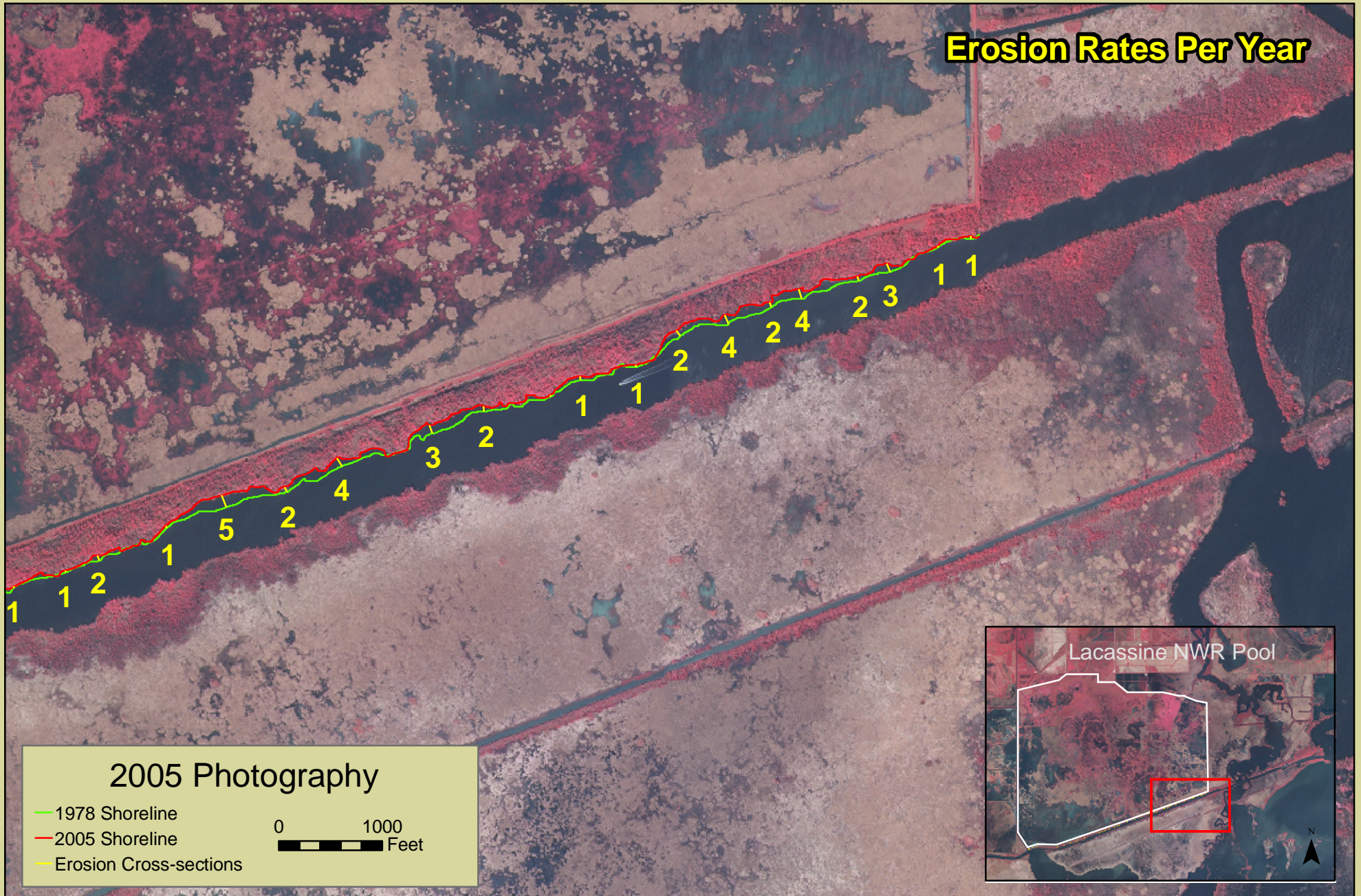


Erosion Rates Per Year





Erosion Rates Per Year



**R4- ME 5 Grand Lake Shore Protection at
Lacassine Point Project**

R4-PPL17-MER #5

Project Fact Sheet

Grand Lake Shore Protection at Lacassine Point - (Segmented Breakwaters with-w/o Planting and with-w/o Dedicated Dredging)

Project Name:

Grand Lake Shore Protection at Lacassine Point -
(Segmented Rock/A-Jacks-Like Breakwaters with-without Planting and with-without
Dedicated Dredging)

Regional Strategy:

Strategy #14: Stabilize Grand Lake and White Lake Shorelines

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 GIWW.

Problem

1. What problem will the project address?

Erosion of the NW shoreline of Grand Lake has exposed the interior organic soils to high energy wave-action. In most places, the historic lake rim is completely gone. With a portion of this shoreline approaching the GIWW, erosion prevention is needed soon because NW Grand Lake will completely erode into the GIWW.

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

National Wetlands Inventory data indicates a shoreline erosion rate of 1 m/yr from 1956 to 1978 while the 1978 to 1988 rate nearly tripled to - 3 m/yr (9 ft /yr). This project would protect approximately 69 acres of wetland habitat during the project life and reestablish 6.9 additional acres with bullwhip plantings or 86 acres of wetlands through dedicated dredging for a total of 155 acres created and protected if the dedicated dredging increment is implemented.

Goals

1) Protect fish and wildlife habitat by stopping the erosion of the NW shoreline of Grand Lake from Lacassine Point to the GIWW. 2) Allow for the migration and emigration of organisms between the nursery grounds and the open waters of Grand Lake. 3) Allow for water exchange between these protected wetlands and the open waters of Grand Lake. 4) Vertical accretion of sediment and organic substrate along historical shoreline.

Objectives

Stop shoreline erosion by constructing a rock/"A-Jacks-like" breakwater along the NW shoreline of Grand Lake from Lacassine Point to the GIWW, while allowing the migration and

emigration of organisms and exchange of water between the nursery habitat being protected and the open waters of Grand Lake by the placement of gaps within the rock/A-Jacks breakwater. To accelerate the vertical accretion of sediment, wetland plants (bullwhip) would be planted between the rock/A-Jacks breakwaters and the shoreline. The creation of fresh marsh by dedicated dredging.

Proposed Solution

Rock Breakwater:

The construction will include a rock breakwater 15,000 ft. in length, located 100 ft. from the shoreline in approximately 1.5 ft. of water. The breakwater will be 11,250 ft long and will include 50 ft. gaps every 200 ft. to allow for the circulation of water and fisheries access. The top of the breakwater will be 5 ft. in width with 1 ft. of freeboard above the water.

A-Jacks:

The construction will include an "A-Jacks-like" breakwater 15,000 ft. in length, located 100 ft. from the shoreline in approximately 1.5 ft. of water. The breakwater will consist of two rows of 2 ft wide A-Jacks 11,250 ft long stacked on top of each other. They will include 50 ft. gaps every 200 ft. to allow for the circulation of water and fisheries access. The top of the A-Jacks breakwater will have 1 ft. of freeboard above the water.

Planting:

Two rows of wetland plants (bullwhip) with 5 ft. centers will be planted on the marsh side of the rock/A-Jacks breakwater (no deeper than 1.5 ft) creating 6.9 acres of wetland habitat (20 ft. x 15,000 ft.).

Dedicated Dredging:

The project will include an earthen dike 15,000 ft. in length, located 250 ft. from the shoreline in approximately 3 ft. of water. The top of the earthen dike will be 5 ft. in width with 3 ft. of freeboard above the water. Spoil will be dredged from within Grand Lake and deposited behind the dike to a height of 2 ft. above mean water level. After the newly created marsh has de-watered and subsided to the desired level, trenasses will be cut within the marsh, if necessary, and gaps will be cut in the dikes to allow for water exchange.

Project Benefits

Stabilization of the NW Grand Lake shoreline with breakwaters would at a minimum protect 69 acres of primary nursery habitat (fresh marsh and swamp) and at a maximum create 86 acres of fresh marsh through dedicated dredging for a total of 155 acres protected and restored. This will help fulfill Coast 2050 Region 4 Strategy # 14 (namely to stabilize Grand Lake shoreline). This project would also prevent high wave energy from reaching the southern portion of the bank and marsh system that protects the GIWW. Stopping the coalescence of the GIWW and Grand Lake would maintain the water circulation patterns that exist within the Grand Lake

ecosystem.

Project Costs

Rock breakwater:

The total length of the rock breakwater would be 15,000 ft with 50 ft. gaps every 200 ft. The actual length of rock would be 11,250 ft. The breakwater would be constructed in approximately 1.5 ft. of water with 1 ft. of freeboard and allowing 2 ft. subsidence. The cost of the rock is approximately \$30.00 per yd³, or \$210.22 per ft. This would give a **first construction cost of \$2.45 Mill.** for the rock breakwaters based on the 1999 cost estimates for the Grand-White Lake Land Bridge Protection Project.

A-Jacks:

The total length of the A-Jacks breakwater would be 15,000 ft with 50 ft. gaps every 200 ft. The actual length of the A-Jacks breakwater would be 11,250 ft. with two 2 ft-wide (1.5 ft high) rows stacked one on top of each other. The breakwater would be constructed in 1.5 ft. of water with 1 ft. of freeboard allowing for 6 inches of settlement. The cost of the A-Jacks is approximately \$45.00 per ft. which would give a **first construction cost of \$1.0 Mill.**

Planting:

The cost of planting two rows of bullwhip with 5 ft. centers (6,000 per row) @ \$7.00 per plant would total \$84,000.

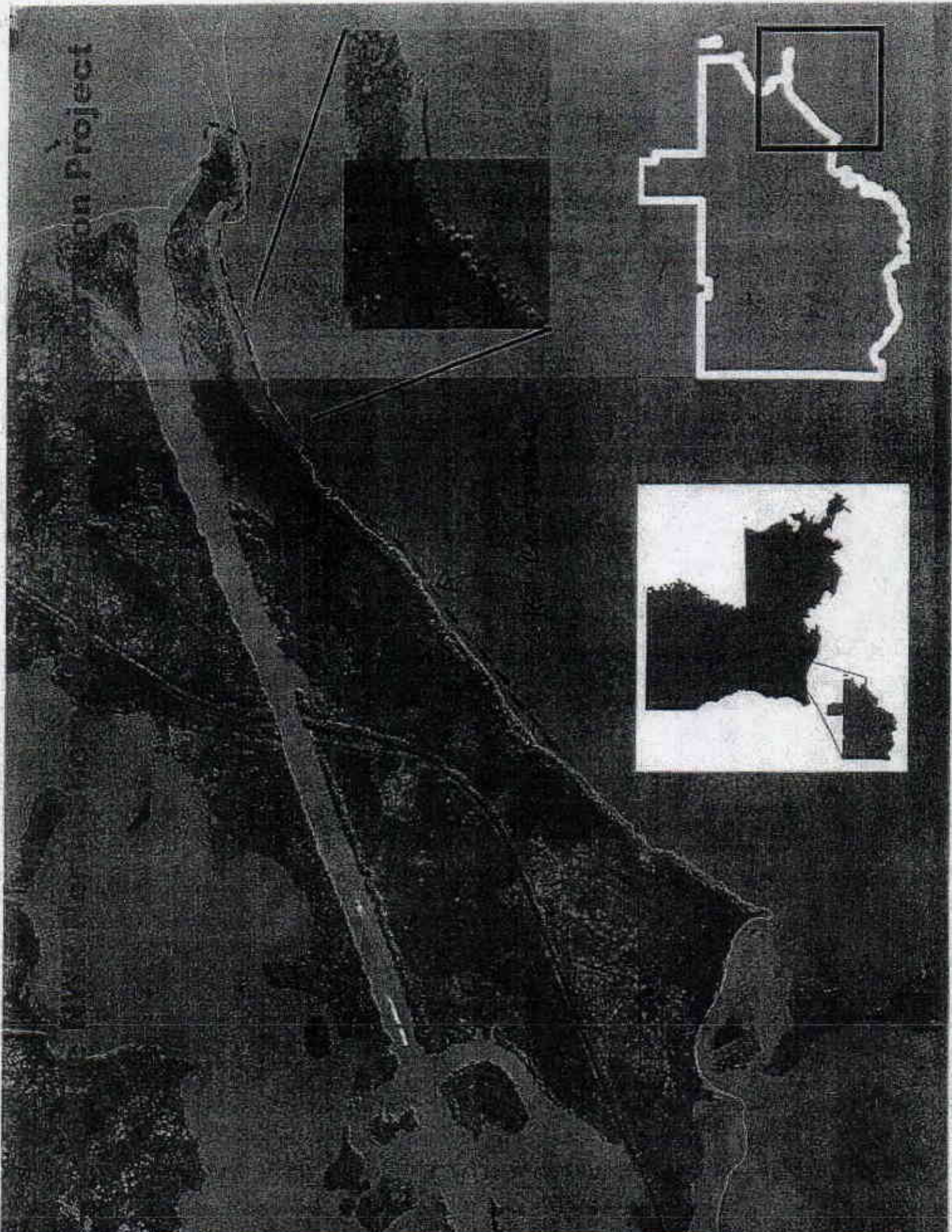
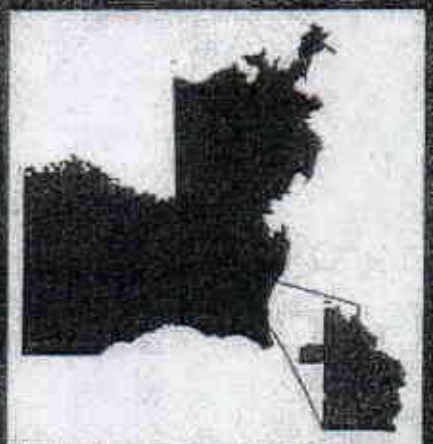
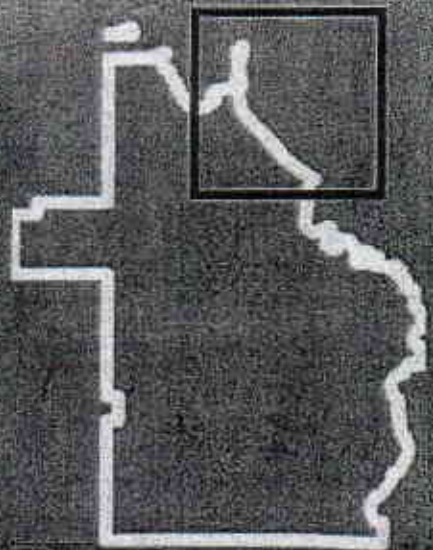
Dedicated Dredging:

The total length of the earthen dike would be 15,000 ft. The cost of the dike would be approximately \$84,000 at \$2.00 per yd³. The spoil deposited behind the dike would be dredged from Grand Lake at a fully funded cost of \$2.00 yd³, which would give a cost of \$750,000. Trenasses would be cut in the newly created marsh at an estimated cost of \$50,000. The **first construction cost would be estimated at \$950,000** for the creation of 86 acres of fresh marsh.

Summary of Cost:

	Rocks	A-Jacks	Planting Only	Spoil/Dike
Construction	\$2,449,500	\$1,012,500	\$ 84,000	\$ 950,000
Contingency	\$ 612,000	\$ 253,000	\$ 21,000	\$ 237,500
Total Construction	\$3,062,000	\$1,266,000	\$105,000	\$1,187,500
E&D	\$ 306,000	\$ 127,000	\$ 10,500	\$ 119,000
S&A, S&I	\$ 245,000	\$ 101,000	\$ 8,400	\$ 95,000
Real Estate, NEPA	<u>\$ 30,000</u>	<u>\$ 30,000</u>	<u>30,000</u>
Total Project Cost	\$3,640,000	\$1,524,000	\$123,900	\$1,431,500

on Project



R4- ME 6 Rockefeller Gulf of Mexico Shoreline

Stabilization Project, Joseph's Harbor East

PPL17 PROJECT NOMINEE FACT SHEET

January 24, 2007

Project Name and Number

Rockefeller Gulf of Mexico Shoreline Stabilization, Joseph's Harbor East, ME-25.

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) eastward 10,000 feet.

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-waters along the Gulf of Mexico shoreline. The break-water would extend from the eastern bank of Joseph's Harbor canal eastward for 10,000 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 placed offshore along the -5' contour. The crest height of the proposed structure would be 8.5 feet above the Gulf floor (i.e., +3.5 ft above average water level), with an 18 foot crown and 1:2 slope on both sides. The proposed structure would consist of neutral buoyancy material encapsulated by 2,200 lb. class stone. The proposed design would include openings every 1000' to facilitate material and organism linkages. Excavation material for construction access would be placed on the landward side of the structures.

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

The project is expected to influence approximately 125 acres directly (120 protected, 5 created), and a portion of 4,900 acres indirectly (Rockefeller Refuge Unit 5). This project is anticipated to benefit 125 acres (10K 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 Mosely 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 a width of 80', for the 10,000 linear feet of the project or 3,200,000 cubic yards will be placed behind the rock structure.

The project would protect and maintain chenier and beach function.

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.

Identification of Potential Issues

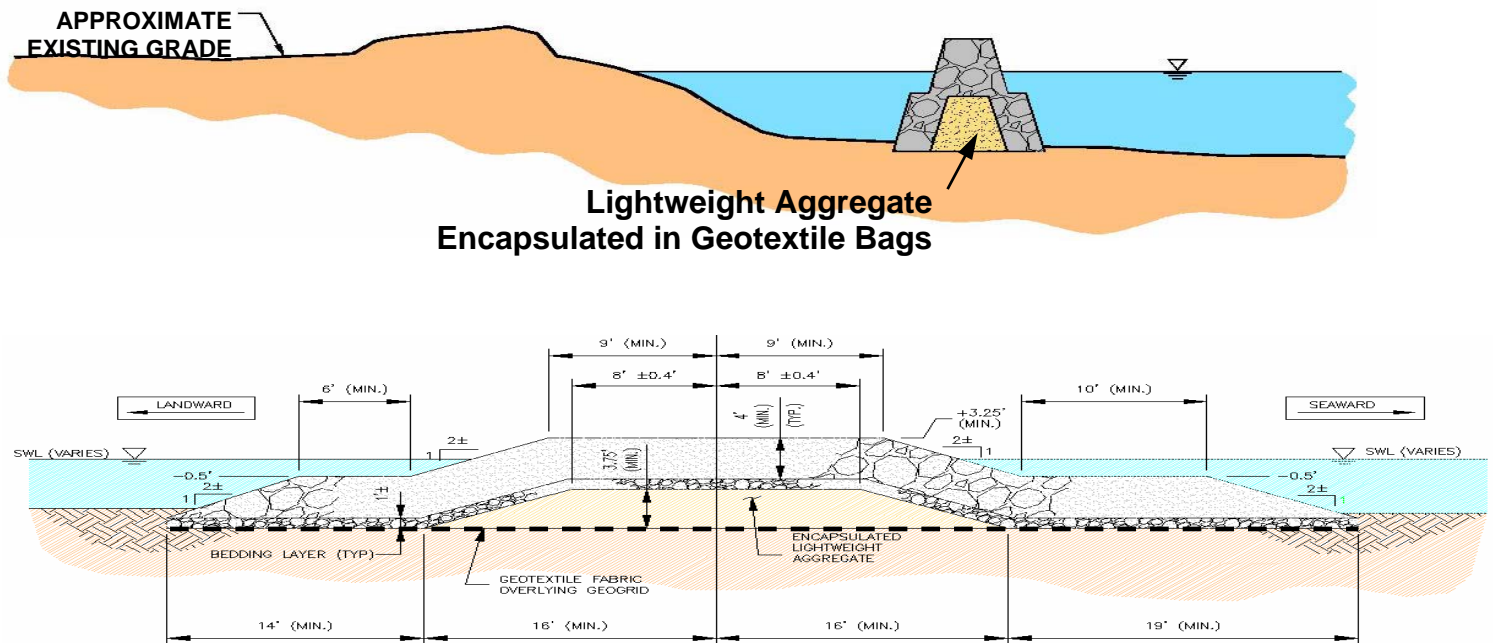
There are potential issues with pipelines. There are pipelines in the area

Preliminary Construction Costs

The preliminary fully funded cost plus 25% contingency is \$12,500,000.


Preparer of Fact Sheet


John Foret, National Marine Fisheries Service, 337/291-2107; john.foret@noaa.gov





**Gulf of Mexico Shoreline Stabilization -
Joseph Harbor East**

 **Shoreline Protection ***

 **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: March 2, 2003
Map ID: 1000-JWRC-2003-13-102
Data accurate as of March 2, 2003



CAMERON

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CALCASIEU

CAMERON



**R4- ME 7 ~~Hog Bayou Marsh Creation Project~~
Withdrawn by EPA**

DRAFT PPL17 PROJECT NOMINEE FACT SHEET

December 14, 2006

Project Name

Hog Bayou Marsh Creation

Coast 2050 Strategy

Coastwide Strategy: Restore/sustain marshes

Region 4 Regional Ecosystem Strategy #6: Dedicated dredging of sediment for wetland creation.

Project Location:

Region 4, Mermentau Basin, Cameron Parish, Hog Bayou Mapping Unit.

Problem

These marshes have experienced high loss rates in the past due to drainage for pasture use, and subsequent oxidation of the organic soils. More recently, it has been hypothesized that Highway 82 is impeding input of freshwater from the north, resulting in shifts in vegetation type, and continued land loss. There is an existing CWPPRA project to address this (ME-20), as well as to create 400 ac of emergent marsh.

Proposed Project Features

- Marsh creation (300 ac) using offshore Gulf of Mexico sediment (dedicated dredging, external source).

Goals

- Create 300 ac of marsh in the area benefited by restoring freshwater discharge from north of Highway 82.

Preliminary Project Benefits:

- 250 net acres of emergent marsh over 20 years

Identification of Potential Issues

- potential land rights issues

Preliminary Construction Costs





- \$15 million

Preparer of Fact Sheet

Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov



Louisiana Department of Natural Resources

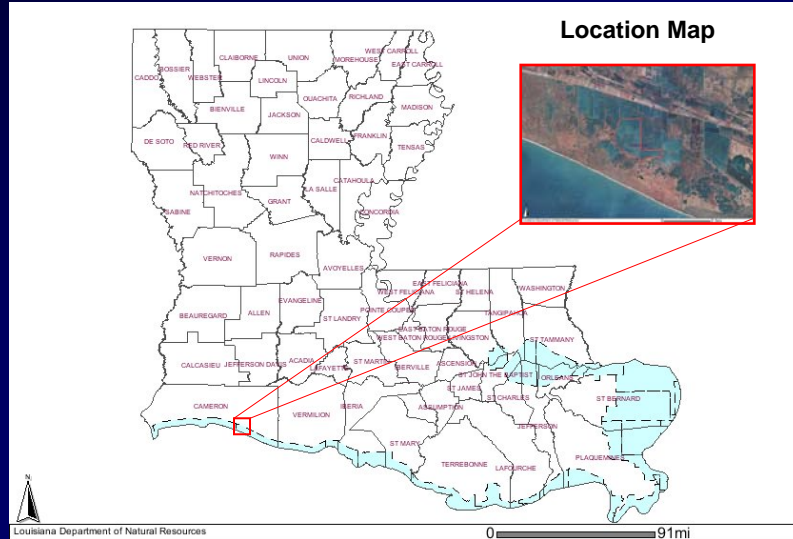
-  Borrow Area
-  Project Influence Area
-  Created Marsh (≤300 acres)
-  Existing Hydrologic Feature (ME-08-01)



Data Source:
 LA Department of Natural Resources
 Map Date: November 30, 2006
 Image Data: 2005 Coastal
 Photographs

**PPL 17 Proposed
 Region 4
 Hog Bayou Marsh Creation**

Hog Bayou Marsh Creation



Hog Bayou Marsh Creation



Hog Bayou Marsh Creation

Goal:

- Create 300 ac of marsh in the benefit area
- Restore marsh in concert with freshwater introduction component of ME-20 CWPPRA project

Project Features:

- Marsh creation using offshore Gulf of Mexico sediment

Cost/Benefits:

- ~250 net acres of emergent marsh over 20 years
- Est. Construction Cost: ~ \$15 million

Hog Bayou Marsh Creation

Questions?

Ken Teague
EPA Region 6
(214)665-6687
Teague.Kenneth@epa.gov



**R4- ME 8 Southeast White Lake Shoreline and
Marsh Creation Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007

Project Name:

Southeast White Lake Shoreline Protection and Marsh Creation Project

Coast 2050 Strategies:

Basin Strategies: 5) Stabilize White Lake Shoreline

Project Location:

The project is located in Region IV, in the Mermentau Basin, South White Lake Mapping Unit, on the southeast side of White Lake, between Wills Point and Schooner Bayou in Vermilion Parish, Louisiana.

Problem:

The shoreline erosion rate between Wills Point and Schooner Bayou is roughly estimated to be an average 10 feet per year. The slightly elevated scrub/shrub and woody vegetated shoreline rim in the project area is eroding and exposing more fragile interior herbaceous marshes to the high energy wave climate and elevated water depths in White Lake. Also, the shoreline and interior marshes along the proposed project reach were severely impacted by Hurricane Rita.

Proposed Project Features:

1. Install approximately 26,000 lf of rock shoreline protection with fish gaps.
2. Create approximately 75 acres of marsh with floatation channel dredge material behind the shoreline protection.

Goals:

1. Stop shoreline erosion.
2. Create and nourish marsh.

Preliminary Project Benefits:

The following questions should be addressed:

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

Protect approximately 120 acres and create 75 acres of marsh and lake rim habitat.

2) How many acres of wetlands will be protected/created over the project life? *At the end of 20 years, approximately 195 acres should remain. The shoreline protection should stop erosion of at least 20 feet per year over 26,000 feet (120 acres) and dredge material would create 75 acres behind the shoreline protection, which would remain after 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 anticipated loss rate reduction throughout the area of direct benefits over the project life would be greater than 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 protects and restores a portion of the South White Lake Rim.*

5) What is the net impact of the project on critical and non-critical infrastructure? *The project would prevent further erosion into pipeline canals and protect marsh that separates White Lake from LA 82.*

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? *This project would add to the overall shoreline protection of south White Lake provided by the constructed South White Lake Shoreline Protection Project (ME-22). It would be somewhat synergistic with the Pecan Island Terracing Project (ME-4), the South Pecan Island Freshwater Introduction project (ME-23), and the Southwest LA Gulf Shoreline protection and nourishment Project (ME 24).*

Identification of Potential Issues:

Rock shoreline protection projects historically require O&M.

Preliminary Construction Costs:

The construction cost including 25% contingency is approximately \$9,400,000. The estimated fully funded cost range is \$20 - \$25 million.

Preparers of Fact Sheet:

Melanie Goodman, USACE, 504-862-1940, Melanie.L.Goodman@mvn02.usace.army.mil






White
Lake



Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.
Background Imagery:
2005 Digital Orthophoto Quarter Quadrangle
Map Date: January 08, 2007
Map ID: USGS-NWRC: 2007-11-0147

Southeast White Lake East Shoreline Loss Rate from 1990 to 2005

-  1990 Aerial Photography Shoreline
-  2005 DOQQ Shoreline
-  1990-2005 Area of Shoreline Loss

90-05 Loss	Approx. Shoreline	Loss Rate
3,413,287 sq ft.	44,592 ft.	5 ft. per yr.



Region 4 – Calcasieu/Sabine Basin

Proposed Projects

**R4- CS 1 Calcasieu and Mermentau Ship
Channels Sediment By-Pass Project**

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007

Calcasieu and Mermentau Ship Channels Sediment By-Pass Project

Coast 2050 Strategy - CS 18 - Restore Long-shore Sediment Flow Across the Mouth of Calcasieu Pass; and M 19 Across the Mouth of the Mermentau Ship Channel.

Project Location

Region 4, Calcasieu-Sabine Basin, located at Calcasieu Pass and the Gulf of Mexico, south of Cameron; Mermentau Basin at the Mermentau Ship Channel south of Grand Chenier.

Problem

The Calcasieu and Mermentau Ship Channel jetties have interrupted the natural westward flow of near shore Gulf long-shore currents and sediment deposition. Sand to silty-clay sediments are being trapped by the jetties along the Gulf shore on the east side of these channels, while severe erosion continues to the west of both channels. The dunes west of the Calcasieu Ship Channel were intact 10 yrs ago. The erosion rates are 15 ft/yr west of the Calcasieu and 50 ft/yr west of the Mermentau Ship Channel (highest Cameron Parish shoreline erosion rates).

Proposed Project Features

The project proposes to transport about 2 to 4 Million cubic yards of subtidal sediment from the east side of Calcasieu Pass and the Mermentau Ship Channel (1 to 2 M cy each; 8,000 ft X 1,000 lf = 183 ac each) to the west via a hydraulic dredge placed east of each jetty. The recently deposited sediment will be dredged from subtidal areas in > 2 feet water depths to a dredged depth of no more than 10 feet.

Goals

The goal is to reduce Gulf shoreline erosion and restore shoreline west of the Calcasieu Pass and Mermentau Ship Channel jetties by transportation of sediment from the east jetty areas.

Preliminary Project Benefits

The transported sediment is expected to rebuild at least 100 to 200 acres of Gulf shoreline west of each channel totaling 200 to 400 acres restored and 25 to 50 acres protected over 20 yrs.

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

\$4 to \$6 M based on the cost to dredge 2 to 4 M cubic yards of material and transport it 1 to 2 miles to restore 200 to 400 acres of marsh and Gulf shoreline.

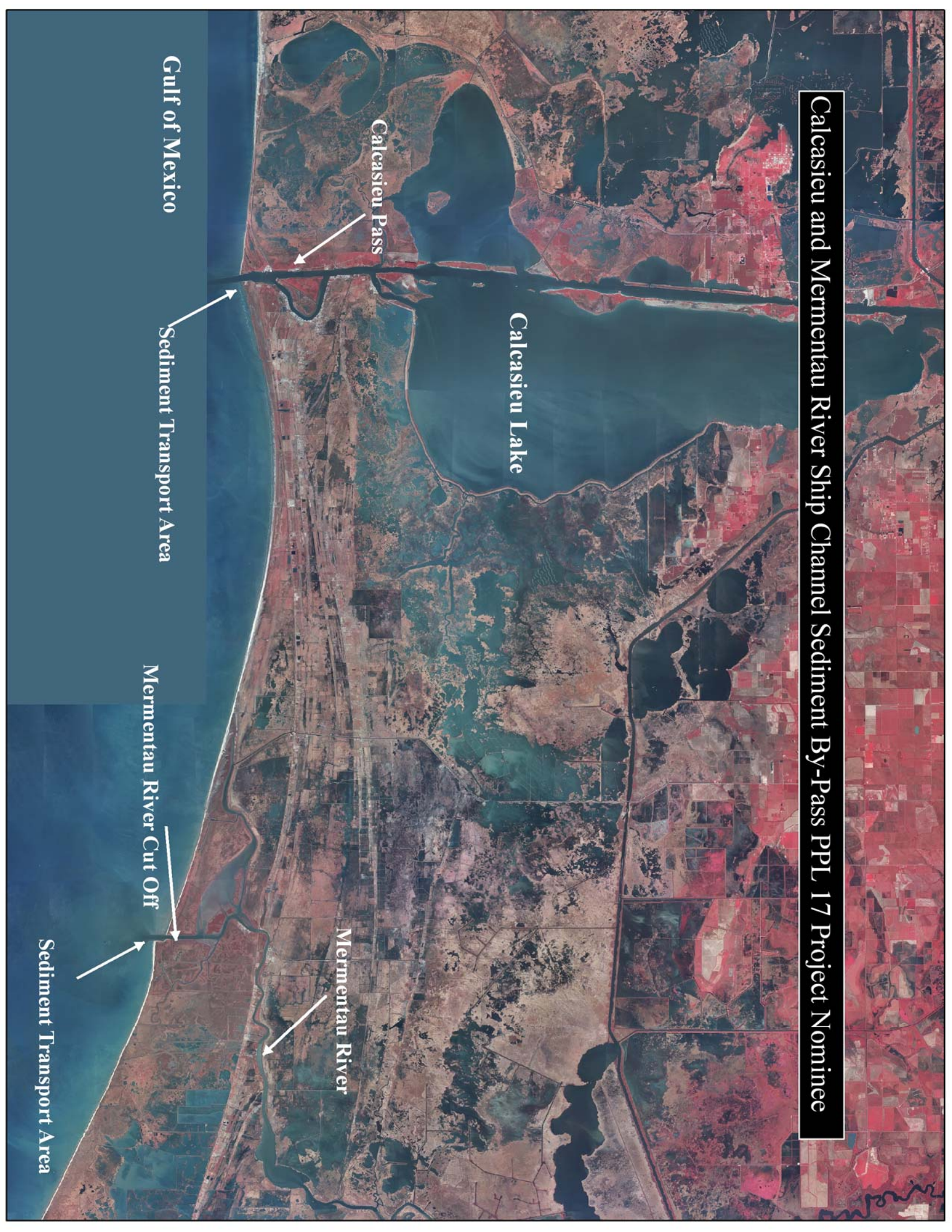
Project Nominator

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

Preparer of Fact Sheet

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

Calcasieu and Mermentau River Ship Channel Sediment By-Pass PPL 17 Project Nominee



Calcasieu Pass

Calcasieu Lake

Mermentau River

Gulf of Mexico

Sediment Transport Area

Mermentau River Cut Off

Sediment Transport Area

R4- CS 2 Black Bayou Terraces Project

PPL17 PROJECT NOMINEE FACT SHEET
January 24, 2007

Black Bayou Terraces (CS-33)

Coast 2050 Strategy:

Restore and Sustain Wetlands (*Regional Ecosystem Strategy*)

Terracing (*Coastwide Common Strategy*)

Vegetative Plantings (*Coastwide Common Strategy*)

Project Location:

Region 4, Calcasieu/Sabine Basin, Calcasieu and Cameron Parish, South side of the GIWW, West of Gum Cove Ridge

Problem:

Saltwater intrusion into the surrounding marsh and canals from the GIWW coupled with erosion caused by wave action from nearby boats, wind, and tides has caused the historical land loss within this area. Aerial photography since the late 1930's documents the conversion of approximately 2,700 acres of emergent marsh to open water within the proposed project area, or approximately 75% of the emergent marsh has converted to open water over the last 70 years within this proposed project area. The CWPPRA sponsored Black Bayou Hydrologic Restoration Project (CS-27) features addressed the saltwater intrusion problem, however the expansive open water area identified by this project continues to experience shoreline erosion and coalescence of smaller water bodies into one 2,700 acre pond. This expansion is threatening the integrity of the western levee boundary at this time. The CWPPRA sponsored Plowed Terrace Demonstration Project (CS-25), coupled with mitigation terraces within this area has shown the usefulness of terracing to reduce wave fetch, however more terraces are needed.

Goals:

- (1) Restore coastal marsh habitat, and
- (2) Reverse the conversion of wetlands to shallow open water in the project area.

Proposed Solutions:

Construct up to 261,000 linear feet of earthen terraces, oriented in such a way as to reduce wind generated wave fetch. In addition, the terraces would be planted with appropriate species of wetland vegetation to reestablish the plant productivity needed to rebuild the organic peat for marsh vertical accretion and expansion.

Preliminary Project Benefits:

At 261,000 LF; 5 foot crown, 1:5 side slopes, 3' out of water; $261,000 \text{ LF} * 35'' = 9,135,000$ square feet / $43,560 = 210$ acres initially constructed, and approximately 500 acres of emergent marsh surrounding the open water will be benefited indirectly. An average loss of 2,700 acres over 75 years is 36 acres per year. This project will stop the conversion of marsh to open water by providing the necessary protection to the remaining emergent marsh to wind induced waves. Thus, 720 additional acres of emergent marsh will be protected over the 20-year life of the project, or >75%. These terraces will maintain the western artificial levee boundary of this 3,200-acre area through the reduction of wave induced erosion. The Black Bayou Gas Field is immediately adjacent to the project area, and this project will re-establish and help stabilize the emergent marsh that adjoins this critical infrastructure. This project would compliment the

results of the Black Bayou Hydrologic Restoration (CS-27) and Plowed Terrace Demonstration (CS-25), as CS-27 reduced saltwater intrusion and CS-25 demonstrated the usefulness of terraces in this area.

Identification of Potential Issues:

No known issues at this time.

Preliminary Construction Costs:

Estimated construction costs plus 25% contingency = \$5,875,000.

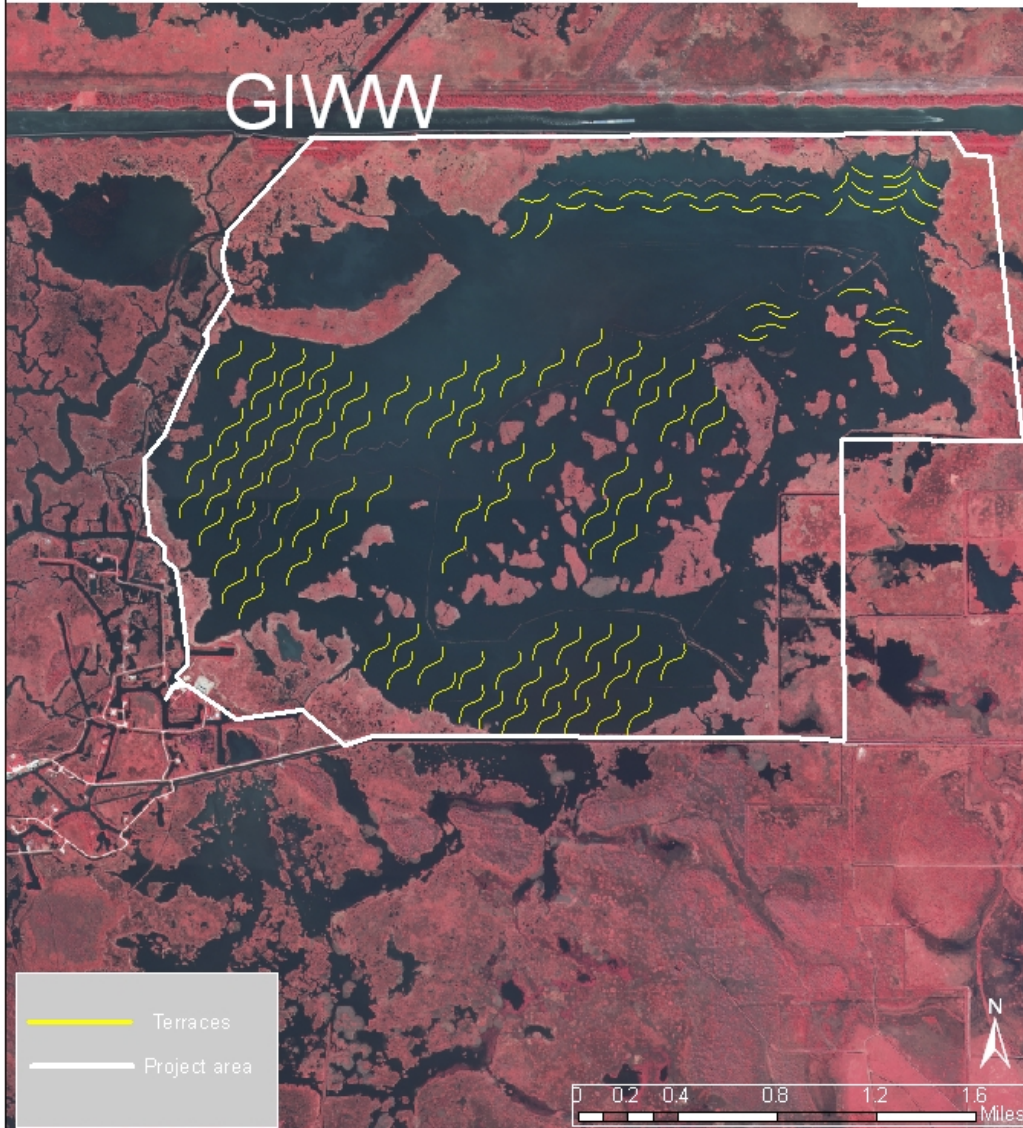
261,000 LF of terraces and 105,400 vegetative plugs.

Preparer of Fact Sheet:

John D. Foret, Ph.D., NOAA Fisheries Service, (337) 291-2107, john.foret@noaa.gov.

Black Bayou Terraces

Calcasieu and Cameron Parishes, LA
PPL 17 nominee



R4- CS 3

East Cove Marsh Creation Project

PPL17 PROJECT NOMINEE FINAL FACT SHEET

January 9, 2007

East Cove Marsh Creation Project

Coast 2050 Strategy

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, in the southwestern portion of the Cameron-Creole Watershed on the Sabine National Wildlife Refuge.

Problem

Former brackish marshes in the SW portion of the Cameron Creole Watershed have converted to open water due to subsidence and past saltwater intrusion from the Calcasieu Ship Channel. The Cameron-Creole Watershed Hydrologic restoration project was implemented in 1989 to relieve the saltwater intrusion problem, has not succeed in revegetating the area. Hurricane Rita in 2005 cut four breaches in the Cameron-Creole Watershed levee allowing higher salinities from Calcasieu Lake to enter the watershed. Sediment from an outside source or water level draw-downs are needed to restore existing large open water areas to marsh.

Proposed Project Features

Place material beneficially from normal maintenance dredging of the Lower Calcasieu River from Mile Points 5 to 8 in two disposal areas totaling 300 acres in the SW portion of the Cameron-Creole Watershed. One area is 62 acres large with existing retention dikes, and the other area may have 12,000 ft of existing retention dikes. The marsh areas restored will have constructed bayous and openings to existing bayous for estuaries 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. 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 (8,067 cy/acre restored with initial slurry height of 5 ft). Material from slightly lower or higher reaches could be included so that one cycle would be all that would be necessary.

Goals

The goal is to restore approximately 300 acres of marsh via beneficial use of maintenance dredged material from the Calcasieu Ship Channel.

Preliminary Project Benefits

The project will restore approximately 300 acres of shallow open water to marsh and reduce shoreline erosion on adjacent marshes in the southwestern portion of the Cameron-Creole Watershed.

Identification of Potential Issues

There are no issues to our knowledge. The area is on a Federal refuge so landrights will not be an issue.

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.

Preliminary Construction Costs

The Sabine Refuge Marsh Creation Cycle 1 project cost about \$2.5/cy (1 M cy was transported about 8 miles to create 125 acres of marsh). Approximate construction costs would likely range from \$4 to \$5 M.

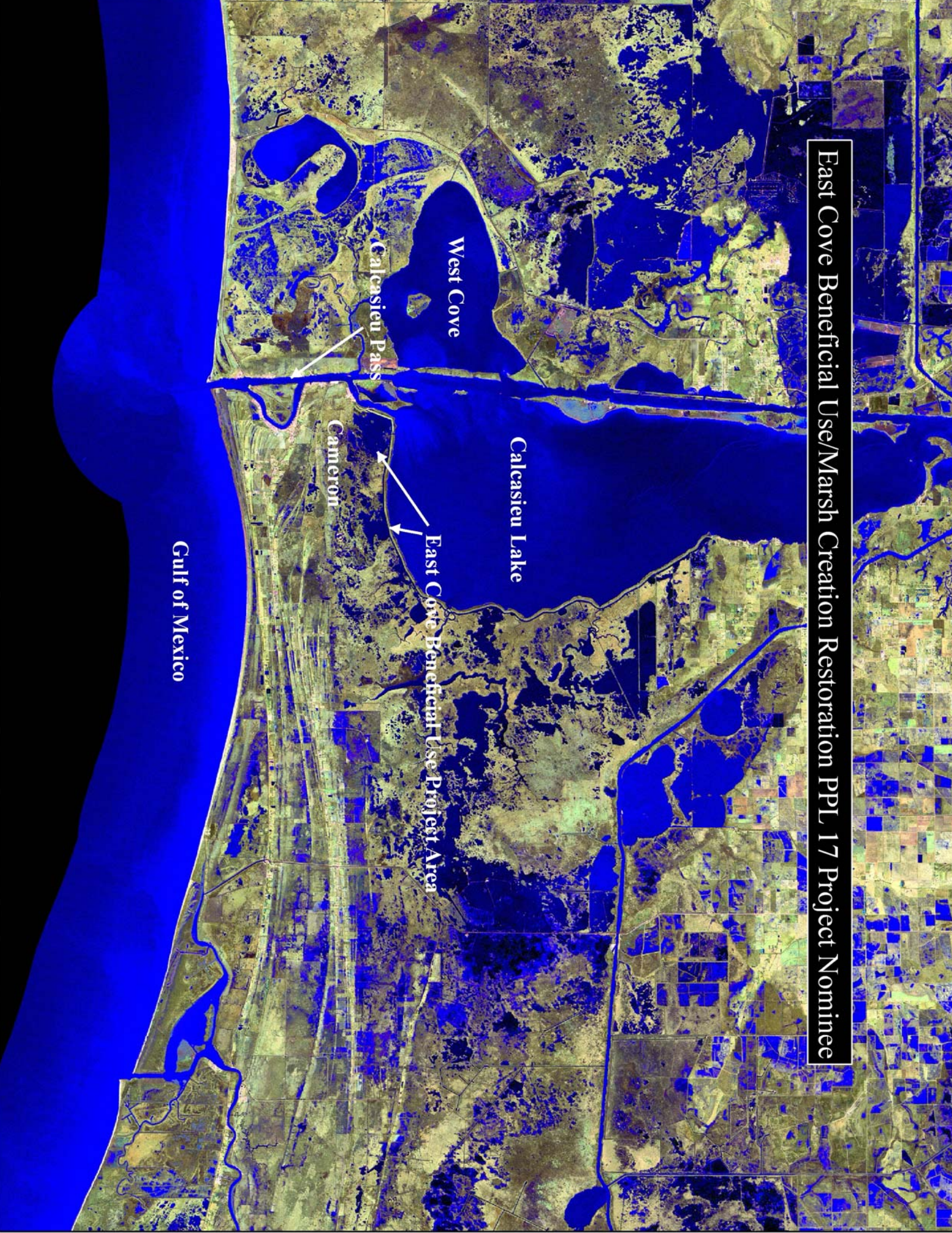
Nominator

Roy Walter, Sabine National Wildlife Refuge

Preparer of Fact Sheet

Darryl Clark, FWS, 337-291-3111, 291-3139 fax, Darryl_Clark@fws.gov
Robert Dubois, FWS, 337-291-3100

East Cove Beneficial Use/Marsh Creation Restoration PPL 17 Project Nominee



West Cove

Calcasieu Pass

Cameron

Calcasieu Lake

East Cove Beneficial Use Project Area

Gulf of Mexico

R4- CS 4 East Calcasieu Lake Marsh Creation Project

PPL17 PROJECT NOMINEE FACT SHEET

24 January 2007

Project Name: East Calcasieu Lake Marsh Creation Project

Coast 2050 Strategy: Regional Strategy #6 – Use dedicated dredging or beneficial use of sediment for wetland creation or protection.

Project Location: Region 4, Calcasieu/Sabine Basin, Cameron Parish, four sites on the east shoreline of Calcasieu Lake from near Highway 384 south to the Grand Bayou area.

Problem: Historically, there were approximately 50,000 acres of marsh on the eastern shore of Calcasieu Lake south of the GIWW and west of Highway 82. By the year 1990, 22,000 acres had been lost, most of it in the 1966-74 time period. More recently, the loss rate had appeared to slow significantly. However, Hurricane Rita impacted the area substantially in 2005 and most likely exacerbated the loss rate.

Goals: Create marsh in shallow open water areas on the east shore of Calcasieu Lake by beneficially using approximately 4.5 million cubic yards (MCY) of dredged material acquired from maintenance of the Calcasieu River Ship Channel, between channel miles 15 and 21.

Proposed Solutions: Dredged material from maintenance of the Calcasieu River Ship Channel will be pumped across Calcasieu Lake to create wetlands within the three (3) designated wetland creation areas along the east shore of Calcasieu Lake.

- (1) Wetland Creation Area 1: Approximately 2.6 MCY of material dredged from between ship channel miles 21.0 and 17.5 would be placed within the five (5) sites, designated as 1.A. through 1.E. Perimeter containment dikes would be constructed using in situ material. The ship channel dredged material would be placed at a maximum elevation of +4.5 feet Mean Low Gulf (mlg). Two (2) feet of freeboard would be maintained along the containment dikes at all times.
- (2) Wetland Creation Area 2: Approximately 1.4 CMY of material dredged from between ship channel miles 17.5 and 14.0 would be placed in wetland creation Area 2. Perimeter containment dikes and an internal low level earthen weir would be constructed using in situ material. The ship channel dredged material would be placed at a maximum of +4.5 feet MLG. Two (2) feet of freeboard would be maintained along the perimeter containment dikes at all times.
- (3) Wetland Creation Area 3: Approximately 475,000 cubic yards of material dredged from between ship channel miles 8.4 and 5.0 would be placed within three (3) wetland creation sites designated as 3.A. through 3.C. Due to the limits of available sediment from this reach of the ship channel, Area 3 would be restored in three dredging cycles, in the following sequence: 3.A, 3.B., 3.C. Containment dikes would be constructed using in situ material to prevent the dredged material from entering the area immediately north of and adjacent to the proposed marsh creation sites. The ship channel dredged material would be placed at a maximum of +4.5 feet MLG. Material would be deposited unconfined in order to nourish existing marsh within Area 3. Two feet of freeboard would be maintained along the closure dikes at all times.

Preliminary Project Benefits: The following acres of wetlands would be created for each of the following alternative wetland creation areas:

- (1) Sites 1.A. through 1.E. Approximately 280 acres would be created within these sites.
- (2) Site 2. Approximately 190 acres would be created in site.
- (3) Sites 3.A through 3.C. Approximately 116 acres would be created within these sites, and another 109 acres of existing wetlands would be nourished.

This project would create marsh to achieve an elevation that is conducive to sustaining wetland vegetation. At the end of 20 years, there would be between 250 and 500 net acres.

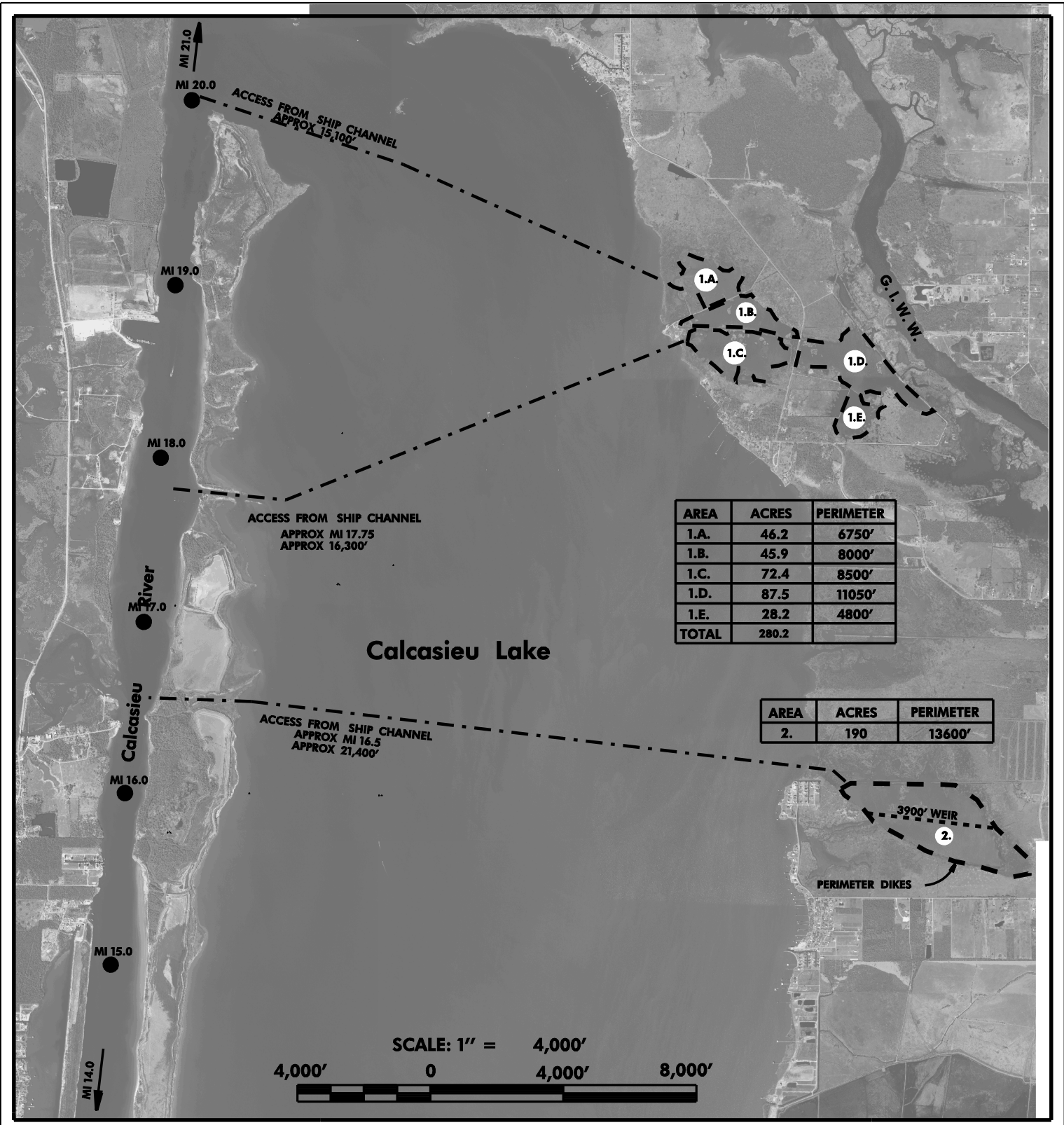
Identification of Potential Issues: Oysters and land rights

Preliminary Construction Costs: \$15 million

Preparer(s) of Fact Sheet:

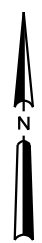
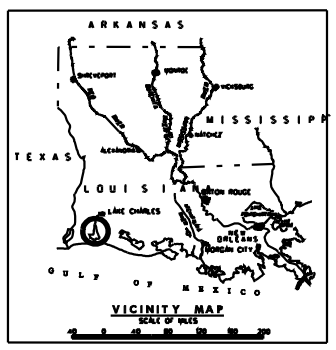
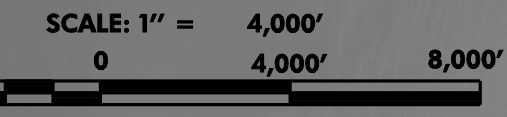
Melanie Goodman, US Army Corps of Engineers, 504-862-1940,
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AREA	ACRES	PERIMETER
1.A.	46.2	6750'
1.B.	45.9	8000'
1.C.	72.4	8500'
1.D.	87.5	11050'
1.E.	28.2	4800'
TOTAL	280.2	

AREA	ACRES	PERIMETER
2.	190	13600'



DATA SOURCE:
1998 Photography (D00 Photos)

CWPPRA PPLII Nominee:
Region 4

Calcasieu Lake East Shore Marsh Creation Marsh Creation Sites 1 & 2

Calcasieu Lake

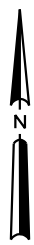
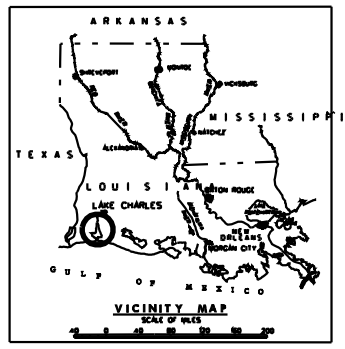
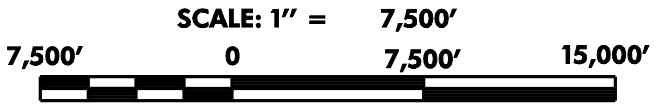
AREA	ACRES	CLOSURE DIKES
3.A.	40	2000'
3.B.	38	1500'
3.C.	38	1800'

Calcasieu River

- MI 11.0
- MI 10.0
- MI 9.0
- MI 8.4
- MI 8.0
- MI 7.0
- MI 6.0
- MI 5.0

ACCESS FROM SHIP CHANNEL
APPROX 35,000'

ACCESS FROM SHIP CHANNEL
APPROX 37,000'



DATA SOURCE:
1998 Photography (D00 Photos)

CWPPRA PPLII Nominee:
Region 4

Calcasieu Lake East Shore Marsh Creation Marsh Creation Site 3

R4- CS 5 East Gum Cove Marsh Terracing Project

PPL17 PROJECT NOMINEE FACT SHEET
January 9, 2007**East Gum Cove Terracing****Coast 2050 Strategy**

Ecosystem Management: Maintain estuarine gradient to achieve diversity. Restore freshwater input at the upper end of the estuary to flow seaward and grade into an increasingly saline flow. With a salinity gradient comes the gradation of fresh-intermediate-brackish-saline vegetation and associated variations in fish and wildlife habitat.

Regional: Dedicated dredging of sediment for wetland creation.

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, West Black Lake Mapping Unit, area east of Gum Cove and south of GIWW.

Problem

The project will be designed to reduce salt water intrusion and marsh erosion by decreasing the amount of salt water entering the project area and disrupting the artificial circulation of that water. Additionally, the project proposes to create terraces and increase emergent marsh. Prior to Hurricane Rita this area was protected from salt water intrusion and artificial circulation. According to Coast 2050 loss rates (1978-1990) of approximately 1.5% per year were calculated by USGS in this area.

Proposed Project Features

The project proposes approximately 3 miles of shoreline protection along the GIWW, approximately 42,000 linear feet (8 miles) of terraces, replacing 9 deteriorated culverts with earthen plugs, and installing a structure and channel to allow water from the GIWW into the project area.

Goals

- 1.) Create marsh by beneficially using dredge material to build terraces
- 2.) Increase submerged aquatic vegetation in shallow open water areas
- 3.) Reduce salt water intrusion onto East Gum Cove Ridge

Preliminary Project Benefits

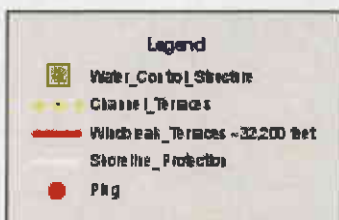
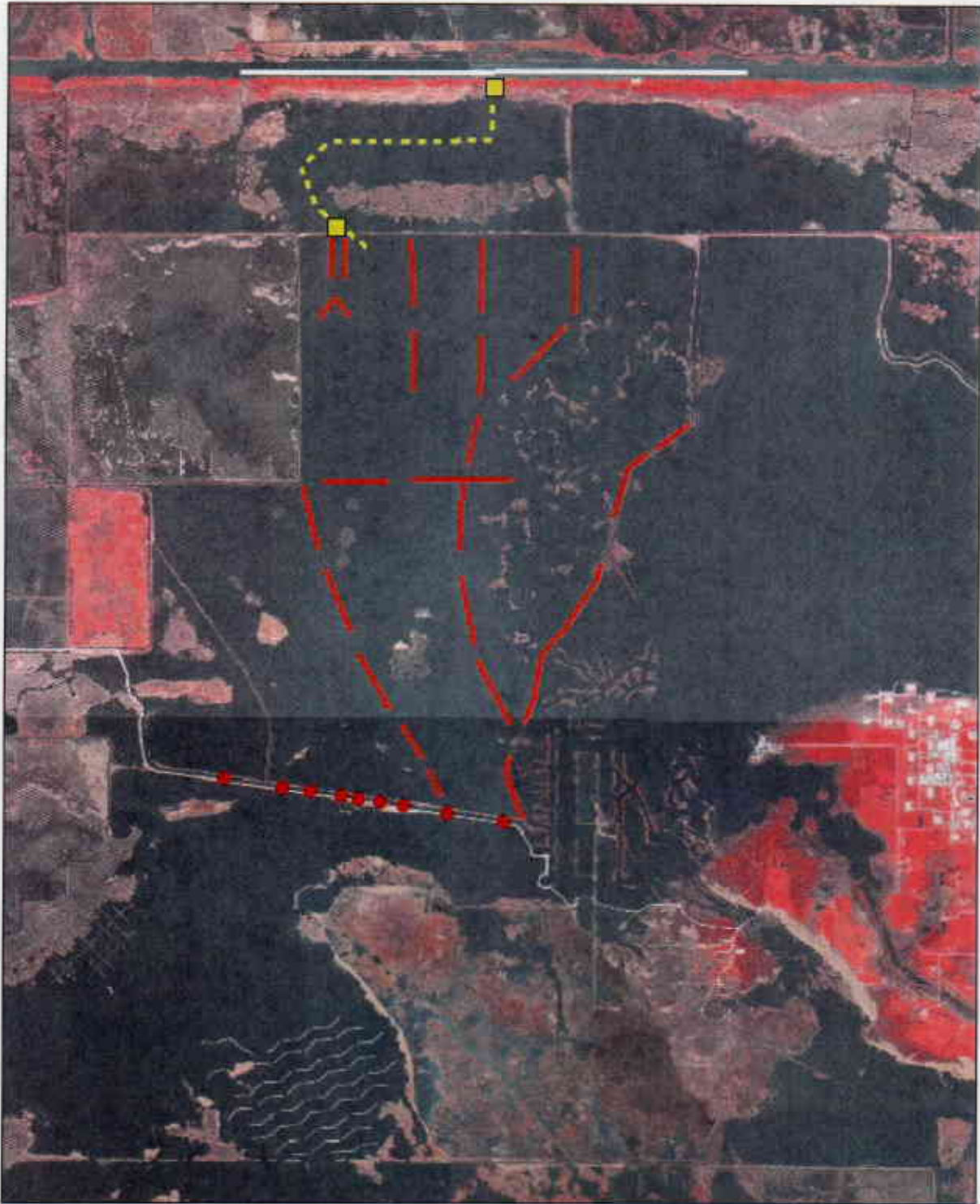
The project is designed to create emergent marsh and encourage SAV production. The total area benefited is 8,029 acres. This project maintains the Gum Cove Ridge and has a positive net impact on critical infrastructure (pipelines).

Preliminary Construction Costs

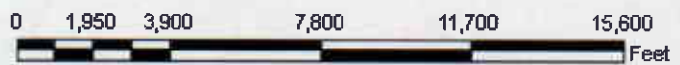
\$ 8 Million

Preparers of Fact Sheet

Troy Mallach, Biologist Curt Marcantel, landowner
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East Gum Cove Terracing
 PPL 17
 Calcasieu and Cameron Parishes, Louisiana



R4- CS 6 Black Lake Restoration Project

PPL17 PROJECT NOMINEE FACT SHEET

January 9, 2007

Black Lake Restoration

Coast 2050 Strategy

Ecosystem Management: Maintain estuarine gradient to achieve diversity. Reduce saltwater intrusion to re-establish a salinity gradient. A salinity gradient will create a gradation of fresh-intermediate-brackish-saline vegetation and associated variations in fish and wildlife habitat.

Regional: Dedicated dredging of sediment for wetland creation.

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, Black Lake Mapping Unit, north of the town of Hackberry, Louisiana.

Problem

The project will be designed to reduce salt water intrusion and marsh erosion by decreasing the amount of salt water entering the project area and disrupting the artificial circulation of that water. Additionally, the project proposes to recreate the north and west shoreline of Black Lake. According to Coast 2050 loss rates (1978-1990) of approximately 1.5% per year were calculated by USGS in this area.

Proposed Project Features

The project proposes approximately 3 miles of shoreline protection along the GIWW, approximately 39,000 linear feet (7.5 miles) of terraces, and water control structures in Black Lake Bayou and Alkali Ditch.

Goals

- 1.) Create marsh by beneficially using dredge material to build terraces
- 2.) Re-establish the north and west shoreline of Black Lake
- 3.) Reduce water exchange in Black Lake Bayou and Alkali Ditch

Preliminary Project Benefits

The project is designed to create emergent marsh and encourage SAV production. The proposed project restores the historic lakeshore and potentially provides containment for dredge material available through the BudMat program.

Preliminary Construction Costs:

\$ 7.6 Million

Preparers of Fact Sheet

Troy Mallach, NRCS

troy.mallach@la.usda.gov

Black Lake Restoration
Calcasieu and
Cameron Parishes, Louisiana



Legend

- Water_Control_Structure
- Shoreline_Protection
- Terraces



**R4- CS 7 Holly Beach Breakwaters East
Extension Project (BW and sand)**

PPL17 PROJECT NOMINEE FACT SHEET

January 9, 2007

Holly Beach Breakwaters East Extension (BW and sand)

Coast 2050 Strategy

Coastwide: Maintain, Protect, or Restore Ridge Functions; Maintenance of Gulf, Bay, and Lake Shoreline Integrity.

Regional: 18. Stabilize Gulf of Mexico shoreline from Calcasieu Pass to Johnson's Bayou.

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, Martin Beach Ship Canal Shore Mapping Unit, Extension of Holly Beach Breakwater Project (CS-1) east toward the Calcasieu Ship Channel.

Problem

The project will be designed to reduce erosion of the Gulf Shoreline east of the Holly Beach Breakwater project, and incidentally protecting State Hwy 82 and the marsh system behind it. Recent loss rates (1998-2005) were calculated from aerial photography at approximately 22 ft/yr.

Proposed Project Features

The project proposes approximately 33,000 linear feet (6.25 miles) of breakwaters continuing from the Calcasieu Ship Channel west to the Holly Beach Breakwater Project (CS- 01). Breakwaters will be designed on the CS-01 template, using all the lessons learned from the Holly Beach Breakwater Enhancement and Sand Management Project (CS-31). An additional sand component will be added to create/nourish beach behind the breakwaters.

Goals

- 1.) Reduce Gulf shoreline retreat and restore chenier barrier shoreline and
- 2.) Protect Marsh and wooded chenier habitat threatened by encroaching gulf
- 3.) Protect/restore critical habitat for the piping plover, a threatened/endangered species

Preliminary Project Benefits

The project is designed to reduce wave energies on the gulf shoreline west of the Calcasieu Ship Channel and trap sediment between the breakwaters and shoreline and additional beach creation would protect approximately 300 acres. This project maintains a beach rim component of the coastal ecosystem and has a positive net impact on critical infrastructure (pipelines and houses) and has a synergistic effect of the Holly Beach project to which it is tied. The Audubon Society supports this project as further protection to valuable chenier habitat. This project would also protect/restore critical habitat for the piping plover, a threatened/endangered species.

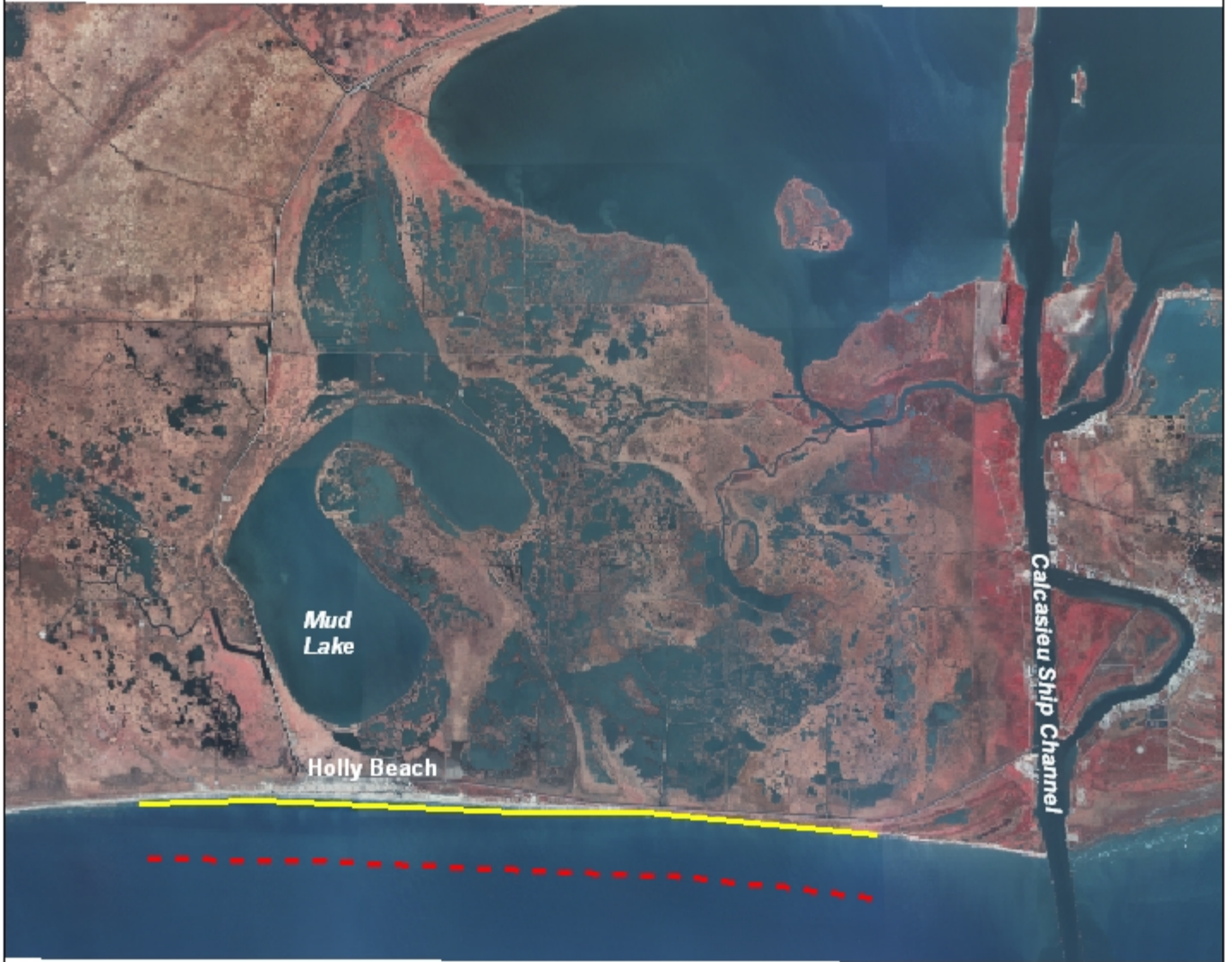
Preliminary Construction Costs

\$30.0 million

Preparers of Fact Sheet

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Troy Mallach troy.mallach@la.usda.gov
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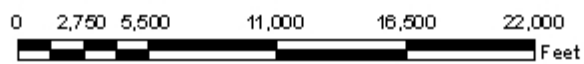


Legend

- Beach_Nourishment
- Rock_Breakwaters



Holly Beach East
Breakwaters and Beach Nourishment
PPL17
Cameron Parish, Louisiana



R4- CS 8 Rabbit Island Restoration Project

Rabbit Island Restoration Project

Coast 2050 Strategies:

- Dedicated dredging of sediment for wetland creation.

Project Location:

Region 4, Calcasieu/Sabine Basin; located approximately 4 miles northwest of Cameron, Louisiana, in Cameron Parish. The project encompasses approximately 220 acres of brackish-to-saline marsh and open water, and is border by the southwest portion of Calcasieu Lake known as West Cove.

Problem:

Rabbit Island is eroding due to subsidence and wave action from the Calcasieu Ship Channel. The island is owned by the Louisiana State Lands office and currently supports nesting for the endangered brown pelican (*Pelecanus occidentalis*) and various species of wading birds (i.e., herons, egrets, ibis, and roseate spoonbills). Continued subsidence and erosion will result in increased marsh loss and reduce the island's effectiveness in providing habitat for nesting brown pelicans and wading birds.

Goals:

The project goal is to restore Rabbit Island by beneficially using dredged material from the Calcasieu Ship Channel.

Proposed Solution:

Marsh nourishment and creation would provide additional stabilization to this area and would be accomplished by hydraulically dredging material to an elevation that would settle at marsh height for the majority of Rabbit Island, and one foot above marsh height on areas to be used as nesting habitat.

Project Benefits:

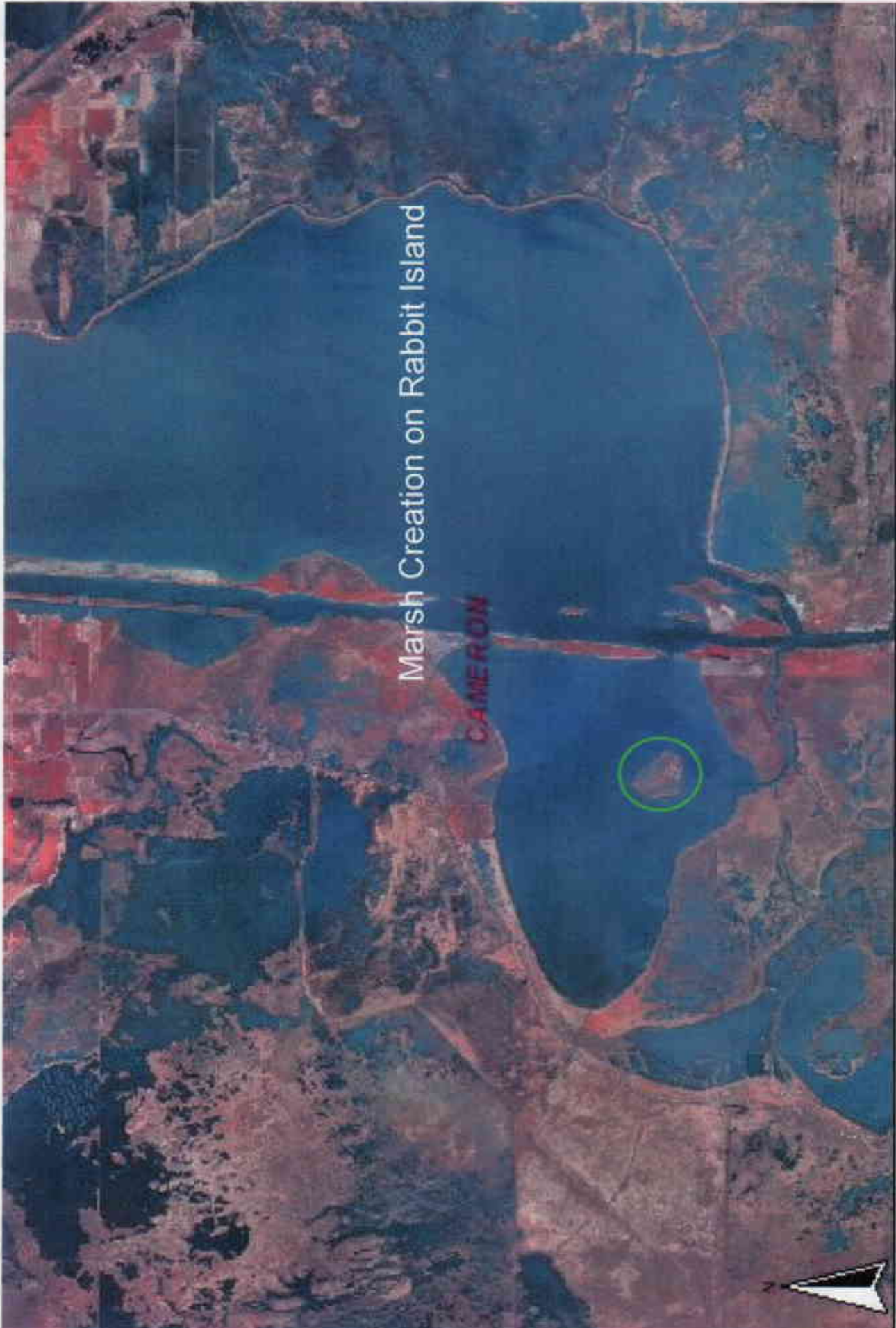
The project would benefit about 220 acres of brackish-to-saline marsh and open water. .

Preliminary Construction Costs:

\$3 Million

Preparers of Fact Sheet:

David Richard, Stream Property Management Inc, 337-433-1055, drrichard@streamcompany.com
Troy Mallach, NRCS, 337-291-3064, Troy.Mallach@la.usda.gov



Marsh Creation on Rabbit Island

CAMERON



Louisiana Department of Natural Resources

0 4.1 mi

Demonstration Projects

**Demo 1 Dredged Containment Demo Project (see
PPL15-16 demo)**

Withdrawn by Proposer, WP Edwards III

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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Demo 2 Bioengineered Oyster Reef Project

PPL17 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 24, 2007

Demonstration Project Name: Bioengineered Oyster Reef

Coast 2050 Strategy(ies):

The project is linked to CWPPRA Region 4 Strategy 15: *Stabilizing Gulf of Mexico Shoreline in the Vicinity of Rockefeller Refuge.*

Potential Demonstration Project Location(s)

Region, Basin, Parish, general location

- Region: CWPPRA Region 4
- Basin: Chenier subbasin of the Mermentau Hydrologic Basin
- Parish: Cameron and Vermillion parishes

Problem:

The purpose of this project is to address rapid shoreline retreat and wetland loss in the Rockefeller Wildlife Refuge. The direct Gulf of Mexico frontage and extremely low (250-330psf) soil load bearing capacity present unique engineering challenges.

Local shoreline retreat at the site averages 30.9 ft/yr. The wetlands contained in the refuge provide essential habitat for numerous aquatic and terrestrial species including migratory waterfowl, endangered species and commercially and recreationally important species. Loss of wetlands also threatens to directly expose Highway 82 to storm waves. Highway 82 is the only hurricane evacuation route for residents of the Chenier plain.

Goals:

The goal of this demonstration project is to evaluate the proposed technique as a cost effective technique for protecting the entire Rockefeller Wildlife Refuge given the unique engineering challenges.

The proposed technique should prevent beach erosion for up to Category 1 hurricane conditions, and, where practicable, should remain stable for up to 100 year storm conditions.

The project would be maintained and monitored for up to 5 years.

Proposed Solution:

The demonstration project would consist of an Oysterbreak, approximately 1000' long. The Oysterbreak is a light-weight, modular shore protection device that uses accumulating biomass (an oyster reef) to dissipate wave energy. The Oysterbreak minimizes manufacture and construction costs by minimizing the amount of material initially placed. The Oysterbreak is constructed by placing modular units into an open interlocked configuration. The units are sized to be stable under storm wave conditions. The height and width of the Oysterbreak are designed to achieve a moderate initial wave energy reduction. However, the bioengineered structure is designed to grow rapidly into an open structured oyster reef utilizing specifically designed structural components with spat attractant and enhanced nutrient conditions conducive to rapid oyster growth. As successive generations of encrusting organisms settle on the Oysterbreak, the

structure's ability to dissipate wave energy increases to equal or possibly exceed a comparable solid rock structure with less reflectance problems associated with solid structures.

Project Benefits:

If the Oysterbreak successfully prevents beach erosion, approximately 4.5 acres (1,000 ft x 39 ft/yr x 5 yrs x 1 acre/43,560 sq ft) of wetlands will be protected. Secondary benefits include increased habitat diversity and complexity, increased nekton utilization, and recreational fishing benefits associated with natural oyster reefs.

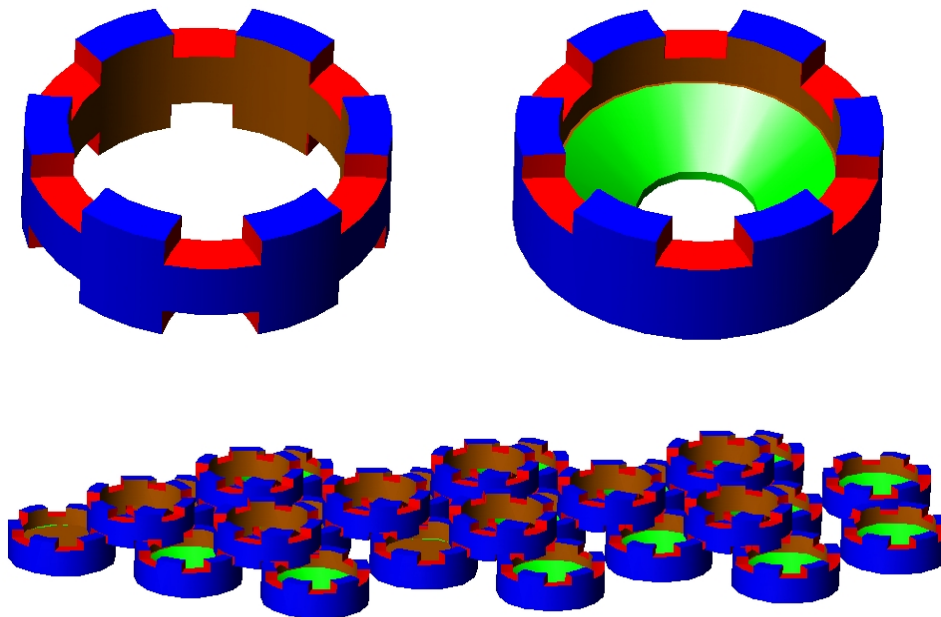
Project Costs:

Estimated costs plus 25% contingency is \$1,125,000.

Costs include concrete rings, forms, equipment, labor to construct, deployment of bio-engineered reef, and four (4) years of monitoring of sedimentation rates, flow rates, wave transmission, reflection and dissipation, settlement rates, oyster growth, growth of other sessile species and monitoring of local populations of mobile species (e.g. fish, crabs, snails).

Preparer of Fact Sheet:

John D. Foret, Ph.D., NOAA Fisheries Service, (337) 291-2107, john.foret@noaa.gov.





Demo 3 Temporary Impact of Dredged Material on Oyster Seed Grounds Project

PPL17 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 24, 2007

Demonstration Project Name: Temporary Impact of Dredged Material on Oyster Seed Grounds

Coast 2050 Strategies: The project is linked to the use of dedicated dredging or beneficial use of sediment for wetland creation or protection and other strategies that involve projects requiring disposal of dredge material for access in oyster resource areas.

Potential Demonstration Project Location(s):

Region IV, Calcasieu/Sabine Basin, Calcasieu Parish, Calcasieu Lake

Problem:

There is a general perception that oyster beds and seed grounds are a major impediment to many coastal restoration projects, particularly on projects that involve direct dredging and disposal of dredged material for access and/or marsh creation in or near oyster resource areas. This possible misconception is also associated with the potential installation and use of sediment delivery pipelines through or near seed grounds and oyster beds. However, it is thought that the true impediment to restoration projects in or near oyster resource areas is the applied limits of construction and materials transportation technologies.

Standard methods for project area access typically involve prop washing or bucket dredging. Marsh creation can result in more than incidental discharge of dredged material into adjacent open waters. Where sediment delivery pipelines are installed in or near open waters, there is always a risk of a pipeline blowout that could result in a damaging sediment discharge. These expected or potential discharges permanently impact oyster beds and larval recruitment by direct deposit, and by suspension and subsequent resettling of sediment.

Goals: This demonstration project would analyze existing and potential construction and materials transportation techniques to determine possible low impact/low risk and cost effective measures that could be applied to improve the feasibility of wetland restoration projects in Louisiana's oyster resource and other sensitive marine areas.

Proposed Solution:

Currently undefined.

Project Benefits:

Enable restoration projects in sensitive oyster resource areas.

Project Costs:

Estimated cost to implement demonstration project. \$1 million

Preparer(s) of Fact Sheet:

Melanie Goodman, US Army Corps of Engineers, 504-862-1940,
Melanie.L.Goodman@mvn02.usace.army.mil

Demo 4 Casted Concrete Shoreline Protection Demo

PPL17 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 31, 2007

Demonstration Project Name: Casted Concrete Shoreline Protection

Coast 2050 Strategy(ies):

Coastwide Strategy: Maintenance of Gulf Bay, lake shoreline integrity, and the stabilization of the width and depth of major navigation channels and other water bodies at their point of intersection.

Potential Demonstration Project Location(s):

Interior shorelines

Problem:

Along the coast there are areas where shoreline erosion needs to be addressed and use of rock may be problematic.

Goals:

The goal of this demonstration project is to utilize concrete barriers in place of rock in order to establish shoreline protection/stabilization, and reduce erosion of existing wetlands.

Proposed Solution:

Place casted concrete barrier approximately 20 feet in front of levees to be used as a barrier for stabilization along the shoreline and promote vegetative growth. Oysters can also propagate on the barrier.

Project Benefits:

Protect the shoreline

Project Costs:

Approximately: \$50,000- \$100,000

Preparer(s) of Fact Sheet:

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Troy Mallach, NRCS / troy.mallach@la.usda.gov (337) 291-3064

Curt Marcantel, landowner

**Demo 5 Sediment Containment for Marsh
Creation Project (see PPL 16)**

PPL 17 DEMONSTRATION PROJECT NOMINEE FACT SHEET
1/10/2007

Project Name Sediment Containment for Marsh Creation

Coast 2050 Strategy

- Management of diversion outfall for wetland benefits
- Dedicated dredging to create restore or protect wetlands

Project Location

Coastwide

Problem

Small and medium freshwater diversions that flow into broad areas and small dredge projects require confinement and trapping features to form marsh because the materials entering the area are often too dilute or fine to result in any appreciable accumulation. A method to delineate smaller areas to concentrate sediments flowing across an area would improve suspended sediment retention efficiency and allow accumulations to occur within a more timely and cost-effective manner. A sediment trapping mechanism would also allow for taking advantage of finer materials that would otherwise largely flow through the target area or require costly construction of some form of containment.

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 passive sediment retention in small and medium freshwater diversions as well as mechanized introduction of fluid material to create marsh.

Proposed Solution

The project will demonstrate the effectiveness of a sediment trapping system designed for dredge containment to facilitate both sediment retention and accumulation in freshwater diversion that are located in broad areas where sediments tend to dissipate and to demonstrate the ability of the system to perform in small dredge applications. The project will demonstrate that by isolating areas where accumulation can be concentrated accretion rates will be greatly enhanced and speed up marsh creation.

Project Benefits

The project will benefit any area in coastal Louisiana by facilitating containment where suspended sediment load is adequate for potential marsh development but retention is low due to broad open water expanse or channelization. The project will also benefit small dredge projects by providing a cost-effective alternative to earthen containment, particularly in areas where construction of earthen containment may be problematic (e.g. flow lines and poor soils).

Project Cost

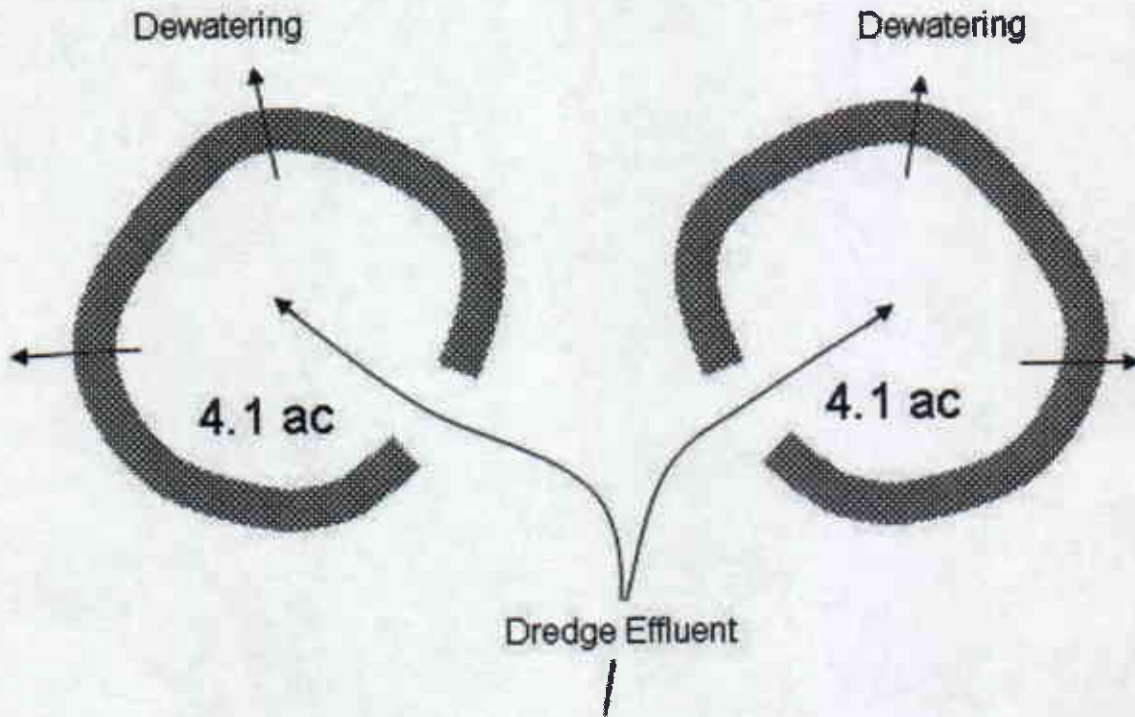
Construction + 25% Contingency = \$650,000

Preparer of Fact Sheet

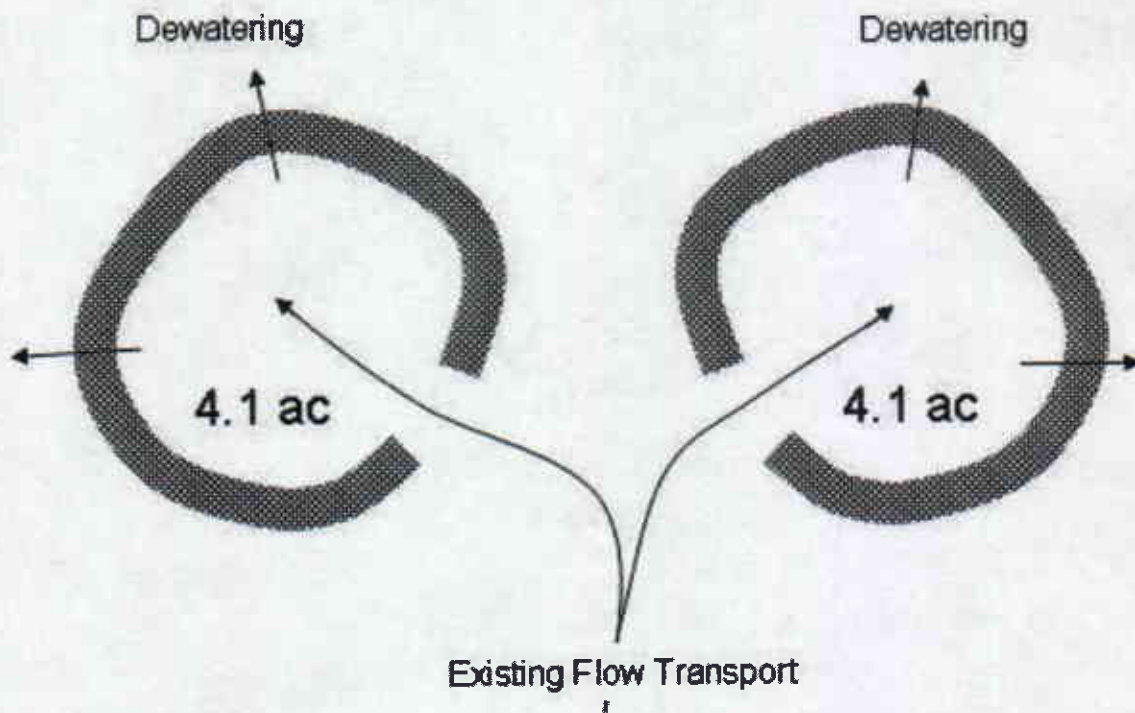
Ron Boustany, NRCS (337) 291-3067, ron.boustany@la.usda.gov

Sediment Containment System for Marsh Creation

*Containment System for Dedicated Dredge



Passive Catchment



* Each application will consist of 2 units placed @ 1500' circumference

Demo 6 Agrinaut Project -Autonomous Hydroponic Vessels



**SPARTINA FARMS
WETLAND NURSERY**
1332 Briarridge Drive
Baton Rouge, LA 70810

SPARTINAFARMS.COM
225-766-9206

The following is a proposal to use a patent pending process titled "A System for Growing Vegetation on an Open Body of Water", to be known as AGRINAUT: Autonomous Hydroponic Vessels (AHV). The sole licensee of the product is Becker Bioengineering, LLC at this time. The control software, programmable computer, interface and database are the intellectual property rights of Space Metrics, LLC. Spartina Farms, LLC is subcontracted for the assembly, planting, maintenance and harvest of the vessels. Spartina Farms, LLC is in affiliation with the Center for Innovation at the University of New Orleans.

INNOVATION: AHV are solar powered pneumatically operated platforms of geotextile or biodegradable fiber material hung over iron pipe connected by structural fittings planted with vegetation. The vessels normal programs are to rise and fall into and out of the water in order to create increased plant yield and nutrient transformation. The data acquired from the system denotes operating parameters, water condition, as well as biomass onboard. AHV can be scuttled in hurricane conditions.

COST: Louisiana State University College of Business conducted a study of our process the results determined the cost to setup and operate for one year to be \$108,456 per acre. Our vessels can withstand years of cultivation. A single acre of *Spartina alterniflora* sold in trade gallon would have a value of nearly double the initial setup fee (174,240 x \$ value of plant).

HABITAT ENHANCEMENT: The main feature of the vessels is that the raising and lowering of the vessel has stimulated increased yields in wetland vegetation. AHV supports wetland species in salt brackish and fresh water areas. Vegetative growth is achieved by altering the tidal period flood or ebb tides to create optimal environments for terrestrial and intertidal species. The vessels can not restrict water flow beneath but are designed to retain freshwater surface runoff in estuarine environments during ebb tides. Bioremediation of particulate and nutrient runoff can be controlled at the surface where plant roots can filter the water for dredge or river diversion mitigation. The vessels provide cover to fish, forage to birds, insects and mammals and support most marsh species. Protecting the oyster reefs from sediment deposition would be addressed by this system.

DATA ACQUISITION: Before Hurricane Katrina the vessels were scuttled and recovered after the storm outside of the hurricane protection levee near New Orleans. We are currently designing a wave tank study to understand how the vessels may be used to dampen and survive future storm waves. Altering the artificial tide cycle allows study of flooding effects on wetland species as well as understanding global sea level rise. Biomass

fluctuation is of importance to wetland valuation. Operators are capable of measuring the pressure on the vessels when pneumatically lifted in order to obtain biomass measurements. The correlation of biomass and leaf tissue sample analysis denotes Nitrogen, Carbon, Salt uptake and bioremediation rate. As we send wireless commands to the vessels we can receive water quality measurements as well as vessel parameters these data are assembled into a database for analysis of wetland function.

PROPOSAL: A
REGION: LaBRANCHE

Vegetative Planting/ Hydraulic Restoration
St Charles Parish, LA

Install fresh and salt marsh vegetation in the La_Branche wetlands to retain fresh water. One acre demonstration operated for one year at a cost of approximately \$100,000 per year. Studies include species diversity, total biomass, relative growth rate, pH, eH, vertical accretion rate.



St Charles Parish, LA LaBranche (Yellow Box)



Vegetative Planting / Hydraulic Restoration



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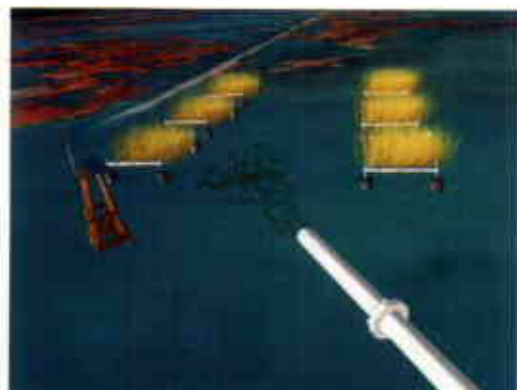
PROPOSAL: B
REGION: CAMINADA

Habitat Enhancement/ Dredge Mitigation
 Leeville, LA Wisner WMA

Restore water quality and provide habitat for the estuary in the Wisner WMA. One acre demonstration operated for one year at a cost of approximately \$100,000 per year. Studies include water velocity, turbidity, accretion rate, nutrient uptake and salinity.



Leeville, LA Wisner WMA (Yellow Box)



Habitat Enhancement/ Dredge Mitigation



SPARTINA FARMS
WETLAND NURSERY
1332 Briarridge Drive
Baton Rouge, LA 70810

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225-766-9206

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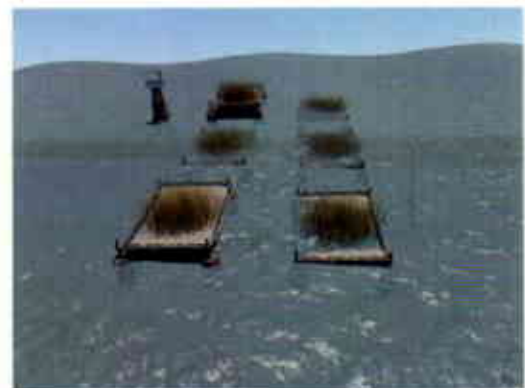
PROPOSAL: C
REGION: Mississippi River Gulf Outlet (MRGO)

Shoreline Protection / Wave Damping
St Bernard Parish, LA MRGO

Maintain Northern Shoreline of the Mississippi River Gulf Outlet land bridge and Lake Borgne. One acre demonstration operated for one year at a cost of approximately \$100,000 per year. Studies include water velocity, wave height, salinity and sediment accumulation rates.



St Bernard Parish, LA MRGO (Yellow Box)



Shoreline Protection / Wave Damping

Demo 7 Beach Angel Project- Zero Velocity Sand Trap

Demo 8 Beach Angel Project- Zigzag/ Sand Trap Jetty

Demo 9 Beach Angel Project -

Continuous Process Sand Dune Building Operation

Demo 10 Beach Angel Project-

Coconut Beach Protection and Beautification

Demo 11 Beach Angel Project -

Ethical Mississippi River Dredge Material Disposal

Coastal Restoration And Protection Proposed Projects Presented to CWPPRA on 1/11/07
By R. M. Nettles New Orleans, Louisiana

Beach Angel

Beach Angel is an idea dreamed of in late 2006 by R.M. Nettles to help protect and restore Coastal Louisiana.
Particularly the Barrier Islands and thier Beaches

The idea is basically to approach coastal industries and request them to donate their surplus large movable equipment (ships, crew boats, jackups, tug boats, airplanes, helicopters, heavy equipment, etc) which Beach Angel would then sell and use the funds for coastal projects
Industries could take the tax right off and it could be a win win for all involved.

Emphasis on Low Cost High Impact Ideas For coastal protection and restoration

Primaray focus on using on location filled natural fiber pre made bags
and on site sewn natural fiber tubes and bags
to trap sand washed inland by the natural wave action and tidal fluctuations

Proposed Projects

1. Zero velocity Sand Trap Project
2. Zigzag Sand Bag / Sand Trap Jetty
3. 20' Honey Hole, 20'Sand Dunes and 400 HP 40' Dredges (continuous process sand dune building operation)
4. Ten containers of coconuts 75 miles of beach protection
5. Mississippi River dredge material Disposal

Grande Terre Zero velocity Sand Trap Project

Place natural fiber sandbags in a single file single row along the Barrier Island Beaches so that the top of the sandbags are even with the low tide waterline.
Sand Bags would be filled on location using bottom sand pumped from the location of placement using a small trash or dredge pump (5-10 Horsepower)
This placement would take full advantage of that moment of zero velocity wave action which happens when the last breaker hits the beach and the water and sand begin to get sucked back into the Gulf.
This sand bag placement would allow the breakers to wash suspended sand over the top of the bag and trap the sand which falls to the bottom at that moment of zero velocity

Grande Terre Zigzag Sand Bag / Sand Trap Jetty

Place large natural fiber sand filled bags in a zigzag jetty configuration between Grande Terre East and West to attempt to reconnect the islands and better protect the Baataria bay estuary.
Sand bags would be filled on sight using bottom material pumped into the bags with a small dredge or pump. Bags would be filled where they will lay and would not have to be handled. An opening large enough to allow for vessel passage would be left at the small end of each funnel.

20' Honey Hole, 20' Sand Dunes and 400 HP 40' Dredges (continuous process sand dune building operation)

Couple a 400 hp 40' dredge with a 400 hp excavator and a farm tractor to make a continuous process sand dune building operation capable of building 50 linear feet of 40' sand dune/protection levee per hour
In addition to building dunes a similar size trench (Honey Hole) will be created in approximately 20' of water which will provide coastal marine life a place of protection from extreme temperature fluctuation and will concentrate fish for recreational fisherman

Ten containers of coconuts 75 miles of beach protection

Purchase 10 containers of coconuts and plant 4 rows deep on barrier island beaches

10 containers at 15,000 coconuts each equals 150,000 coconuts at 2000 coconuts per mile of beach equal 75 miles of natural beach protection and beautification.
Will probably have to be replant every 25 years due to hard freezes which rarely happen on the extreme Gulf side of the barrier islands

Ethical Mississippi River dredge material Disposal

Fill large bulk type natural fiber bags (approximately 2000 lbs each) with Mississippi River dredge material. Use hopper type ships to carry it to disposal sites for coastal nourishment. This method would allow the river silt to be slowly integrated into its new location without shocking the marine environment and provide much needed erosion control.

Contact information:

Rory M. Nettles
7445 Lindsly Lane
Ventress, LA 70783

Cell 225-937-8521
email rorynettles@yahoo.com

**Demo 12 Barrier Islands Mangrove Planting
Project (No Fact Sheet)**

PPL17 PROJECT NOMINEE FACT SHEET

January 2007

Project Name

Mangrove Plantings for Barrier Island Restoration

Coast 2050 Strategy

Goal 1: Assure vertical accumulation to achieve sustainability.

Goal 3: Maintain exchange and interface to achieve system linkages,

Coastwide Common Strategies: Vegetative Planting

Regional Ecosystem Strategies: Restore and Maintain Barrier Islands

Project Location

Barrier Island and/or headlands in the coastal zone.



Problem

The importance of mangrove swamps has been well established, particularly in estuarine systems. They function as nurseries for shrimp and recreational fisheries, exporters of organic matter to adjacent coastal food chains, and enormous sources of valuable nutrients. Their physical stability helps to prevent shoreline erosion, shielding inland areas from severe damage during hurricanes and tidal waves. However, native mangrove populations in Louisiana have decreased over time and significant decline in their integrity and productivity has been observed. Additionally, regeneration is severely hampered by altered hydrology and other stressors.

Mangrove restoration specialists have documented that the major issue with the failure of mangrove restoration projects is the lack of understand of mangrove hydrology. Although a number of papers discuss the science of mangrove hydrology, their focus has been on tidal and freshwater flows within the forests, and not the critical periods of inundation¹.

Proposed Project Features

The proposed project will increase or establish populations of black mangrove, *Avicennia germinanas*, on barrier islands or headlands at a site in coastal Louisiana. Emphasis will be on mangrove hydrology to advance the scientific body of knowledge regarding mangrove restoration techniques. Lewis has stated that the single most important factor in designing a successful mangrove restoration project is determining the normal hydrology (depth, duration and frequency, and of tidal flooding) of existing natural mangrove plant communities (a reference site) in the area in which restoration is to be accomplished. Planting of mangroves will only be necessary if natural recruitment is not likely due to lack of propagules or presence of soil conditions that prohibit natural establishment. The demonstration project will need to be monitored for a minimum of 5 years to allow mangrove plantings to mature.

Preliminary Project Benefits

Create critical wetland habitat that will promote vertical accumulation of sediments and improve the saltwater wetland interface to restore barrier island habitat functions and values, while advance knowledge of mangrove restoration techniques in coastal Louisiana.

¹ Lewis, R.R., and Streever, B. (2000). "Restoration of mangrove habitat," *WRP Technical Notes Collection* (ERDC TN-WRP-VN-RS-3.2), U.S. Army Engineer Research and Development Center, Vicksburg, MS. www.wes.army.mil/el/wrp

Identification of Potential Issues

Agreements landowners will be needed at identified sites.

Preliminary Construction Costs

\$1,000,000

Preparer of Fact Sheet

Marnie Winter

Jefferson Parish Department of Environmental Affairs

5-4-736-6443

mwinter@jeffparish.net

Reference:

Lewis, R.R., and Streever, B. (2000). "Restoration of mangrove habitat," *WRP Technical Notes Collection* (ERDC TN-WRP-VN-RS-3.2), U.S. Army Engineer Research and Development Center, Vicksburg, MS. www.wes.army.mil/el/wrp



TOWN OF JEAN LAFITTE
OFFICE OF THE MAYOR



TIMOTHY P. KERNER
MAYOR



COUNCIL MEMBERS

LEO E. KERNER, JR.
MAYOR PROTEM

YVETTE CRAIN
TOWN CLERK

2654 Jean Lafitte Blvd.
Lafitte, Louisiana 70067
Office: (504) 689-2208
Police: (504) 689-3132
Fax: (504) 689-7801

ELAINE BADEAUX
SHIRLEY GUILLIE
VERNA SMITH
CALVIN LEBEAU

CLARENCE MATHERNE, JR
CHIEF OF POLICE

March 15, 2005

Miss Marnie Winter
1221 Elmwood Park Blvd.
Suite 1006
Jefferson, LA 70123

Dear Miss Winter:

Enclosed is information about a plant used in certain areas to stop Coastal Erosion. I thought you might be interested in this information.

Sincerely,

Timothy P. Kerner
Mayor

MAR 15 2005

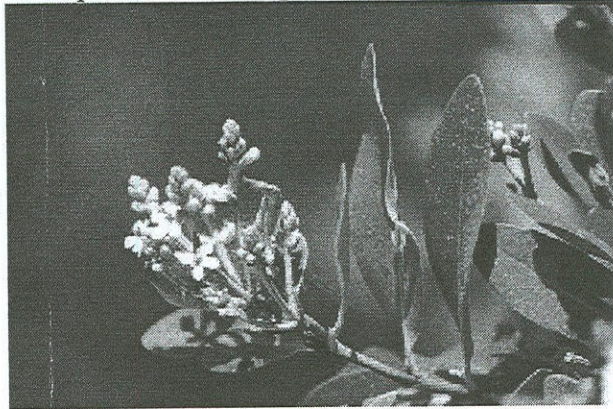
Mangroves

<u>What Are Mangroves?</u>	<u>Why Are Mangroves Important?</u>	<u>Mangrove tree Identification</u>	<u>Mangrove Removal Regulations</u>	<u>Mangrove Pruning Regulations</u>	<u>Links</u>	<u>References</u>
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WHAT ARE MANGROVES?

[TOP](#)

Mangroves are trees and shrubs that grow in tropical and subtropical tidelands throughout the world. Mangroves grow in areas that are frequently inundated with salt water due to tidal activity of gulfs, seas and oceans. Mangroves are able to thrive salt water inundation because of specialized rooting structures (such as prop roots and pneumatophores), specialized reproduction (vivipary or live birth) and the ability to exclude or excrete salt. Mangroves grow exclusively in these tidal areas in large stands or groves to where these areas are referred to as their own ecological community, collectively called mangroves.



In Florida, mangroves include four tree species: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and buttonwood (*Conocarpus erectus*). Each mangrove species has a different level of salt tolerance, which in part determines its location in tidal zones.

WHY ARE MANGROVES IMPORTANT?

[TOP](#)

The mangrove community is valued for its protection and stabilization of lowlying coastal lands and its importance in estuarine and coastal fishery food chains. Mangrove forests protect uplands from storm winds, waves, and floods. The amount of protection afforded by mangroves depends upon the width of the forest. Mangroves can help prevent erosion by stabilizing shorelines with their specialized root systems.

The relationship between mangroves and their associated marine life cannot be overemphasized. Mangroves provide protected nursery areas for fishes, crustaceans, and shellfish. Seventy-five percent of the game fish and ninety percent of the commercial species in south Florida are dependent on mangrove ecosystems (Law and Pywell FRC-43). They provide food for a multitude of marine species such as snook, snapper, tarpon, jack, sheepshead, red drum, oyster, and shrimp.

Many animals find shelter either in the roots or branches of mangroves. Mangroves serve as rookeries, or nesting areas, for beautiful coastal birds such as brown pelicans and roseate spoonbills.

MANGROVE TREE IDENTIFICATION

[TOP](#)

Red Mangrove

Black Mangrove

White Mangrove

Buttonwood

MANGROVE REMOVAL REGULATIONS

[TOP](#)

Mangrove trees along natural and many artificial water bodies are protected from removal. Mangrove trees are protected from removal by [Dock and Shoreline](#) regulations, the natural waterway buffer requirement and the Tree Protection Ordinance. In many cases, mangrove trees can not be removed without first obtaining a vegetation removal permit from Lee County. Mangroves are typically [wetlands](#). Impacts or removal of mangrove [wetlands](#) may require permits from state and federal agencies.

MANGROVE PRUNING REGULATIONS

[TOP](#)

Since July 1, 1996, Lee County is generally not involved in the regulation of mangrove tree pruning. Below are state agencies that permit mangrove pruning per the Mangrove Trimming and Preservation Act (Florida Statutes Sections [403.9321-403.9333](#))

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION - (DEP)

South Florida District Office
2295 Victoria Avenue, Suite 364
Fort Myers, FL 33901
Telephone (239) 332-6975
Fax (239) 332-6969
<http://www.dep.state.fl.us/>

LINKS

[TOP](#)

[Florida Department of Environmental Protections](#)

University of Florida Medical Entomology Laboratory - Mangroves

University of Florida Institute of Food and Agricultural Sciences - Mangroves

University of Florida Medical Entomology Laboratory - Coastal Wetlands

REFERENCES

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11. Law, Beverly E. and Nancy A. Pyrell *Mangroves-Florida's Coastal Trees* Forest Resources and Conservation Fact Sheet FRC-43 UNIVERSITY OF FLORIDA/Cooperative Extension Service/Institute of Food and Agricultural Sciences
12. Myers, Ronald L. and John J. Ewel *Ecosystems of Florida* University of Central Florida Press/Orlando (1990)
13. Rabkin, R., and Rabkin, J. *Nature Guide to Florida*. Banyan Books, Miami, 1978.
14. Snedaker, S.C. "Mangroves: Their value and perpetuation." *Nature and Resources*. v. 15(3): 6- 13. Unesco: Paris, France, 1978.

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16. United States Department of Agriculture Soil Conservation Service, "26 Ecological Communities of Florida." 1985.

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[back to Environmental Sciences](#)

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Florida's Mangroves

"Walking Trees"

Department of Environmental Protection
Florida Marine Research Institute
100 Eighth Avenue, S.E.
St. Petersburg, FL 33701-5095

What Are Mangroves?

Mangroves are one of Florida's true natives. They thrive in salty environments because they are able to obtain fresh water from saltwater. Some secrete excess salt through their leaves, others block absorption of salt at their roots.

Florida's estimated 469,000 acres of mangrove forests contribute to the overall health of the state's southern coastal zone. This ecosystem traps and cycles various organic materials, chemical elements, and important nutrients. Mangrove roots act not only as physical traps but provide attachment surfaces for various marine organisms. Many of these attached organisms filter water through their bodies and, in turn, trap and cycle nutrients.

The relationship between mangroves and their associated marine life cannot be overemphasized. Mangroves provide protected nursery areas for fishes, crustaceans, and shellfish. They also provide food for a multitude of marine species such as snook, snapper, tarpon, jack, sheepshead, red drum, oyster, and shrimp. Florida's important recreational and commercial fisheries will drastically decline without healthy mangrove forests.

Many animals find shelter either in the roots or branches of mangroves. Mangrove branches are rookeries, or nesting areas, for beautiful coastal birds such as brown pelicans and roseate spoonbills.

Florida's Mangroves

Worldwide, more than 50 species of mangroves exist. Of the three species found in Florida, the red mangrove, *Rhizophora mangle*, is probably the most well-known. It typically grows along the water's edge. The red mangrove is easily identified by its tangled, reddish roots called "prop roots." These roots have earned mangroves the title, "walking trees." The mangrove appears to be standing or walking on the surface of the water.

The black mangrove, *Avicennia germinans*, usually occupies slightly higher elevations upland from the red mangrove. The black mangrove can be identified by numerous

ed Mangrove (*Rhizophora mangle*)



Black Mangrove (*Avicennia germinans*)

White mangrove (*Laguncularia racemosa*)



Artwork courtesy of U.S. Fish & Wildlife Service

finger-like projections, called pneumatophores, that protrude from the soil around the tree's trunk.

The white mangrove,

Laguncularia racemosa, usually occupies the highest elevations farther upland than either the red or black mangroves. Unlike its red or black counterparts, the white mangrove has no visible aerial root systems. The easiest way to identify the white mangrove is by the leaves. They are elliptical, light yellow green and have two distinguishing glands at the base of the leaf blade where the stem starts.

All three of these species utilize a remarkable method of propagation. Seeds sprout while still on the trees and drop into the soft bottom around the base of the trees or are transported by currents and tides to other suitable locations.

Florida's mangroves are tropical species; therefore, they are sensitive to extreme temperature fluctuations as well as subfreezing temperatures. Research indicates that salinity, water temperature, tidal fluctuations, and soil also affect their growth and distribution. Mangroves are common as far north as Cedar Key on the Gulf coast and Cape Canaveral on the Atlantic coast. Black mangroves can occur farther north in Florida than the other two species. Frequently, all three species grow intermixed.

People living along the south Florida coasts benefit many ways from mangroves. Mangrove forests protect uplands from storm winds, waves, and floods. The amount of protection afforded by mangroves depends upon the width of the forest. A very narrow fringe of mangroves offers limited protection, while a wide fringe can considerably reduce wave and flood damage to landward areas by enabling overflowing water to be absorbed into the expanse of forest. Mangroves can help prevent erosion by stabilizing shorelines with their specialized root systems. Mangroves also filter water and maintain water quality and clarity.

Mangrove Losses in Florida

It is true that mangroves can be naturally damaged and destroyed, but there is no doubt that human impact has been most severe. Department of Environmental Protection, Florida Marine Research Institute scientists are studying changes in Florida's coastal habitats. The scientists are able to evaluate habitat changes by analyzing aerial photographs from the 1940's and 1950's and satellite imagery and aerial photography from the 1980's. Frequently the changes illustrate loss of mangrove acreage. Through researching the history of study sites, these losses are often attributed to human activities.

Tampa Bay, located on the southwest Florida coast, has experienced considerable change. It is one of the ten largest ports in the nation. Over the past 100 years, Tampa Bay has lost over 44 percent of its coastal wetlands acreage; this includes both mangroves and salt marshes.

The next major bay system south of Tampa Bay, Charlotte Harbor is one of the least urbanized estuarine areas in Florida. However there has been some mangrove destruction here also. Punta Gorda waterfront development accounts for 59 per cent of the total loss. An increase in mangrove acreage was noted in parts of the Harbor. This is due to changes in the system. As tidal flats were colonized by mangroves, tidal flat acreage decreased while mangrove acreage increased. Spoil islands, created as by-products of dredging, provided suitable habitat for mangroves.

A changing system was also observed on the Southeast Florida coast in Lake Worth, near West Palm Beach. Lake Worth naturally evolved from a saltwater lagoon to a freshwater lake. Human changes modified the lake back to an estuarine lagoon. Lake Worth has experienced an 87 per cent decrease of its mangrove acreage over the past forty years. Mangroves appear to be replaced by Australian Pines and urbanization. The remaining 276 acres of mangroves occur in very small areas and are now protected by strict regulations.

Another study site included the Indian River from St. Lucie inlet north to Satellite Beach. Indian River is the longest saltwater lagoon in Florida. There are just less than 8,000 acres of mangroves within the study site, but only 1,900 are available as fisheries habitat because of mosquito impoundments. Consequently, 76 percent of the existing mangrove areas are not productive to fisheries. A total of 86 percent of the mangrove areas have been lost to fisheries since the 1940's.

State and local regulations have been enacted to protect Florida's mangrove forests. Local laws vary. Be sure to check with officials in your area prior to taking any action, to determine if a permit is required.

Mangroves are one of Florida's true natives and are part of our state heritage. It is up to us to ensure a place in Florida's future for one of our most valuable coastal resources- mangroves.

This publication was produced at a cost of \$1,995.60 or \$.10513 a copy, to distribute information on Florida's Coastal Environment, funded by the Department of Environmental Protection, Florida Marine Research Institute. Original production funds provided by DER office of Coastal Management through a grant from the U.S. Office of Ocean and Coastal Resource Management, NOAA, under the Coastal Zone Management Act of 1972, as amended.

**Demo 13 Positive Displacement Pump Solution
Restoration Project**

PPL17 DEMONSTRATION PROJECT NOMINEE FACT SHEET

January 30, 2007

Demonstration Project Name:

Positive Displacement Pump Solution Project

Coast 2050 Strategy(ies):

Coastwide Strategies: Dedicated dredging to create, restore, or protect wetlands
Offshore and riverine sand and sediment sources

Potential Demonstration Project Location(s):

Coastwide, preferably Region 1, Barataria Basin, Jefferson or Plaquemines Parish

Problem:

Areas in need of restoration are often many miles away from a suitable sediment source or one that would introduce new sediments into the coastal ecosystem. Current pipeline sediment conveyance technology requires booster pumps to convey a sediment slurry farther than about 2-3 miles. Booster pumps add an additional layer of complexity to implementing a project and each require their own operation and maintenance plan. What evidence is there for the nature and scope of the problem in the project area?

Goals:

The goal of this demonstration project is to demonstrate the ability of a newly patented type of pump that has the ability to pump sediment slurry over distances of 10-20 miles without a booster pump. It allows for both high volume and high pressure simultaneously, unlike pumps currently utilized. This allows for more energy efficiency. It also has the flexibility to operate with or without a dredge depending on the compaction of the sediment in the borrow site. It can utilize a jet to suspend sediment or utilize the discharge from a dredge.

Proposed Solution:

A smaller prototype of the new pump technology would be utilized to demonstrate the potential capability to move sediments via pipeline over longer distances than current technology allows without the need for additional booster pumps. Demonstration project details to be further developed.

Project Benefits:

This project would demonstrate the ability of a new type of pump to convey sediment slurry over 10-20 miles without the need for booster pumps. Additional cost-saving and fuel-efficiency benefits of this technology may be demonstrated as well.

Project Costs:

Unknown, to be developed. Prototype pump would be provided.

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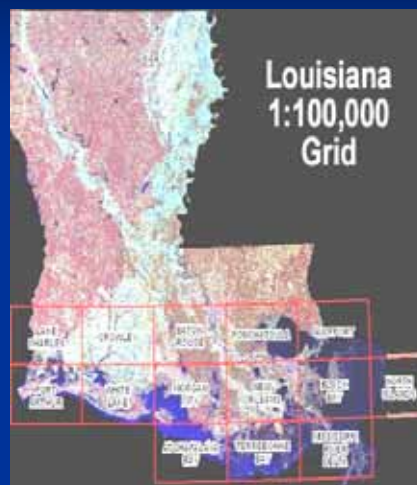
Louisiana Coastline Restoration

The Pump Solution

LOUISIANA PUMP, INC.

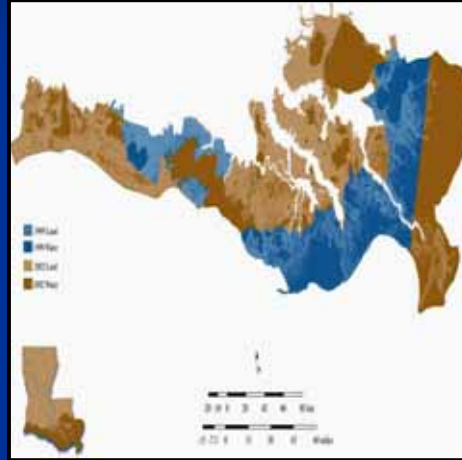
Louisiana Post Katrina and Rita

- The combined land-water changes caused by Katrina and Rita exceeded all such changes in coastal Louisiana from previous hurricanes combined.
- Hurricanes from 2004 to 2005 land to water exceeded that up to 72.9 square miles more than the 60 square miles projected to occur from a period of 50 years.
- Land is being lost quicker than it's being restored.
- Hurricanes are going to continue and land is going to continue to be lost unless we restore it faster than we lose it.

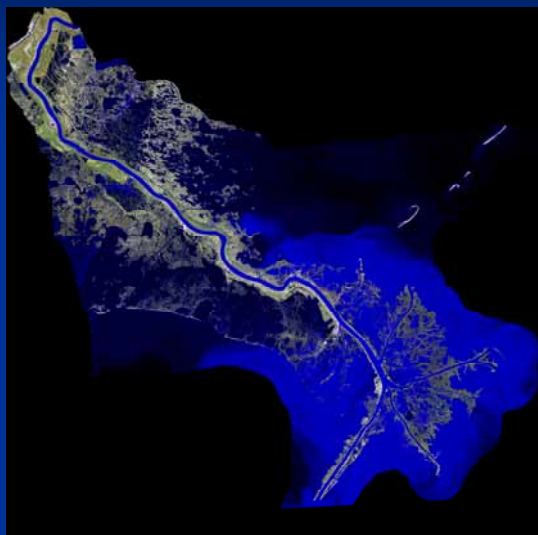


Louisiana Land Loss

- Map of Land that was lost from 1999 to 2002.
- Louisiana has lost 1,900 square miles of land since the 1930's and we still continue to lose land.
- The blue area shows land lost in 1999 and the dark brown areas shows land lost in 2002.
- We continue to lose 24 square miles per year.



THE PROBLEM & SOLUTION

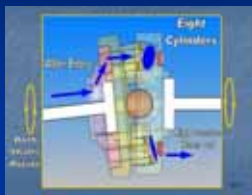


- HOW WAS THE DELTA FORMED IN THE FIRST PLACE?
- WHY NOT NOW?
- CASTING THE LAND TO THE OPEN GULF WATERS.
- WHAT ARE WE WAISTING?

WHERE IS THE ANSWER

At Percentage of River Flow					
Percent of River Flow	River Flow (cuft/s)	River Sediment Load (tons/day)	River Sediment Load (#/day)	River Sediment Load (#/s)	Days to Raise one sqmi by one foot height
100	600,000	436,000	872,000,000	10,092.59	3.80
90	540,000	392,400	784,800,000	9,083.33	4.23
80	480,000	348,800	697,600,000	8,074.07	4.76
70	420,000	305,200	610,400,000	7,064.81	5.43
60	360,000	261,600	523,200,000	6,055.56	6.34
50	300,000	218,000	436,000,000	5,046.30	7.61
40	240,000	174,400	348,800,000	4,037.04	9.51
30	180,000	130,800	261,600,000	3,027.78	12.68
20	120,000	87,200	174,400,000	2,018.52	19.02
10	60,000	43,600	87,200,000	1,009.26	38.04
5	30,000	21,800	43,600,000	504.63	76.08
4	24,000	17,440	34,880,000	403.70	95.10
3	18,000	13,080	26,160,000	302.78	126.80
2	12,000	8,720	17,440,000	201.85	190.21
1	6,000	4,360	8,720,000	100.93	380.41

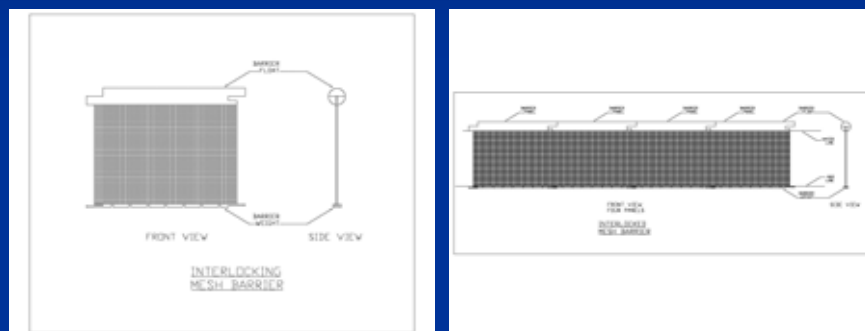
THE PUMP



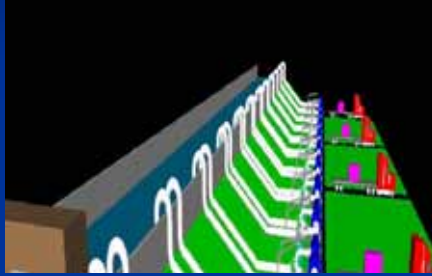
PRESSURE THE SEDIMENT



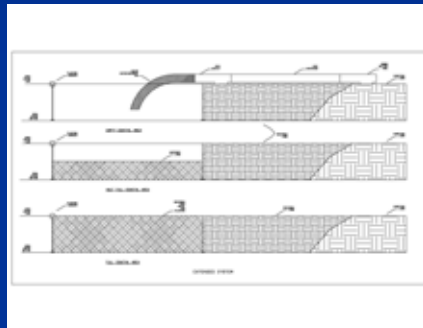
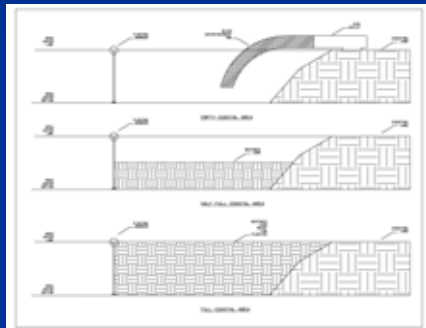
CONFINE THE SEDIMENT



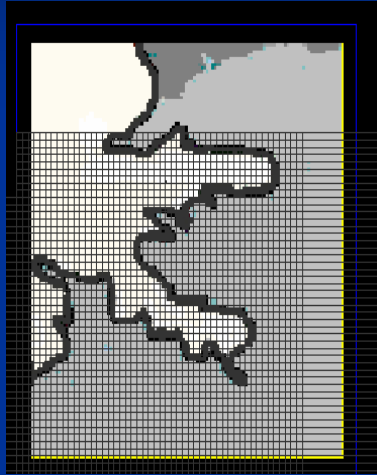
PUMP IT TO THE GRID



BUILD LAND



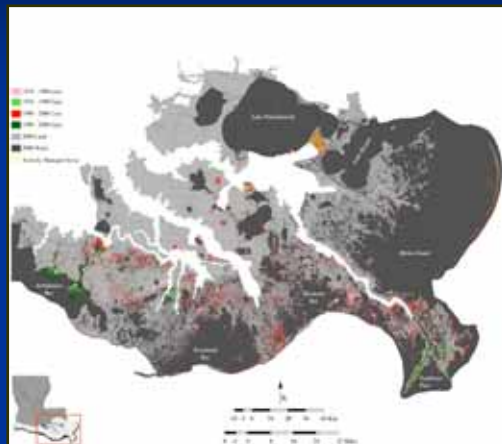
EXTEND THE COASTLINE



Land Gain Map

Land Gain:

As a result land can be restored more efficient at a faster rate and using natural resources.



Gray area shows land
Black area shows water

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