

REGION 1

Coastal Wetlands Planning Protection & Restoration Act

25th Priority Project List



Region 1 Regional Planning Team Meeting

January 29, 2015
Lacombe, LA

CWPPRA

1. Welcome and Introductions



- RPT Region 1 Leader: [Stuart Brown - CPRA](#)

CWPPRA

Announcements

- Copies of the PPL 25 Selection Process & Schedule available at the sign-in table.
- PPL 25 RPT meetings to accept project nominees:
 - Region IV, Estuarine Fisheries & Habitat Center, Jan. 27, 2015, 11:00 am
 - Region III, Terrebonne Parish Main Library, Jan. 28, 2015, 9:00 am
 - **Region I, USFWS SE LA Refuges Complex (Big Branch), Jan. 29, 2015, 8:00 am**
 - Region II, USFWS SE LA Refuges Complex, Jan. 29, 2015, immediately following Region I
- Parish representatives must identify themselves during the RPT meetings and **fill out a voting registration form**, including contact information for the primary and secondary voting representatives that will cast votes during the Coastwide Electronic Vote.



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Region 1 Parishes

- Eligible parishes for Pontchartrain Basin 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**



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RPT Meetings

- Project proposals should be consistent with the 2012 State Master Plan.
- A project can only be nominated in one basin (except for coastwide projects – more info on coastwide projects after the following “RPT Meetings” slide).
- Proposals that cross multiple basins, excluding coastwide projects, shall be nominated in one basin only, based on the majority area of project influence.
- Coastwide projects apply across basin boundaries; their benefits are not tied to one basin. They can be nominated from any basin and can be presented in all RPT meetings.



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RPT Meetings

- Presenters without factsheets **MUST** complete a PPL 25 Nomination Sign-Up Sheet for each project nominee (demo projects too).
- Presenters with factsheets, please give 3 factsheets to Allison, Michelle & Kylie before your presentation.
- Limit project proposals to 5 minutes and Powerpoint presentations to 5 slides.
- Public comments on project proposals will be accepted orally during the RPT meetings and in writing by February 18, 2015.
- Limit comments/questions during meeting to PPL 25 subject proposals and processes.



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Coastwide Projects

- Proposes a technique applicable across the coast (e.g. vegetative planting)
- Nominated at any RPT meeting
- All coastal parishes & agencies will vote on selection of coastwide nominee
- Only one coastwide nominee may be selected from the coastwide nominee pool during the Electronic Coastwide Vote on February 24, 2015.
- The Technical Committee may or may not select a coastwide project in April 2015.



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Demonstration Projects

- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Engineering/Environmental Workgroups will validate that demos fit CWPPRA Standard Operating Procedures criteria
- The RPTs select up to 6 demos during the Feb. 24 Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2015.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be **re-nominated** for PPL 25.



Coastwide Electronic Vote (Feb 24) to select:

Projects per Basin

(Determined by loss rates, the highest loss rates have the most projects)

4 Barataria
 4 Terrebonne
 3 Breton Sound
 3 Pontchartrain
 2 Mermentau
 2 Calcasieu/Sabine
 2 Teche/Vermilion
 1 Atchafalaya
1 Coastwide
 22 Total

& up to 6 demos

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Coastwide Electronic Vote

- Parishes of each basin are asked to ***identify TODAY who will vote*** during the Coastwide Electronic Vote.
- Each officially designated parish representative, each Federal agency, and the State (CPRA) will have one vote.
- No additional projects can be nominated after the RPTs.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- Public comments will be heard today and written comments must be submitted by 2/18/2015.



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Coastwide Electronic Voting Process

- USACE will send out voting sheets as both Excel spreadsheet and PDF documents 1 week prior to the Coastwide Electronic Vote. Voters will only receive voting sheets for the basins that they are eligible to vote for & the column that they need to mark their vote will be highlighted. Voting instructions will be provided with the voting sheets.
- Parish representatives must **fill out a voting registration form** at the RPT meetings with their email addresses to receive the voting sheets in February.
- Voters may either email their voting sheets to allison.murry@usace.army.mil OR fax their voting sheets to 504-862-2572.
All votes must be received by 10:30 am on February 24, 2015.



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Nominee Project Evaluations

- Following the Coastwide Electronic Vote, an agency will be assigned to each project to prepare a Nominee Project factsheet (1 page + map).
- CWPPRA Engineering & Environmental Workgroups review draft features and assign preliminary cost and benefit ranges.
- Work groups will also review demo & coastwide projects and verify that they meet PPL 25 criteria.



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PPL 25 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 16, 2015 at 9:30 am, Louisiana Department of Wildlife and Fisheries in Baton Rouge.
- Technical Committee ranks nominees and votes to select 10 candidate projects and up to 3 demos.
- Written public comments should be submitted to Corps of Engineers prior to Tech Comm meeting by April 2, 2015.
- Public comments also accepted orally during meeting.



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PPL 25 Candidate Project Evaluation & Selection

- Candidates evaluated between May and October
- Workgroups conduct site visits and meetings to identify needs and establish project baselines and boundaries.
- Workgroups determine benefits, project features, and cost estimates
- Technical Committee votes to select up to 4 candidate projects and up to 1 demo to recommend for Phase 1.
 - Dec. 10, 2015, Baton Rouge, 9:30 am
- Task Force final decision to select PPL 25 in January 2016.



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PPL 25 Timeline

- **Coastwide Electronic Vote, Feb. 24, 2015**
 - 21 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- **Technical Committee Mtg, Apr. 16, 2015, Baton Rouge**
 - Selection of 10 candidates and up to 3 demos
- **Technical Committee Mtg, Dec. 10, 2015, New Orleans**
 - Recommend up to 4 projects for Phase 1 funding
- **Task Force Mtg, Jan. 2016, New Orleans**
 - Final Selection of projects for Phase 1 funding



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Written Comments

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 18, 2015**

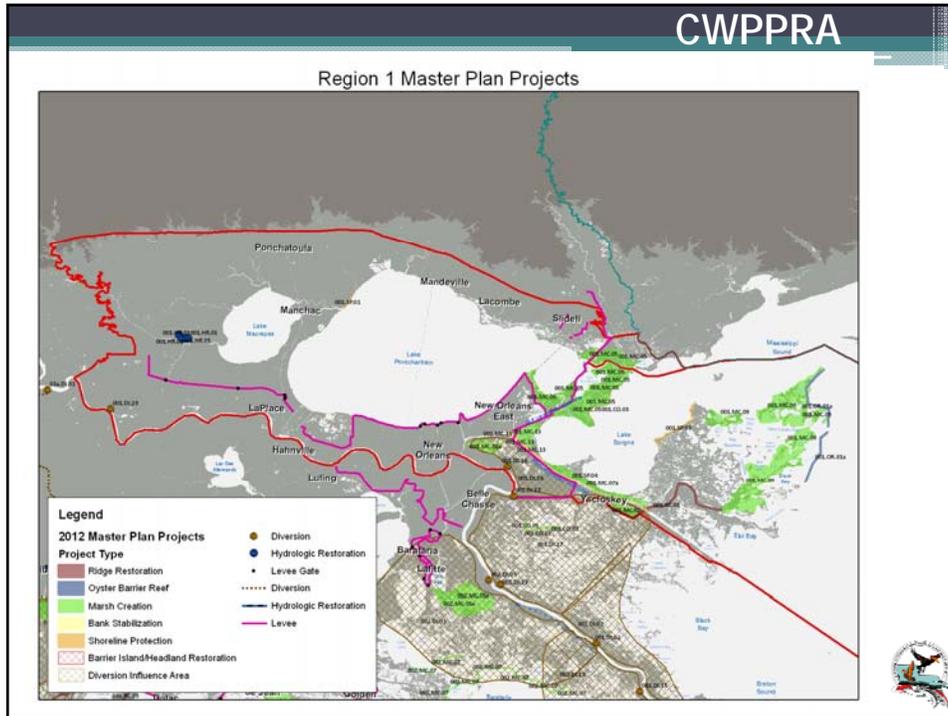
Brad Inman
CWPPRA Program Manager
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

Fax: 504-862-2572
(Attn: Brad Inman)

Email: Brad.L.Inman@usace.army.mil

(this information is on the back of the agenda)





CWPPRA

Project Type	Project Name	Project Costs	Project No.
Hydrologic Restoration	Amite River Diversion Canal: Hydrologic restoration in the western Maurepas Swamp by gapping spoil banks along the Amite River Diversion Canal to eliminate impoundment and restore hydrologic exchange.	\$4M	001.HR.01
Marsh Creation	Hopedale Marsh Creation: Creation of approximately 550 acres of marsh in northern Breton Sound in the vicinity of Hopedale to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$147M	001.MC.02
Marsh Creation	New Orleans East Landbridge Restoration (1st Period Increment): Creation of approximately 8,510 acres of marsh in the New Orleans East Landbridge to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$473M	001.MC.05
Marsh Creation	New Orleans East Landbridge Restoration (2nd Period Increment): Creation of approximately 8,510 acres of marsh in the New Orleans East Landbridge to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$1,890M	001.MC.05
Marsh Creation	Lake Borgne Marsh Creation-Component A: Creation of approximately 2,230 acres of marsh along the south shoreline of Lake Borgne near Proctors Point to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$620M	001.MC.07a
Marsh Creation	Central Wetlands Marsh Creation-Component A: Creation of approximately 2,010 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$234M	001.MC.08a
Marsh Creation	Biloxi Marsh Creation: Creation of approximately 33,280 acres in the western portion of marsh in Biloxi Marsh from Oyster Bay to Drum Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$3,046M	001.MC.09

CWPPRA			
Project Type	Project Name	Project Costs	Project No.
Marsh Creation	Golden Triangle Marsh Creation: Creation of approximately 2,440 acres of marsh in the Golden Triangle area to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$293M	001.MC.13
Oyster Barrier Reef	Biloxi Marsh Oyster Reef: Creation of approximately 113,000 feet of oyster barrier reef along the eastern shore of Biloxi Marsh to provide oyster habitat, reduce wave erosion, and prevent further marsh degradation.	\$83M	001.OR.01a
Ridge Restoration	Bayou LaLoutre Ridge Restoration: Restoration of approximately 117,000 feet (270 acres) of historic ridge along Bayou LaLoutre to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$61M	001.RC.01
Sediment Diversion	Central Wetlands Diversion (5,000 cfs): Sediment diversion into Central Wetlands in the vicinity of Violet to provide sediment for emergent marsh creation and nutrients to sustain existing wetlands, 5,000 cfs capacity (modeled at 5,000 cfs when Mississippi River flow exceeds 200,000 cfs and no operation for river flows below 200,000 cfs).	\$189M	001.DI.18
Sediment Diversion	West Maurepas Diversion (5,000 cfs): Diversion(s) into western Maurepas Swamp in the vicinity of Convent/Blind River or Hope Canal to sustain existing bald cypress-tupelo swamp habitat, maximum capacity 5,000 cfs (modeled at 5,000 cfs when Mississippi River flow exceeds 600,000 and at 500 cfs for river flows between 200,000-600,000 cfs).	\$127M	001.DI.29
Shoreline Protection	East New Orleans Landbridge Shoreline Protection: Shoreline protection through rock breakwaters of approximately 27,000 feet of coastal marsh on the east side of the New Orleans Landbridge in the vicinity of Alligator Bend to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$44M	001.CO.03
Shoreline Protection	Manchac Landbridge Shoreline Protection: Protection of approximately 8,000 feet of Lake Pontchartrain shoreline north of Pass Manchac near Sinking Bayou through rock breakwaters to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$13M	001.SP.01

CWPPRA			
Project Type	Project Name	Project Costs	Project No.
Shoreline Protection	Eastern Lake Borgne Shoreline Protection: Shoreline protection through rock breakwaters of approximately 57,000 feet of the eastern shore of Lake Borgne from Malheureux Point to the vicinity of Point aux Marchettes to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$85M	001.SP.03
Shoreline Protection	MRGO Shoreline Protection: Shoreline protection through rock breakwaters of approximately 133,000 feet of the north bank of the Mississippi River Gulf Outlet from the Inner Harbor Navigation Canal to Bayou La Loutre to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$195M	001.SP.04



ATTENDANCE RECORD



DATE January 29, 2015 8:00 A.M.	SPONSORING ORGANIZATION COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LOCATION USFWS SE LA Refuges Complex 61389 Hwy 434 Lacombe, LA 70445
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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION I & 2

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
David Brunet	Env. Progr Manager St. Tammany	985-898-2552
Lisa Abernathy	Biologist NMFS	225-389-0508
Kim Clements	Fishery Biologist NMFS	225-389-0508 X20
Lisa Landry	Biologist LDWF	985-634-4743
BARRY HAZELT	LDWF	225 765 0233
Sharon Osowski	EPA	214-665-7506
Carol Giardina		504 331 5326
Michelle McKimble	PRG Coastal Manager	504.912.5973
Donna Rogers	NOAA	225-936-6812
Eric Lundin	City of Slidell	985-646-4320
Logan Boudreau	CDRA	225-342-2629
Patrick Williams	NMFS	225-389-0508
Brad S. Niman	USACE	504-862-2124
Brad Crawford	EPA	214 665 7255
Nina Reins	MWH	(504) 296 5037
J. D. ZACH LEA		985-871-9407
Amanda Phillips	Secretary Treasurer Edward Wisnev	504-210-1152
JOHN PETTIBON	USACE	504-862-2752
Ron Boustang	NRCS	337 291-3067
Quin Kintler	NRCS	225-665-4233
Renee Bennett	CPRA	225-342-4512
Gary Skaffler	Southeastern	285-542-2105

* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

Region 1 – PONTCHARTRAIN BASIN

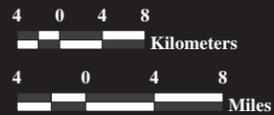
Project Number	Project Proposals
R1-PO-01	Biloxi Marsh Oyster Reef & Marsh Creation
R1-PO-02	Isle au Pitre Oyster Reef & Marsh Creation
R1-PO-03	Bayou Bienvenue Marsh Creation
R1-PO-04	Northwest Lake Pontchartrain Shoreline Protection
R1-PO-05	North Shell Beach Marsh Creation
R1-PO-06	Proctor's Point Marsh Restoration
R1-PO-07	West Biloxi Marsh Shoreline Protection <i>combined with R1-PO-08</i>
R1-PO-08	Point aux Marchettes Shoreline Protection
R1-PO-09	St. Catherine Island Shoreline Protection & Marsh Creation
R1-PO-10	Golden Triangle Marsh Creation
R1-PO-11	Fritchie Marsh Creation & Terracing

Region 1 PPL25 Nominated Projects



● Pontchartrain Basin Project

- R1-PO-01 Biloxi Marsh Oyster Reef and Marsh Creation
- R1-PO-02 Isle au Pitre Oyster Reef and Marsh Creation
- R1-PO-03 Bayou Bienvenue Marsh Creation
- R1-PO-04 Northwest Lake Pontchartrain Shoreline Protection
- R1-PO-05 North Shell Beach Marsh Creation
- R1-PO-06 Proctor's Point Marsh Restoration
- R1-PO-08 Point aux Marchettes Shoreline Protection (combined with CPRA project)
- R1-PO-09 St. Catherine Island Shoreline Protection and Marsh Creation
- R1-PO-10 Golden Triangle Marsh Creation
- R1-PO-11 Fritchie Marsh Creation and Terracing



R1-PO-01

Biloxi Marsh Oyster Reef & Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET
January 29, 2015

Project Name:

Biloxi Marsh Oyster Reef and Marsh Creation

Louisiana's Comprehensive Master Plan for a Sustainable Coast

001.OR.01a – Biloxi Marsh Oyster Barrier Reef – Component A

001.MC.09 – Biloxi Marsh Creation

Project Location:

Region 1, Pontchartrain Basin, St. Bernard Parish, Oyster Bay

Problem:

The shoreline along Chandeleur Sound is exposed to a high energy wave environment. The marsh in the area that is exposed to this high energy wave environment suffers from shoreline erosion. Without an active deltaic supply of sediment, this area suffers a net loss of land from erosion, subsidence and sea level rise.

Goals:

The goal of this project is to create an oyster reef network along the shoreline to prevent shoreline erosion and to create marsh in targeted open water areas behind the shoreline protection.

Proposed Solution:

The project would place approximately 10 miles of oyster reef substrate and would create/nourish approximately 550 acres of emergent marsh with hydraulically pumped dredged material from a borrow area in Chandeleur Sound. Several areas will be filled in order to create marsh. The oyster reef substrate will extend above the water line in order to reduce wave energy.

Project Benefits:

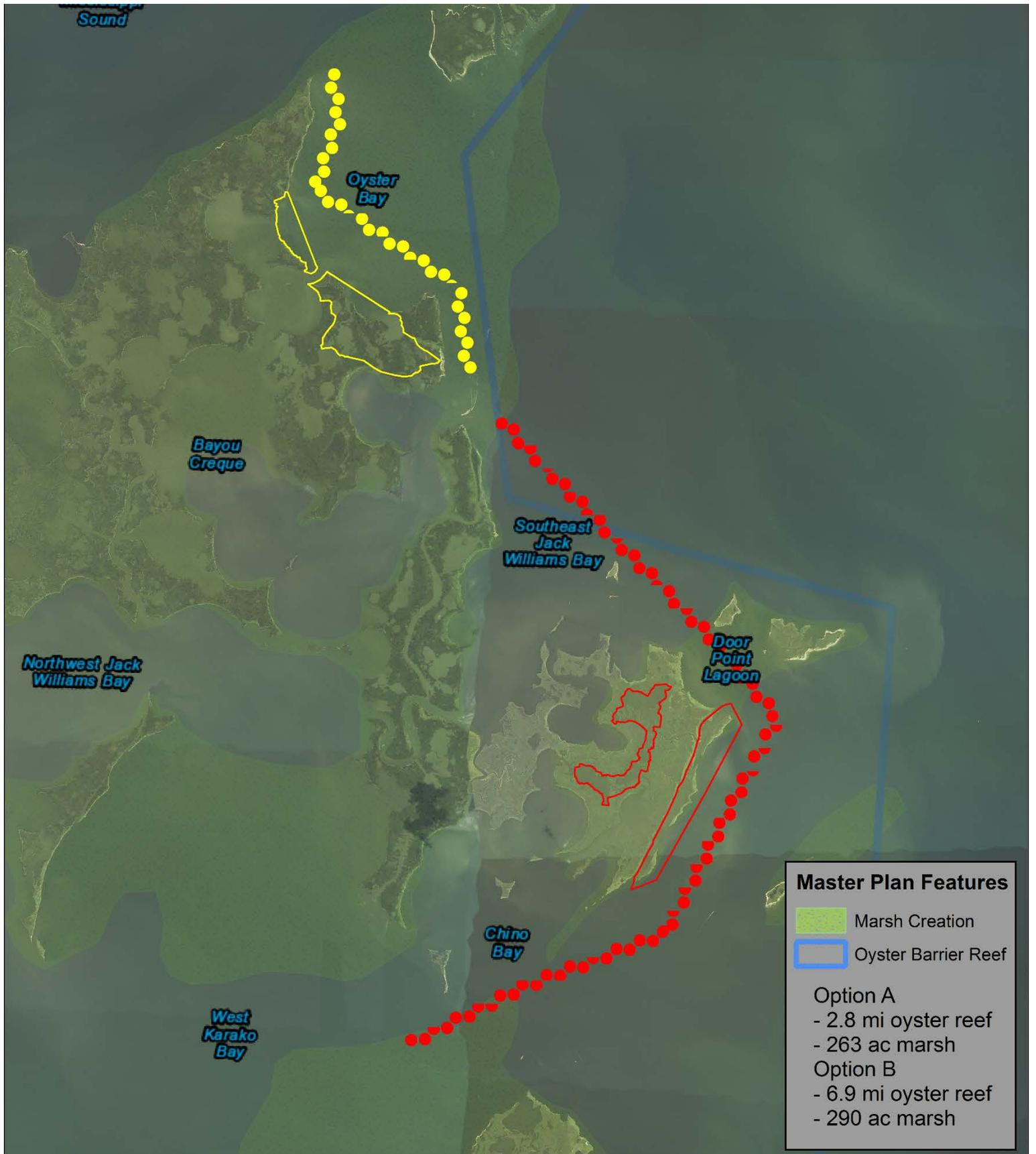
- The project will create/nourish 550 acres of emergent marsh habitat. Option A will create/nourish 263 acres.
- Maintain shoreline between Drum Bay and Chino Bay
- Completes a portion (10 miles) of Oyster Reef Restoration component of Louisiana's State Master Plan for a Sustainable Coast. Option A will create approximately 2.8 miles of oyster reef.

Project Costs:

The preliminary project cost estimate for Option A with 25% contingency is \$24.6M. The Fully funded range is \$30M - \$35M.

Preparer(s) of Fact Sheet:

Adrian Chavarria, EPA, (214) 665-3103; chavarria.adrian@epa.gov



Biloxi Marsh Oyster Reef and Marsh Creation (PPL 25)

Basemap: 2013 NAIP DOQQ - St. Bernard Parish
 Produced by: EPA Region 6, Dallas, TX

Features

- Reef-Option A
- Marsh-Option A
- Reef-Option B
- Marsh-Option B



Biloxi Marsh Oyster Reef and Marsh Creation



Louisiana Department of Natural Resources

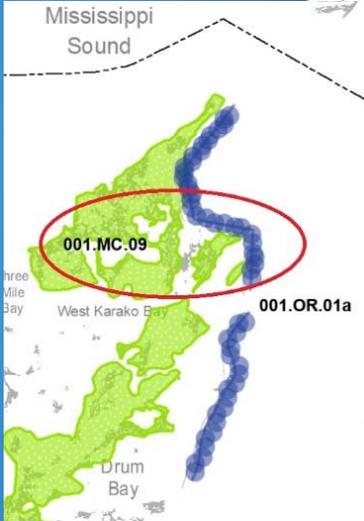
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Coastal Wetlands Planning, Protection and Restoration Act

Master Plan Consistency

State Master Plan: 001.OR.01a Biloxi Marsh Oyster Reef: Creation of approximately 113,000 feet of oyster barrier reef along the eastern shore of Biloxi Marsh to provide oyster habitat, reduce wave erosion, and prevent further marsh degradation.

001.MC.09 Biloxi Marsh Creation: Creation of approximately 33,280 acres in the western portion of marsh in Biloxi Marsh from Oyster Bay to Drum Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.



Mississippi Sound

001.MC.09

001.OR.01a

Coastal Wetlands Planning, Protection and Restoration Act

Problem

- Marshes along Chandeleur Sound exposed to high energy wave environment that erode shoreline
- Marsh disconnected from Mississippi River and sediment supply
- Results in marsh loss

Coastal Wetlands Planning, Protection and Restoration Act

Project Features



Coastal Wetlands Planning, Protection and Restoration Act

Project Goals – Option A

- Create 14,800 linear feet of oyster reef
- Create/nourish 263 acres of emergent marsh habitat
- Estimated Cost with 25% contingency is \$24.6 million



Coastal Wetlands Planning, Protection and Restoration Act

Questions?

Adrian Chavarria
EPA Region 6
chavarria.adrian@epa.gov

Coastal Wetlands Planning, Protection and Restoration Act

R1-PO-02

Isle au Pitre Oyster Reef & Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET

January 29, 2015

Project Name:

Isle au Pitre Oyster Reef and Marsh Creation

Louisiana's Comprehensive Master Plan for a Sustainable Coast

001.OR.01a – Isle au Pitre Oyster Barrier Reef – Component A

001.MC.09 – Isle au Pitre Marsh Creation

Project Location:

Region 1, Pontchartrain Basin, St. Bernard Parish, Oyster Bay, Mississippi Sound

Problem:

The shoreline along Chandeleur Sound is exposed to a high energy wave environment. The marsh in the area that is exposed to this high energy wave environment suffers from shoreline erosion. Without an active deltaic supply of sediment, this area suffers a net loss of land from erosion, subsidence and sea level rise.

Goals:

The goal of this project is to create an oyster reef network along the shoreline to prevent shoreline erosion and to create marsh in targeted open water areas behind the shoreline protection.

Proposed Solution:

The project would place approximately 4.5 miles (23760 LF) of oyster reef substrate and would create/nourish 935 acres of emergent marsh with hydraulically pumped dredged material from an offshore borrow site. Several areas will be filled in order to create marsh. The oyster reef substrate will extend above the water line in order to reduce wave energy.

Project Benefits:

- The project will create/nourish a total of 935 acres of emergent marsh habitat. Option A will create/nourish 535 acres.
- Maintain shoreline between Oyster Bay and Mississippi Sound
- Completes portion of Oyster Reef Restoration component of Louisiana's State Master Plan for a Sustainable Coast. Option A includes an oyster reef length of 9500 LF.

Project Costs:

The preliminary project cost estimate for Option A with 25% contingency is \$39M. The fully funded range is \$30 - \$35 million.

Preparer(s) of Fact Sheet:

Adrian Chavarria, EPA, (214) 665-3103; chavarria.adrian@epa.gov



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Isle au Pitre Marsh Creation and Oyster Reef

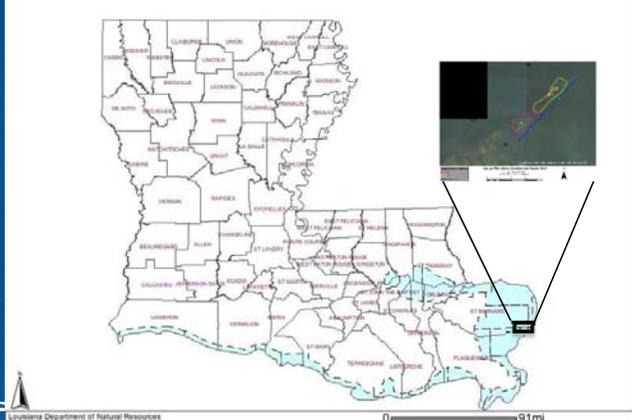
Basemap: 2013 NAD P DOQQ

Produced by: EPA Region 6, Dallas, TX



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Isle au Pitre Oyster Reef and Marsh Creation



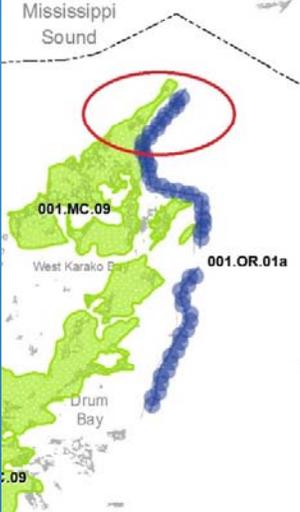
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Coastal Wetlands Planning, Protection and Restoration Act

Master Plan Consistency

State Master Plan: 001.OR.01a Biloxi Marsh Oyster Reef: Creation of approximately 113,000 feet of oyster barrier reef along the eastern shore of Biloxi Marsh to provide oyster habitat, reduce wave erosion, and prevent further marsh degradation.

001.MC.09 Biloxi Marsh Creation: Creation of approximately 33,280 acres in the western portion of marsh in Biloxi Marsh from Oyster Bay to Drum Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.



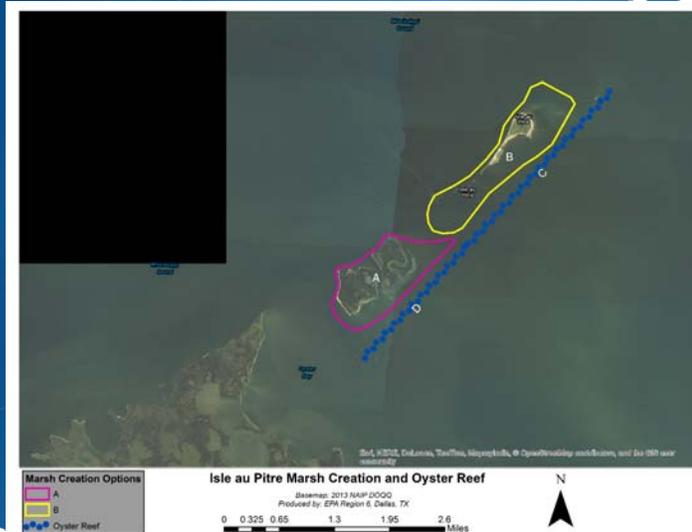
Coastal Wetlands Planning, Protection and Restoration Act

Problem

- Marshes along Chandeleur Sound exposed to high energy wave environment that erode shoreline
- Marsh disconnected from Mississippi River and sediment supply
- Results in marsh loss

Coastal Wetlands Planning, Protection and Restoration Act

Project Features



Coastal Wetlands Planning, Protection and Restoration Act

Project Goals – Option A

- Create 9,500 linear feet of oyster reef
- Create/nourish 535 acres of emergent marsh habitat
- Estimated Cost with 25% contingency is \$29.8M



Coastal Wetlands Planning, Protection and Restoration Act

Questions?

Adrian Chavarria
EPA Region 6
chavarria.adrian@epa.gov

Coastal Wetlands Planning, Protection and Restoration Act

R1-PO-03

Bayou Bienvenue Marsh Creation

PPL 25 Project Nominee Fact Sheet

January 29, 2015

Project Name: Bayou Bienvenue Marsh Creation

Master Plan 2012: 001.MC.08a: Central Wetlands Marsh Creation-Component A: Creation of approximately 2,010 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location: Region 1, Pontchartrain Basin, Orleans Parish, in the area east of the Inner Harbor Navigation Canal, adjacent to St. Bernard Parish and north of the Lower 9th Ward area of New Orleans.

Problem:

Over the past decades, the wetlands and wetland function in the area have been lost because of altered hydrology due to impoundment, subsidence, and saltwater intrusion. The area was heavily impacted by the construction of the MRGO in the 1960's. The majority of the area is shallow open water, littered by cypress snags and stumps. The land loss rate for the area is - 2.04% per year.

Goals:

The goal of this project is to create/nourish marsh in one of several cells adjacent to Bayou Bienvenue using sediment mined from the Mississippi River. Specific goals include:

1. Restoration of approximately 350 acres of open water into emergent marsh
2. Restoring the historic bankline along Bayou Bienvenue

The preferred initial increment for this project, depending on borrow source and landrights issues, is cell 1 on the attached map, with other increments envisioned for later PPLs.

Proposed Solution:

Dedicated dredging of sediments from the Mississippi River will be used to create emergent marsh in the triangular-shaped area adjacent to the headwaters of Bayou Bienvenue. The project would benefit 350 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants. A total of 340 net acres of wetlands would be protected and created over the 20-year project life. The visibility of the project, due to its location, lends itself to educational and outreach opportunities. Florida Avenue in the Lower Ninth Ward is south of the project area. A community group, restorethebayou.org, is very interested in the area. Restoration in this area would build the area's defenses against hurricanes and flooding and offer opportunities for public recreation and wildlife habitat.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 350 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 276 acres of habitat will be protected/created over the project life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*

The loss rate in the area of direct benefits would be reduced by >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?*

This project would help protect and restore a portion of the Bayou Bienvenue Marsh and restore the historic ridge along Bayou Bienvenue.

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

The project would have moderate net positive impact to critical infrastructures by providing additional marsh buffer between Lake Borgne and the City of New Orleans.

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

This project would work synergistically with the approved CIAP Central Wetlands Assimilation Project with the Sewerage & Water Board of New Orleans (East Bank Plant) and St. Bernard Parish.

Identification of Potential Issues: Current research ongoing with CPRA, Parish assessor's office and the S&WB on landowner issues. The EPA expects that we will be able to work through any landrights issues.

Project Costs:

MS River Option: The estimated construction cost including 25% contingency is \$25,421,000. The fully-funded cost range is \$30M - \$35M.

Preparers of Fact Sheet:

Barbara Aldridge, EPA, 214-665-2712, aldridge.barbara@epa.gov

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



- Alignments**
- 1
 - 2
 - 3
 - 4
 - 5

Bayou Bienvenue Marsh Creation

Basemap: 2013 NAIP DOQQ
Produced by: EPA Region 6, Dallas, TX





Bayou Bienvenue Marsh Creation



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Coastal Wetlands Planning, Protection and Restoration Act



Problem

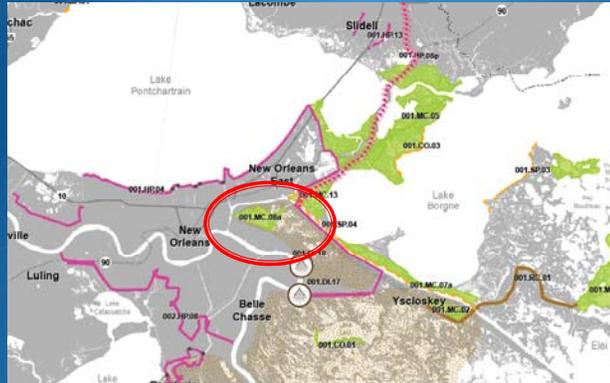
- Altered in the area hydrology due to:
 - Impoundment
 - Subsidence
 - Saltwater intrusion
- Resulted in marsh losses that left the area very shallow open water littered with stumps/logs

Coastal Wetlands Planning, Protection and Restoration Act



Solution

- **Master Plan 2012: 001.MC.08a: Central Wetlands Marsh Creation-Component A:** Creation of approximately 2,010 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat, restore degraded marsh, and reduce wave erosion.



Coastal Wetlands Planning, Protection and Restoration Act

Project Features



Coastal Wetlands Planning, Protection and Restoration Act

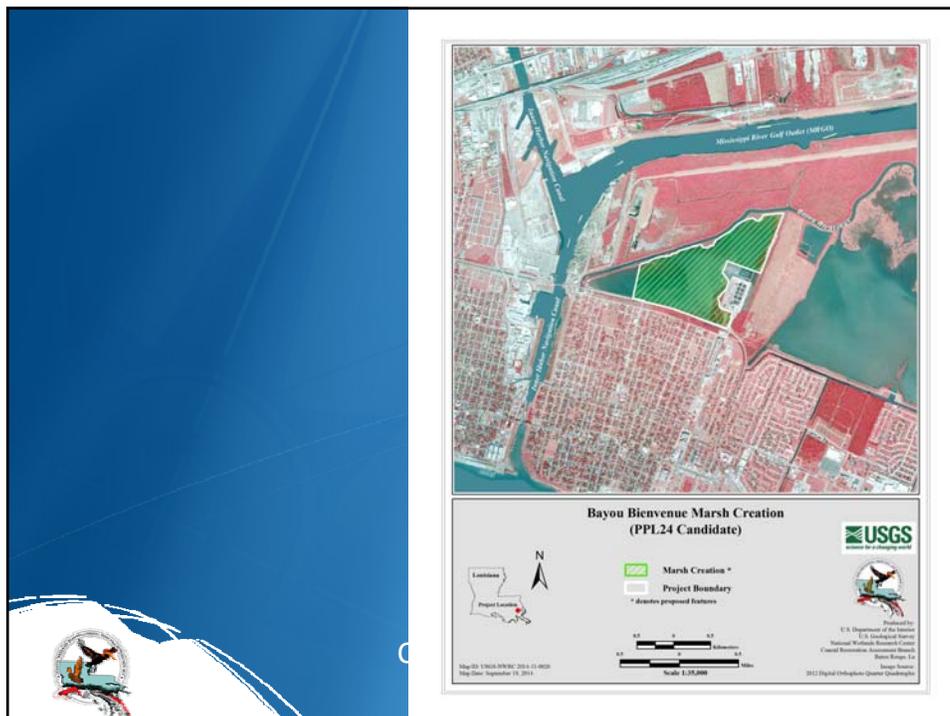
Solution



- Goals
 - Create/nourish 350 ac of intermediate marsh
- Preliminary Project Benefits:
 - 276 net ac over 20 years
- Identification of Potential Issues:
 - Land rights and utilities/pipelines
- Several alternatives available
 - Final alignment will depend on borrow site and local preference
 - Preliminary Construction Costs +25% = \$26 million
 - Fully funded range is \$30M-\$35M.



Coastal Wetlands Planning, Protection and Restoration Act





Questions?

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EPA Region 6
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Crawford.brad@epa.gov

Coastal Wetlands Planning, Protection
and Restoration Act

R1-PO-04

Northwest Lake Pontchartrain Shoreline Protection

PPL24 PROJECT NOMINEE FACT SHEET
2/13/14 - RPT

Project Name:

Northwest Lake Pontchartrain Shoreline Protection

State Master Plan:

The proposed project would serve as a component of the Master Plan Manchac Landbridge Shoreline Protection (001.SP.01)

Project Location:

Region 1, Pontchartrain Basin, Orleans Parish along the Northwest shoreline between Stinking Bayou and the Tchefuncta River and St John the Baptist Parish shoreline between rock protection to the north and south.

Problem:

High wave energy, sea level rise and subsidence levels are impacting the wetland shorelines and inland marshes of Lake Pontchartrain. Erosion rates have been measured to be 18 feet of shoreline loss per year.

Goals:

The proposed features will provide protection along the lake rim of Lake Pontchartrain in critical areas with high erosion rates.

Proposed Solution:

Approximately seven (7) miles of foreshore rock dike will be placed along the shoreline of Lake Ponchartrain. The dike will be designed to allow fisheries access to the marshes behind the shoreline protection feature. Any material dredged for access will be beneficially used to create marsh behind the dike.

Preliminary Project Benefits:

Shoreline protection features would maintain structural components of the coastal ecosystem in the Pontchartrain Basin. The project would stop 18 feet/year across the 7 mile protected area which would be the equivalent of 305 acres of area preserved. Project benefits will include marsh creation acres and acres protected due to the shoreline protection measures.

Identification of Potential Issues:

No known issues at this time.

Preliminary Construction Costs:

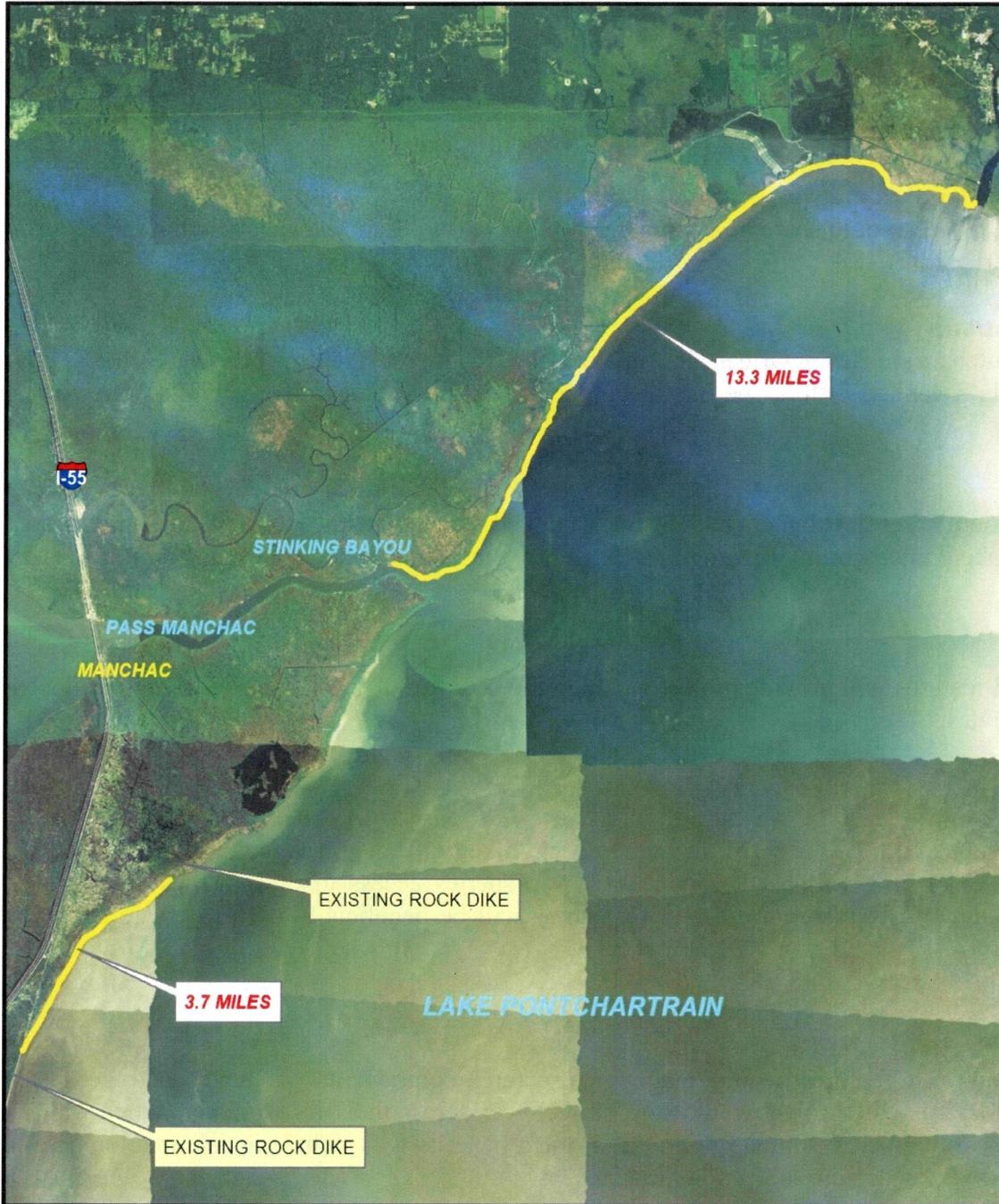
The construction cost = \$18.5 Million.

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40-09-29



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

Data Source: NAIP 2013
Map Date: FEBURARY 18, 2014



PPL-24
NORTHWEST LAKE PONTCHARTRAIN
SHORELINE PROTECTION

Legend
PROPOSED FORESHORE ROCK DIKE

0 2 4 Miles

R1-PO-05

North Shell Beach Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET

January 29, 2015

Project Name

North Shell Beach Marsh Creation

Project Location

Region 1, Pontchartrain Basin, South Lake Borgne Mapping Unit, St. Bernard Parish, north bank of the MRGO in the vicinity of Shell Beach. Lies within Project 001.MC.07a of State Master Plan

Problem

The landform separating Lake Borgne and the MRGO has undergone both interior and shoreline wetland losses due to subsidence, storm events, historic use of the MRGO prior to deauthorization (i.e., deep draft vessel traffic), and wave fetch. Although much of the project area is now protected from edge erosion by rock dike features, interior wetland loss attributed to subsidence continues to cause marsh fragmentation and open water conversion. Wetland loss rates in the applicable mapping unit are estimated to be -0.49%/year (1985 – 2009 LCA loss rate).

Proposed Solution

The proposed project will create and nourish 544 acres of marsh by dredging sediment from designated borrow sources in Lake Borgne to a target fill elevation of +1.3 feet. Existing high shorelines along Lake Borgne and interior marsh edge would be used for containment where practical. Containment features would be degraded or gapped as needed to promote tidal exchange after consolidation of the fill material. The project would create 241 acres of marsh and nourish at least 303 acres of existing fragmented marsh. 50% of the newly created area will include vegetative plantings

Goals

The project would create and nourish 544 acres of emergent brackish marsh to continue the ongoing efforts to stabilize the landform separating Lake Borgne from the MRGO.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
An estimated 241 acres of open water, 303 acres of degraded marsh area. The total project area boundary is approximately 1600 acres.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Assuming a 50% reduction in the background loss rate of -0.49%/year, the marsh creation and nourishment would result in 250 net acres 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%)?*
A 50% loss rate reduction is assumed for both marsh creation and nourishment.
- 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 maintain the narrow landform between the shallow waters of Lake Borgne and the deeper MRGO as well as provide benefits to the Lake Borgne shoreline.

- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The proposed project would benefit those communities that lie outside of the Hurricane Storm Damage Risk Reduction System (Reggio, Shell Beach, Yscloskey, etc) which will be increasingly exposed as loss of the landform continues through subsidence and interior marsh loss. The project would also benefit the immediate non-critical infrastructure (i.e., minor oil and natural gas facilities).
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project would be synergistic with shoreline protection projects implemented under the CWPPRA program, and Corps of Engineers' MRGO 4th Supplemental Study, as well as marsh creation efforts recently approved in the Shell Beach South Marsh Creation Project.

Identification of Potential Issues

The proposed project has potential Gulf Sturgeon critical habitat issues.

Preliminary Construction Costs

The estimated construction cost + 25% contingency is approximately \$20M. The fully funded cost range is \$25 - \$30 M.

Preparer(s) of Fact Sheet:

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PPL 25 NORTH SHELL BEACH MARSH CREATION

Lake Borgne

Mississippi River Gulf Outlet



Marsh Creation

Retention Dikes

NORTH SHELL BEACH MARSH CREATION

PPL 25 Region 1 Pontchartrain Basin



Proposed Project Features:

- ▶ Potentially restore 544 acres of marsh (241 created/303 nourished)
- ▶ Dredged material would be mined from NEPA cleared borrow sites in Lake Borgne
- ▶ Containment features and possibly earthen overflow weirs built around Marsh Creation sites
- ▶ Estimated construction cost + 25% contingency is around \$20 M

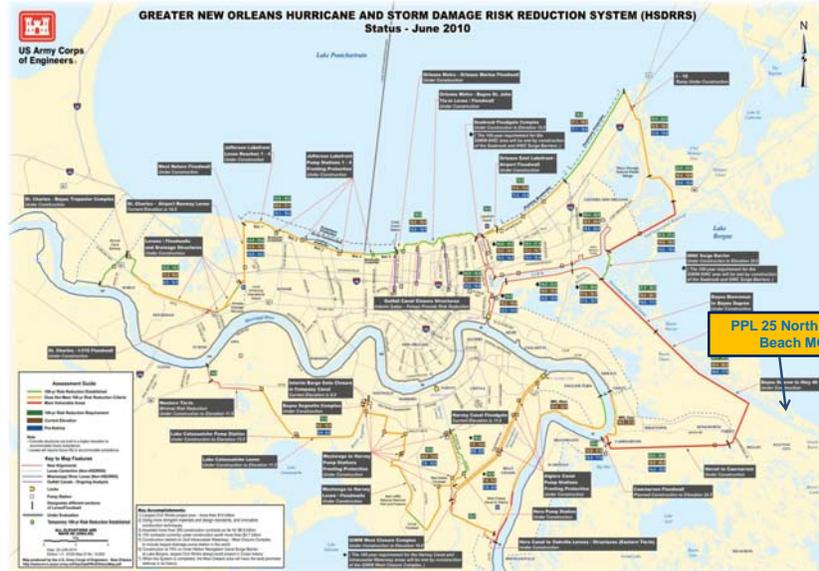


PPL 25 NORTH SHELL BEACH MARSH CREATION



Project Benefits:

- ▶ Create 241 acres of new emergent brackish marsh
- ▶ Nourish 303 acres of existing degraded marsh
- ▶ Stabilize the landbridge between Lake Borgne and MRGO
- ▶ Protect the neighboring communities and infrastructure



QUESTIONS



R1-PO-06

Proctor's Point Marsh Restoration

R1-PO-04

PPL25 PROJECT NOMINEE FACT SHEET

January 29, 2015

Project Name

Proctor's Point Marsh Restoration

Louisiana's Comprehensive Master Plan for a Sustainable Coast

Lake Borgne Marsh Creation Component A (001.MC.07a)

Project Location:

Region 1, Ponchartrain Basin, South Lake Borgne Mapping Unit, St. Bernard Parish

Problem

Hurricane Katrina caused significant erosion on the end of the point and on both of its flanks. As a result several interior ponds have opened directly into Lake Borgne furthering the deterioration of exposed interior marshes. Left unprotected, this shoreline will continue to erode and wetlands will continue to deteriorate within the Proctor Point landform.

Deterioration of the point will result in a greater fetch across Lake Borgne in a northwest to southeast direction potentially resulting in higher waves affecting the eastern lake shoreline. The land loss rate for this area, South Lake Borgne Unit, was -0.49 %/yr. calculated from USGS and derived from time period 1985-2009.

Goals

The goal of project is to restore 430 acres of emergent brackish marsh within the north end of the point. The project will also reduce continued shoreline retreat and wave erosion with repair to breaching along Lake Borgne shoreline.

Proposed Solution

The proposed project's primary features are to restore 430 acres intertidal marsh (215 ac creation and 215 ac nourishment) from north end of Proctor's Point. An estimated 2.5 mcy of material would be dredges from Lake Borgne to create marsh at a target elevation of +1.4. Approximately 39,600 ft of retention dikes would be constructed to facilitate flow of material. Containment dike gapping will be incorporated into the project design and cost estimate. Following consolidation of the marsh platform, vegetative plantings will be installed.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
The total project area is 430 acres (215 marsh creation and 215 marsh nourishment).
- 2) *How many acres of wetlands will be protected/created over the project life?*
It is estimated 216 net acres would be protected/created at end of 20 years.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).*
A 50% reduction in land loss rate (marsh creation/nourishment) is anticipated of the 20 year project life.

- 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 features would restore/maintain Lake Borgne shoreline.

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

None

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

The project is synergistic with PPL24 Shell Beach Marsh Creation and Nourishment project approved for Phase 1 (engineering and design) funding as well as shoreline protection projects implemented under the CWPPRA program and other authorities. It is also synergistic with the MRGO Ecosystem Restoration Plan.

Identification of Potential Issues

The proposed project has potential Gulf Sturgeon critical habitat issues.

Preliminary Construction Costs

Option 1 estimated construction cost including 25% contingency is approximately \$18.7 M. The fully funded cost range is \$20-25 M.

Preparer(s) of Fact Sheet

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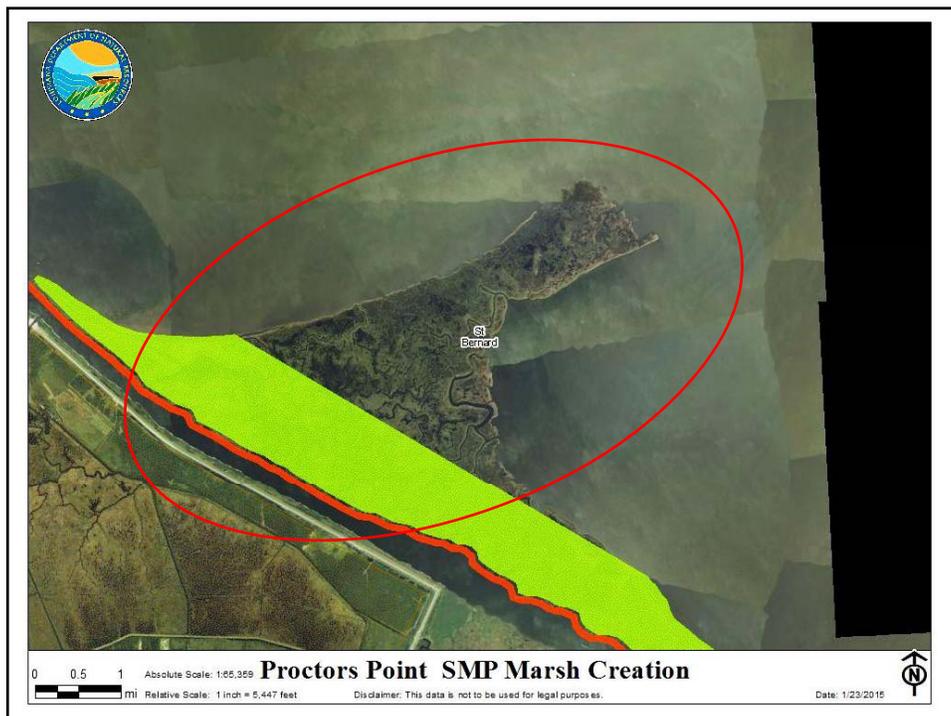
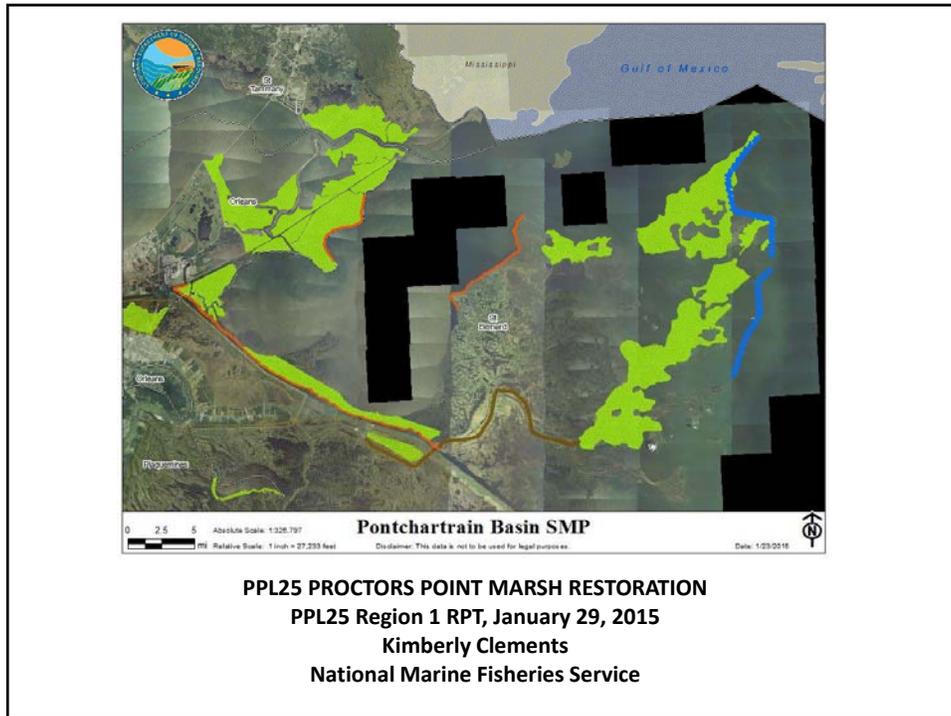
PPL25 Proctor's Point Marsh Restoration

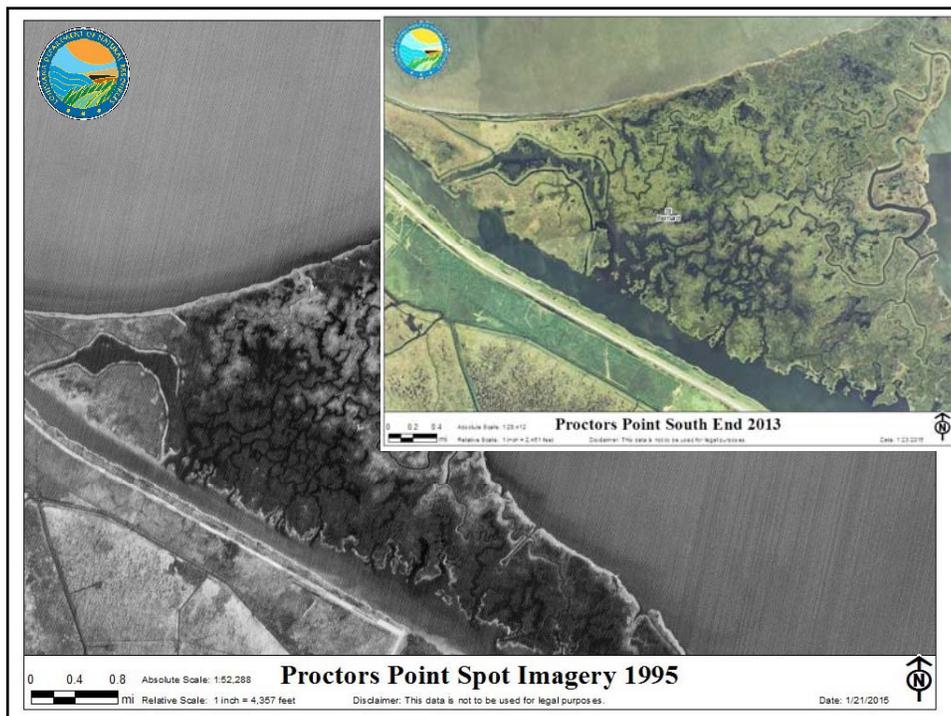


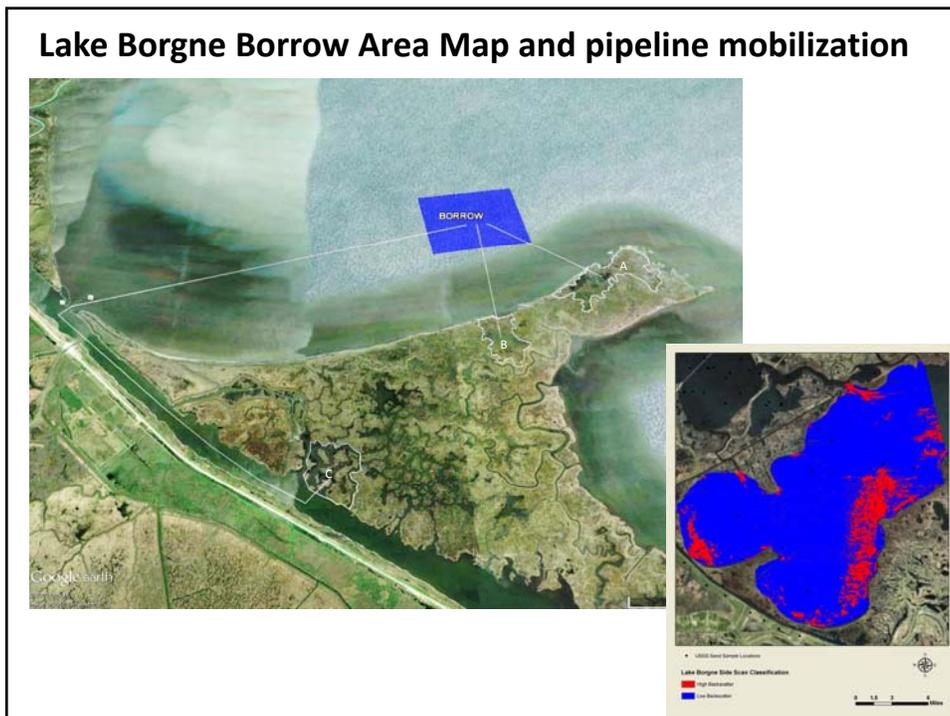
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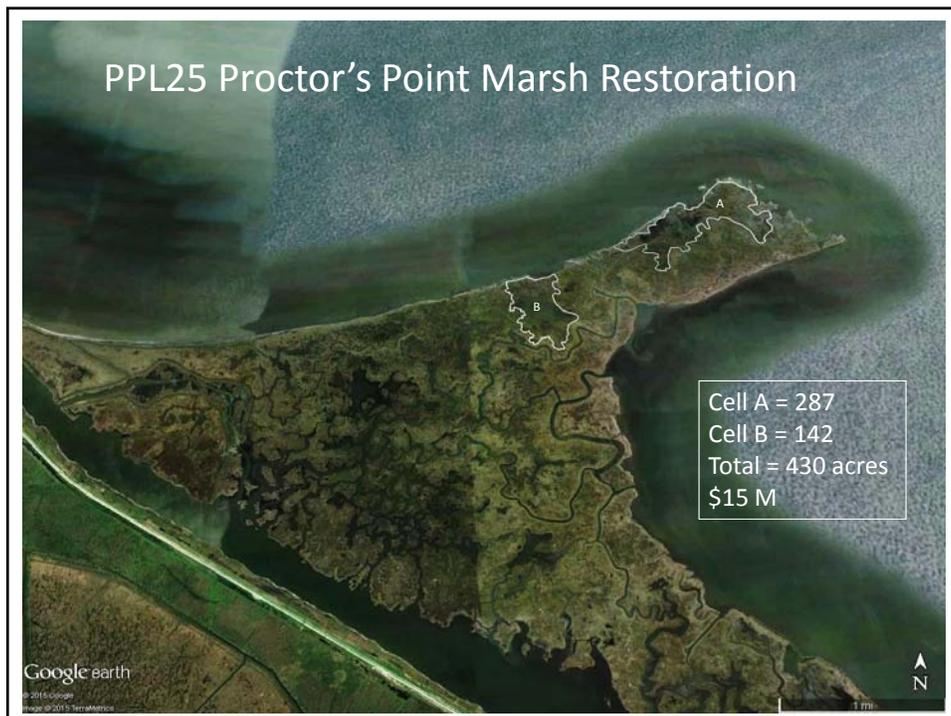
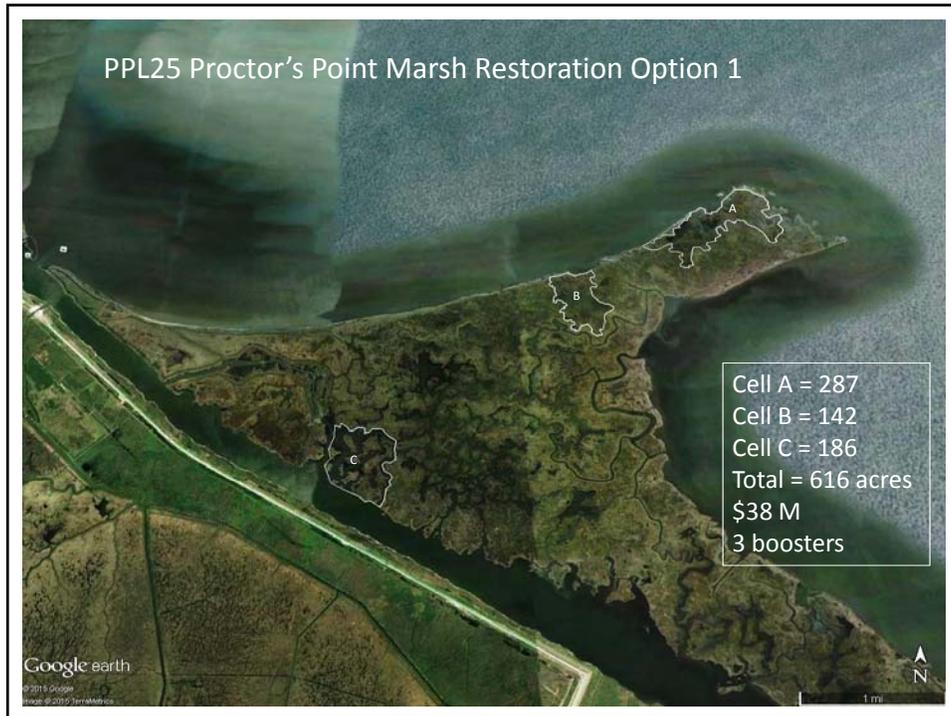
Google earth

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Image © 2015 TerraMetrics









PPL25 Proctor's Point Marsh Restoration

- Restores 430 acres of marsh
- Address Lake Borgne shoreline breaching
- \$14.9 M cost plus 25% contingency
- Consistent with State Master Plan
- Synergistic with Shell Beach Marsh Creation

~~R1-PO-07~~

~~West Biloxi Marsh Shoreline Protection~~

Combined with R1-PO-08

PPL 24 PROJECT NOMINEE FACT SHEET**Project Name**

West Biloxi Marsh Shoreline Protection

Master Plan Strategy:

- 001.SP.003

Project Location

Region 1. The project is located Eastern side of Lake Borgne, in St. Bernard Parish.

Problem

This shoreline is subject to high wave energy due to open water conditions in Lake Borgne. From 1998 to 2013 the shoreline has retreated at an average of 36 ft. /year and in some portions as high as 80ft.

Goals

The goal of this project is to stop shoreline erosion for a significant portion of the lake rim and maintain the position of the shoreline using a rock structure.

Proposed Project Features

This project would install 29,000 linear feet of shoreline protection along the eastern shore of Lake Borgne. The structure will be constructed with all rock or a lightweight aggregate core depending on geotechnical survey. The structure will be built to an elevation of +1.4ft. NAVD88, crown with of 4 ft., and, 3/1 slopes towards lakeside and 2/1 towards the shoreline. Fish dips will be included in later designs to allow for ingress and egress of bayous or where the structure is continuous for 1000 feet. Material excavated for access channel will be used beneficially as marsh creation behind rock structure.

Preliminary Project Benefits

Shoreline protection will keep the lake rim intact and the shoreline stabilized. The project would protect 482 acres over the 20-year project life.

Identification of Potential Issues

Liability and long-term maintenance/ownership of a rock structure.

Preliminary Construction Costs

Preliminary Construction Costs \$25.3M based on PO-72. Costs reflect a structure that will require no maintenance events for the project life.

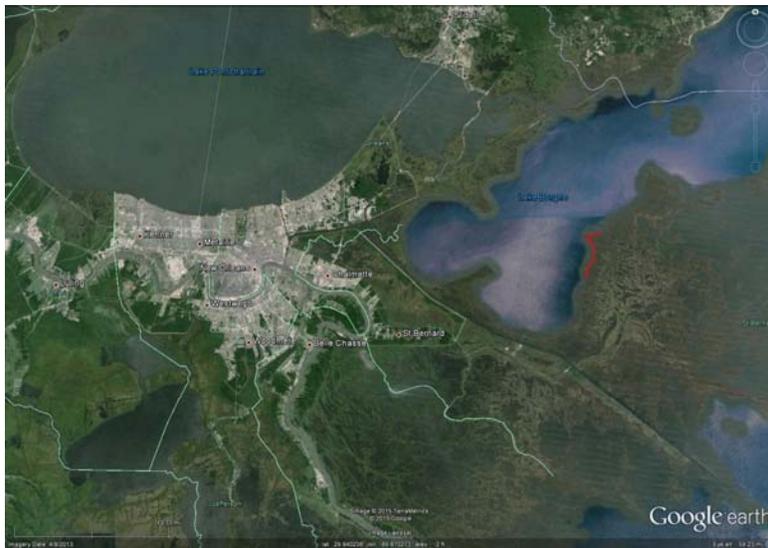
Preparer of Fact Sheet

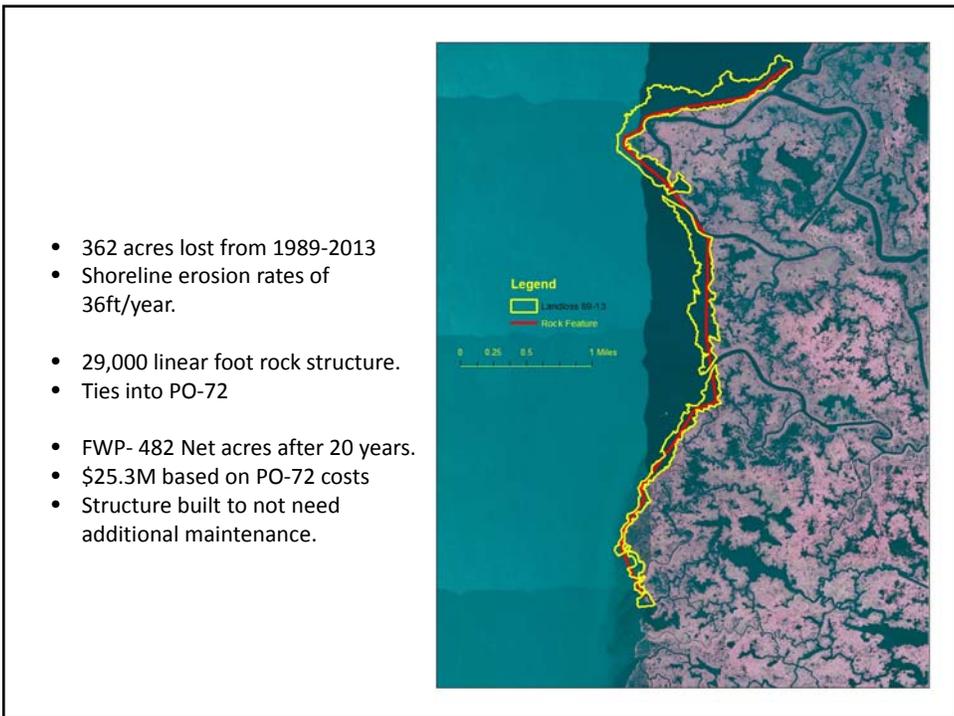
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2639



Region 1
PPL25 Candidate
West Biloxi Marsh Shoreline
Protection
1/29/15





Questions?

R1-PO-08

Point aux Marchettes Shoreline Protection

PPL25 PROJECT NOMINEE FACT SHEET**January 29, 2015****Project Name:** Points aux Marchettes Shoreline Protection**Project Location:**

Region 1, Pontchartrain Basin, St. Bernard Parish, Lake Borgne and Biloxi Marshes

Problem:

Historic wetland loss in the area was caused mainly by shoreline erosion. Based on the hyper-temporal analysis conducted by USGS to detect land change trends from 1985 to 2009 for the Biloxi Marshes, loss rates in the area show no interior losses. Using maps from 1998 and 2013, shoreline erosion rates were calculated along Lake Borgne shoreline along Biloxi Marshes Wildlife Management Area (specifically in the vicinity of Point aux Marchettes). Shoreline erosion rates in that area ranged from 10 ft./yr to 95 ft./yr. A 35,849 LF section of shoreline was estimated to have an average erosion rate of 29 ft./yr. It is estimated that without the project there would be an estimated nearly 500 acres lost due to shoreline erosion.

Goals :

The goals of the project are to 1) protect approximately 35,849 feet of critical shoreline and 2) protect approximately 497 acres of highly productive brackish marsh habitat.

Service goals include the creation of habitat or improvement of habitat for rare species, species of concern, and threatened and endangered species. The creation of brackish intertidal marsh habitat would be beneficial to several species that are currently on the lists of rare species and species of concern. These include, but are not limited to Least Bittern, Black Rail, Mottled Duck, Brown Pelican, King Rail, Louisiana Eyed Silkmoth and Saltwater topminnow. Keeping these species off the threatened and endangered list is a goal of FWS because at that point ALL Federal agencies must then address those species.

Proposed Solutions:

The proposed project would protect approximately 35,849 feet of critical shoreline and preserve 313 acres of existing marsh by constructing a foreshore rock dike along the shoreline at the 2.0 foot contour. Maintenance of the shoreline protection feature would be included. Rock dikes would be gapped at any intersection with existing bayous.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* Approximately 497 acres would be benefited directly.

2) *How many acres of wetlands will be protected/created over the project life?* The total net acres protected/created over the project life is approximately 313 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%).* Loss rate reduction should be >74%.

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

This project would extend the existing rock shoreline protection to protect most of the Lake Borgne shoreline abutting the Biloxi Marshes Wildlife Management Area. The shoreline protection would also protect the natural ridges along a portion of Lake Shore Bayou, Bayou Grande as well as many other bayou ridges in the area.

5) *What is the net impact of the project on critical and non-critical infrastructure?* None.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* This project would work synergistically with the existing CIAP project and CWPPRA XX project.

Identification of Potential Issues:

The proposed project has the following potential issues: there may be pipelines in the project area and is located in Atlantic Sturgeon Critical Habitat. O&M is also included for the shoreline protection feature.

Preliminary Construction Costs:

The estimated construction cost including 25% contingency is \$25.6 M.

Preparer(s) of Fact Sheet:

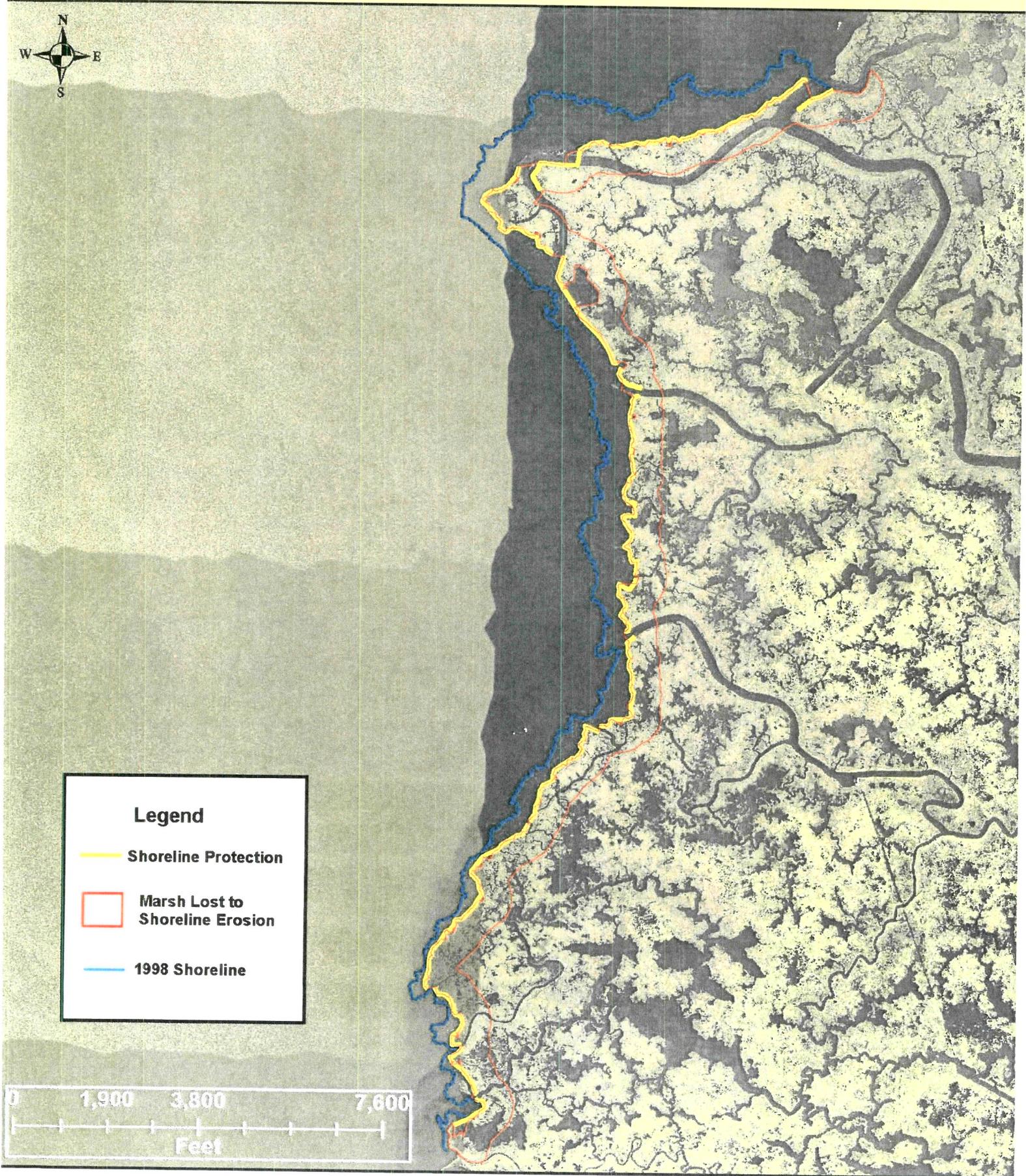
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POINT AUX MARCHETTES SHORELINE PROTECTION



Legend

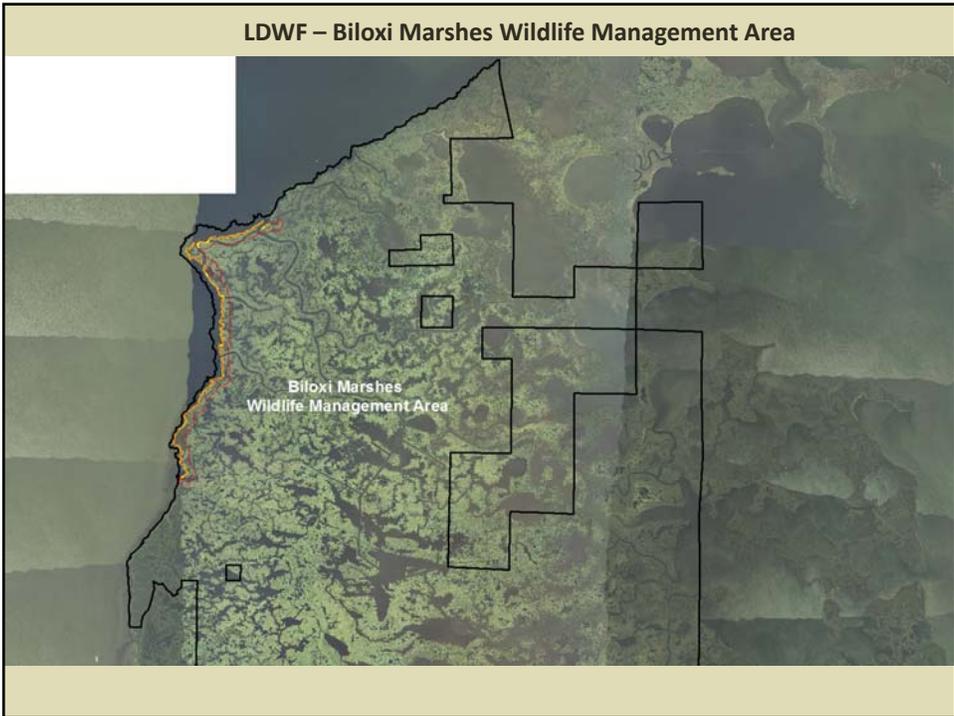
- Shoreline Protection
- Marsh Lost to Shoreline Erosion
- 1998 Shoreline



PPL 25

POINT AUX MARCHETTES

SHORELINE PROTECTION

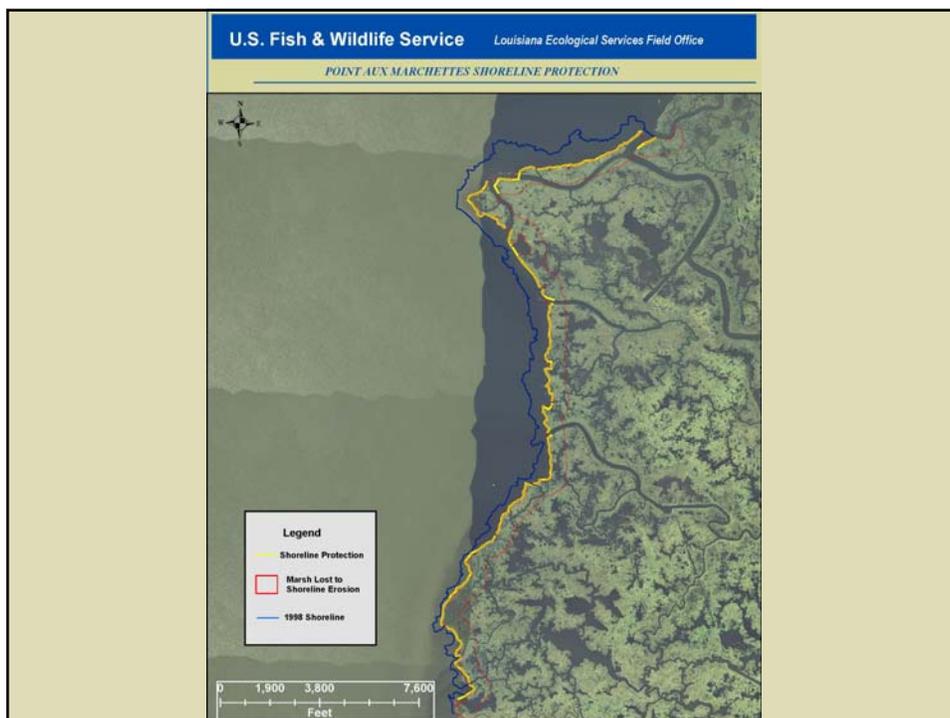
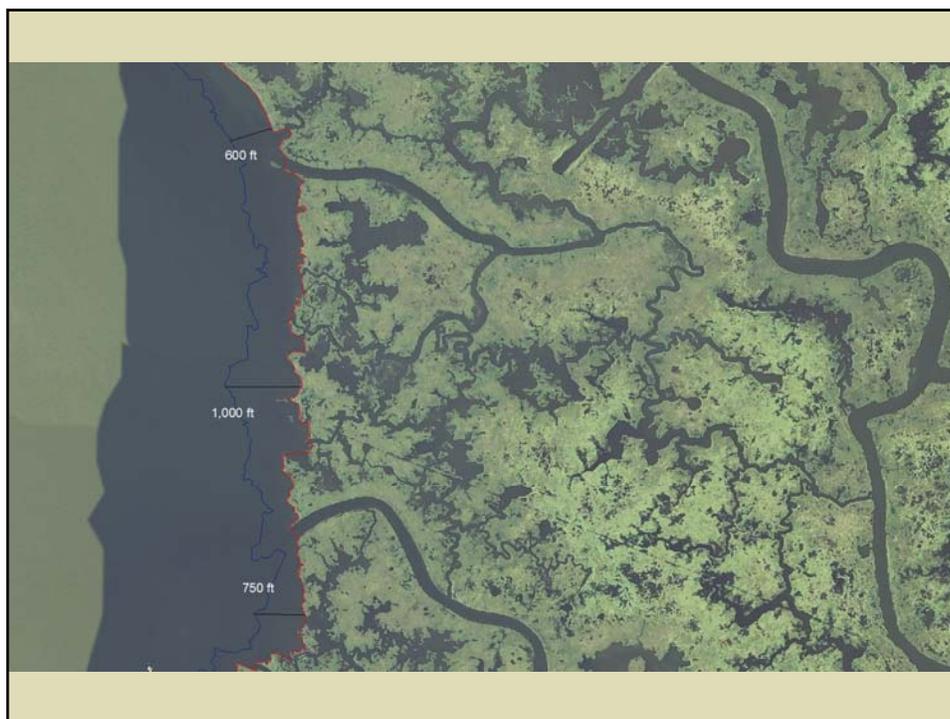


Point aux Marchettes Shoreline Protection

Problem:

- Mechanical scouring of marsh has destroyed many acres of marsh along the Shoreline of Lake Borgne within the Lake Pontchartrain Basin
- Shoreline erosion along the Lake Borgne shoreline within the project area have an estimated erosion rate of 29 ft./yr. with erosion rates ranging from 10 ft./yr. to over 90 ft./yr. in several areas.
- The project area protects nearly 500 acres within the Publicly Run and State Owned Biloxi Marsh Wildlife Management Area.
- There are several natural ridges along several bayous (Lake Shore Bayou and Bayou Grande) that are in jeopardy of being destroyed.





POINT AUX MARCHETTES SHORELINE PROTECTION

Goals:

- protect 45,000 feet of critical shoreline with 35,800 ft of foreshore rock dike
- protect 497 acres of marsh habitat and shallow open water

Net Acres:

- The total net acres is 313 acres

Potential Issues:

- Lake Borgne is designated as Atlantic Sturgeon Critical Habitat.
- O&M is also included for the shoreline protection feature

Preliminary Construction Costs

- The estimated construction cost plus 25% contingency \$26 M.

Species of Concern and Rare Species

- Least Bittern
- Black Rail
- Mottled Duck
- Saltmarsh topminnow
- Brown Pelican
- Louisiana Eyed Silkmoth
- King Rail
- Bald Eagle

R1-PO-09

St. Catherine Island Shoreline Protection & Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET**January 29, 2015****Project Name:** St. Catherine Island Shoreline Protection and Marsh Creation**Project Location:**

Region 1, Pontchartrain Basin, Orleans Parish, East Orleans land bridge mapping unit, East of I-10 Twin Spans along the shore of Lake Pontchartrain to just east of Chef Pass.

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 shoreline and large areas of interior marsh habitat were either lost or damaged near Chef Menteur Pass. This area has an estimated erosion rate of 18 ft./yr. or greater. A portion of the lakeshore is protected by rock dikes (Bayou Chevee (PO-22), State only project and FWS funded project). Shorelines that are not protected by rock dikes will erode back into the shallow open water areas located near the shorelines further increasing erosion rates.

Goals :

The goals of the project are to 1) stop shoreline erosion due to wind generated waves along 18,020 linear feet of the Lake Pontchartrain shoreline preserving 211 acres of marsh and 2) create/nourish 109 acres of marsh and nourish 64 acres of marsh behind that shoreline protection.

Service goals include the creation of habitat or improvement of habitat for rare species, species of concern, and threatened and endangered species. The creation of brackish intertidal marsh habitat would be beneficial to several species that are currently on the lists of rare species and species of concern. These include, but are not limited to Least Bittern, Black Rail, Mottled Duck, Brown Pelican, King Rail, Louisiana Eyed Silkmoth and Saltwater topminnow. Keeping these species off the threatened and endangered list is a goal of FWS because at that point ALL Federal agencies must then address those species. Improving habitat on Federal lands insures the protection of those valuable resources.

Proposed Solutions:

Extend the Bayou Chevee (PO-22) rock dike along approximately 18,020 LF of weakened Lake Pontchartrain shoreline. This project also would create 109 acres of marsh and nourish 64 acres of marsh in shallow open water and broken marsh areas located directly behind the proposed rock dike. That marsh would be created by filling those sites with material hydraulically dredged from the bottom of Lake Pontchartrain. Earthen dikes would be constructed to contain that material and would be sufficiently gapped within 3 years to allow for exchange of nutrients and estuarine organisms. This project would work synergistically with other restoration projects in the area including CWPPRA, state, and Bayou Sauvage National Wildlife Refuge projects.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* Approximately 429 acres would be benefited directly.

2) *How many acres of wetlands will be protected/created over the project life?* The total net acres protected/created over the project life is approximately 287 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 project would stop shoreline erosion and reduce the loss rates associated with marsh creation/nourishment to >74%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* This project would help maintain the current Lake Pontchartrain shoreline and portions of Chef Menteur Pass.

5) *What is the net impact of the project on critical and non-critical infrastructure?* Helps protect a portion of the New Orleans Landbridge, U.S. Hwy 90, camps and businesses along Chef Pass.

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 PO-22 and several associated state only and FWS funded shoreline protection projects.

Identification of Potential Issues:

Borrow site is located within Gulf sturgeon critical habitat.

Preliminary Construction Costs:

The estimated construction cost plus 25% contingency \$19 M.

Preparer(s) of Fact Sheet:

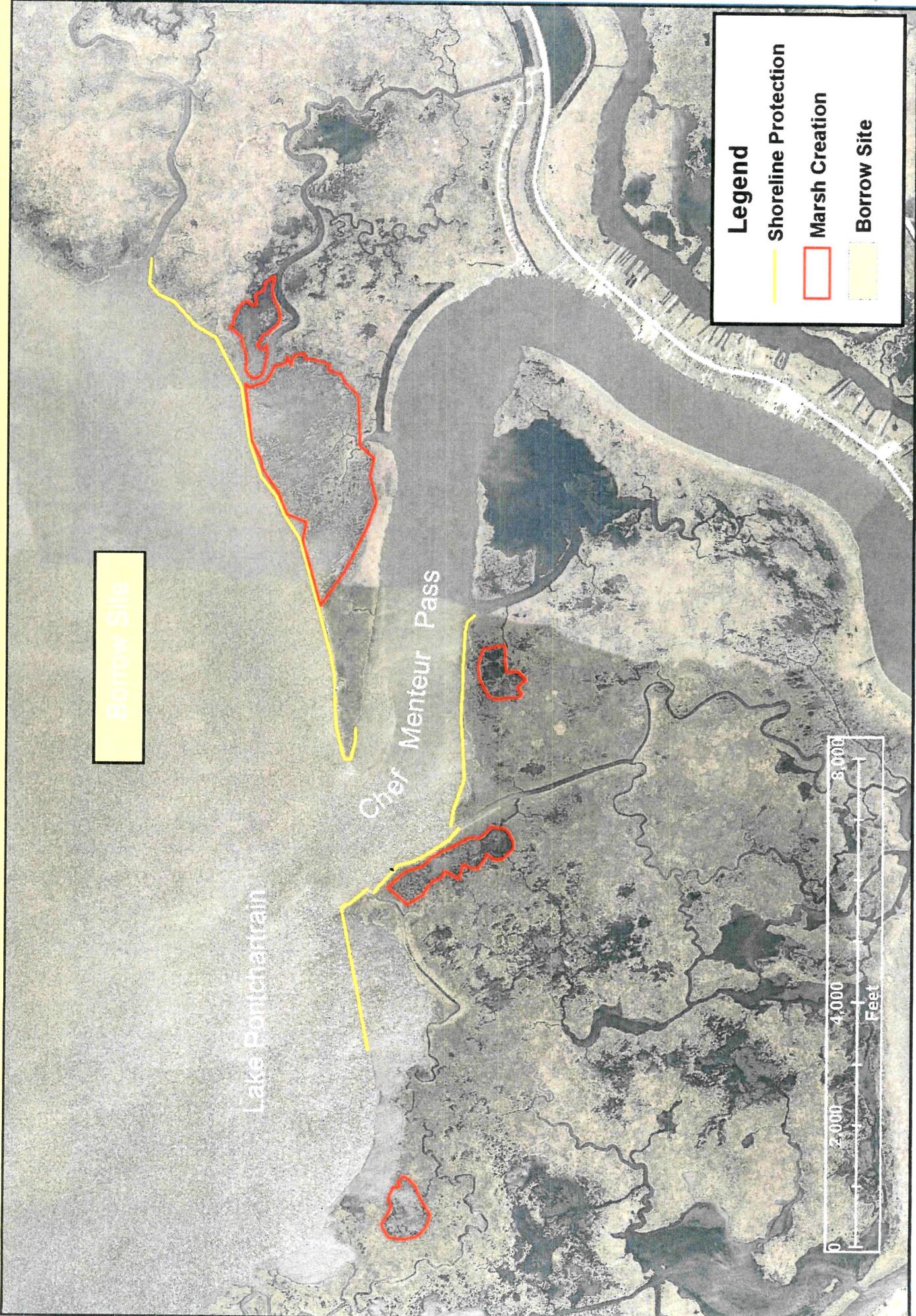
Robert Dubois (337) 257-4345 robert_dubois@fws.gov



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

St. Catherine Island Shoreline Protection and Marsh Creation



Borrow Site

Lake Pontchartrain

Chef Menteur Pass

Legend

- Shoreline Protection
- Marsh Creation
- Borrow Site



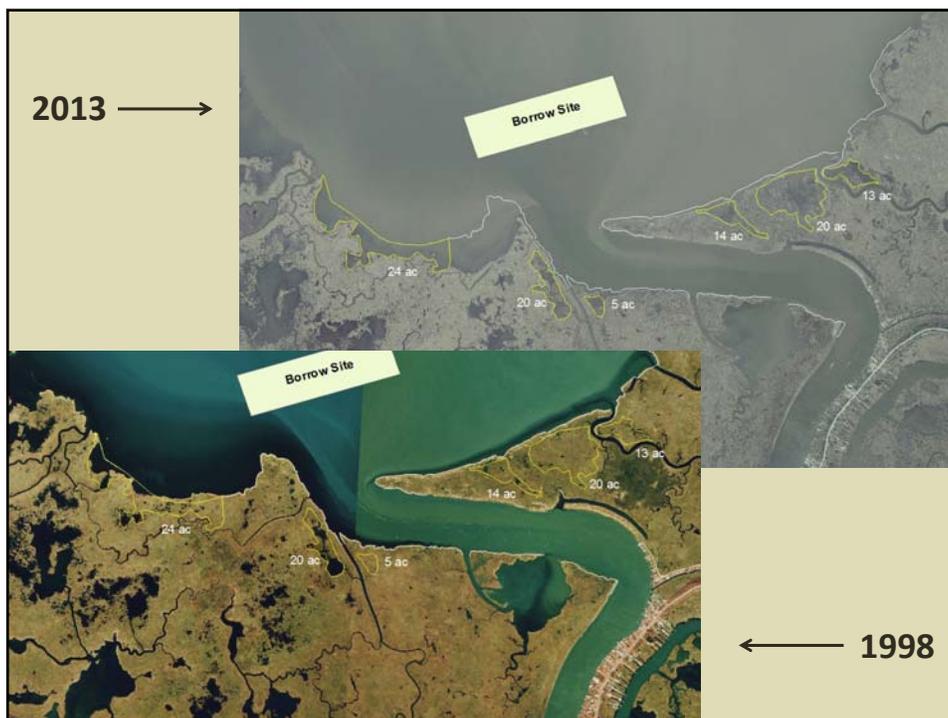
PPL 25

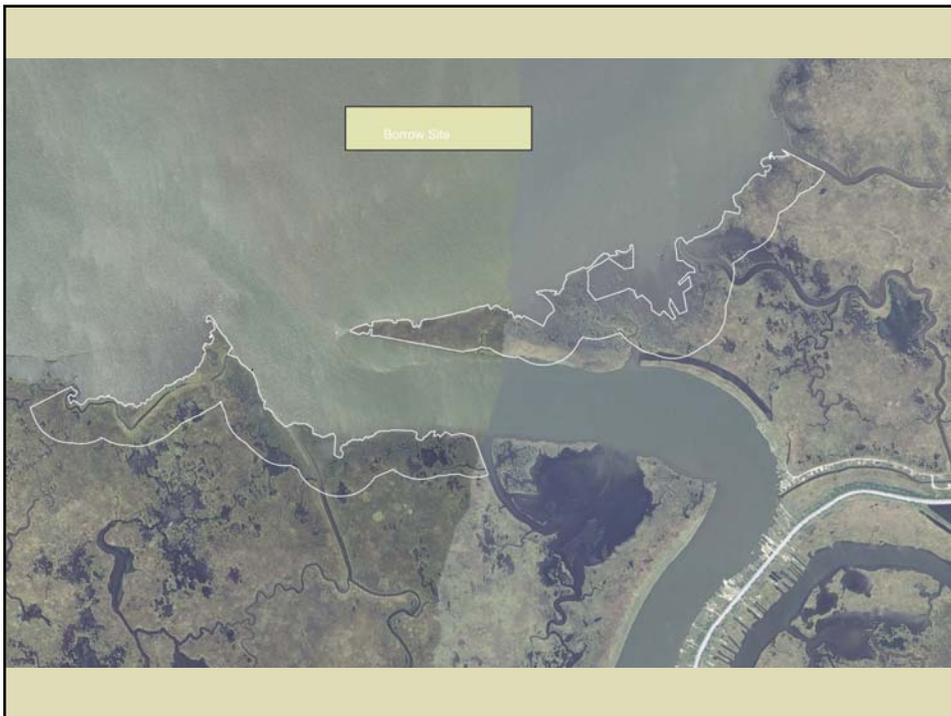
ST. CATHERINE ISLAND SHORELINE PROTECTION AND MARSH CREATION

St Catherine Island Shoreline Protection and Marsh Creation

Problem:

- Mechanical scouring of marsh from Hurricane Katrina destroyed thousands of acres of marsh within the Lake Pontchartrain basin
- Wind generated waves along the weakened Lake Pontchartrain shoreline contribute to the estimated 18 ft./yr. average erosion rate. Estimated 361 acres of marsh and shallow open water will be lost in next 20 years.
- Area between PO-22 Bayou Chevee Shoreline Protection project and Chef Pass is losing marsh at a rate of 60-70 ft./yr.
- There is a critical section of marsh between Lake Pontchartrain and Chef Pass that is in the process of breaching and will be gone within the next 20 years exposing camps and businesses along Hwy. 90 as well as Hwy. 90.
- Most of this portion of the Bayou Sauvage NWR will be gone within the next 20 years.





St Catherine Island Shoreline Protection and Marsh Creation

Goals:

- Protects 28,000 to 33,000 linear feet of the Lake Pontchartrain shoreline and protects 361 acres of marsh and shallow open water by constructing 18,000 LF of foreshore rock dike.
- Create 109 acres of marsh and nourish 64 acres of broken marsh behind that shoreline protection with a hydraulic dredge.

Net Acres:

- Total acres benefited 429. Total net acres protected/created is approximately 287.

Identification of Potential Issues:

- Borrow site is located within Gulf sturgeon critical habitat
(not crucial in this area)

Preliminary Construction Costs:

- The estimated construction cost plus 25% contingency \$19 M.

Species of Concern and Rare Species

- Least Bittern
- Black Rail
- Mottled Duck
- Saltmarsh topminnow
- Brown Pelican
- Louisiana Eyed Silkmoth
- King Rail

R1-PO-10

Golden Triangle Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET
January 29, 2015

Project Name

Golden Triangle Marsh Creation

Project Location

Region 1, Lake Pontchartrain Basin, St. Bernard and Orleans Parishes

Problem

Based on the USGS 1985 to 2009 loss rate, the wetlands in the South Lake Borgne subunit in which the Golden Triangle is located are being lost at -0.49%/year. Evaluation of 1998 to 2008 photography indicates interior breakup and coalescence of newly formed open water with historic ponds as well as increased connection with Bayou Bienvenue and the Gulf Intracoastal Waterway.

Proposed Solution

The proposed project technique is marsh creation via dedicated dredging from Lake Borgne. The primary target fill area are those identified in red (186 of the 204 acres) that are very shallow as result of two disposal events by the Corps of Engineers for the construction of the surge barrier component of the Hurricane Surge Damage Risk Reduction System. Additional areas for marsh creation were selected based on water depth data and a strategy to restore areas closest to the surge barrier and the lake edge. The borrow site in Lake Borgne would be located far enough away from the existing marsh shoreline to prevent slope failure and inducing wave refraction/diffraction erosion and avoid sandy substrate preferred by the threatened Gulf sturgeon. Furthermore, the borrow site would not be dredged deeper than 15 feet below Mean Water Level to minimize potential impacts on dissolved oxygen and would be monitored to verify the rate of infilling and for water quality.

The conceptual project has been coordinated with staff of the Corps' Hurricane Protection Office. At the suggestion of their environmental staff, some acreage (e.g., 18 acres) would be excluded from P2 immediately adjacent to the GIWW, thus allowing for potential future disposal of material dredged to conduct maintenance on the surge barrier and avoidance of remaining deep water in that disposal area.

Goals

The project goal is to create approximately 440 ac of brackish marsh using sediment dredging from Lake Borgne in a manner to compliment and not conflict with the Corps' surge barrier.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 440 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 389 ac of brackish marsh will be protected/created over the project life.
- 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 land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.

- 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. However, the project will help maintain the continuity of the southwestern shoreline of Bayou Bienvenue.

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

Although the marsh creation is located to maximize the synergy with the surge barrier, low elevations of marsh have been demonstrated to have a relative small positive effect on storm surge. Therefore, the project will have a minor net positive effect on a component of a critical flood protection system.

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

The project will have a synergistic effect with the tentatively selected plan of the Mississippi River Gulf Outlet Ecosystem Restoration Study if funded for construction.

Identification of Potential Issues

The proposed project may have potential land rights issues yet to be determined.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is estimated to be approximately \$22.3 million with a fully funded cost in the range of \$25 - \$30 million.

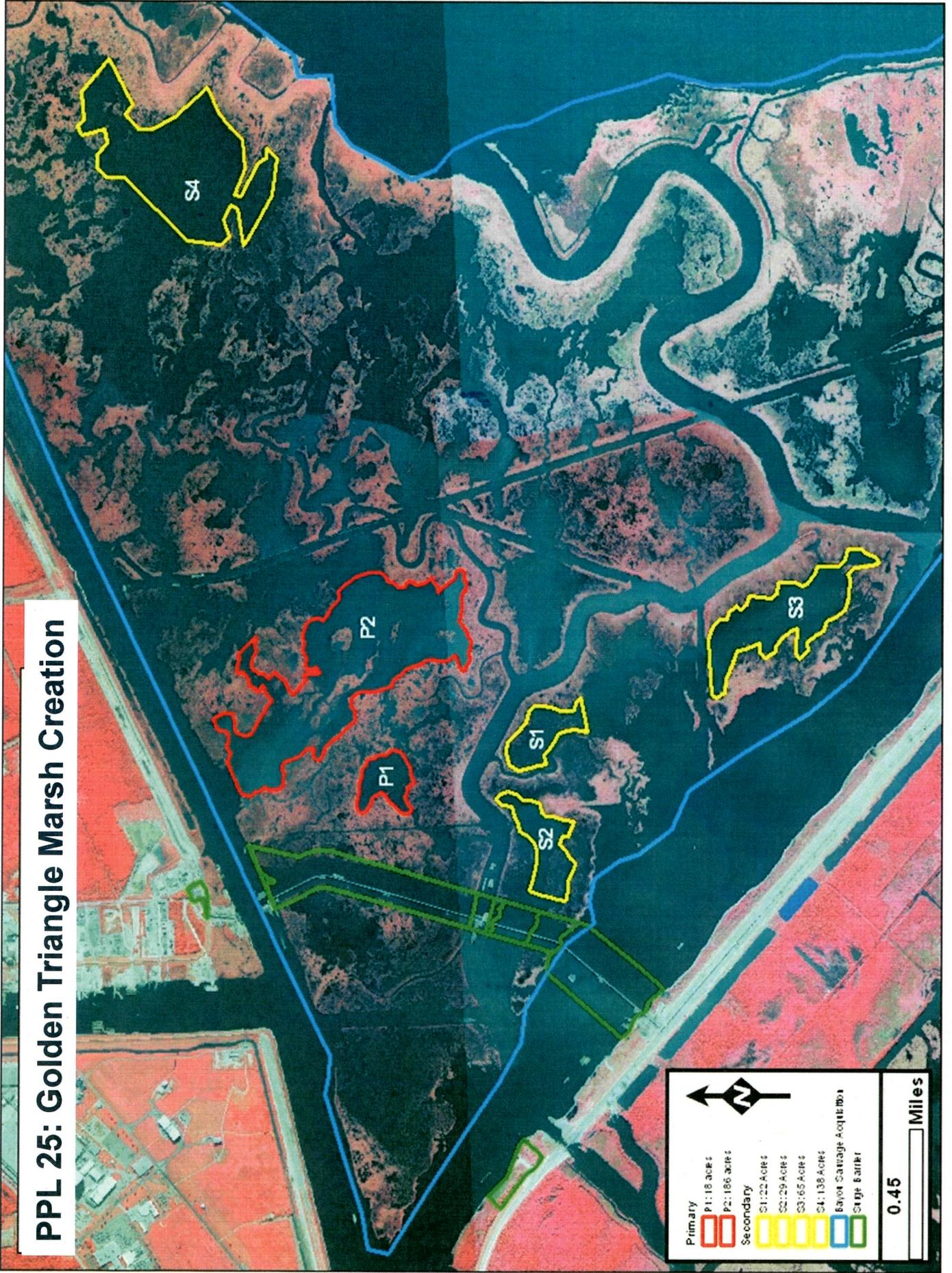
Preparer(s) of Fact Sheet:

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PPL 25: Golden Triangle Marsh Creation



Primary
P1: 18 acres
P2: 186 acres

Secondary
S1: 22 Acres
S2: 29 Acres
S3: 65 Acres
S4: 138 Acres

Bayou Surtage Acquisition
Stage Barrier

0.45 Miles

Science, Service, Stewardship



Golden Triangle Marsh Creation Region I – Pontchartrain Basin



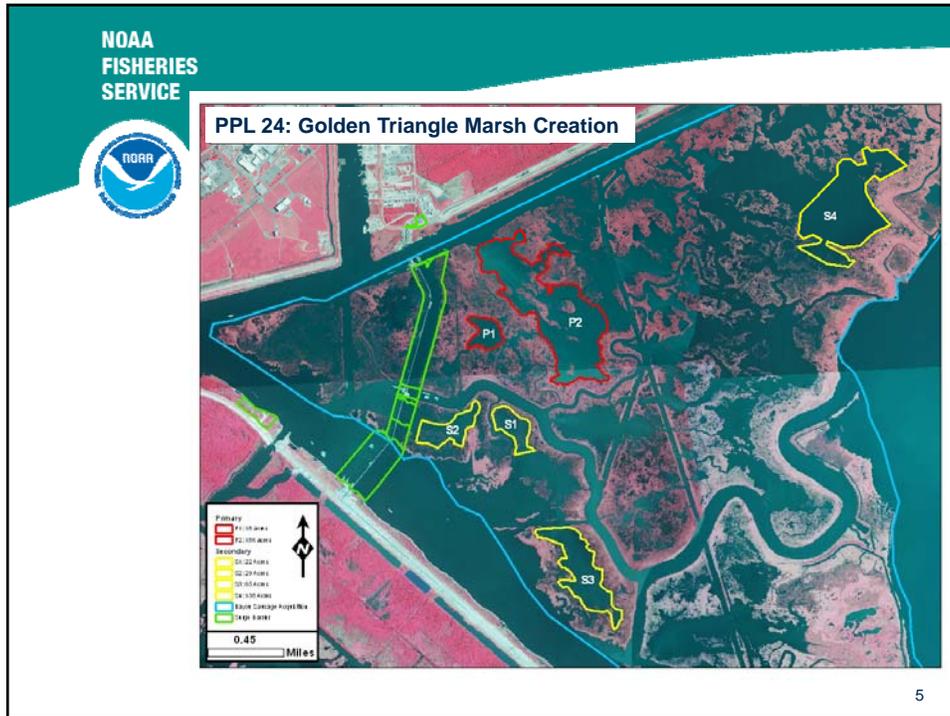
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- 
- ### Project Features
- Marsh Creation = 440 acres
 - Net = 389 acres
 - Construction Cost with 25% contingency = \$22.3 million
- 6

R1-PO-11

Fritchie Marsh Creation & Terracing

PPL25 PROJECT NOMINEE FACT SHEET
January 29, 2015

Project Name

Fritchie Marsh Creation and Terracing

Project Location:

Region 1, Pontchartrain Basin, St. Tammany Parish, located approximately three miles southeast of Slidell, Louisiana. A portion of the project is located on Big Branch National Wildlife Refuge.

Problem:

A significant portion of the Fritchie Marsh was lost due to Hurricane Katrina. Post storm shallow open water areas dominate the landscape which reduces the effectiveness of the PO-06 CWPRRA project. Wetlands in the project vicinity are being lost at the rate -0.92%/yr based on the extended boundary during 1984 to 2011. These marshes cannot recover without replacement of lost sediment, which is critical if the northshore marshes are to be sustained. Marshes near the intersection of Highways 433 and 90 are semi-impounded with substantially limited tidal exchange.

Goals:

Project goals include restoring and nourishing marsh, maintaining the structural integrity of Salt Bayou, and improving tidal exchange to created and existing marshes south of Prevost Island. Specific goals of the project are: 1) create 287 acres of marsh including tidal creeks and ponds; 2) nourish 51 acres of existing marsh; and 3) construct about 64,000 feet of earthen terraces or 45 emergent acres.

Proposed Solution:

Approximately 2.4 million cubic yards of material would be placed confined into two marsh creation areas to restore 287 acres and nourish approximately 51 acres of brackish marsh. Material would be dredged from a borrow site in Lake Pontchartrain. The borrow site would be designed to avoid and minimize impacts to aquatic habitat and existing shorelines. Approximately 10,000 feet of tidal creeks and upwards of six tidal ponds would be constructed. Approximately 64,000 feet of earthen terraces would be constructed within various locations totaling approximately 911 acres of terrace field. All containment dikes would be gapped or degraded to achieve functional tidal marsh supportive of estuarine species. Approximately four culverts would be installed to improve tidal exchange to marsh located south of Prevost Island. The terraces would be planted as well as 50% of the created marsh acres.

Note: Opportunities would be considered to expand the marsh creation areas either adjacent to the south side of Salt Bayou or on Refuge property in lieu of some of the terraces. Siting and sizing of creeks and ponds would be developed and refined during the candidacy stage.

Preliminary Project Benefits

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

The total project area is 1,249 acres.

- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 308 acres of brackish marsh will be protected/created over the project life.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project?*
The anticipated land loss rate reduction throughout the area of direct benefits will be 50% over the projects life.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
The project will help maintain the natural ridge along and extending from Prevost Island and the bank lines of Salt Bayou.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project will have a net positive effect on the highways and adjacent development.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a direct synergy with the PO-06 CWPPRA project, the Hurricane Surge Damage Risk Reduction mitigation, and St. Tammany Parish beneficial use projects.

Identification of Potential Issues

Gulf Sturgeon coordination. Cooperation from the majority landowners is anticipated.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$20.1 million with a fully funded cost estimated in the \$25 - \$30M range.

Preparer(s) of Fact Sheet:

Patrick Williams, NOAA's National Marine Fisheries Service, 225-389-0508, ext 208;
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PPL25 Fritchie Marsh Creation and Terracing

- 64,000 ft of Terraces
- 338 ac Marsh Creation/Nourishment
- Culverts



Science, Service, Stewardship



Fritchie Marsh Creation and Terracing Region I – Pontchartrain Basin

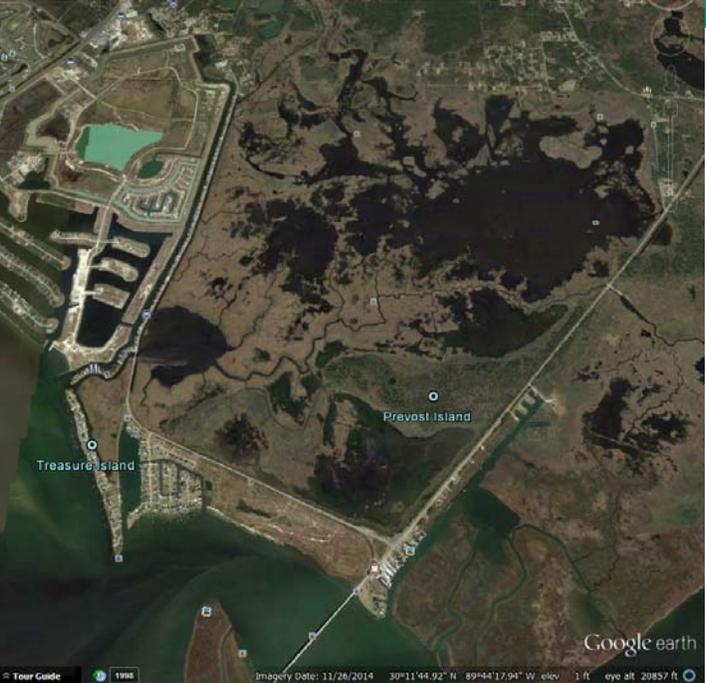


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Treasure Island

Prevost Island

Google earth

Your Guide 1998 Imagery Date: 11/26/2014 30°11'44.92" N 89°44'17.94" W elev: 1 ft eye alt: 20857 ft

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Strategies

Historic:

- Features on both private and public land
- Both marsh creation and terracing
- Only marsh creation on public land
- Large (\$35 - \$40M FFC)

3

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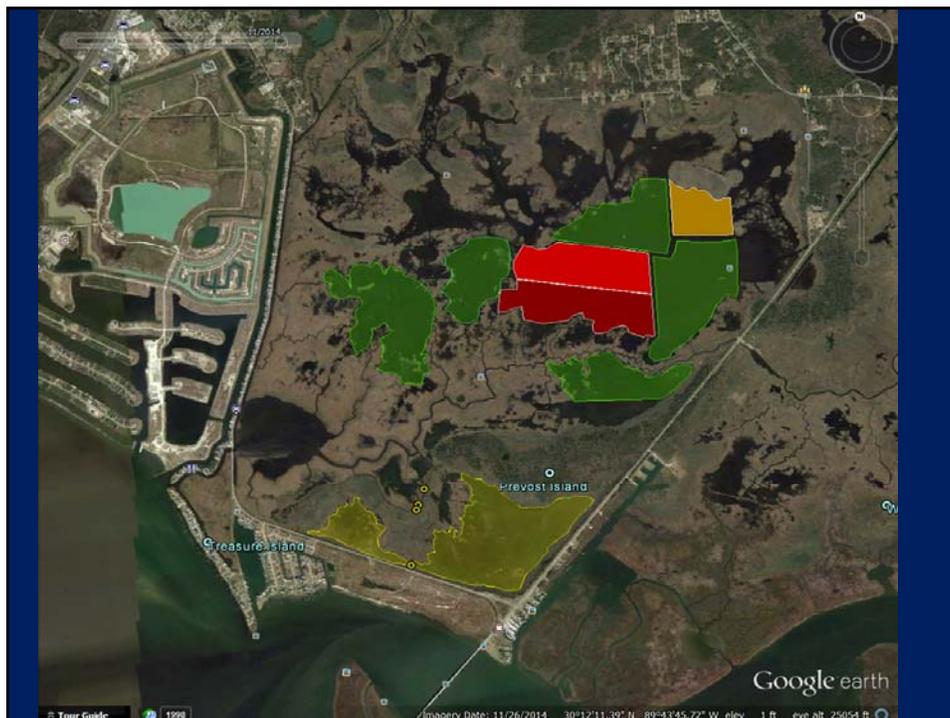
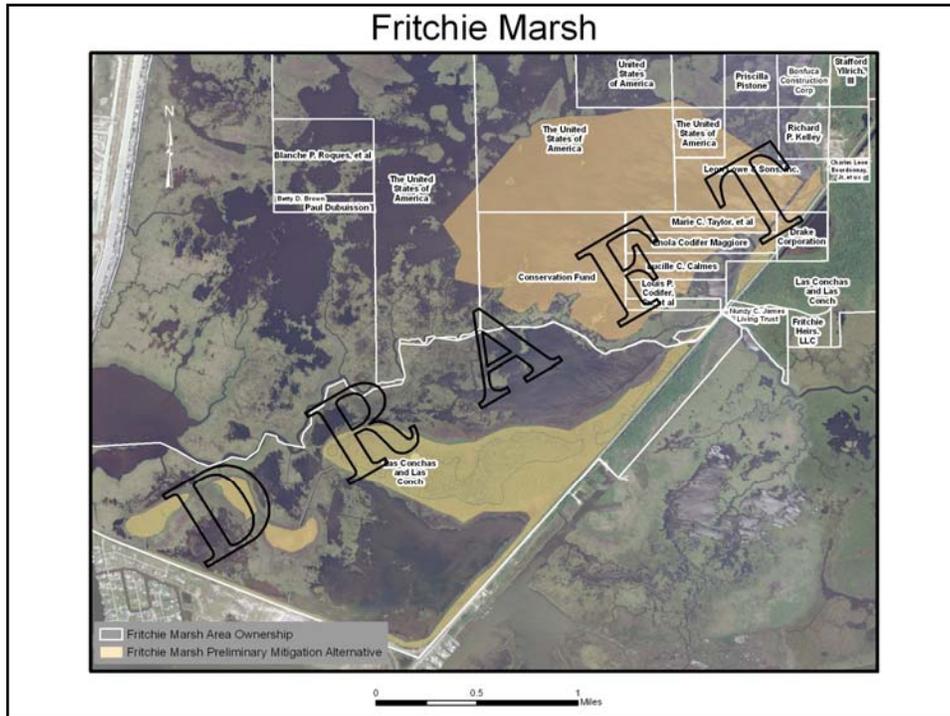


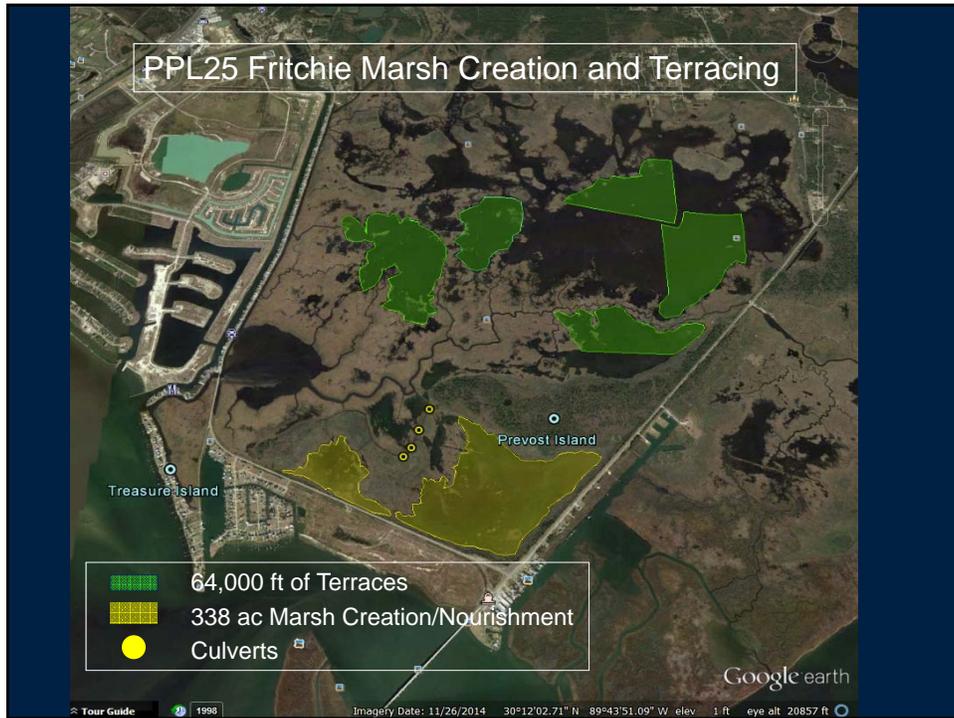
Strategies

Present:

- Synergy with mitigation and beneficial use
- Smaller (\$25 - \$30M FFC)
- Marsh creation and terraces on both private and public lands

4





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Project Features

- Marsh Creation = 287 acres
- Marsh Nourishment = 51 acres
- Terraces = 45 acres or 64,000 linear feet
- Culverts = 4
- Net = 308 acres
- Construction Cost with 25% contingency = \$20.1M

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