REGION 1

Coastal Wetlands Planning Protection & Restoration Act

24th Priority Project List

Region 1

Regional Planning Team Meeting

February 13, 2014
Lacombe, LA

CWPPRA

1. Welcome and Introductions

- RPT Region 1 Leader: Stuart Brown - CPRA

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Announcements

- Copies of the PPL 24 Selection Process & Schedule available at the sign-in table.
- PPL 24 RPT meetings to accept project nominees:
  - Region IV, Estuarine Fisheries & Habitat Center, Feb. 11, 2014, 11:00 am
  - Region III, Terrebonne Parish Main Library, Feb. 12, 2014, 9:00 am
  - **Region I, USFWS SE LA Refuges Complex (Big Branch), Feb. 13, 2014, 8:00 am**
  - Region II, USFWS SE LA Refuges Complex, Feb. 13, 2014, 11:30 am
- 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 must complete a PPL 24 Nomination Sign-Up Sheet for <u>each</u> project nominee (demo projects too).
- 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 19, 2014.
- Limit comments/questions during meeting to PPL 24 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 25, 2014.
- The Technical Committee may or may not select a coastwide project in April 2014.

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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 Standing Operating Procedures criteria
- The RPTs select up to 6 demos during the Feb. 25 Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2o14.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be ***re-nominated*** for PPL 24.

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Coastwide Electronic Vote

- **Feb. 25, 2014**: The Coastwide Electronic Vote to select 4 nominees per basin in Barataria and Terrebonne, 3 nominees per basin in Breton Sound and Pontchartrain, 2 nominees per basin in Mermentau, Calcasieu-Sabine, and Teche-Vermilion, and 1 nominee in the Atchafalaya Basin (these are determined by the loss rates, the highest loss rates have the most projects). 1 coastwide project and 6 demos may also be selected.
- 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 2/19/2014.

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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 25, 2014.

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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 24 criteria.

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PPL 24 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 15, 2014 at 9:30 am, New Orleans District Corps of Engineers.
- 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 1, 2014.
- Public comments also accepted orally during meeting.

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PPL 24 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. 11, 2014, Baton Rouge, 9:30 am
- Task Force final decision to select PPL 24 in January 2015.

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PPL 24 Timeline

- **Coastwide Electronic Vote, Feb. 25, 2014**
  - **21 basin-project nominees, 1 coastwide nominee, and 6 demos selected**
- **Technical Committee Mtg, Apr. 15, 2014, New Orleans**
  - **Selection of 10 candidates and up to 3 demos**
- **Technical Committee Mtg, Dec. 11, 2014, New Orleans**
  - **Recommend up to 4 projects for Phase 1 funding**
- **Task Force Mtg, Jan. 2015, 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 19, 2014**

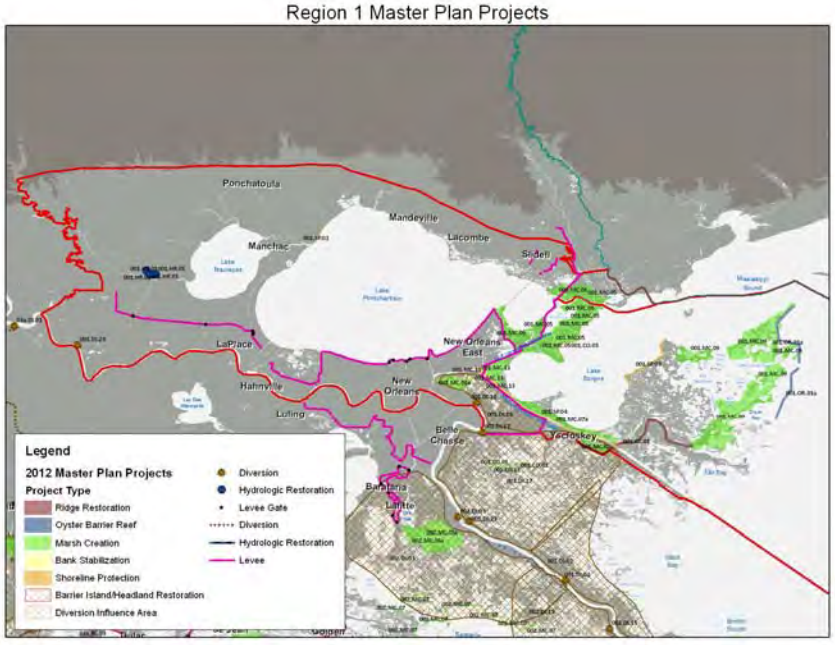
Brad Inman
CWPPRA Program Manager
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

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

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

CWPPRA

Region 1 Master Plan Projects



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	SPONSORING ORGANIZATION	LOCATION
February 13, 2014 8:00 A.M. & 11:30 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	USFWS SE LA Refuges Complex 61389 Hwy 434 Lacombe, LA 70445

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION I & 2

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
David Brinet	Coastal Proj. Manager St. Tammany	985-898-2442
Bren Haase	EPA	225-342-1475
BARRY HEBERT	LDWF	225-765-0233
Brad Crawford	EPA	214 665 7255
Barbara Aldridge	EPA	214 665 2712
Aaron Hoff	EPA	214.665.7319
Alton James	USDA NRCS	
Carol Giardina	LCCA	5043315326
Maurice Baird	City Council Dist E. New Orleans	504 658.1050
PATRICK WILLIAMS	NOAA/ NMFS	225-389-0508
Kim Clements	NOAA	225-389-0508
Jason Smith	Jefferson Parish Dept. of Environmental Affairs	504/731-4612
Joe Gonzales	Manson Construction Co.	985-580-1900
Angela Trahan	FWS	337 291 3137
KARL PECKMANS	RECON	7138752442
Charles Sasser	LSU	225 578 6375
John Boatman	NRCS	985-331-9084
Marisa Escudero	Land Trust for Louisiana, Development Director	(504) 908-0648
Quin Kinler	NRCS	225-665-4253
Ron Boustany	NRCS	337 291-3067
	PPL	609.912.5973
Tim Welp	USACE Engineer Research + Dev Center	601-415-3438

LMV FORM 583-R
JAN 88

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

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PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION I & 2

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Marnie Winter	Director, Jeff. Parish Environ.	(504) 736-6443
Vickie Duffourc	cbi/Shaw Coastal	(504) 8

LMV FORM 583-R
JAN 88

* 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	Oyster Bay Oyster Reef Restoration & Marsh Creation
R1-PO-02	Bayou Bienvenue Marsh Creation
R1-PO-03	Northwest Lake Pontchartrain Shoreline Protection
R1-PO-04	New Orleans Landbridge Shoreline Stabilization & Marsh Creation
R1-PO-05	Fritchie Marsh Creation & Terracing
R1-PO-06	Golden Triangle Marsh Creation
R1-PO-07	Shell Beach South Marsh Creation
R1-PO-08	Hog Island Marsh Restoration
R1-PO-09	Bayou La Loutre Ridge
R1-PO-10	St. Catherine Island Shoreline Protection & Marsh Creation

R1-PO-01

Oyster Bay Oyster Reef Restoration & Marsh Creation

R1-PO-01

PPL24 PROJECT NOMINEE FACT SHEET
February 11, 2014

Project Name:
Oyster Bay Oyster Reef Restoration and Marsh Creation

Louisiana's Comprehensive Master Plan for a Sustainable Coast
1st Implementation Period. Component of Biloxi Marsh Oyster Reef Project No. 001.OR.01a

Project Location:
Region 1, Breton 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

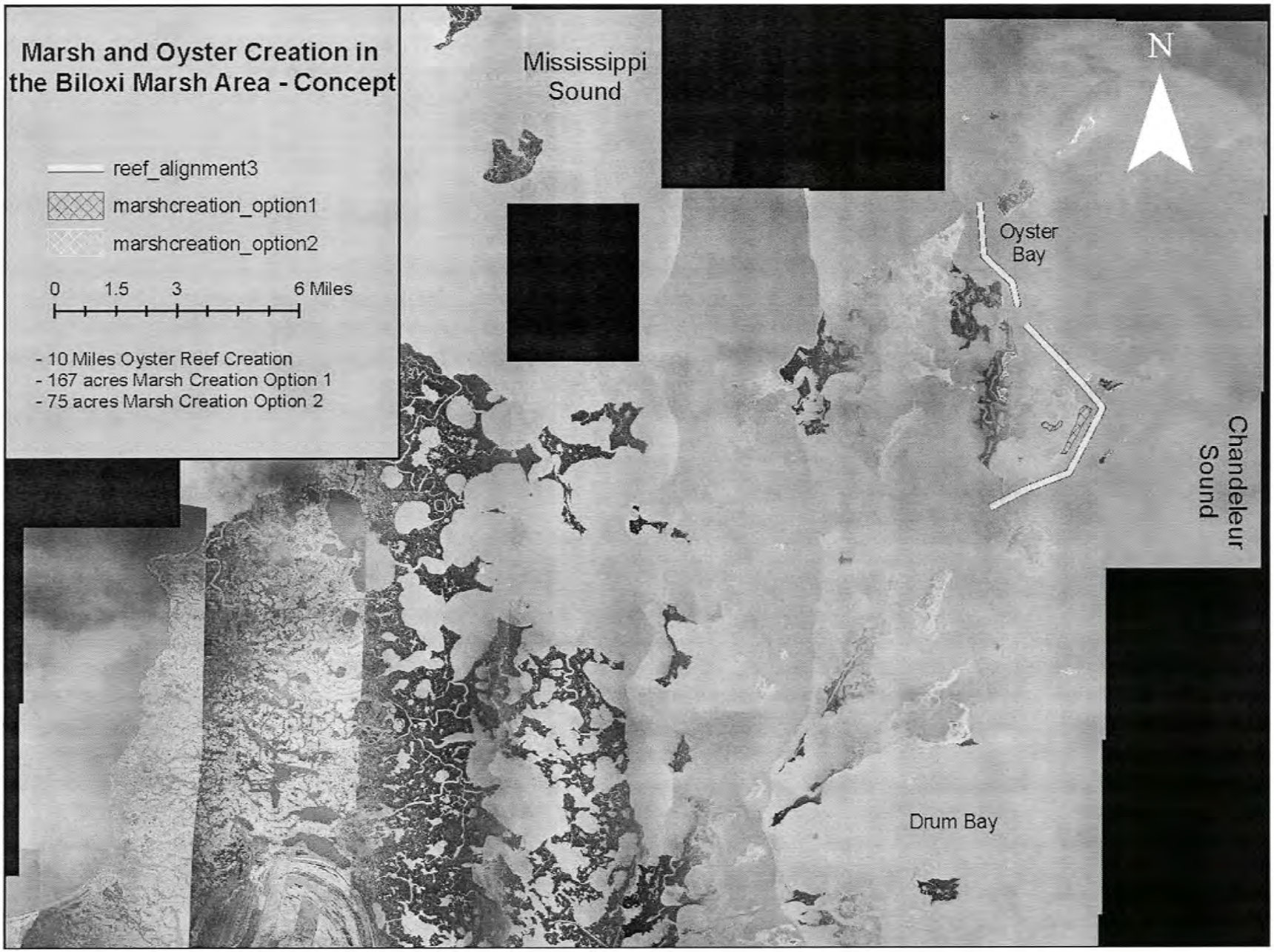
Goals:
The goal of this project is to create an oyster reef network along the shoreline to prevent shoreline erosion and to create marsh in targeted open water areas behind the shoreline protection.

Proposed Solution:
The project would place approximately 10 miles of oyster reef substrate and would create about 242 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 242 acres of emergent marsh habitat.
- Maintain shoreline between Drum Bay and Chino Bay
- Completes first half of Oyster Reef Restoration component of Louisiana's State Master Plan for a Sustainable Coast.

Project Costs:
The preliminary project cost estimate with 25% contingency $30 - $35 million

Preparer(s) of Fact Sheet:
Adrian Chavarria, EPA, (214) 665-3103; chavarria.adrian@epa.gov


Marsh and Oyster Creation in the Biloxi Marsh Area - Concept
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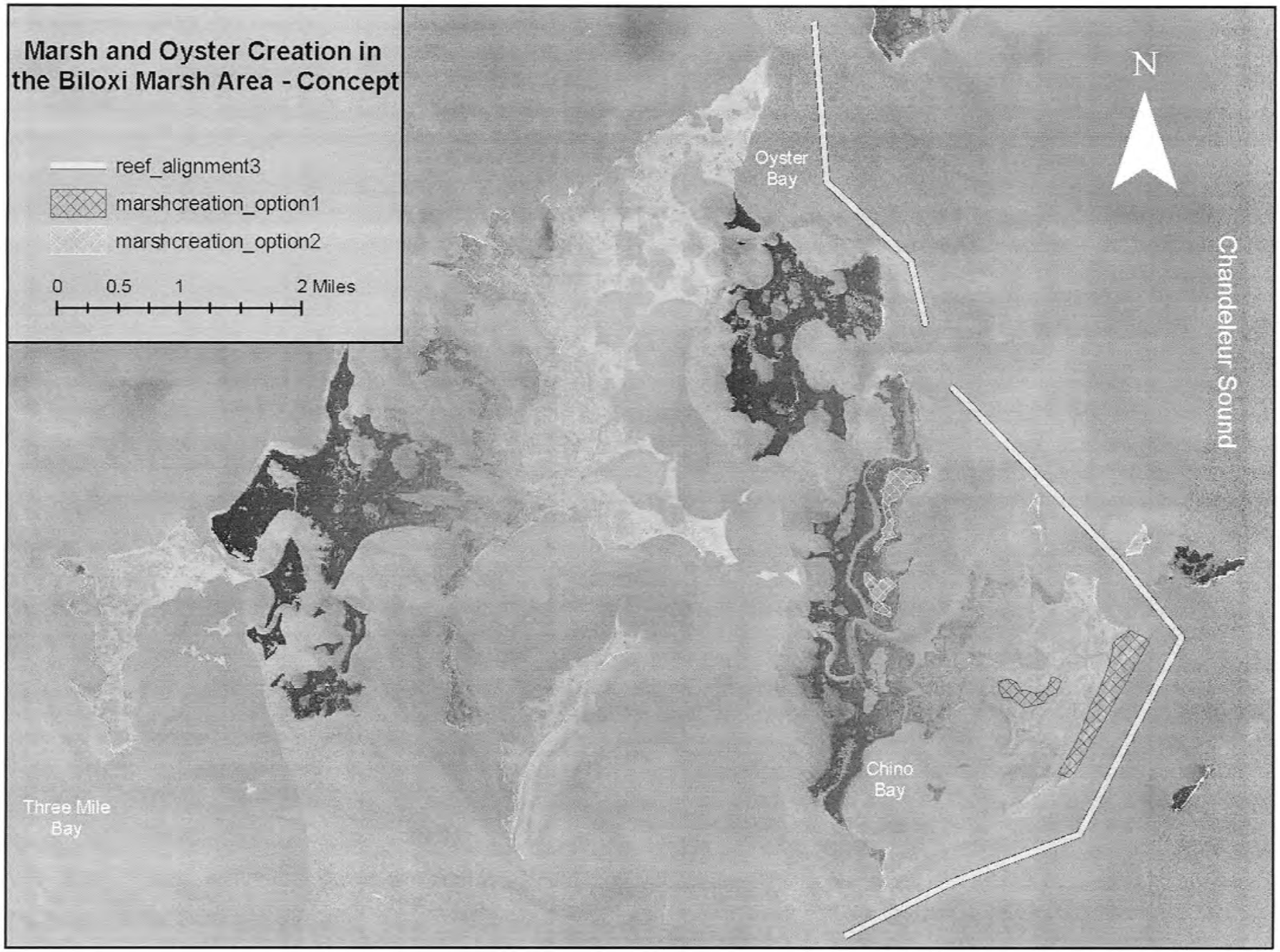
marshcreation_option1
marshcreation_option2
0 1.5 3 6 Miles
- 10 Miles Oyster Reef Creation
- 167 acres Marsh Creation Option 1
- 75 acres Marsh Creation Option 2
Mississippi Sound
N
Oyster Bay
Chandeleur Sound
Drum Bay


Marsh and Oyster Creation in the Biloxi Marsh Area - Concept
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marshcreation_option2
0 0.5 1 2 Miles
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Oyster Bay
Chandeleur Sound
Chino Bay
Three Mile Bay

R1-80-01

Oyster Bay Reef Restoration and Marsh Creation

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

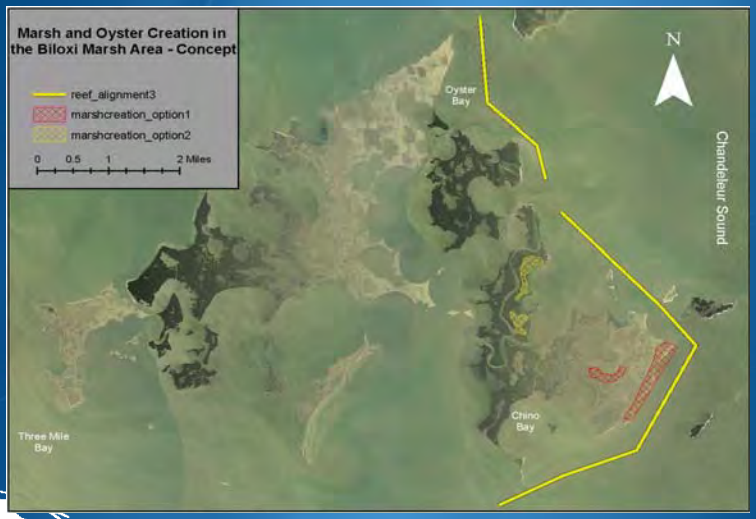
Coastal Wetlands Planning, Protection and Restoration Act

Solution

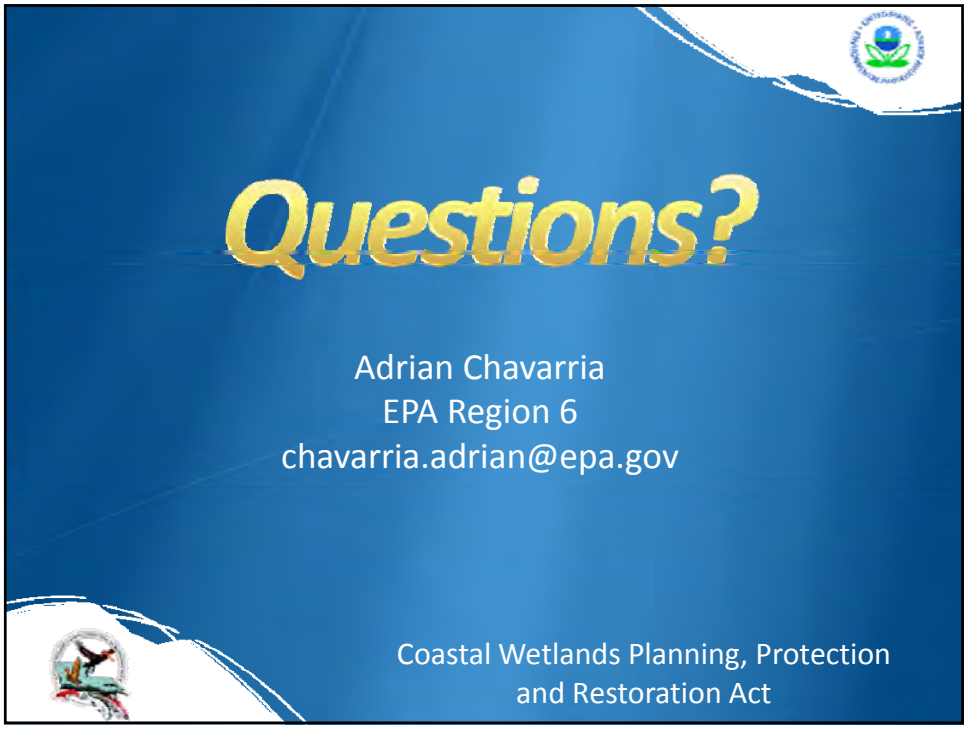
- Create 10 miles of oyster reef
- Create 242 acres of emergent marsh habitat
- Build upon The Nature Conservancy oyster reef restoration successes
- Estimated Cost $30 - $35 million

Coastal Wetlands Planning, Protection and Restoration Act

Project Features



Coastal Wetlands Planning, Protection and Restoration Act


Questions?
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Coastal Wetlands Planning, Protection
and Restoration Act

R1-PO-02

Bayou Bienvenue Marsh Creation

PPL 24 Project Nominee Fact Sheet
February 13, 2014

Project Name: Bayou Bienvenue Marsh Creation

Coast 2050 Strategy: Dedicated Dredging to Create, Restore, or Protect Wetlands.

Master Plan 2012: 001.MC.08a

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. State Route 47 runs along the east side of the project area.

Problem:
Over the past decades, the wetlands in the area have been lost because of altered hydrology due to impoundment, subsidence, and saltwater intrusion. The area was impacted by the construction of the MRGO in the 1960's. The majority of the area is shallow open water.

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, Lake Borgne, or trucked in from Bonnet Carre. Specific goals include:

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

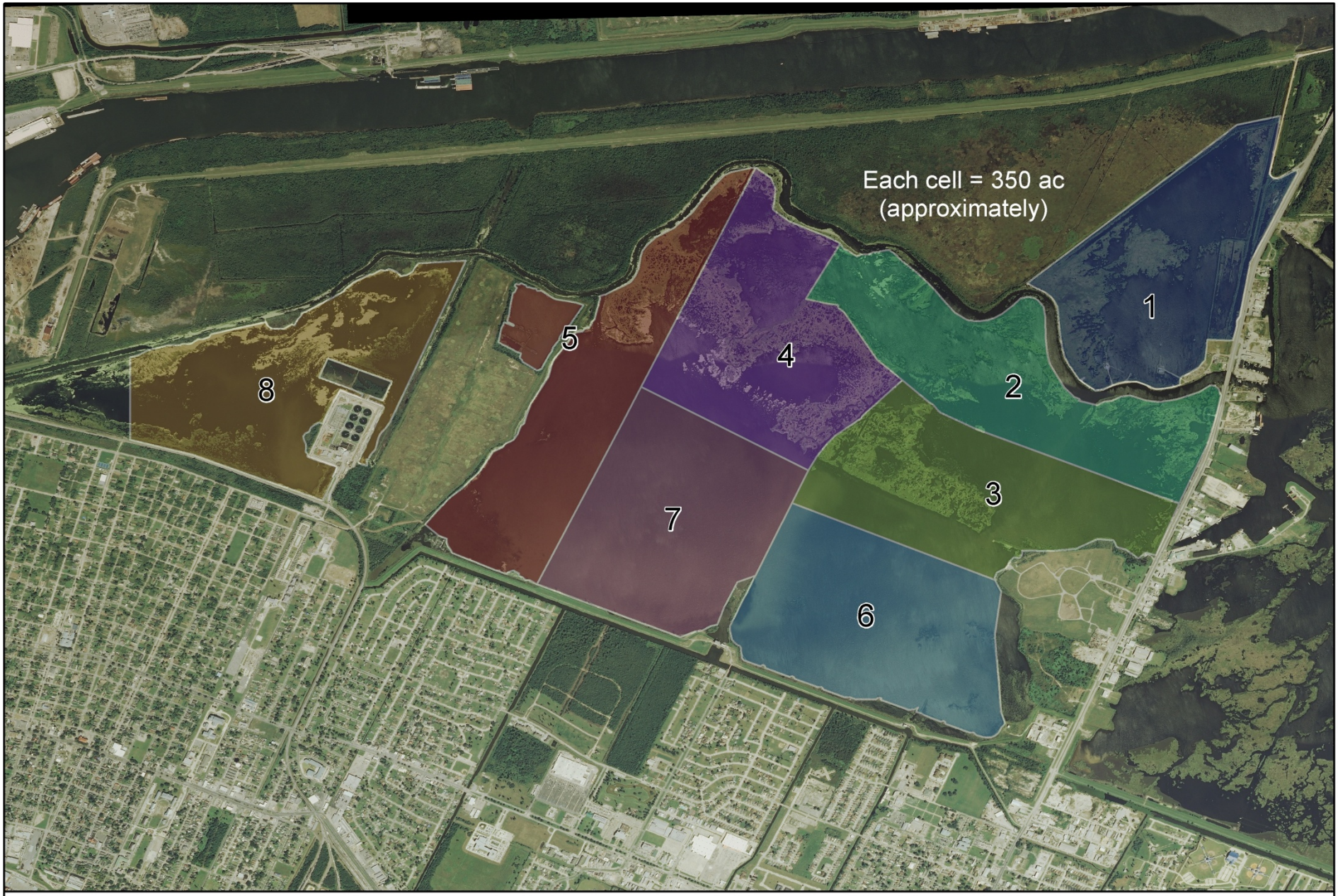
The preferred alignment for this project is labeled as number 1 in the attached map, with cells 2-8 envisioned for later PPLs.

Proposed Solution:
Dedicated dredging of sediments from the Mississippi River (or other source) will be used to create emergent marsh in the triangular-shaped area adjacent to the headwaters of Bayou Bienvenue.

Project Benefits:
The project would benefit 350 acres of wetlands by converting open water into marsh. 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. Restoration in this area would build the area's defenses against hurricanes and flooding.

Project Costs:
Initial Cost plus 25% is approximately $30 million.

Preparers of Fact Sheet:
Barbara Aldridge, EPA, 214-665-2712, aldridge.barbara@epa.gov
Aaron Hoff, EPA, 214-665-7319, hoff.aaron@epa.gov



Increments

1 4 7
2 5 8
3 6

Bayou Bienvenue Marsh Creation - Increment 1

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

Miles
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Bayou Bienvenue Marsh Creation – Increment 1

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

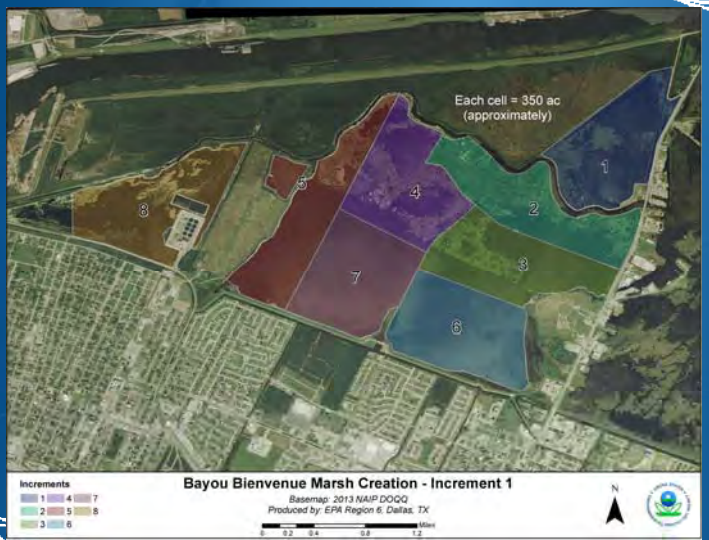
Coastal Wetlands Planning, Protection and Restoration Act

Solution

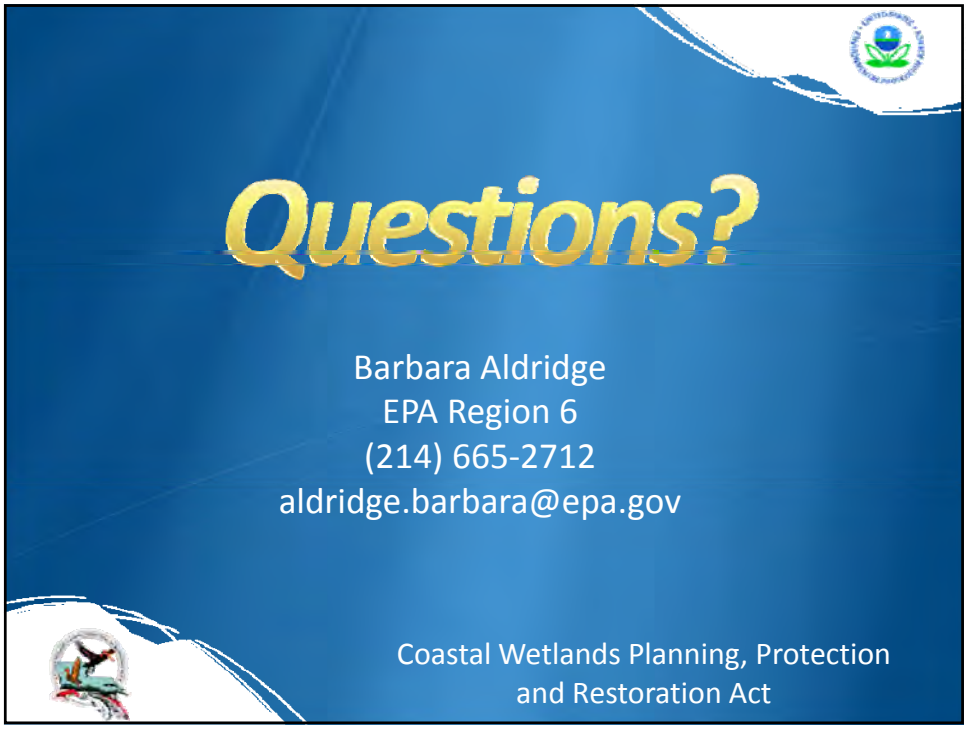
- Goals
  - Create/nourish 350 ac of intermediate marsh
- Preliminary Project Benefits:
  - 340 net ac over 20 years
- Identification of Potential Issues:
  - Land rights and utilities/pipelines
- Several alternatives available
  - Final alignment will depend on borrow site and local preference
  - Preliminary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

Coastal Wetlands Planning, Protection and Restoration Act

Project Features



Coastal Wetlands Planning, Protection and Restoration Act


Questions?
Barbara Aldridge
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Coastal Wetlands Planning, Protection
and Restoration Act

R1-PO-03

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.

Preparers of Fact Sheet:
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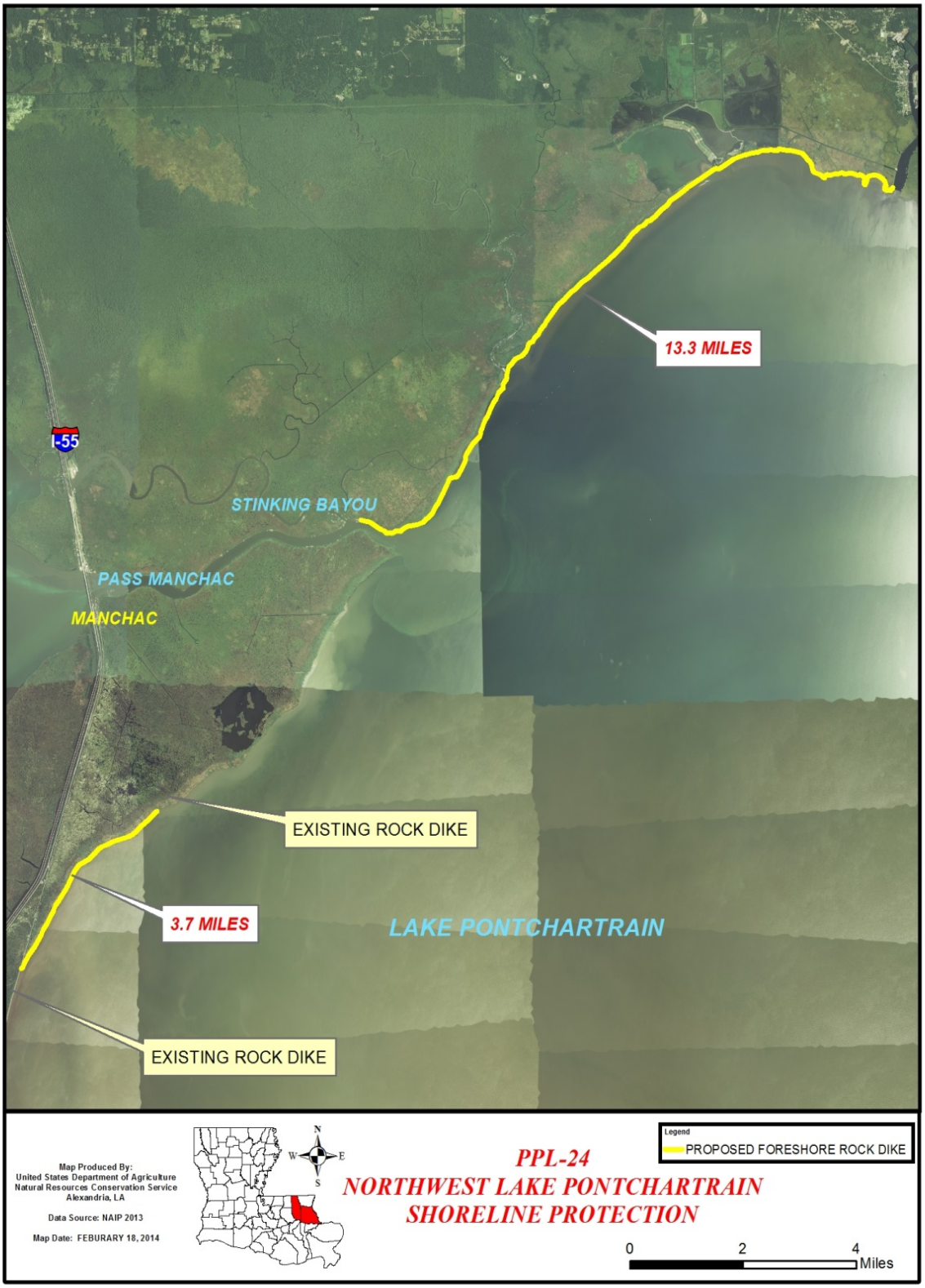
John Jurgensen, USDA-NRCS, john.jurgensen@la.usda.gov, (318) 437-7694


13.3 MILES
I-55
STINKING BAYOU
PASS MANCHAC
MANCHAC
EXISTING ROCK DIKE
3.7 MILES
LAKE PONTCHARTRAIN
EXISTING ROCK DIKE
Map Produced By:
United States Department of Agriculture
Natural Resources Conservation Service
Alexandria, LA
Data Source: NAIP 2013
Map Date: FEBURARY 18, 2014
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PROPOSED FORESHORE ROCK DIKE
PPL-24
NORTHWEST LAKE PONTCHARTRAIN
SHORELINE PROTECTION
0
2
4
Miles

PPL24 Northwest Lake Pontchartrain Shoreline Protection
Regional Planning Team Meeting Fact Sheet
2/13/14

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

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:

A foreshore rock (five to seven miles) 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. 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 = $15 - $20 Million.

Preparers of Fact Sheet

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John Jurgensen, USDA-NRCS, john.jurgensen@la.usda.gov, (318) 437-7694

R1-PO-04

New Orleans Landbridge Shoreline Stabilization & Marsh Creation

R1-PO-04

PPL 24 PROJECT NOMINEE FACT SHEET
February 13, 2014

Project Name
New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project

Project Location
Region 1, Pontchartrain Basin, Orleans Parish, along the east portion of Lake Pontchartrain on both sides of U.S. Highway 90 between Hospital Road and Greens Ditch

Problem
Since 1956, the project area has lost more than 110 acres of wetlands along the east shore of Lake Pontchartrain between Hospital Road and the Greens Ditch area. The shoreline in the Hospital Wall Area has retreated approximately 450 feet since 1956. Wetland losses were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms alone converted approximately 70 acres of interior marsh to open water. Flooding of nearby communities during strong northwest winds may be partially attributed to these high wetland losses. Stabilizing the shoreline and protecting the remaining marsh would protect natural coastal resources, communities and infrastructure. USGS land change analysis determined an interior and shoreline loss rate of -0.35 %/yr for the 1984-2012 period of analysis for an extended boundary. Subsidence in this unit is relatively low and is estimated at 0-1 ft/century (Coast 2050).

Goals
The project goal is to restore and enhance **192** acres of brackish marsh and to protect **12,716** linear feet of shoreline to maintain the structural integrity of the Orleans Landbridge. Approximately 863,000 cubic yards of material will be dredged from two borrow areas in Lakes St. Catherine and Pontchartrain and from flotation access. Material will be placed in two restoration areas: a 107-acre area west of U.S. Highway 90, and an 85-acre area east of U.S. Highway 90. Containment dikes will be constructed to achieve a target marsh elevation of 1.2 ft NAVD 88 (6 inches above existing marsh elevation; CRMS3784). The dikes would be gapped and/or degraded after construction (no later than 2 years post construction) to allow for estuarine organism access. Average water depths in the area are approximately 1.5 feet. Approximately 12,716 linear feet of containment will be constructed with a top width of 20 feet (1V:5H side slopes) to serve as an enhanced earthen shoreline along both lake shorelines adding additional protection from wind-induced wave fetch. Of the shoreline protection, 2,129 linear feet would be constructed in front of existing marsh offering additional protection. Gaps are not proposed in the enhanced shoreline for MC 3. However, at least 4 gaps are proposed along the shoreline for MC 1 to allow for organism access. Vegetative plantings are proposed including five rows along the crown and two rows along the front slope of the shoreline protection berm and within the marsh creation areas.

Lake Pontchartrain supports a large number of wintering waterfowl, including horned grebe and common loon. Lesser Scaup populations have rebounded in recent years with more and 1 million birds observed wintering after hurricane Katrina. Various gulls, terns, herons, egrets, rails, and black skimmer can be found using habitats associated with Lake Pontchartrain, which has been designated as an Important Bird Area by the American Bird Conservancy. Restoring the marshes along the Orleans Landbridge will help to protect Fish and Wildlife Service trust resources dependent on habitats associated with Lake Pontchartain, particularly at-risk species

such as the diamondback terrapin, black rail, reddish egret, brown pelican and the Louisiana eyed silkmoth.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
Marsh creation and nourishment totals 192 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 105 net acres of brackish marsh 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 anticipated land loss rate reduction will be a 50% reduction in loss rates to approximately 192 acres resulting from 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?*
The project protects the East Orleans Landbridge and maintains a portion of the lake rims of Lake Pontchartrain and Lake St. Catherine, which are structural components of the coastal ecosystem and provide one of the last lines of defense against storm surge coming into the Lake Pontchartrain system.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have a net positive impact to critical infrastructure which consists of U.S. Highway 90, a major hurricane evacuation route for the Greater New Orleans area, and residences along the East Orleans Land Bridge due to reducing the rate or frequency of flooding from south/southeast winds and tidal surge.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with flood protection and restoration efforts within the Lake Pontchartrain Basin including the Greater New Orleans Hurricane and Storm Damage Risk Reduction System, the Bayou Chevee Shoreline Protection Project (PO-22) as well as several marsh mitigation projects being designed and implemented in the area.

Identification of Potential Issues

The proposed project has potential borrow source, O&M, pipeline, and Gulf sturgeon critical habitat issues.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is $8,732,087. The fully-funded cost range is $10M-$15M.

Preparers of Fact Sheet

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R1 PO-04

New Orleans Landbridge Shoreline Stabilization and Marsh Creation (PPL23 Candidate)

Earthen Berm*
Marsh Creation *
Project Boundary

* denotes proposed features

0.25 0 0.25 Kilometers
0.25 0 0.25 Miles

Scale 1:20,000

USGS science for a changing world

Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La

Image Source:
2012 DOQQ

Map ID: USGS-NWRC 2013-11-0041
Map Date: September 03, 2013

New Orleans Landbridge Shoreline Stabilization and Marsh Creation Project (Hospital Wall Area)

PPL 24

Region 1, Pontchartrain Basin

New Orleans Landbridge Shoreline Stabilization and Marsh Creation Project (Hospital Wall Area)

Problem: shoreline erosion, storm damage and altered hydrology

- The shoreline in the Hospital Wall Area has retreated approximately 450 feet since 1956.
- Wetland losses were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita.
- Within the of the project area, these storms alone converted approximately 70 acres of interior marsh to open water ponds.
- Increased wave fetch will increase interior marsh loss
- Breaching along the shoreline has also occurred increasing tidal exchange and erosive forces

New Orleans Landbridge Shoreline Stabilization and Marsh Creation Project
(Hospital Wall Area)

Goals

- Create/restore/nourish/protect brackish marsh
- Enhance the shoreline
- Enhance fish and wildlife habitats
- Protect the New Orleans Landbridge and the Community of Lake St. Catherine

Proposed Project Features

- 12,716 linear feet of earthen berm
- 192 acres (107 ac west, 85 ac east) of wetlands using dedicated dredge material
- 2 borrow areas

HWY 90, Hurricane Isaac 2012

Photo by Daniel Cima, American Red Cross

QUESTIONS ?

Courtesy of Louisiana Sportsman

R1-PO-05

Fritchie Marsh Creation & Terracing

PPL23 PROJECT NOMINEE FACT SHEET
February 13, 2014

Project Name
Fritchie Marsh Creation

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 325 acres of marsh and 2) nourish 25 acres of existing marsh.

Proposed Solution:
Approximately 2.6 million cubic yards of material would be placed create approximately 325 acres and nourish approximately 25 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 sensitive aquatic habitat and existing shorelines. Retention levees would be gapped to support estuarine fisheries access to achieve tidal marsh functions. Approximately 49,000 feet of earthen terraces would be constructed creating about 35 acres of marsh elevations. Culverts would be installed to improve tidal exchange to marsh located south of Prevost Island. Coordination is continuing with ongoing mitigation planning. That along with potential feedback from CWPPRA stakeholders may prompt a shift in layout of features. Acreage would not be decreased and areas south of Prevost Island may be considered.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   The total project area is 1050 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 331 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.

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.

Identification of Potential Issues
Cooperation from the landowners is anticipated.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is $25.8 million with a fully funded cost estimated in the $30 - $35M range.

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PPL 24: Fritchie Marsh Creation

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NOAA
U.S. DEPARTMENT OF COMMERCE

Legend

- Marsh Creation: Approx 350 Acres
- Terraces: Approx. 700 acres
- Culverts

N
W E
S

0.85 Miles

Science, Service, Stewardship

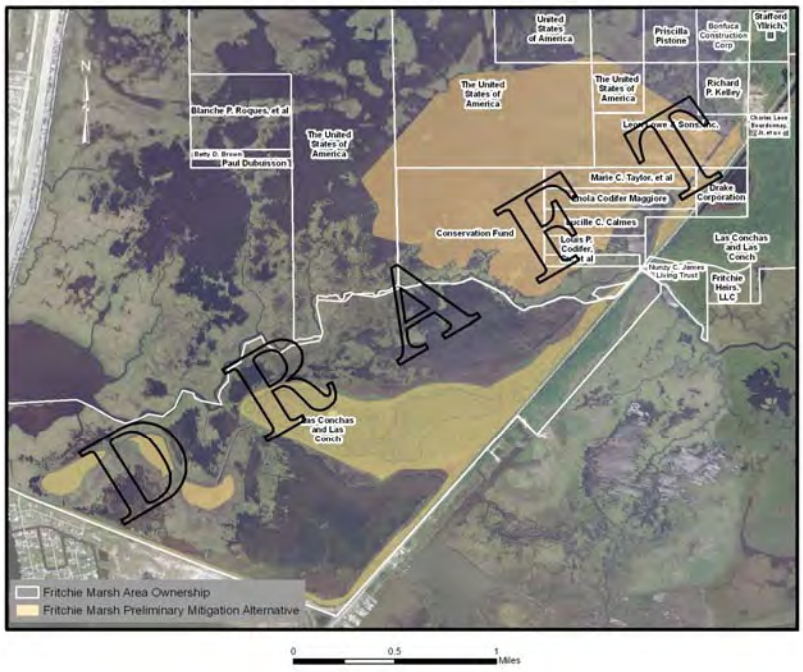
Fritchie Marsh Creation and Terracing

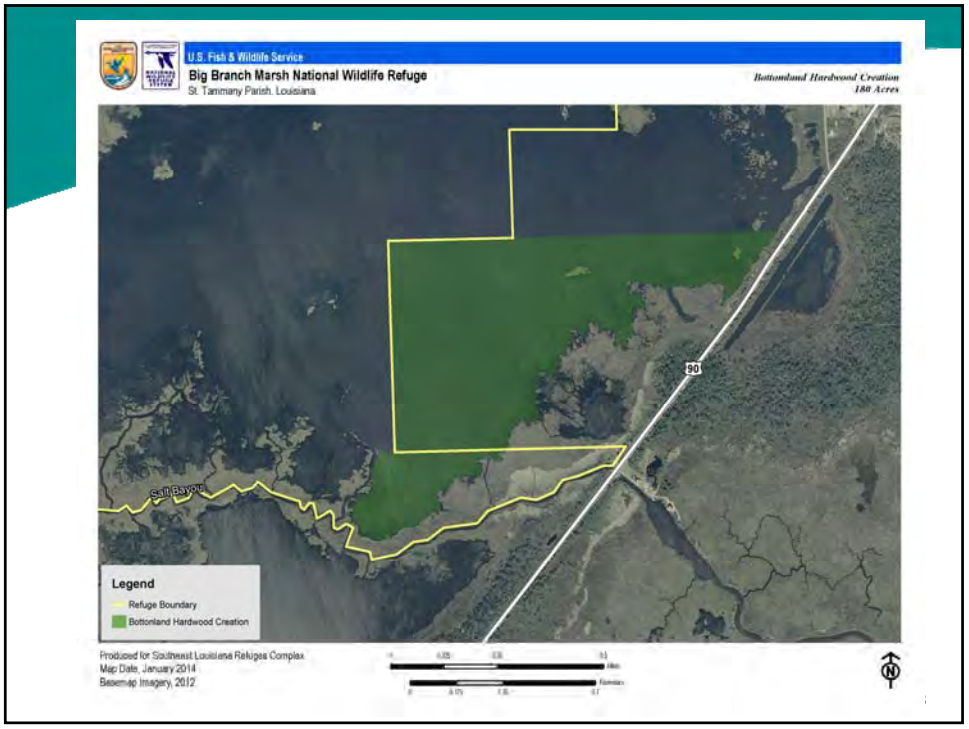
Region I – Pontchartrain Basin

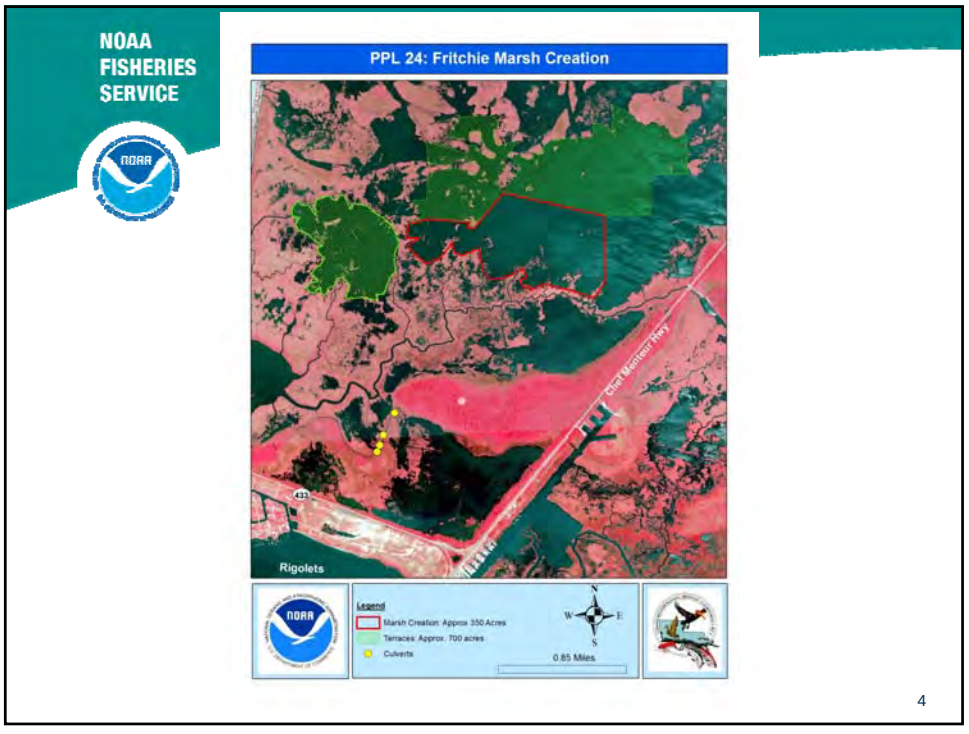
NOAA FISHERIES SERVICE

February 13, 2014

Fritchie Marsh




U.S. Fish & Wildlife Service
Big Branch Marsh National Wildlife Refuge
St. Tammany Parish, Louisiana
Bottomland Hardwood Creation
180 Acres
90
Salt Bayou
Legend
Refuge Boundary
Bottonland Hardwood Creation
Produced for Southeast Louisiana Refuges Complex
Map Date: January 2014
Basemap Imagery, 2012


NOAA
FISHERIES
SERVICE
PPL 24: Fritchie Marsh Creation
Chef Menteur Hwy
433
Rigolets
Legend
Marsh Creation: Approx 350 Acres
Terraces: Approx. 700 acres
Culverts
0.85 Miles
4

NOAA FISHERIES SERVICE

Project Features

- Marsh Creation = 325 acres
- Marsh Nourishment = 25 acres
- Terraces = 35 acres or 49,000 linear feet
- Culverts = 4
- Net = 331 acres
- Construction Cost with 25% contingency = $25.8 million

5

R1-PO-06

Golden Triangle Marsh Creation

R1-P0-06

PPL23 PROJECT NOMINEE FACT SHEET
February 13, 2014

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 $22.1 million with a fully funded cost in the range of $20-$25 million.

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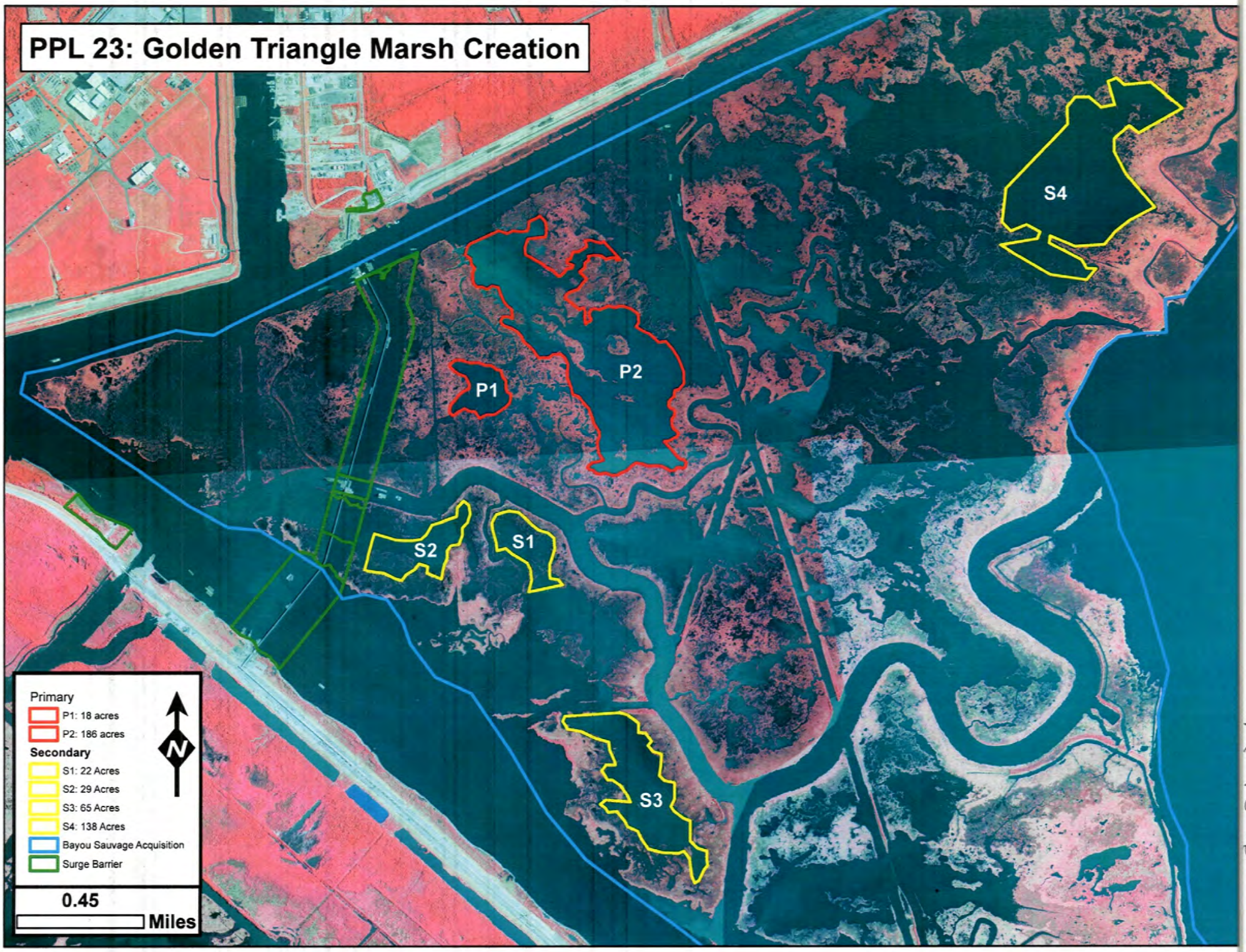
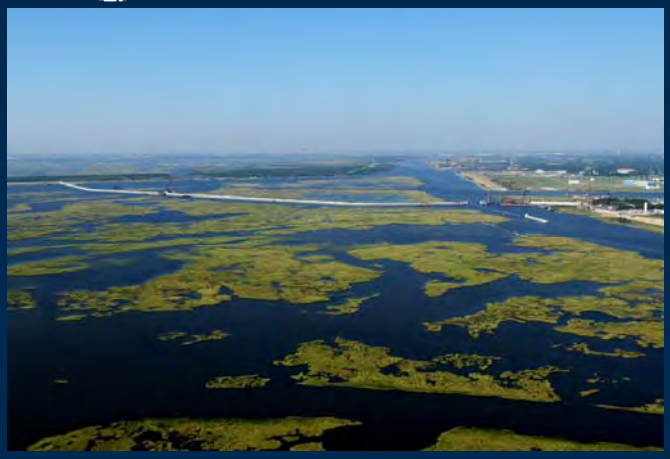

PPL 23: Golden Triangle Marsh Creation
P1
P2
S1
S2
S3
S4
Primary
P1: 18 acres
P2: 186 acres
Secondary
S1: 22 Acres
S2: 29 Acres
S3: 65 Acres
S4: 138 Acres
Bayou Sauvage Acquisition
Surge Barrier
N
0.45
Miles

RI-20-88

Science, Service, Stewardship

Golden Triangle Marsh Creation

Region I – Pontchartrain Basin



NOAA FISHERIES SERVICE

February 13, 2014

NOAA FISHERIES SERVICE

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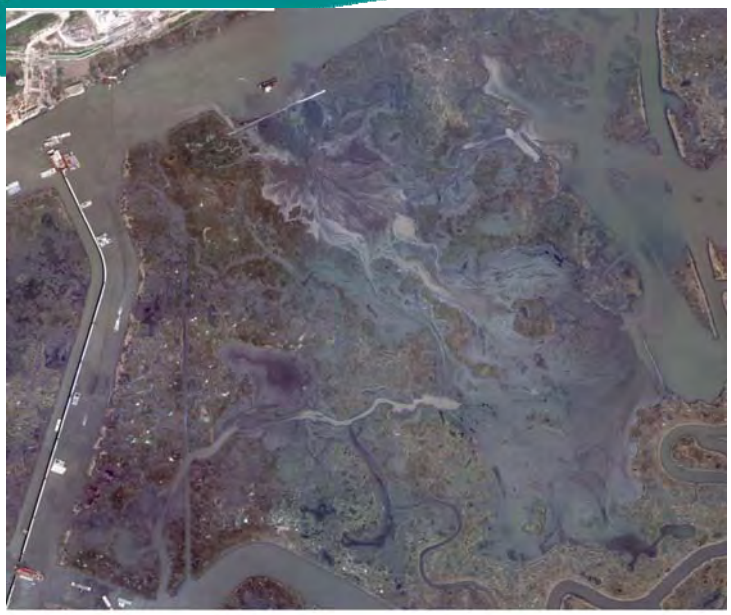
NOAA FISHERIES SERVICE



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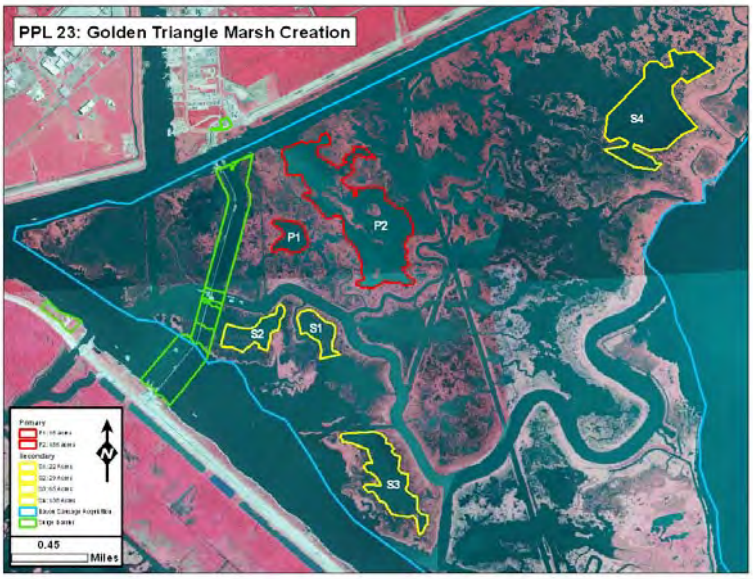

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NOAA FISHERIES SERVICE

Project Features

- Marsh Creation = 440 acres
- Net = 389 acres
- Construction Cost with 25% contingency = $22.1 million

5

R1-PO-07

Shell Beach Marsh Creation

R1 PO-07

PPL24 PROJECT NOMINEE FACT SHEET
February 13, 2014

Project Name
Shell Beach South 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

Problem
The marsh boundary separating Lake Borgne and the MRGO has undergone both interior and shoreline wetland losses due to subsidence, impacts related to construction and use of the MRGO (i.e., deep draft vessel traffic), and wind driven waves. Although much of the project area is protected from edge erosion by shoreline protection measures, interior wetland loss due to subsidence continues to cause marsh fragmentation and pond enlargement. 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 617 acres of marsh by dredging about 3.6 Mcy of sediment from Lake Borgne. Existing high shorelines along Lake Borgne, remnants of previous containment dikes and marsh edge would be used for containment to the extent practical. Constructed containment dikes would be breached/gapped as needed to provide tidal exchange after fill materials settle and consolidate. The project would create 370 acres of marsh and nourish at least 247 acres of existing fragmented marsh. A target fill elevation of +1.5 feet is envisioned to enhance longevity of this land form. Due to the presence of existing banklines, it is envisioned that dredged slurry overflow could potentially be discharged immediately adjacent to the project area polygons which could result in nourishment of additional areas.

Goals
The project would create and nourish 617 acres of emergent brackish marsh to stabilize the landform separating Lake Borgne from the MRGO.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
The total project area is approximately 617 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 334 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 provide benefits to the community of Shell Beach which will be increasingly exposed as loss of the landform continues through subsidence and interior marsh loss. The project would also provide positive impacts to non-critical (i.e., minor oil and gas facilities) infrastructure. Targa and Tennessee Gas both have facilities located in Shell Beach that receive process and distribute natural gas.

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 as well as other authorities.

Identification of Potential Issues
The proposed project has potential Gulf Sturgeon critical habitat issues.

Preliminary Construction Costs
The estimated construction cost (including 25% contingency) is approximately $22M. The fully funded cost range is $25 - $30 M.

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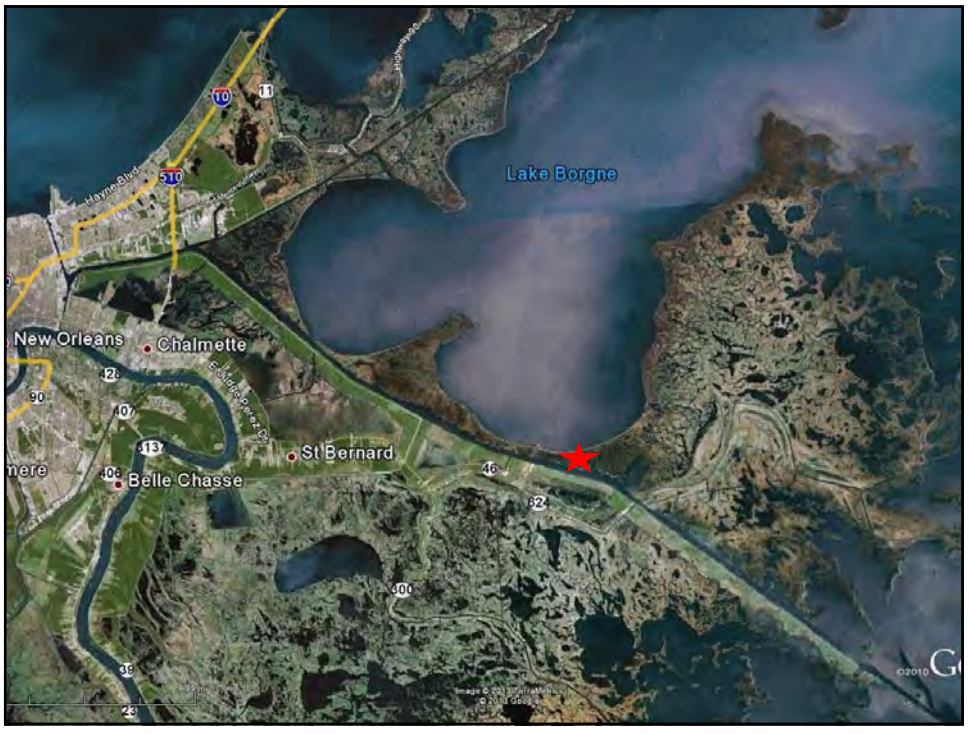
PPL 24 Shell Beach South Marsh Creation
A
B
Shell Beach
MRGO
Hopedale
Marsh Creation
CWPPRA PO-30
Other existing shoreline protection
© 2013 Google
Image NOAA
lat 29.847439° lon -89.650532° elev 0 ft

SHELL BEACH SOUTH MARSH CREATION

PPL 24
Region 1
Pontchartrain Basin



Proposed Project Features:

- Potentially restore 617 acres of marsh (370 created/247 nourished).
- Dredged material would be mined from NEPA cleared borrow sites in Lake Borgne
- Containment and possibly earthen overflow weirs built around Marsh Creation sites
- Estimated construction cost + 25% contingency is around $22 M

Preliminary Project Benefits:

- Create 370 acres of new emergent brackish marsh
- Nourish 247 acres of existing degraded marsh
- Restore marshes and Stabilize the landbridge between Lake Borgne and MRGO, consistent with strategy of SMP 001.MC.07a
- Protect the communities and infrastructure of neighboring Shell Beach, Yscloskey, and Hopedale

QUESTIONS

R1-PO-08

Hog Island Marsh Restoration

R1-PO-08

PPL24 PROJECT NOMINEE FACT SHEET

February 13, 2014

Hog Island Marsh Restoration

Project Location

Region 1, Pontchartrain Basin, St. Tammany Parish, north of The Rigolets, mouth of West Pearl River.

Louisiana Comprehensive Master Plan for a Sustainable Coast Strategy

New Orleans East Landbridge Restoration 001.MC.05

Problem

Wetland areas adjacent to the Rigolets and West Pearl River have suffered significant damage to marsh habitat from storm surge and changes in hydrology. Interior shallow open water areas have developed over time, coalescing with existing ponds and bayous on Hog Island. Natural subsidence has also contributed to the loss of the landscape. The land loss rates for the Hog Island Marsh Restoration project are estimated to be -0.27% per year, with a shoreline erosion rate ranging from 4.5 ft/yr – 8 ft/yr dependent upon location.

Proposed Project Features

Project proposes to dredge material from designated borrow area in Lake Borgne to convert 295 acres of shallow water bottoms into brackish marsh and enhance 800 acres of existing distressed marsh platform on Hog Island. The plan is to hydraulically transport approximately 3.9 M yards of dredged material, to restore and nourish the 1095 acre project area. An estimated 37,000 linear feet of containment dikes will be constructed in order to retain the slurry during construction. Containment features will be gapped to re-establish tidal connectivity as well as facilitate aquatic organism and fisheries access.

Goals

The project goal is to create approximately 295 acres of brackish marsh habitat and nourish the remaining 800 acres of existing degraded marsh within the project footprint.

Preliminary Project Benefits

The project would restore approximately1095 acres of brackish. The project would provide beneficial landscape feature with respect to storm surge impacts.

Preliminary Construction Costs

Estimated construction cost + 25% contingency is $32,000,000.

Preparer of Fact Sheet

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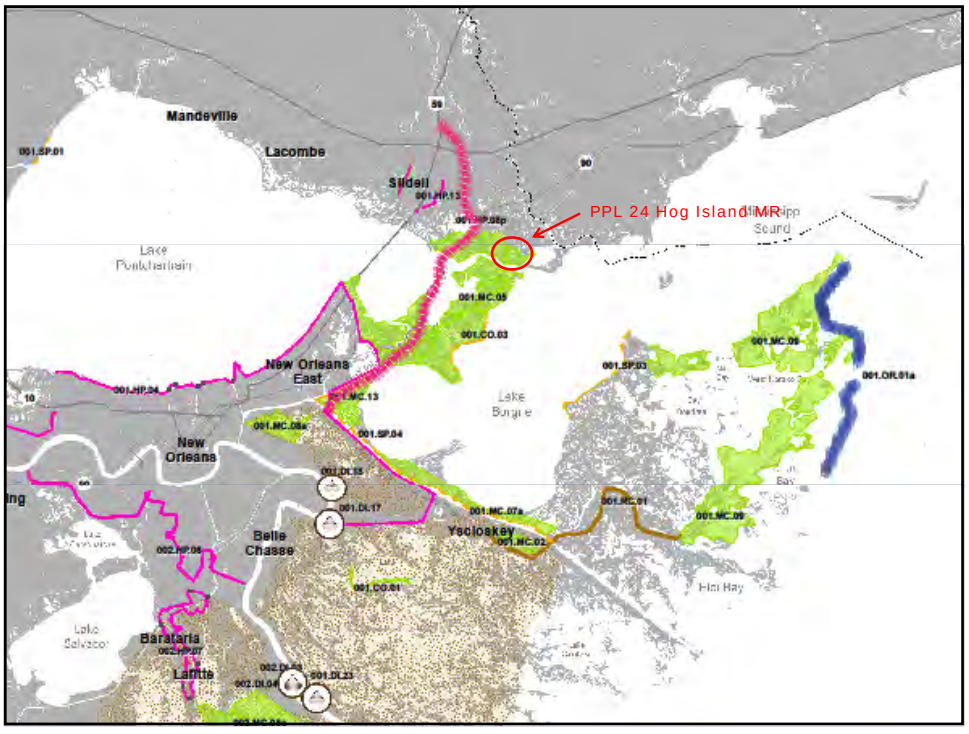
PPL 24 HOG ISLAND MARSH RESTORATION

PPL 24 Hog Island Marsh Restoration

Region 1
Pontchartrain Basin



Proposed Project Features:

- Restore 1095 acres of marsh (295 acres created/ 800 acres nourished)
- Material would be dredged from Lake Borgne borrow site approx 2.8 miles from project area
- Containment built around entire Marsh Creation-Nourishment Area
- TY20 = 311 net acres
- Estimated construction cost +25% contingency ≈ $32M


PPL 24 HOG ISLAND MARSH RESTORATION
Rigolets
Marsh Creation/ Nourishment
Perimeter Containment

R1-PO-09

Bayou La Loutre Ridge

R1-PO-09

PPL24 PROJECT NOMINEE FACT SHEET

February 13, 2014

Bayou La Loutre Ridge Project

Louisiana Comprehensive Master Plan for a Sustainable Coast Strategy
Bayou La Loutre Ridge Restoration Project: 001.RC.01

Project Location
Region 1, Pontchartrain Basin, immediately west of Hopedale, LA in St. Bernard Parish, project extends along the south bank of Bayou La Loutre from the former MRGO channel to the eastern edge of Bakers Canal.

Problem
Ridges are natural levees formed from sediments delivered over the banks of rivers and bayous during floods. These ridges assist in defining a watershed and in maintaining its natural hydrology. Ridges sustain upland shrubs and trees, providing unique habitat for certain plant and animal species. Intact ridges prevent intrusion of saltwater into fresher marsh. Natural factors such as subsidence have contributed to the loss of the ridges. The construction of the MRGO directly affected the Bayou La Loutre Ridge, by cutting the channel through the ridge.

Based on a medium sea level rise scenario (2.2 feet or 0.69 meters) the land loss rates for the Bayou La Loutre Ridge project are -0.50% per year.

Proposed Project Features
Place material beneficially from dredging of the Lower Mississippi River from Mile Points (MP) 83R to 85R to form a ridge on the southbank of Bayou La Loutre in St. Bernard Parish. The plan is to transport approximately 425,000 yards of dredged material, to create approximately 54acres of upland ridge habitat. Most of the vegetated wetlands would be converted to upland ridge habitat with the exception of natural bayous within the project footprint. The ridge would be built to an initial elevation of +8' NAVD 88 with a crown width of 25' side slopes of 1v on 8h. While the base of the width of the ridge would vary, the average width would be approximately 120' assuming the natural ground was +2'. The restored ridge would be planted with natural woody vegetation.

Goals
The project goal is to create approximately 54 acres of ridge habitat via beneficial use of dredged material from the Mississippi River.

Preliminary Project Benefits
The project would restore approximately 54 acres of upland ridge habitat along the remnants of the former Bayou La Loutre ridge. The project would provide unique critical habitat for neotropical migratory bird species and provide some storm protection to the wetlands in the area.

Preliminary Construction Costs
FY2011 fully funded cost was estimated at $24,353,060.

Preparer of Fact Sheet
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Bayou La Loutre Ridge Restoration

PPL 24
Region 1
Pontchartrain Basin


Aerial Photography 2013
© 2013 Google
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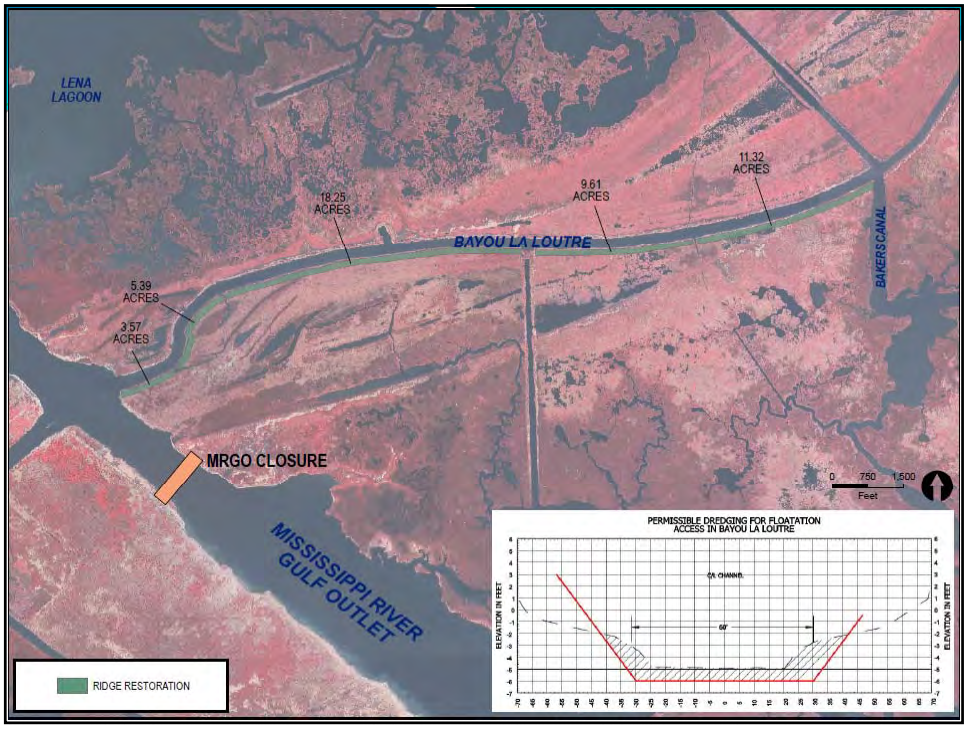
Proposed Project Features:

- Potentially restore 50 acres of ridge habitat.
- Ridge would be planted with native species of woody vegetation
- Dredged material would be mined from a renewable borrow site in Mississippi River from miles 83-84.5.
- Ridge would be constructed to an initial elevation of approximately +8' NAVD88 with a crown width of 25' side slopes of 1v on 8h
- Estimated construction cost + 25% contingency is around $24 M

Preliminary Project Benefits:

- Create 50 acres of ridge restoration habitat
- Provides upland tree and shrub habitat, establishing unique habitat for neotropical migratory bird species
- Provides elevation protection between the Gulf of Mexico and interior marshes
- Forested habitat providing some storm damage risk reduction benefits to the communities of Hopedale, Yscloskey, and Shell Beach


LENA LAGOON
18.25 ACRES
9.61 ACRES
11.32 ACRES
BAYOU LA LOUTRE
BAKERS CANAL
5.39 ACRES
3.57 ACRES
MRGO CLOSURE
MISSISSIPPI RIVER GULF OUTLET
RIDGE RESTORATION
0 750 1,500
Feet
PERMISSIBLE DREDGING FOR FLOATATION ACCESS IN BAYOU LA LOUTRE
CA CHANNEL
60'
ELEVATION IN FEET

QUESTIONS

R1-PO-10

St. Catherine Island Shoreline Protection & Marsh Creation

PPL24 PROJECT NOMINEE FACT SHEET
January 30, 2014

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 12 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 stop shoreline erosion due to wind generated waves along 15,648 linear feet of the Lake Pontchartrain shoreline and create 74 acres of marsh and nourish 22 acres of marsh behind that shoreline protection.

Proposed Solutions:
Extend the Bayou Chevee (PO-22) rock dike along approximately 19,541 LF of weakened Lake Pontchartrain shoreline. This project also would create 74 acres of marsh and nourish 22 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 Savauge National Wildlife Refuge projects.

Preliminary Project Benefits:
1) What is the total acreage benefited both directly and indirectly? Approximately 204 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 153 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 50-74%.

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

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 $20 M.

Preparer(s) of Fact Sheet:
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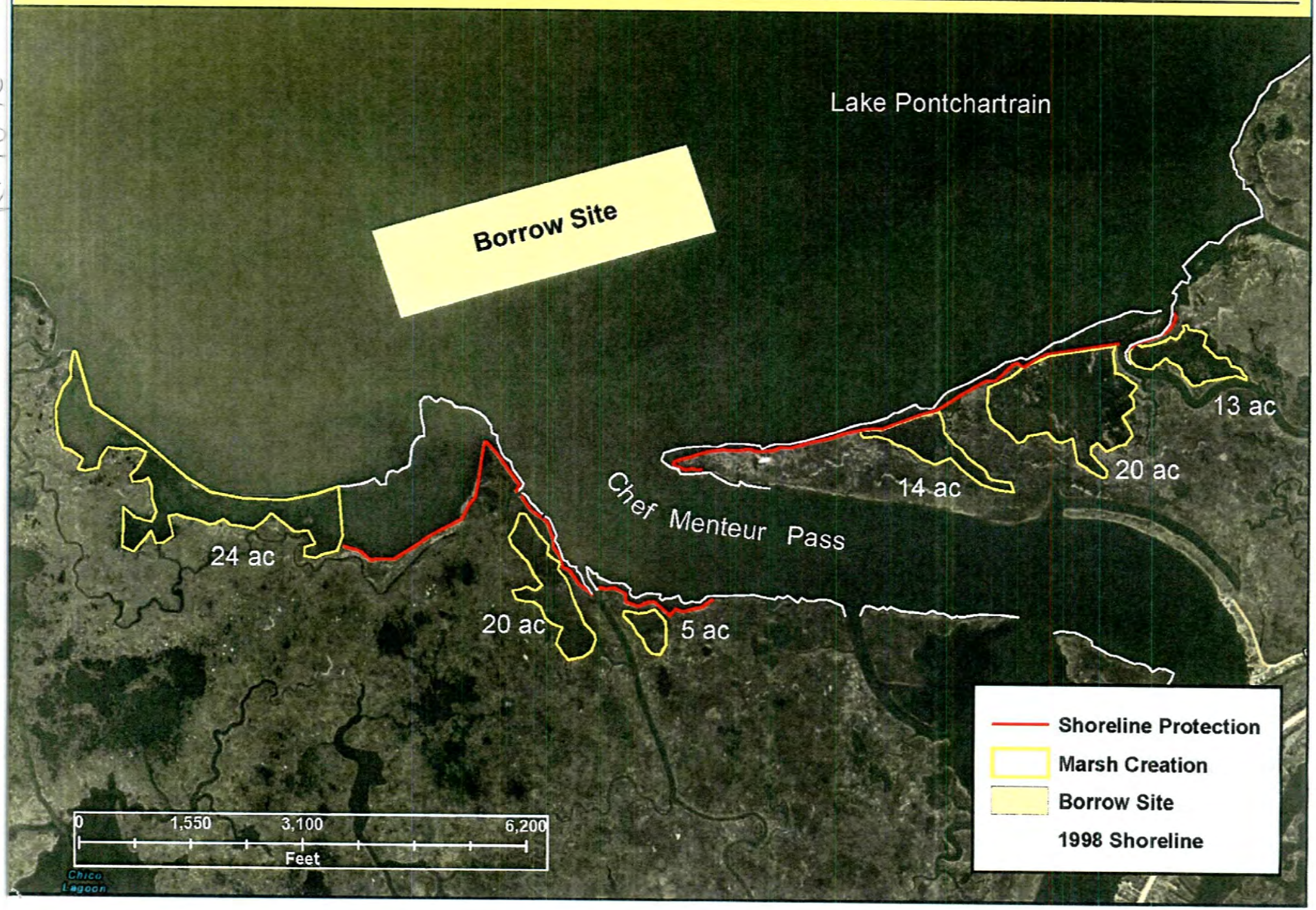
U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

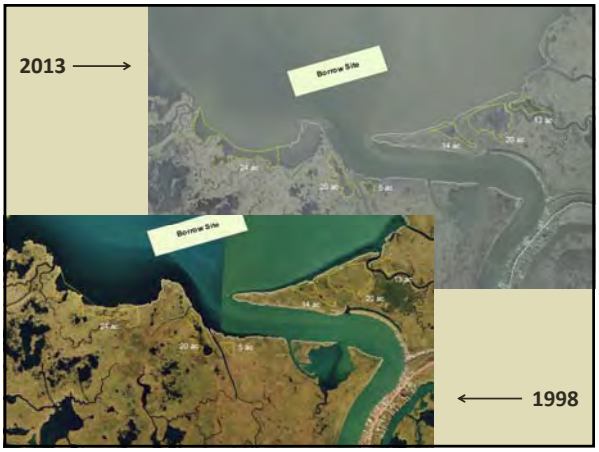
St. Catherine Island Shoreline Protection and Marsh Creation



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 12 ft./yr. average erosion rate
- 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



St Catherine Island Shoreline Protection and Marsh Creation

Goals:

- Protect 15,648 linear feet of the Lake Pontchartrain shoreline
- Create 74 acres of marsh and nourish 22 acres of broken marsh behind that shoreline protection with a small hydraulic dredge.

Net Acres:

- Total net acres protected/created is approximately 153 acres.

Identification of Potential Issues:

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

Preliminary Construction Costs:

- The estimated construction cost plus 25% contingency $20 M.