

## **REGION 1**



# Coastal Wetlands Planning Protection & Restoration Act

## 26<sup>th</sup> Priority Project List



### Region 1 Regional Planning Team Meeting

January 28, 2016  
Lacombe, LA

## CWPPRA

### 1. Welcome and Introductions



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



## CWPPRA

## Announcements

- Copies of the PPL 26 Selection Process & Schedule available at the sign-in table.
- PPL 26 RPT meetings to accept project nominees:
  - Region IV, Estuarine Fisheries & Habitat Center, Jan. 26, 2016, 11:00 am
  - Region III, Terrebonne Parish North Branch Library, Jan. 27, 2016, 10:00 am
  - **Region I, USFWS SE LA Refuges Complex (Big Branch), Jan. 28, 2016, 8:00 am**
  - Region II, USFWS SE LA Refuges Complex, Jan. 28, 2016, 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.



## CWPPRA

## 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**





## CWPPRA

## 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
- 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.



## CWPPRA

## RPT Meetings

- Presenters without factsheets **MUST** complete a PPL 26 Nomination Sign-Up Sheet for each project nominee (demo projects too).
- Presenters with factsheets, please give a factsheet each to Kaitlyn, Michelle & Kylie or Anne 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 17, 2016.
- Limit comments/questions during meeting to PPL 26 subject proposals and processes.





## CWPPRA

## 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 23, 2016.
- The Technical Committee may or may not select a coastwide project in April 2016.



## CWPPRA

## 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. 23 Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2016.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be **re-nominated** for PPL 26.





## Coastwide Electronic Vote (Feb 23) 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

## CWPPRA

### 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 2/17/2016.





## CWPPRA

## 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 must email their voting sheets to [kaitlyn.m.carriere@usace.army.mil](mailto:kaitlyn.m.carriere@usace.army.mil)

**All votes must be received by 10:30 am on February 23, 2016.**



## CWPPRA

## 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 26 criteria.





## CWPPRA

## PPL 26 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 5, 2016 at 9:30 am, US Army Corps of Engineers, 7400 Leake Avenue, New Orleans, LA.
- 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 March 22, 2016.
- Public comments also accepted orally during meeting.



## CWPPRA

## PPL 26 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. 7, 2016, Baton Rouge, 9:30 am
- Task Force final decision to select PPL 26 in January 2017.





## CWPPRA

## PPL 26 Timeline

- **Coastwide Electronic Vote, Feb. 23, 2016**
  - 21 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- **Technical Committee Mtg, Apr. 5, 2016, New Orleans**
  - Selection of 10 candidates and up to 3 demos
- **Technical Committee Mtg, Dec. 7, 2016, Baton Rouge**
  - Recommend up to 4 projects for Phase 1 funding
- **Task Force Mtg, Jan. 2017, New Orleans**
  - Final Selection of projects for Phase 1 funding



## CWPPRA

## Written Comments

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 17, 2016**

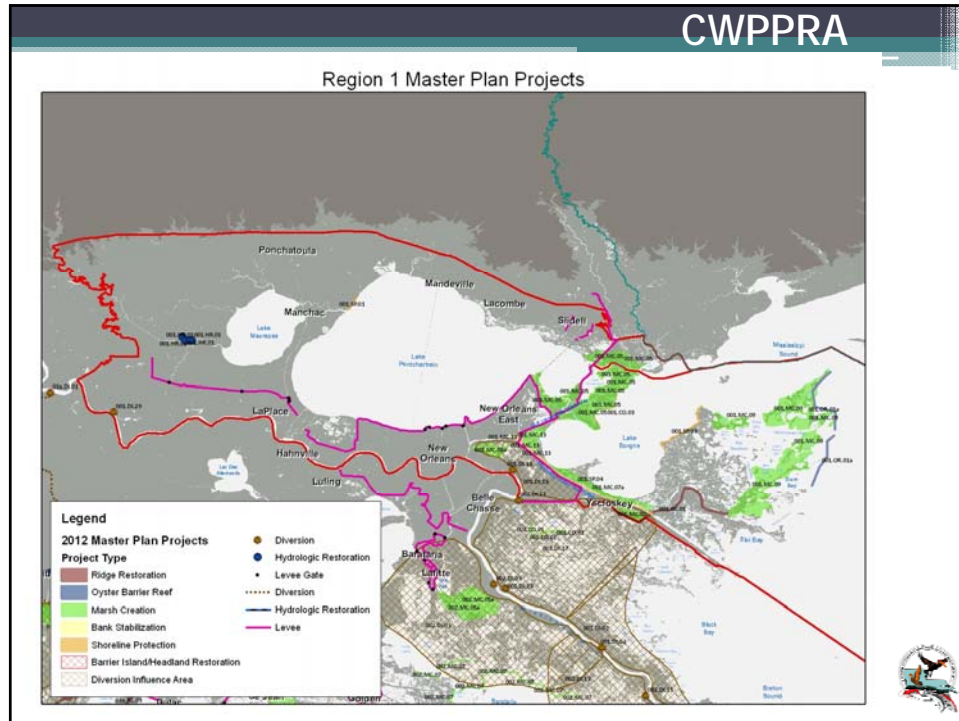
**Brad Inman**  
**CWPPRA Program Manager**  
**U.S. Army Corps of Engineers**  
**P.O. Box 60267**  
**New Orleans, Louisiana 70160**

Email: [Brad.L.Inman@usace.army.mil](mailto: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   | SPONSORING ORGANIZATION                                      | LOCATION   |
|--|--|--|
| January 28, 2016<br>8:00 A.M.                      | COASTAL WETLANDS PLANNING, PROTECTION<br>AND RESTORATION ACT | USFWS SE LA Refuges<br>Complex<br>61389 Hwy 434<br>Lacombe, LA 70445 |
| PURPOSE  |  |  |
| MEETING OF THE REGIONAL PLANNING TEAM REGION I & 2 |  |  |
| PARTICIPANT REGISTER                               |  |  |
| NAME   | JOB TITLE AND ORGANIZATION                                   | PHONE NUMBER   |
| Brad Crawford                                      | US EPA   | 214 665 7255   |
| Deane Watson                                       | EPA  | 665 6653   |
| KAREN McCLINTOCK                                   | EPA  | 214-665-8365   |
| Scott Rousseau                                     | PPG  | 504-234-0074   |
| BRANGAR DRAPER                                     | FORT PIKE VFD  | 504 450 4855   |
| Rob Delaune  | Digital Engineering  | 504-468-6129   |
| Don Lynch  | Lake Fort Johnson Basin Manager & Director                   | 855-845-9200   |
| Sharon Osowski                                     | EPA  | 214-665-7506   |
| David Brunet                                       | St. Tammany Parish   | 985-898-2552   |
| Janet Rhodus                                       | hauenhoeuille, Non profit volunteer                          | 225 413-4414   |
| ALVIN James  | CISDA-NRCS   |  |
| Kent Bollfrass                                     | CPRA   | 225-342-4733   |
| Donna Rogers                                       | NOAA   | 225-316-8958   |
| Jasan Kroll  | NOAA   | 225 757 5411   |
| Cody Colvin  | NRCS   | 225-278-2732   |
| Carol Giardina                                     | LCCA   | 504 331 5326   |
| Mike Lockwood                                      | TeLA, Parish Env. Affairs                                    | (504) 736-6440   |
| Kim Clements                                       | NOAA   | 225 389 0508   |
| JOHN PETITAZON                                     | USACE  | 504 8627 732   |
| Tanya Chertwood                                    | NOAA   | 225-389-0508   |
| DAWN DAVIS   | NOAA   | 225 389 0508   |
| Patrick Williams                                   | NOAA   | 225-389-0508   |





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| NAME   | JOB TITLE AND ORGANIZATION                                   | PHONE NUMBER   |
| BARRY HERBERT                                      | BIOLOGIST - LDWF   | 225. 765 0273  |
| Quin Kink  | NRCS   |  |
| Robert Browne                                      | homeowner  | 985 643 4565   |
| Will McCartney                                     | St. Bernard Govt   | 504 442-2426   |
| JOHN Lane  | St. Bernard Govt   | 504 579 2173   |
| Gary Stoffer                                       | Southeastern   | 985-542-1632   |
| John Boatman                                       | NRCS   | 985-331-9084   |
| Kurt Hutchinson                                    | STLDGD   | 985-285-5825   |
| SKYE DUNANT  | Biloxi marsh land corp                                       | 504-837-4337   |
| Stephen Champagne                                  | LPTBMM Project   | 985 246 1593   |
| Billy Enote  | LDHIE  | 504-286-9175   |
| Kim Goljow   | PPI  | 337-654-5430   |
| Heaven Haller                                      | Pizza. Madison Land Co                                       | 228 324-4490   |
| Randy Moertle                                      | Cloutier / Point Au Fer                                      | (985) 956-3630   |
| Charles Sasser                                     | LSU  | 225 578 6375   |
| Jerry Graves                                       | St. Bernard Parish   |  |
| Blaise Pezold                                      | LDAF - Coastal Re-veg program                                | 504-264-8125   |
| Ashton Strickland                                  | LT-SWCD - Coastal Re-veg program                             |  |
| Ron Bowtang  | NRCS   | 337 291-3067   |
| Armande Vasin                                      | Lafourche Parish Govt  | 985 493 6616   |
| Tyler Thigpen                                      | Ecologist - Homeowners                                       | 337 591 6110   |
|  |  |  |



## **Region 1 – PONTCHARTRAIN BASIN**

| <b>Project Number</b> | <b>Project Proposals</b>   |
|-----------------------|--|
| R1-PO-01              | Isle au Pitre Oyster Reef and Marsh Creation: Option A                 |
| R1-PO-02              | Biloxi Marsh Oyster Reef and Marsh Creation: Option A                  |
| R1-PO-03              | Bayou Bienvenue Marsh Creation Increment 1                             |
| R1-PO-04              | Christmas Camp Marsh Creation: Increment 1                             |
| R1-PO-05              | Hopedale Marsh Creation: Increment 1                                   |
| R1-PO-06              | Bayou La Loutre Ridge and Marsh Restoration                            |
| R1-PO-07              | Tchefuncte River Lighthouse Habitat Restoration & Shoreline Protection |
| R1-PO-08              | Point aux Marchettes Shoreline Protection                              |
| R1-PO-09              | St. Catherine Island Marsh Creation & Shoreline Protection             |
| R1-PO-10              | North Shell Beach Marsh Creation                                       |



**R1-PO-01**

**Isle au Pitre Oyster Reef and Marsh Creation: Option A**



## PPL26 PROJECT FACT SHEET

January 28, 2016

### Project Name

Isle au Pitre Oyster Reef and Marsh Creation: Option A

### State Master Plan Strategy

Isle au Pitre Oyster Barrier Reef Component A 001.OR.01a. 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. Isle au Pitre Marsh Creation 001.MC.09. 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.

### 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 total project (Option A & B) 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 – Option A

- 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.

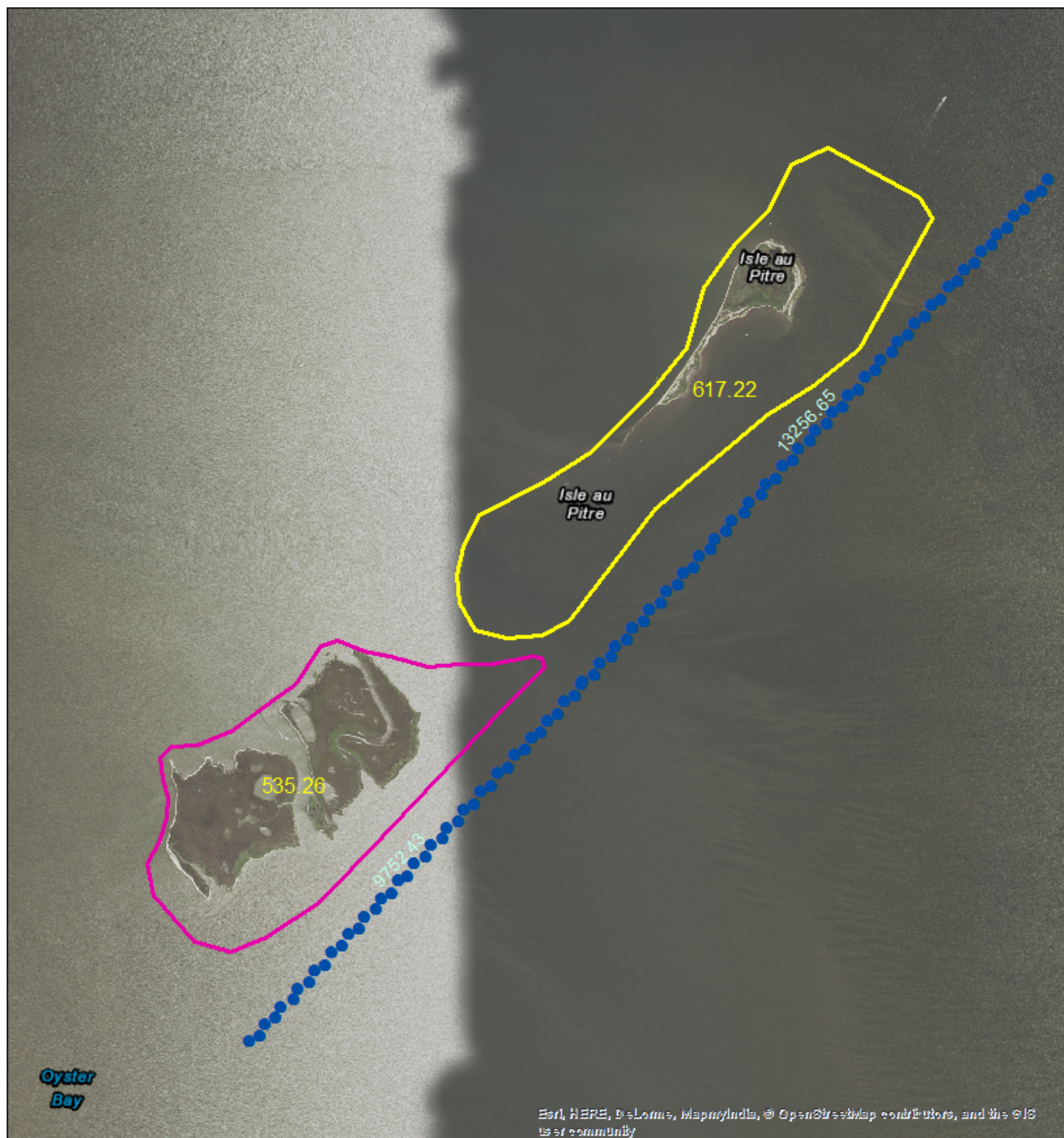
### Project Costs

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

### Preparer(s) of Fact Sheet

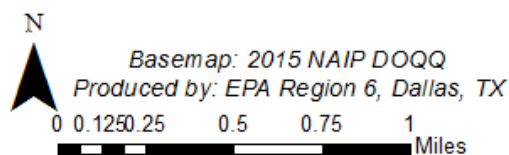
Adrian Chavarria, EPA; (214) 665-3103; chavarria.adrian@epa.gov





## Isle au Pitre Marsh Creation and Oyster Reef (PPL26)

- Option A
- Option B
- Oyster Reef





## Isle au Pitre Oyster Reef and Marsh Creation: Option A

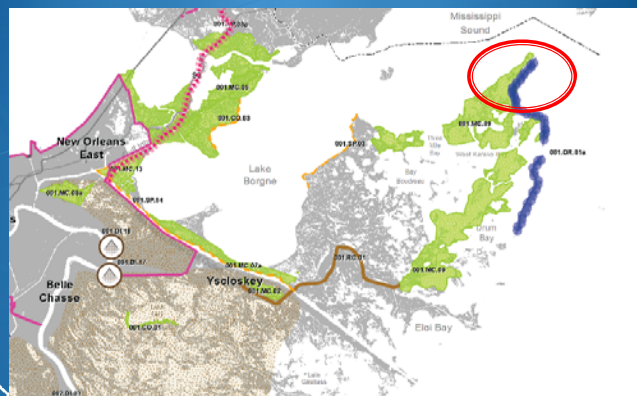


Coastal Wetlands Planning, Protection and Restoration Act

## Master Plan Solution

**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.





## Master Plan Consistency

001.OR.01a Biloxi Marsh Oyster Reef

001.MC.09 Biloxi Marsh Creation

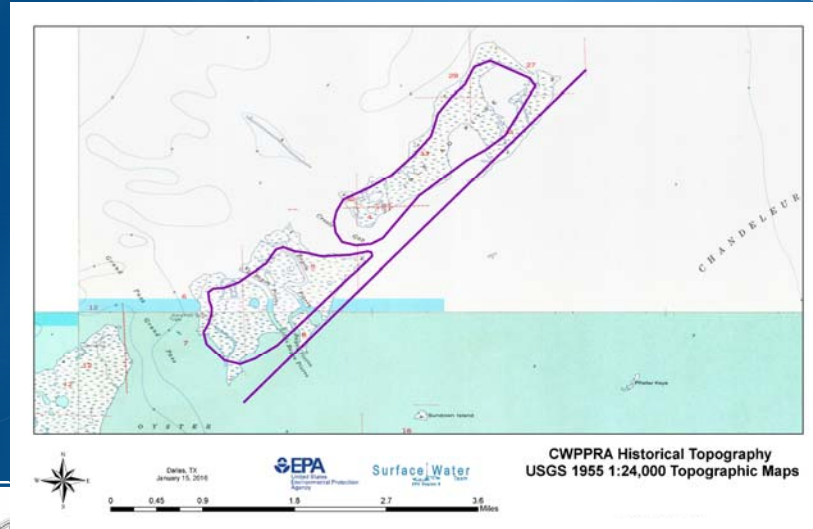


## Problem

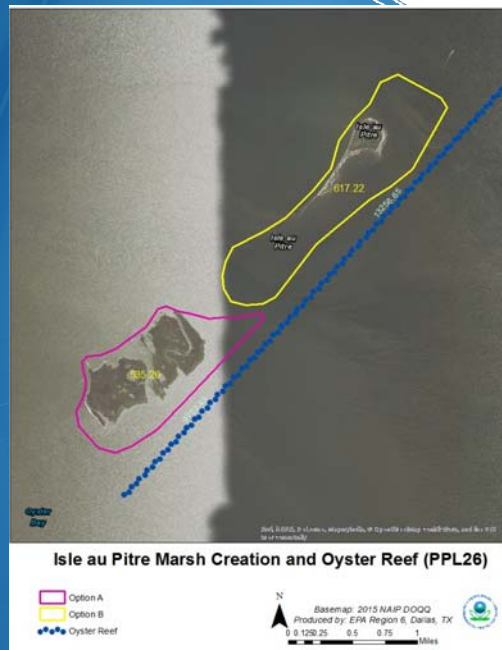
- Marshes along Chandeleur Sound disconnected from Mississippi River and sediment supply
- Loss of marshes attributed to:
  - Lack of deltaic sediment
  - High wave energy
  - Shoreline erosion
  - Subsidence
  - Sea level rise
  - Hurricanes and tropical storms from 2002 through 2005



## Historical Reference



## Project Features





## Project Goals – Option A



- Create 9,500 linear feet of oyster reef
- Create/nourish 535 acres of emergent marsh habitat
- Enhance the hurricane buffer for populated areas
- Estimated Cost with 25% contingency is \$25M



*Questions?*

EPA Region 6



**R1-PO-02**

**Biloxi Marsh Oyster Reef and Marsh Creation: Option A**



## PPL26 PROJECT FACT SHEET

January 28, 2016

### Project Name

Biloxi Marsh Oyster Reef and Marsh Creation: Option A

### Master Plan Strategy

Biloxi Marsh Oyster Barrier Reef Component A 001.OR.01a. 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. Biloxi Marsh Creation 001.MC.09. 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.

### 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 total project (Option A and B) would place approximately 10 miles of oyster reef substrate and would create and/or nourish approximately 550 acres of emergent marsh with hydraulically pumped dredged material from a borrow area in Chandeleur Sound in 2 or more increments. 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 – Option A

- Create/nourish 263 acres of emergent marsh and place approximately 14,800 LF of oyster reef substrate adjacent to the created marsh.
- 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.

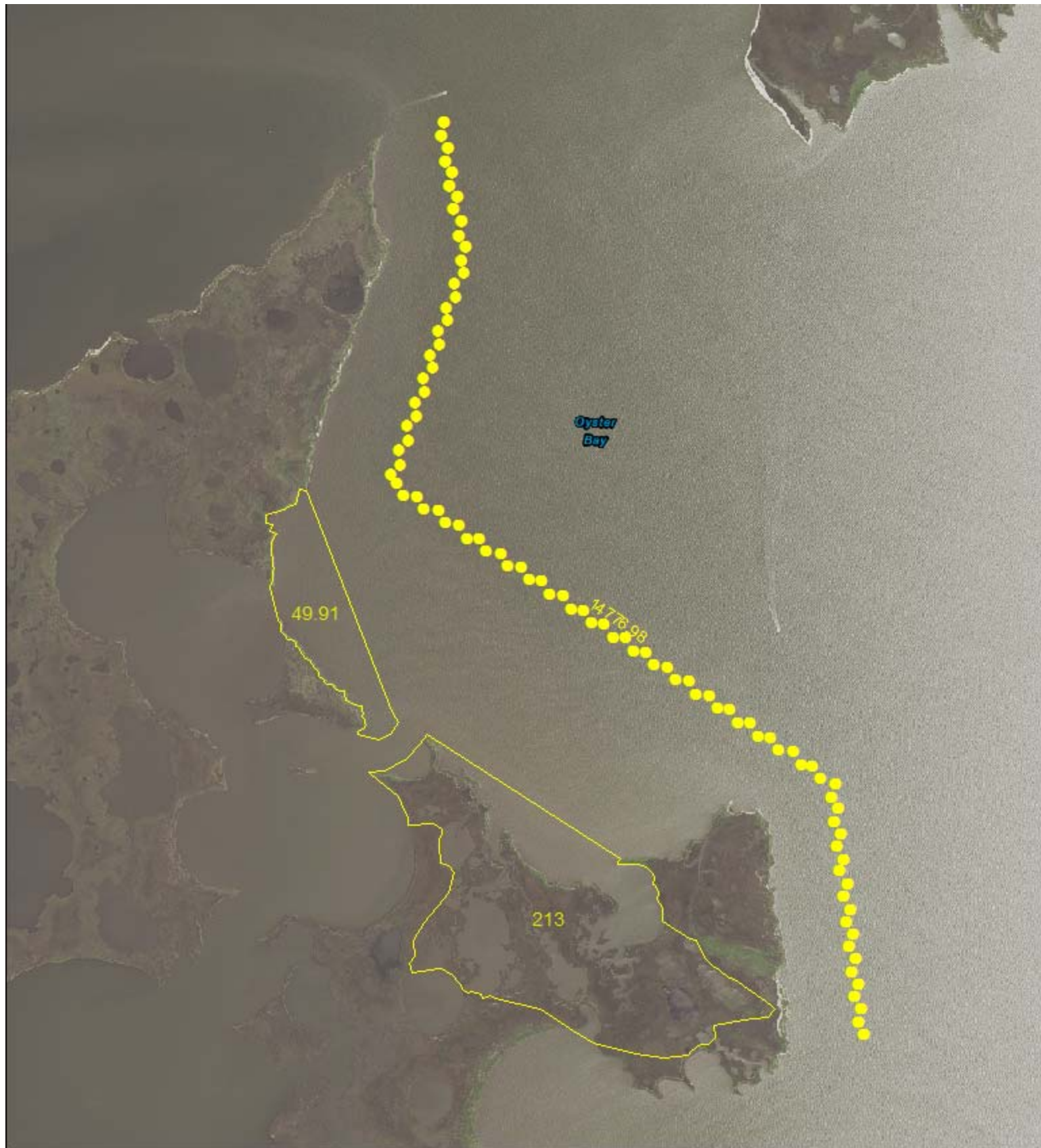
### Project Costs

The preliminary project cost estimate for Option A with 25% contingency is \$21 million. The fully funded range is \$25M - \$30M.

### Preparer(s) of Fact Sheet:

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





## Biloxi Marsh Oyster Reef and Marsh Creation (PPL 26)

- Proposed Reef-Option A
- Proposed Marsh-Option A



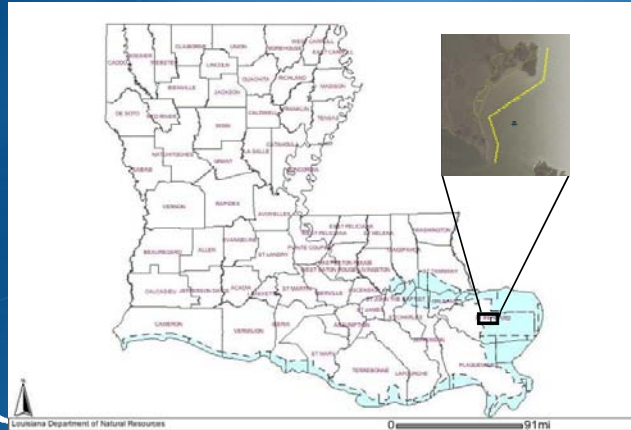
Basemap: 2015 NAIP DOQQ - St. Bernard Parish  
Produced by: EPA Region 6, Dallas, TX

0 0.15 0.3 0.6 0.9 Miles





# Biloxi Marsh Oyster Reef and Marsh Creation: Option A

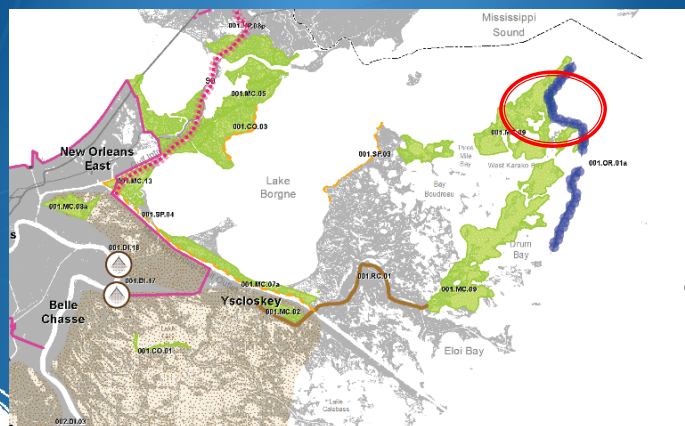


Coastal Wetlands Planning, Protection and Restoration Act

## Master Plan Solution

**001.OR.01a Biloxi Marsh Oyster Reef:** Creation of approximately 113,000 linear 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.

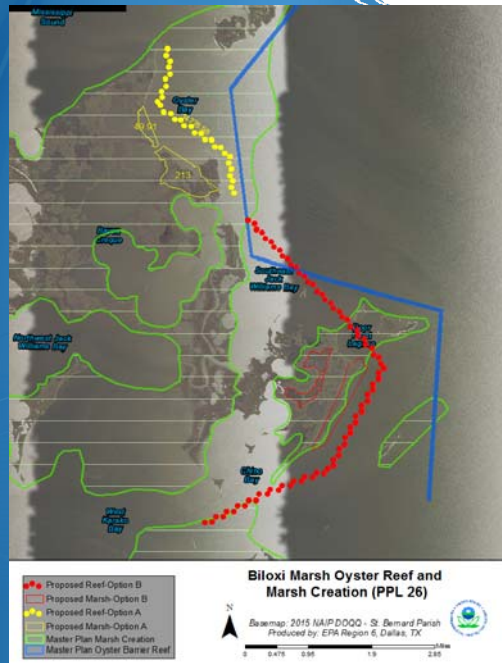




## Master Plan Consistency

001.MC.09 Biloxi Marsh Creation

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

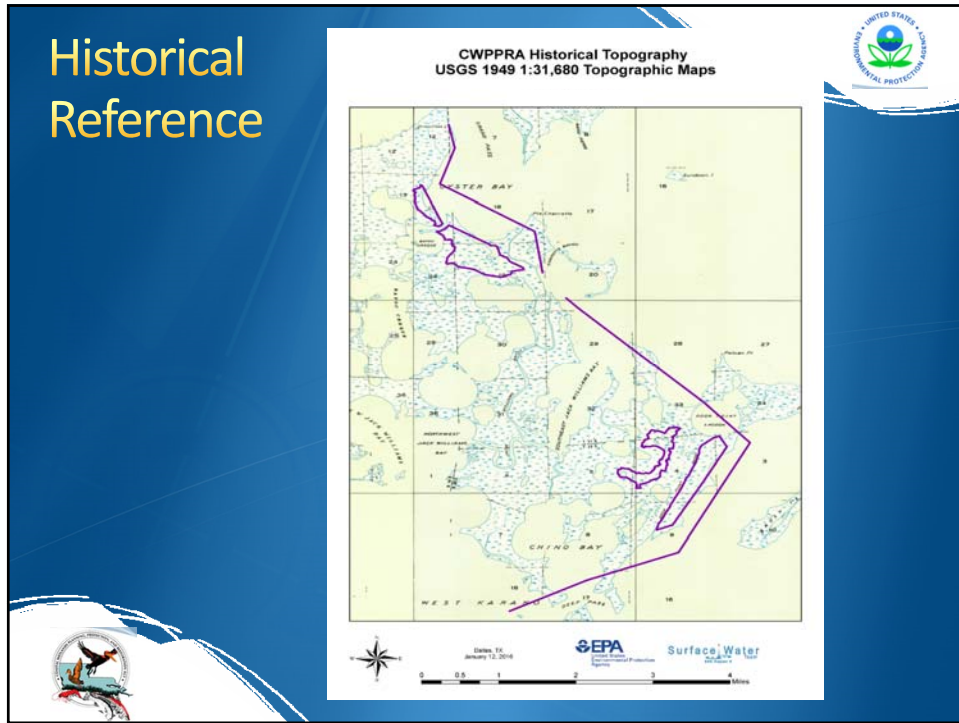


## Problem

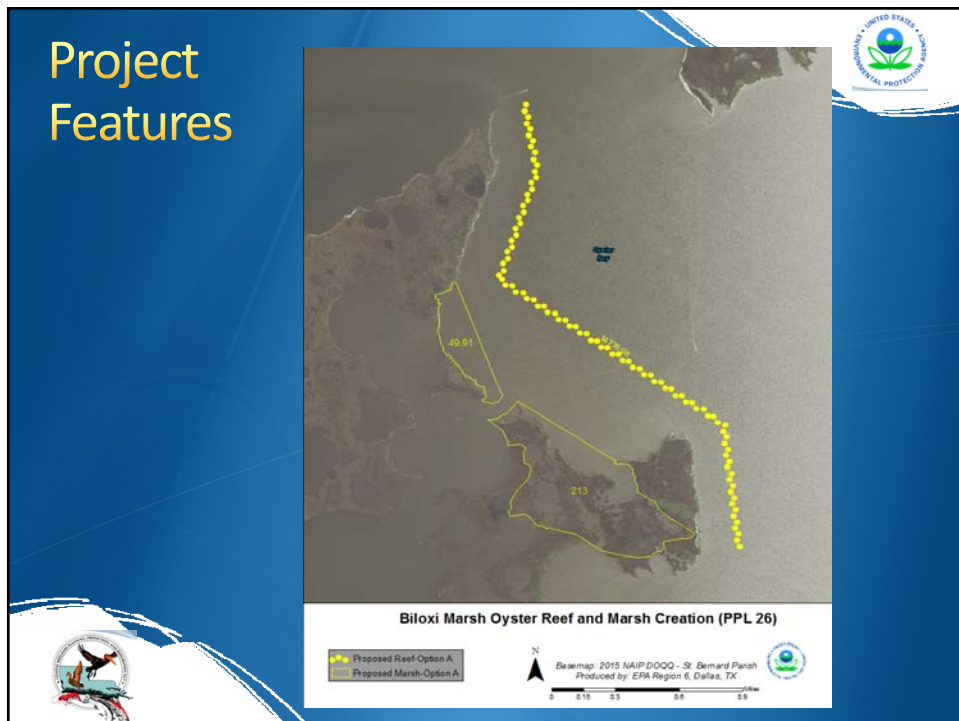
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- Loss of marshes attributed to:
  - Lack of deltaic sediment
  - High wave energy
  - Shoreline erosion
  - Subsidence
  - Sea level rise
  - Hurricanes and tropical storms from 2002 through 2005



## Historical Reference



## Project Features





## Project Goals – Option A



- Create 14,800 linear feet of oyster reef
- Create/nourish 263 acres of emergent marsh habitat
- Enhance the hurricane buffer for populated areas
- Estimated Cost with 25% contingency is \$21 million



*Questions?*

EPA Region 6



**R1-PO-03**

**Bayou Bienvenue Marsh Creation Increment 1**



**PPL26 PROJECT FACT SHEET****January 28, 2016****Project Name**

Bayou Bienvenue Marsh Creation Increment 1

**Master Plan Strategy**

Central Wetlands Marsh Creation-Component A 001.MC.08a. Creation of approximately 2,010 acres of marsh in Central Wetlands near Bayou Bienvenue, 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 9<sup>th</sup> 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) restoration the historic bankline along Bayou Bienvenue, and 3) planning for the next phase(s) of marsh creation. 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 coalition, [restorethebayou.org](http://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**

- Approximately 276 acres of habitat will be protected/created over the project life and would help protect and restore a portion of the Bayou Bienvenue Marsh and restore the historic ridge along Bayou Bienvenue.
- Works synergistically with the approved CIAP Central Wetlands Assimilation Project.

**Project Costs**

MS River Option: The estimated construction cost including 25% contingency is \$26M. The fully-funded cost range is \$30-\$35 million.

**Preparers of Fact Sheet**

Sharon Osowski, Ph.D., EPA; (214) 665-7506, [osowski.sharon@epa.gov](mailto:osowski.sharon@epa.gov)

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





### Bayou Bienvenue Marsh Creation (PPL26)



Basemap: 2015 NAIP DOQQ  
Produced by: EPA Region 6, Dallas, TX

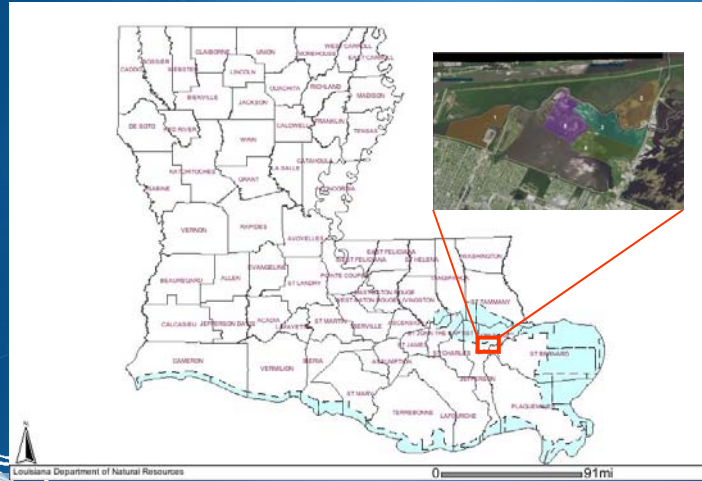
0 0.2 0.4 0.8 1.2 Miles





# Bayou Bienvenue Marsh Creation

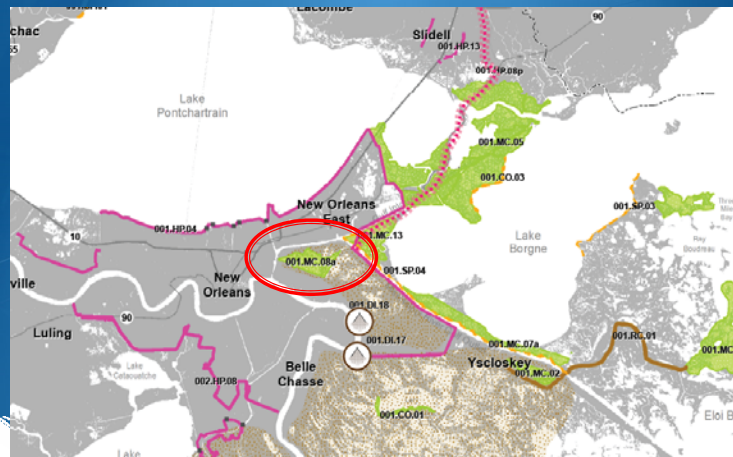
## Increment #1



## Coastal Wetlands Planning, Protection and Restoration Act

# Master Plan Solution

**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.





# Master Plan Consistency

001.MC.08a: Central Wetlands Marsh Creation-Component A



## 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



## Historical Reference



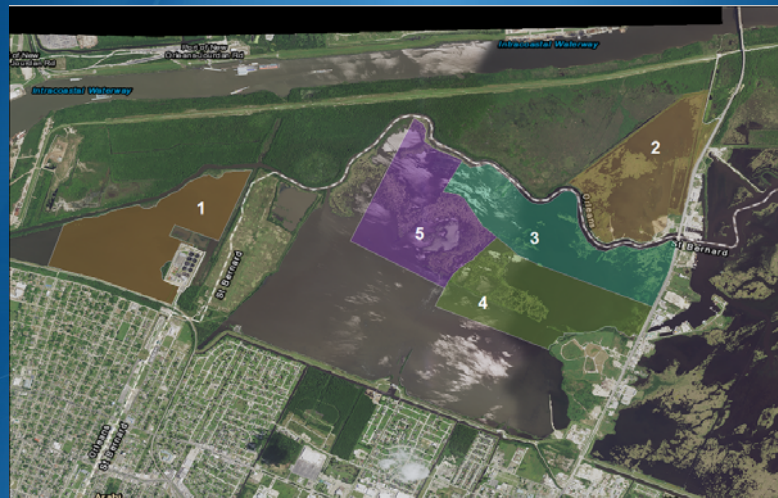
Dallas, TX  
January 12, 2016

EPA  
Surface Water

CWPPRA Historical Topography  
USGS 1939 1:31,680 Topographic Maps



## Project Features



Bayou Bienvenue Marsh Creation (PPL26)

N  
Base map: 2015 NAIP DOQQ  
Produced by: EPA Region 8, Dallas, TX





## Project Goals



- Create/nourish 350 ac of intermediate marsh
- Preliminary Project Benefits:
  - 276 net ac over 20 years
- Several alternatives available
  - Final alignment will depend on borrow site and local preference
  - Transport of clean sediment from Mississippi River
  - Preliminary Construction Costs +25% = \$26 million
  - Fully funded range is \$30M-\$35M.



*Questions?*

EPA Region 6



**R1-PO-04**

**Christmas Camp Marsh Creation: Increment 1**



**PPL26 PROJECT FACT SHEET**  
**January 28, 2016**

**Project Name**

Christmas Camp Marsh Creation: Increment 1

**Master Plan Strategy**

Biloxi Marsh Creation 001.MC.09. 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.

**Project Location**

Region 1, Pontchartrain Basin, St. Bernard Parish, located between Lake Borgne and Chandeleur Sound, East of the Biloxi State Wildlife Management Area. Lies within Project 001.MC.09 of the State Master Plan.

**Problem**

The landform separating Chandeleur Sound and Lake Borgne has undergone both interior and shoreline wetland losses due to subsidence, storm events, and wave fetch. Construction of the MRGO, which breaches the natural barrier of the Bayou La Loutre ridge and the Borgne land bridge, allowed saline waters to push farther into the basin. The heightened salinity, caused mainly by subsidence, stresses wetlands, especially fresh marsh and swamp. Interior wetland loss continues to cause marsh fragmentation and open water conversion. If nothing is done, and marsh loss continues at the pace set from 1974-1990, another 62,400 acres, or 23 percent of the basin's existing marshes, would be lost by the year 2040.

**Goals**

The first increment of the larger Biloxi Marsh Creation target area. The project would create and nourish 400-600 acres of emergent brackish marsh to continue the ongoing efforts to stabilize the landform separating Lake Borgne from the MRGO.

**Proposed Solution**

The proposed project will create and nourish 400-600 acres of marsh by dredging sediment from designated borrow sources in Lake Borgne or Chandeleur Sound to a target fill elevation of +1.5 feet. Containment features would be degraded or gapped as needed to promote tidal exchange after consolidation of the fill material. 50% of the newly created area will include vegetative plantings. The design would include consideration for future increments and/or a larger restoration effort should additional funding become available.

**Preliminary Cost**

The estimated cost plus 25% is \$25 million. The fully funded range is \$30M - \$35M.

**Preparer(s) of Fact Sheet:**

Sharon Osowski, Ph.D., EPA; (214) 665-7506; osowski.sharon@epa.gov

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





## Christmas Camp Lake Marsh Creation (PPL26) Increment A



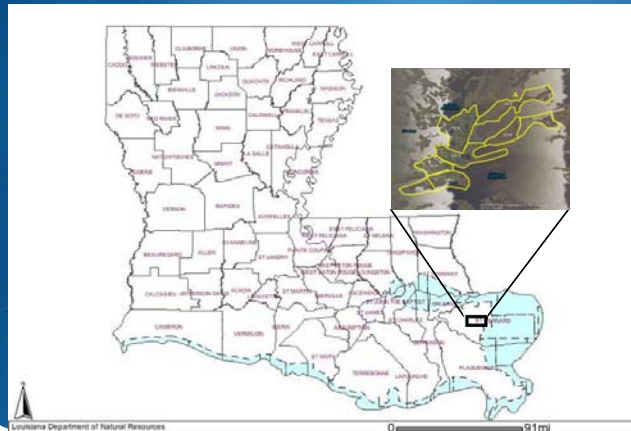
Basemap: 2015 NAIP DOQQ  
Produced by: EPA Region 6, Dallas, TX



0 0.25 0.5 1 1.5 2 Miles



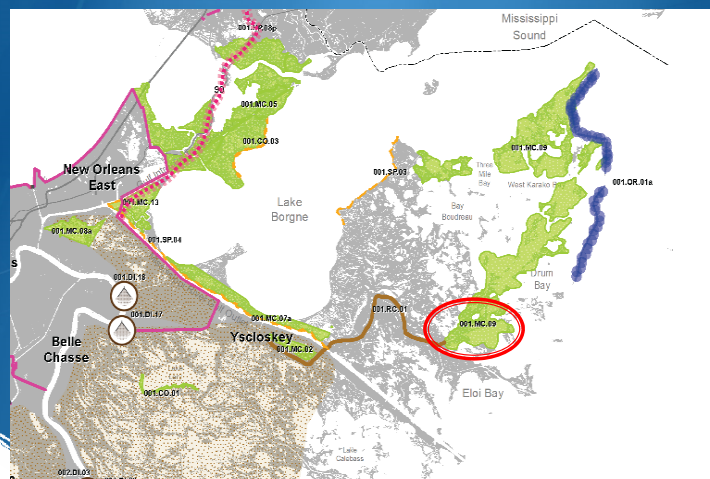
# Christmas Camp Lake Marsh Creation



## Coastal Wetlands Planning, Protection and Restoration Act

# Master Plan Solution

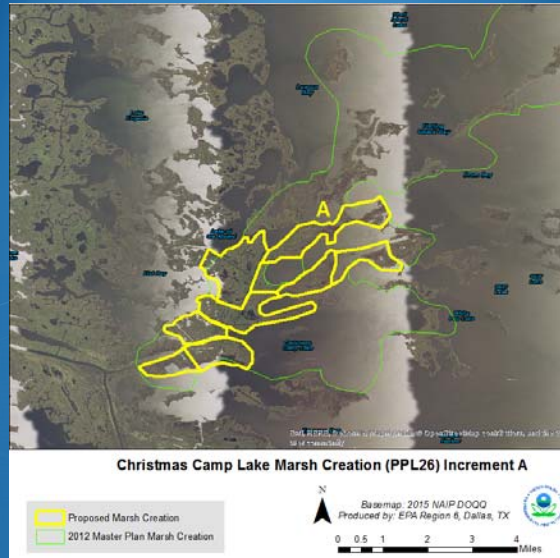
**001.MC.09 Biloxi Marsh Creation:** Creation of approximately 33,280 acres in the western portion of marsh in Biloxi Marsh from Oyster Bay to Drum Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.





# Master Plan Consistency

001.MC.09 Biloxi  
Marsh Creation



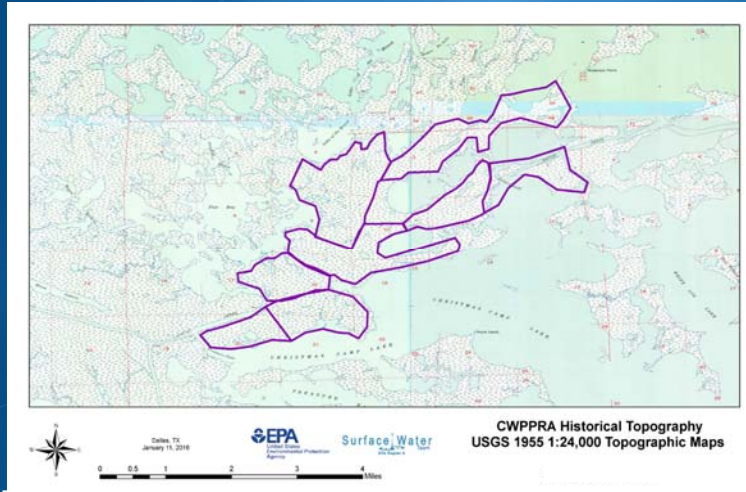
## Problem

This area has undergone interior and shoreline wetland loss due to:

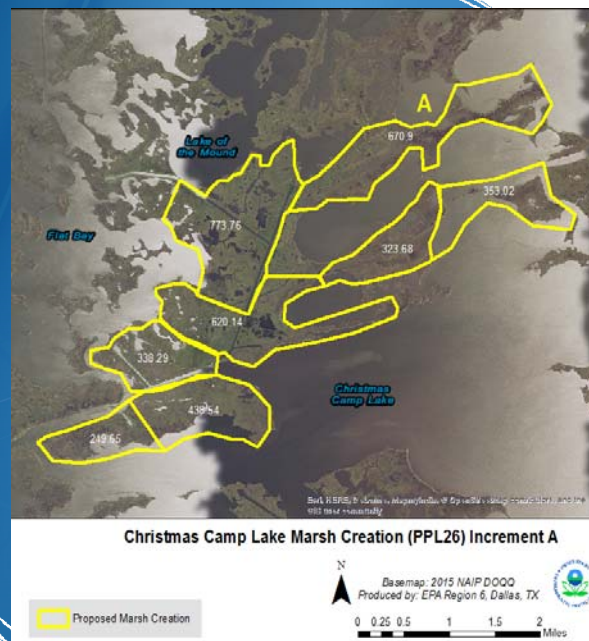
- Construction of the MRGO
- Marshes disconnected from Mississippi River deltaic processes (sediment, freshwater, nutrients)
- Wave and storm energy
- Subsidence
- Increased salinity
- Sea-level rise



## Historical Reference



## Project Features





## Project Goals- Increments A-E

- Create/nourish 400-600 acres emergent marsh with sediment from Drum Bay
- Estimated preliminary cost w/25% contingency is \$25 million



*Questions?*

EPA Region 6



**R1-PO-05**

**Hopedale Marsh Creation: Increment 1**



PO-05

## **PPL26 PROJECT FACT SHEET**

**January 28, 2016**

### **Project Name:**

Hopedale Marsh Creation: Increment 1

### **Master Plan Strategy**

Hopedale Marsh Creation 001.MC.02. 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.

### **Project Location**

Region 1, Pontchartrain Basin, South Lake Borgne Mapping Unit, St. Bernard Parish, south bank of the MRGO in the vicinity of Hopedale, LA.

### **Problem**

The landform separating Breton Sound (and Hwy 624) and the MRGO has undergone both interior and shoreline wetland losses. Natural processes of subsidence, saltwater intrusion, and erosion of wetlands, and the human effects of river levee construction, historic use of the MRGO prior to deauthorization (i.e., deep draft vessel traffic) and the oil and gas industry, have caused major impacts to the area. 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.

### **Goals**

The project would create and nourish 640 acres of emergent brackish marsh to continue the ongoing efforts to stabilize the landform separating Lake Borgne from the MRGO.

### **Proposed Solution**

The proposed project will create and nourish 640 acres of marsh by dredging sediment from designated borrow sources in Lake Borgne to a target fill elevation of +1.5 feet. Existing high shorelines along the MRGO 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.

### **Project Costs**

The preliminary project cost estimate for with 25% contingency is \$26 million. The fully funded range is \$30M - \$35M.

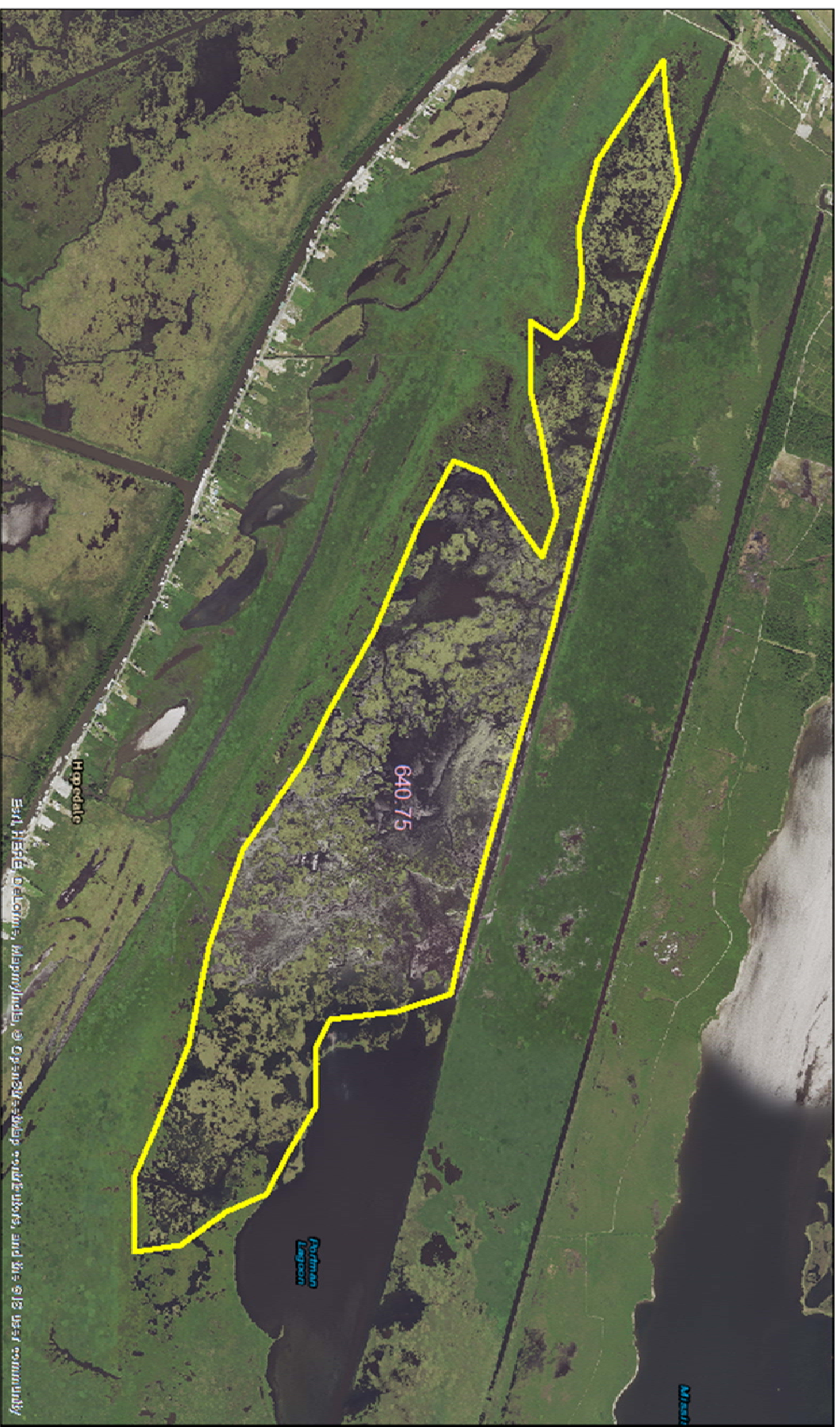
### **Preparer(s) of Fact Sheet:**

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

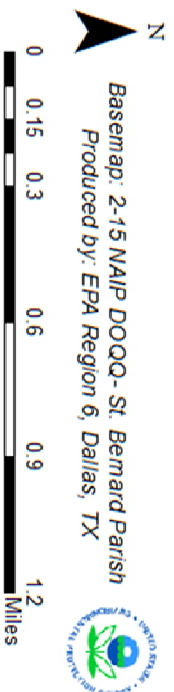
Sharon Osowski, Ph.D., EPA; (214) 665-7506; [osowski.sharon@epa.gov](mailto:osowski.sharon@epa.gov)

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





## Hopedale Marsh Restoration (PPL26)





# Hopedale Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

# Master Plan Solution

**001.MC.02 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.





# Problem

- The combination of natural processes and human intervention has caused major wetland problems over the years.
- Wetland loss in the area is attributed to:
  - Construction and use of the MRGO
  - Subsidence
  - Saltwater intrusion
  - Sediment and nutrient deprivation
  - Sea-level rise









## Project Goals

- Create/nourish 640 acres of emergent marsh habitat
- Restore degraded marsh
- Reduce wave erosion
- Estimated Cost with 25% contingency is \$26M with a fully funded range of \$30M - \$35M



# Questions?

EPA Region 6



**R1-PO-06**

**Bayou La Loutre Ridge and Marsh Restoration**



## **PPL26 PROJECT NOMINEE FACT SHEET**

### **January 28, 2015**

#### **Project Name**

Bayou La Loutre Ridge Restoration and Marsh Creation

#### **Project Location**

Region 1, Lake Pontchartrain Basin and Breton Basin, St. Bernard Parish

#### **Problem**

Historic ridge habitat loss occurs in the form of subsidence and shoreline erosion along Bayou La Loutre. The shoreline erosion is caused by increased boat traffic due to the closure of the MRGO channel. Ridge habitat consists of Live Oak Hackberry Maritime forest which is utilized by trans-gulf migratory bird species as a first and last stop when crossing the Gulf of Mexico. This critical habitat is rated as S1 and S2 priority by the state of Louisiana. Interior marsh loss along Lena Lagoon is caused by subsidence, sediment deprivation, increased wave fetch and construction of access and navigational canals. The integrity of the Lena Lagoon shoreline has been breached, the loss of this wetland buffer will expose the La Loutre ridge to highly erosional winter storm events.

#### **Goals**

The goal of the project is to create approximately 10 acres of ridge with material from bucket dredging Bayou La Loutre. Additionally dredged material from Lake Borgne will create 129 acres of marsh and nourish approximately 254 acres of marsh along Lena Lagoon (383 acres total).

#### **Proposed Solution**

The proposed project will create approximately 5.46 miles of ridge along Bayou La Loutre and 10 acres of Live Oak Hackberry Maritime forest habitat. The ridge habitat will be built out into the shallow water of the bayou to minimize the impact on healthy adjacent marsh. The structure will have a +5 elevation with a 3:1 slope on the bayou side and 2:1 slope on the side facing the marsh. Additionally 50% of the newly created ridge will include vegetative plantings. The Lena Lagoon site will create 129 acres of marsh and nourish approximately 254 acres of marsh using sediment dredged from Lake Borgne. Lena Lagoon will have a semi-confined south and east flank and a fully confined north flank. Containment will be degraded as necessary to re-establish hydrologic connectivity with adjacent wetlands.

#### **Preliminary Project Benefits**

*1) What is the total acreage benefited both directly and indirectly? 383 directly benefitted; indirect benefit not yet determined.*

*2) How many acres of wetlands will be protected/created over the project life? To be determined at a future date.*

*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 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?*

This project would recreate 5.46 miles of natural ridge. This project would also create and nourish 383 acres of marsh that would help stabilize the southern rim of Lena Lagoon.

5) *What is the net impact of the project on critical and non-critical infrastructure?* The communities of St. Bernard, New Orleans, and St. Tammany lie to the north of this important landmass which serves to buffer the effects of storm surges and excessive salinity levels.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* This project synergizes with the Lake Borgne rim project Shell Beach South Marsh Creation (PO-168) which was approved in PPL24. The project is designed based upon Ridge Creation .01 and Marsh creation .07a presented in the State's 2012 Master Plan and components of the MRGO Ecosystem Restoration Plan.

### **Identification of Potential Issues**

The proposed project has the following potential issues: pipelines would have to be avoided for borrow site and containment dikes.

### **Preliminary Fully Funded Cost Range**

21 Million, which includes the cost of contingency

### **Preparers of Fact Sheet:**

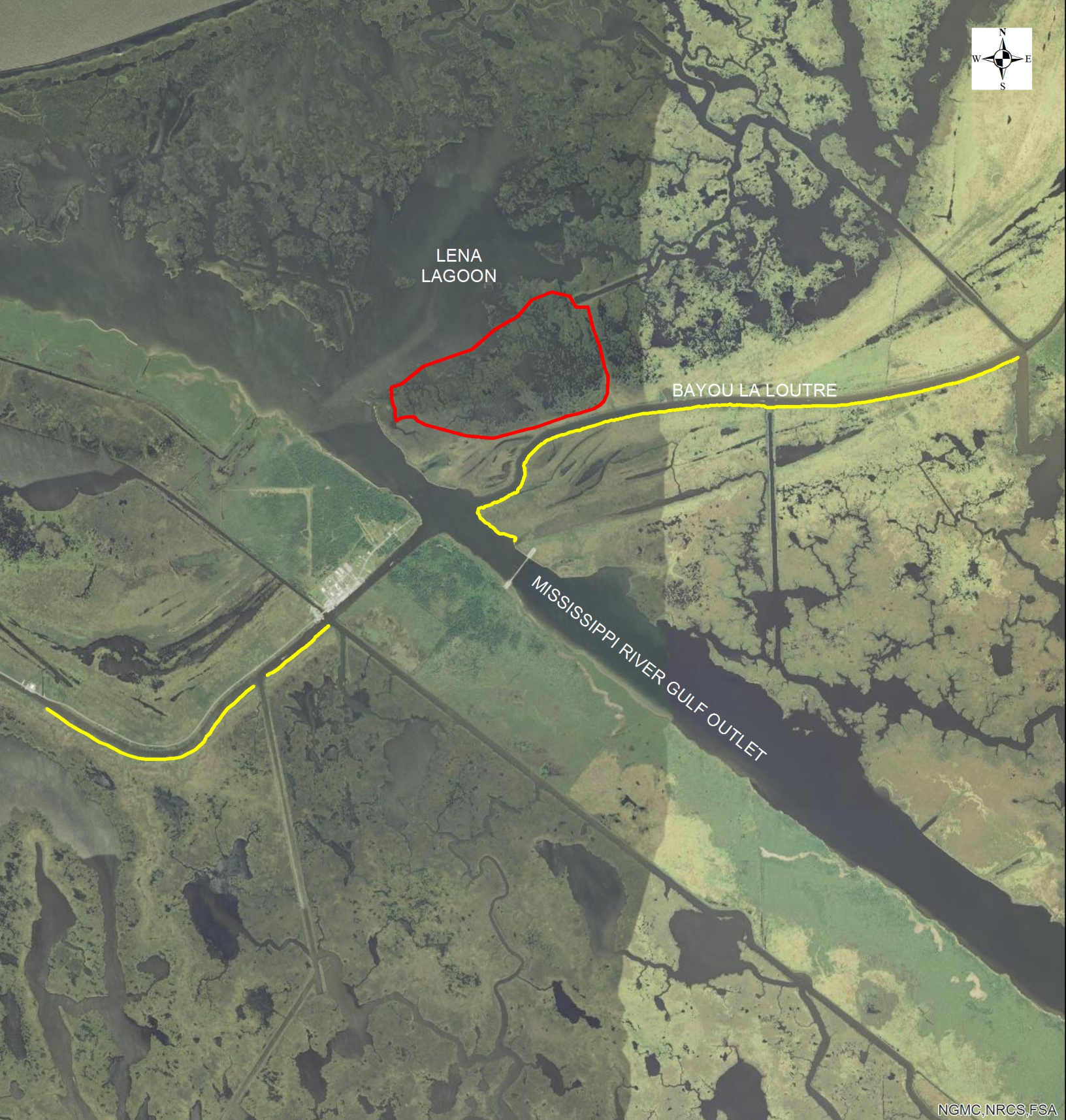
Quin Kinler, USDA-NRCS, 225-665-4253 ext. 110, [quin.kinler@la.usda.gov](mailto:quin.kinler@la.usda.gov)

Blaise Pezold, LDAF-CRVP, 985-447-3871 ext. 3, [Blaise.Pezold@la.nacdnet.net](mailto:Blaise.Pezold@la.nacdnet.net)

Adrian Chavarria, EPA; 214-665-3103; [Chavarria.adrian@epa.gov](mailto:Chavarria.adrian@epa.gov)

Sharon Osowski, Ph.D., EPA: 214-665-7506; [Osowski.sharon@epa.gov](mailto:Osowski.sharon@epa.gov)





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

Data Source: NAIP 2013

Map Date: JANUARY , 2016



***PPL 26 BAYOU LA LOUTRE  
RIDGE RESTORATION AND  
MARSH CREATION  
ST. BERNARD PARISH, LA***

**Legend**

- RIDGE RESTORATION
- MARSH CREATION BOUNDARY

0 2,500 5,000  
Feet



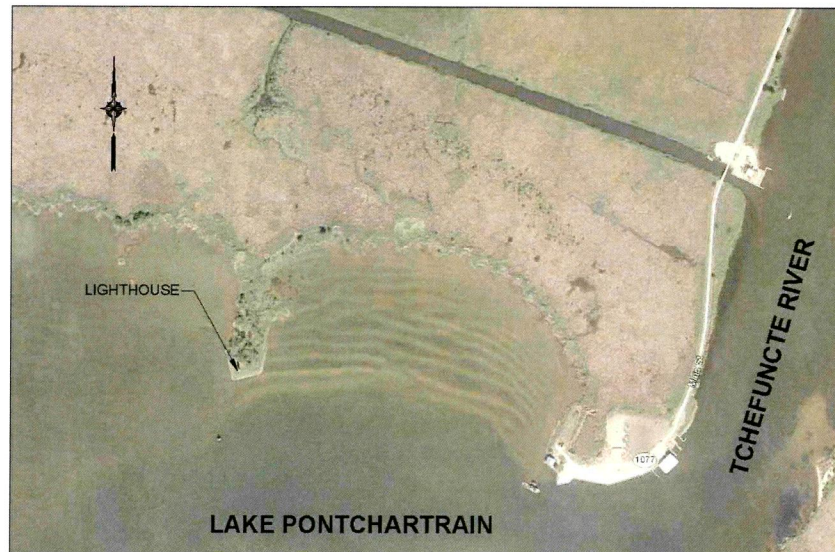
**R1-PO-07**

**Tchefuncte River Lighthouse Habitat Restoration &  
Shoreline Protection**



**FACT SHEET****TCHEFUNCTE RIVER LIGHTHOUSE HABITAT RESTORATION & SHORELINE PROTECTION FOR EDUCATIONAL OUTREACH**

The objective of this project is to protect and maintain the existing shoreline of the peninsula surrounding the historic Tchefuncte River Lighthouse which still functions as an aid to navigation and to construct a pier to create access to the lighthouse. Once completed, the pier will be used by the Lake Pontchartrain Basin Maritime Museum (LPBMM) to access the lighthouse for public education activities.

**Project Goals**

- Protect and maintain the existing shoreline of the peninsula at the site of the lighthouse
- Construct new pier structure for access to the Tchefuncte River Lighthouse

**Project Location**

- Pontchartrain Basin, St. Tammany Parish

**Project Status**

- Engineering and Design

**Project Type**

- Shoreline Protection
- Educational Activities
- Recreation
- Navigation

**Project Cost**

- \$1,517,584.00







## CWPPRA PPL 26 Nomination Sign-Up Sheet

Complete a sign-up sheet for each project you nominate. Please print neatly!

Name of Project:

Tchefumate River Lighthouse Habitat Restoration & Shoreline  
Protection for Educational Outreach

Is this a demonstration project?

Yes

No

If not, please provide the below information.

Region: (Circle one)

1

2

3

4

Coastwide

Basin: (Circle one)

Pontchartrain

Barataria

Terrebonne

Calcasieu-Sabine

Breton Sound

Atchafalaya

Mermentau

Teche-Vermilion

Did you provide a factsheet?

Yes

No

### Contact Information:

Name:

Don Lynch

Phone Number:

985-845-9200

Email:

director@lpbmm.org

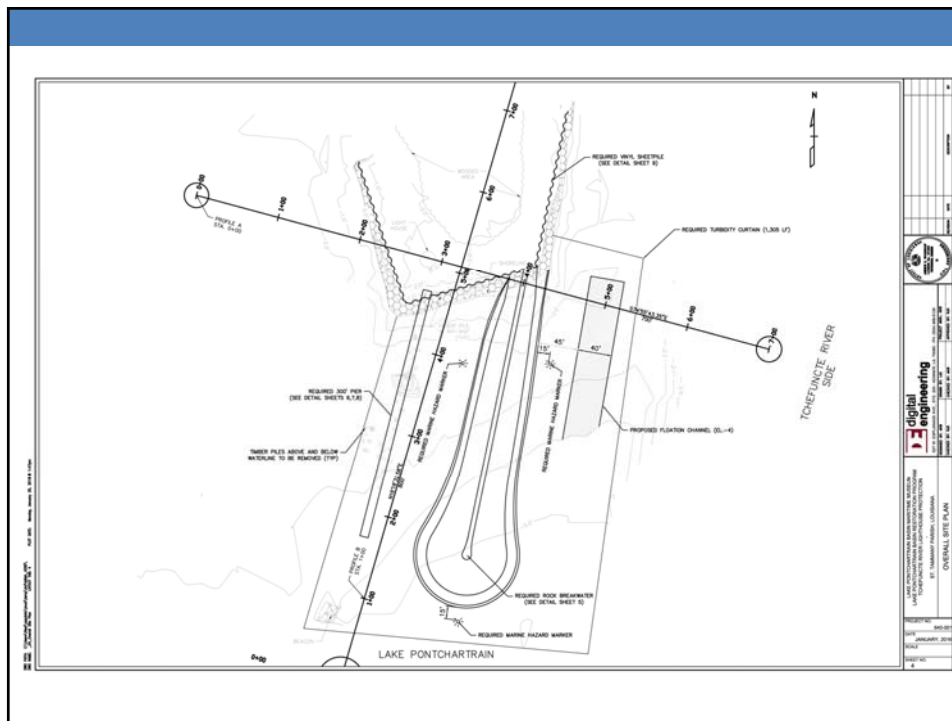


# TCHEFUNCTE RIVER LIGHTHOUSE HABITAT RESTORATION & SHORELINE PROTECTION FOR EDUCATIONAL OUTREACH

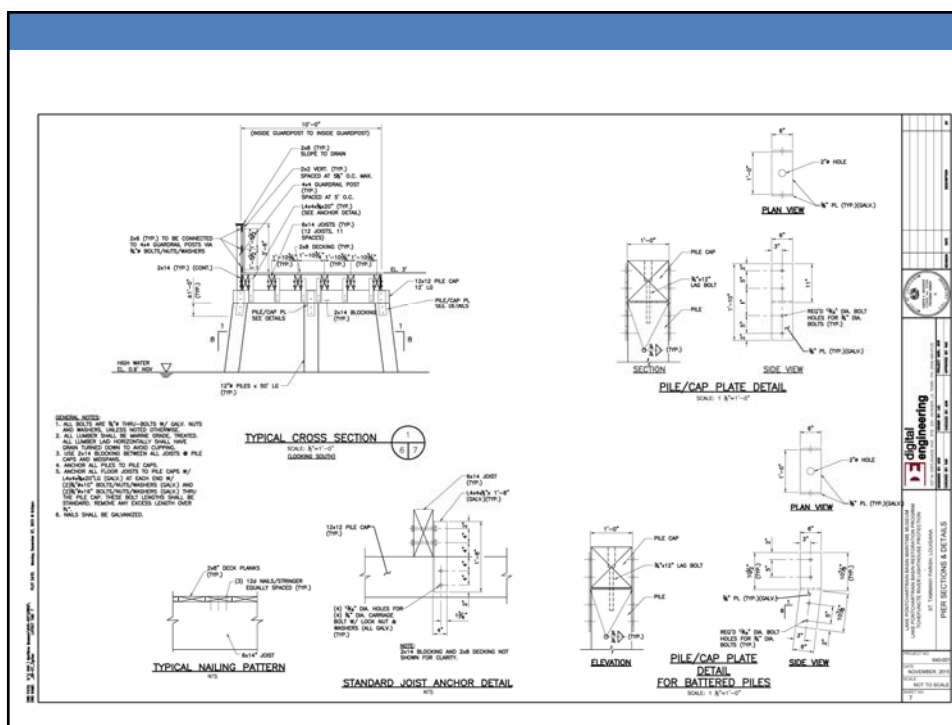
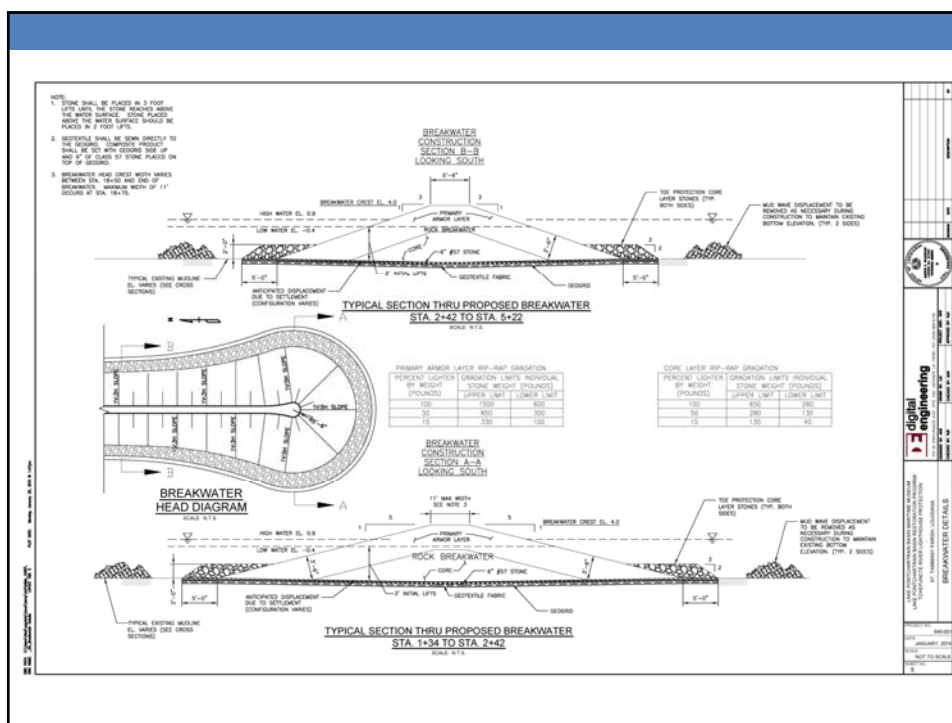


## PROJECT GOALS

1. Protect and maintain the existing shoreline
2. Construct new dock for access to Tchefuncte River Lighthouse









| Project Cost Estimate                 |          |          |             |                    |
|---------------------------------------|----------|----------|-------------|--------------------|
| Item                                  | Quantity | Unit     | Unit Price  | Cost (\$)          |
| Mobilization                          | 1        | LS       | \$59,000.00 | \$59,000           |
| Rip-rap R1500                         | 2600     | TON      | \$70.00     | \$182,000          |
| Rip-rap R650                          | 2600     | TON      | \$70.00     | \$182,000          |
| Rip-rap R200                          | 500      | TON      | \$60.00     | \$30,000           |
| Geogrid                               | 2600     | SY       | \$10.00     | \$26,000           |
| #57 Stone                             | 1750     | TON      | \$60.00     | \$105,000          |
| Flotation Channel                     | 250      | CY       | \$10.00     | \$2,500            |
| Turbidity Curtain                     | 1400     | LF       | \$60.00     | \$84,000           |
| Geotextile                            | 2200     | SY       | \$8.00      | \$17,600           |
| Hazard Markers                        | 3        | EA       | \$6,000.00  | \$18,000           |
| Vinyl Sheetpile w/Concrete Cap        | 6000     | SF       | \$30.00     | \$180,000          |
| Wooden Pier w/Composite Deck          | 15       | 20' SPAN | \$11,375.00 | \$170,625          |
| Pier Landing Stairs w/Concrete Pad    | 1        | LS       | \$10,000.00 | \$10,000           |
| Wooden Pile                           | 40       | EA       | \$2,500.00  | \$100,000          |
| Pile Removal                          | 50       | EA       | \$1,000.00  | \$50,000           |
| Fill and Grading                      | 250      | CY       | \$20.00     | \$5,000            |
| Sub-total                             |          |          |             | \$1,227,725        |
| Contingency (15%)                     |          |          |             | \$184,159          |
| <b>Construction Total</b>             |          |          |             | <b>\$1,404,984</b> |
| ASCE Consulting Eng. Curve A - 7.25%  |          |          |             |                    |
| Bidding                               |          |          |             | \$5,100            |
| Construction Admin. & Record Drawings |          |          |             | \$25,500           |
| Resident Inspection                   |          |          |             | \$72,000           |
| Materials Testing                     |          |          |             | \$10,000           |
| <b>Total Project Cost</b>             |          |          |             | <b>\$1,517,584</b> |



**R1-PO-08**

**Point aux Marchettes Shoreline Protection**



10 - 08

**PPL26 PROJECT NOMINEE FACT SHEET**  
**January 28, 2016**

**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, the interior loss rate for the Biloxi Marsh area was calculated to be 0.33 %/yr. Using maps from 1998 and 2013, Lake Borgne shoreline erosion rates were calculated along the 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 41,000 LF section of shoreline was estimated to have an average erosion rate of 26 ft./yr. It is estimated that without the project there would be over 500 acres lost due to shoreline erosion.

**Goals:**

The project goals are to 1) protect approximately 53,000 feet of critical shoreline, 2) protect approximately 522 acres of highly productive brackish marsh habitat, and 3) create 100 acres of terraces which would equal 63 acres of 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.

**Proposed Solutions:**

The proposed project would: 1) Construct approximately 41,000 feet of shoreline protection and 2) Construct approximately 100 acres of terraces (63 acres mars) would be constructed within targeted open water areas.

**Preliminary Project Benefits:**

1) *What is the total acreage benefited both directly and indirectly?* Approximately 585 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 421 acres (357 ac shoreline protection + 64 ac terraces).

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.* Installing shoreline protection would protect much 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 other smaller 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 PO-30 project.

**Identification of Potential Issues:**

The proposed project has the following potential issues: there may be pipelines in the project area and Lake Borgne is considered Atlantic Sturgeon Critical Habitat.

**Preliminary Construction Costs:**

The estimated construction cost including 25% contingency is \$22 M.

**Preparer(s) of Fact Sheet:**

Robert Dubois (337) 257-4345 robert\_dubois@fws.gov

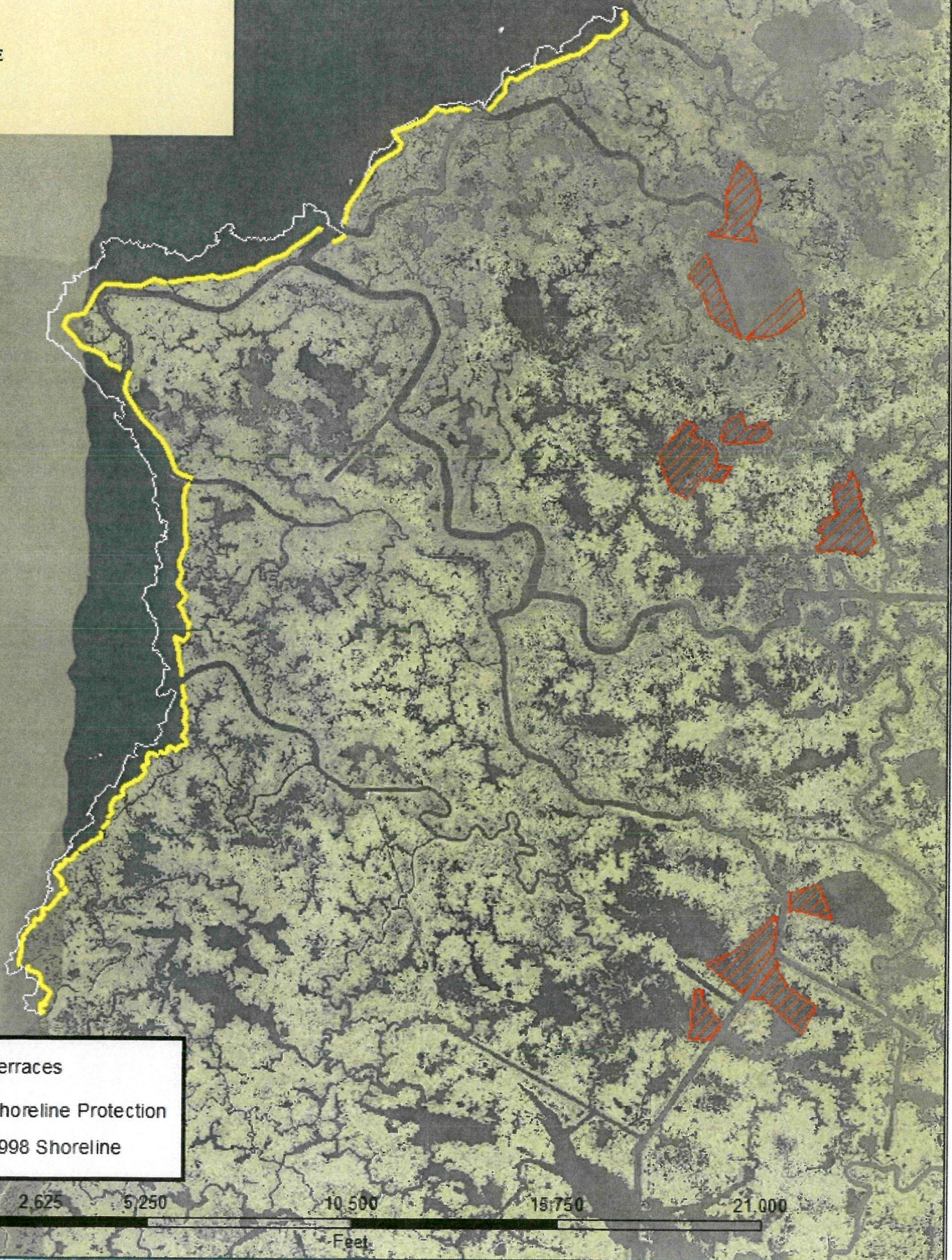




U.S. Fish & Wildlife Service

Louisiana Ecological Services

*Point aux Marchettes Shoreline Protection and Terracing*



Terraces



Shoreline Protection

1998 Shoreline

0

2,625

5,250


10,500

15,750

21,000

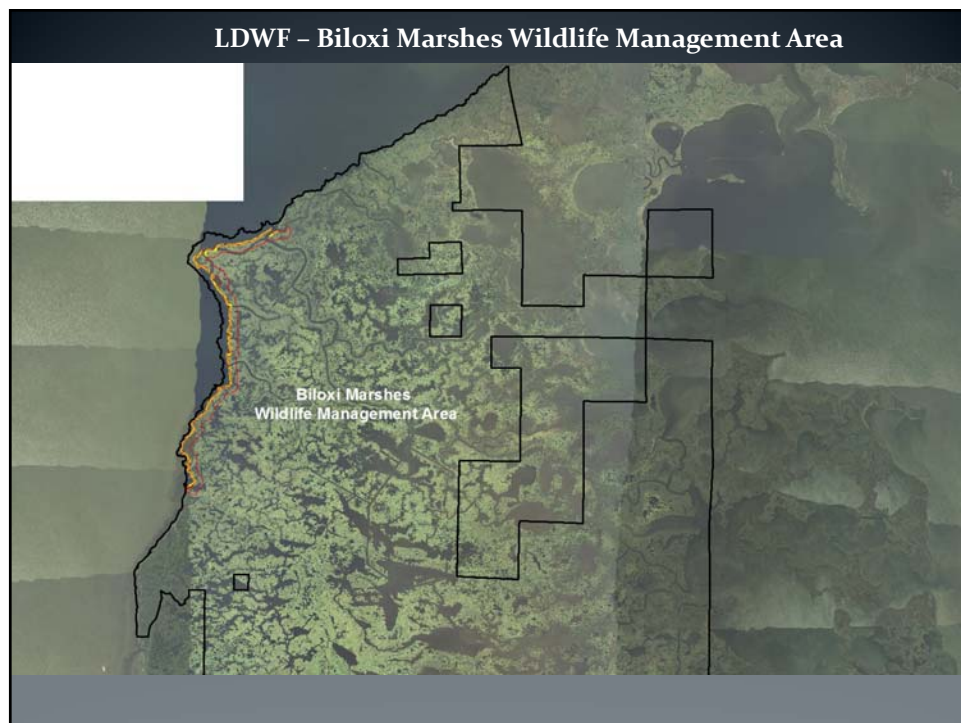
Feet





**PPL 26**

**POINT AUX  
MARCHETTES  
SHORELINE PROTECTION  
and TERRACING**





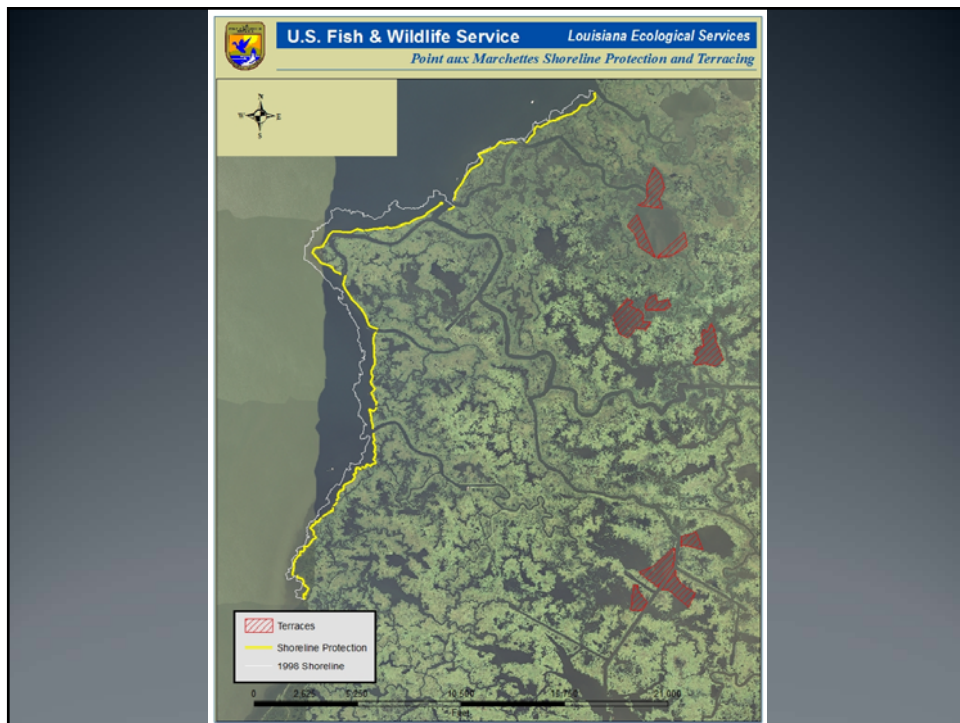
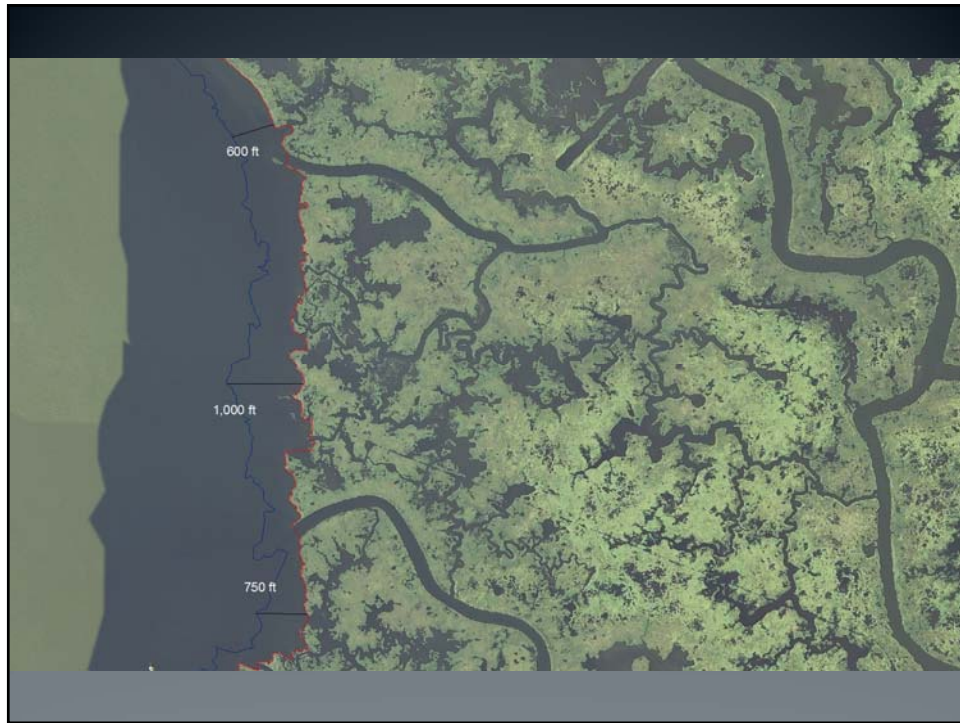
# Point aux Marchettes Shoreline Protection

## Problem:

- Since 1998, shoreline erosion has destroyed as much as 600 acres along the Lake Borgne shoreline within the project area.
- Shoreline erosion along the Lake Borgne shoreline within the project area has an estimated erosion rate of 26 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 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.
- Since 2005, the interior marshes have been experiencing an increase in marsh loss due to the increase in hydraulic connection with Lake Borgne.









## POINT AUX MARCHETTES SHORELINE PROTECTION

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### Solution:

- Construct approximately 41,000 feet of shoreline protection . We are suggesting installing gabion mats, but could be foreshore rock dike with or without a light-weight aggregate core.
- Construct 100 acres of terraces (63 acres of marsh) to help protect interior marshes from increased wave action.

## POINT AUX MARCHETTES SHORELINE PROTECTION

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### Goals:

- Protect 53,000 ft. of critical shoreline with 41,000 ft. of shoreline protection.
- Create 100 acres of terraces equaling 63 acres of marsh.

### Net Acres:

- The total net acres is **421** acres (357 acres shoreline protection + 64 acres terraces)

### Potential Issues:

- Lake Borgne is designated as Atlantic Sturgeon Critical Habitat.

### Preliminary Construction Costs

- The estimated construction cost plus 25% contingency \$22M.



## Species of Concern and Rare Species

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



**R1-PO-09**

**St. Catherine Island Marsh Creation & Shoreline Protection**



**PPL26 PROJECT NOMINEE FACT SHEET**  
**January 28, 2016**

**Project Name**

St. Catherine Island Marsh Creation and Shoreline Protection

**Project Location**

Region 1, Pontchartrain Basin, Orleans Parish

**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.

**Proposed Solution**

This project would extend the Bayou Chevee (PO-22) rock dike along approximately 33,324 LF of weakened Lake Pontchartrain shoreline. A 6,468 LF foreshore dike and a 13,851 LF revetment totaling 20,319 LF is proposed to be built along a portion of the Bayou Sauvage NWR. This would protect approximately 201 acres. This project would also create/nourish 173 acres (100 acres of marsh creation and 15 acres of marsh nourishment). That marsh would be created by filling those sites with material hydraulically dredged from the bottom of Lake Pontchartrain. A combination of healthy established marshes, bayou ridges, and constructed earthen dikes would contain that material. All constructed containment dikes 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.

**Goals**

The goals of the project are to 1) stop shoreline erosion due to wind generated waves along 33,324 linear feet of the Lake Pontchartrain shoreline preserving 201 acres (166 acres of marsh and 35 acres of shallow water) and 2) create/nourish 115 acres (create 100 acres of marsh and nourish 15 acres of marsh) landward of that shoreline protection.

Service goals include the protection/creation of habitat or improvement of habitat for species of concern (LDWF), priority species (JV), and threatened and endangered species (FWS). The creation of low salinity brackish intertidal marsh habitat would be beneficial to several species that are currently on these lists, including, but are not limited to Black Rail, Mottled Duck, Brown Pelican, King Rail, and Saltwater Topminnow. Helping to improving habitat, especially on Federal and State owned lands, insures the protection of those valuable resources in perpetuity and should be a priority.



**Preliminary Project Benefits**

- 1) *What is the total acreage benefited both directly and indirectly?*  
Approximately 260 acres of wetland habitat located on Bayou Sauvage NWR would be benefited directly. (145 ac SP + 115 ac MC)
- 2) *How many acres of wetlands will be protected/created over the project life?*  
Approximately 226 acres of Bayou Sauvage NWR marsh habitat would be protected/created over the project life. (129 ac SP + 97 ac MC)
- 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 project would stop shoreline erosion and reduce the interior 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, portions of Chef Menteur Pass and its natural ridge functions along with several smaller bayou ridges located within the project area.
- 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 infrastructures which consists of U.S. Hwy 90 (a hurricane evacuation route), several businesses and camps along Chef Pass and 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?*  
The project will have a synergistic effect with several projects including PO-22, several State and FWS funded shoreline protection projects.

**Identification of Potential Issues**

The proposed project has potential Atlantic Sturgeon issues associated with the borrow source.

**Preliminary Construction Costs**

The estimated construction cost including 25% contingency is \$14.8 M.

**Preparer(s) of Fact Sheet:**

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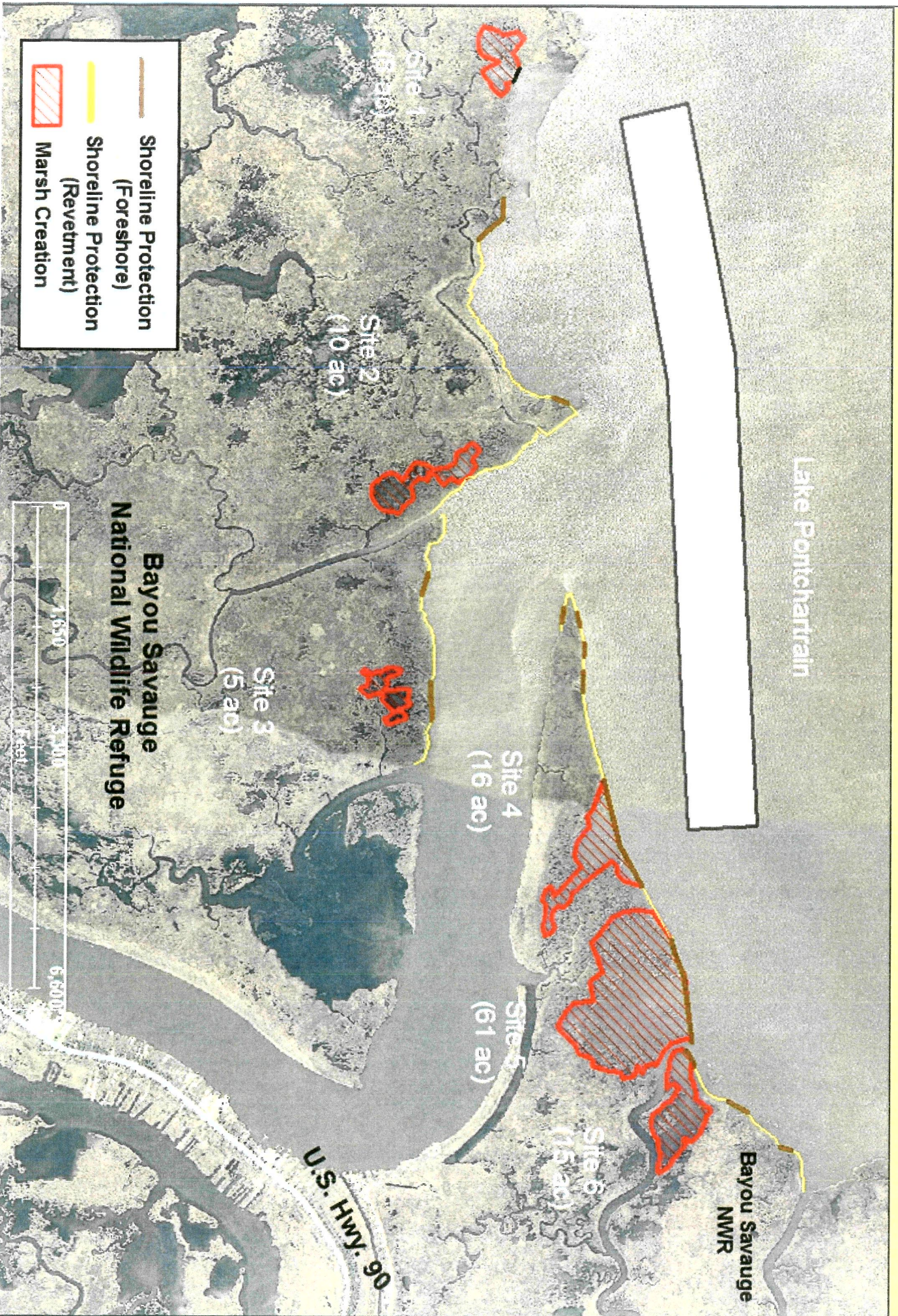





# U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

## St. Catherine Island Shoreline Protection and Marsh Creation







**PPL 26**

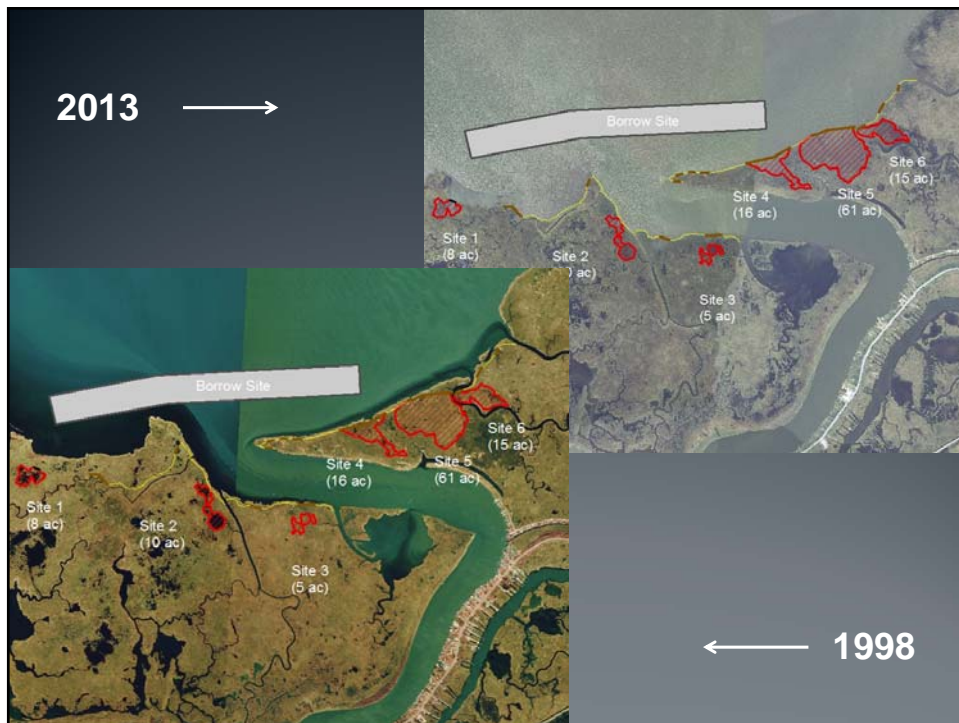
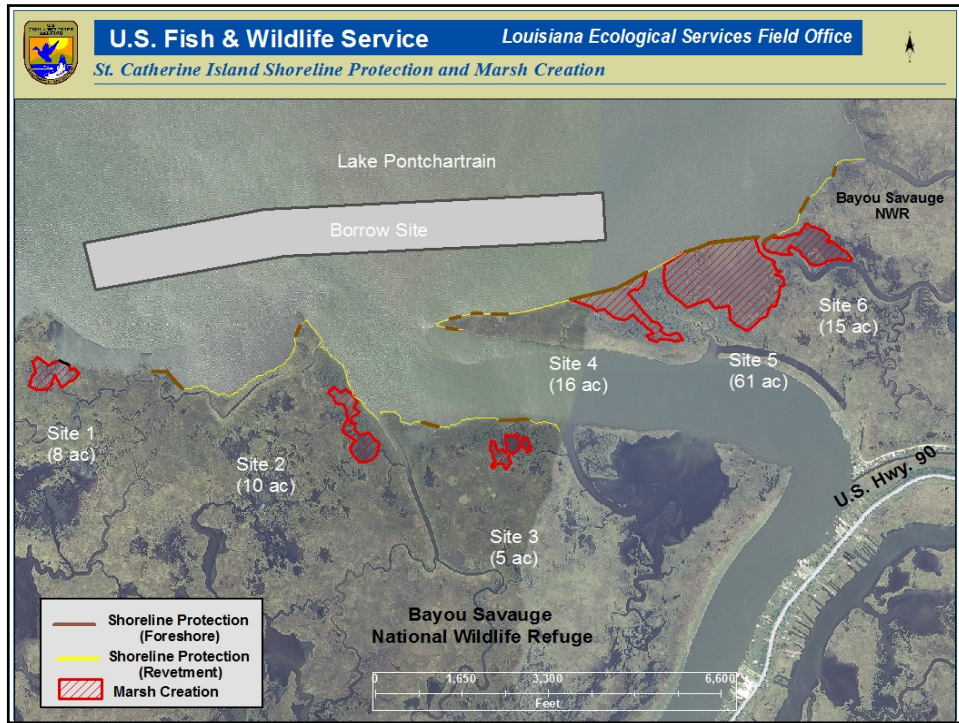
**ST. CATHERINE ISLAND  
SHORELINE  
PROTECTION AND  
MARSH CREATION**

## **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. Some rates as high as 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 33,000 LF of the Lake Pontchartrain shoreline and protects 201 acres of marsh and shallow open water by constructing 6,468 LF of foreshore rock dike and 13,851 LF of rock revetment (20,319 LF).
- Create 100 acres of marsh and nourish 15 acres of broken marsh behind that shoreline protection with a hydraulic dredge.

### Net Acres:

- Total acres benefited 260. Approximately 226 marsh acres would be protected/created in **perpetuity**.

### Identification of Potential Issues:

- Borrow site is located within Gulf sturgeon critical habitat

### Preliminary Construction Costs:

- The estimated construction cost plus 25% contingency \$14.8 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**

**North Shell Beach Marsh Creation**



**PPL26 PROJECT NOMINEE FACT SHEET**

January 28, 2016

**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 394 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 223 acres of marsh and nourish at least 171 acres of existing fragmented marsh. 50% of the newly created area will include vegetative plantings

**Goals**

The project would create and nourish 394 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 223 acres of open water, 171 acres of degraded marsh area.
- 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 220 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.
- 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 4<sup>th</sup> Supplemental Study, as well as marsh creation efforts recently approved in the Shell Beach South Marsh Creation Project.

**Preliminary Construction Costs**

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

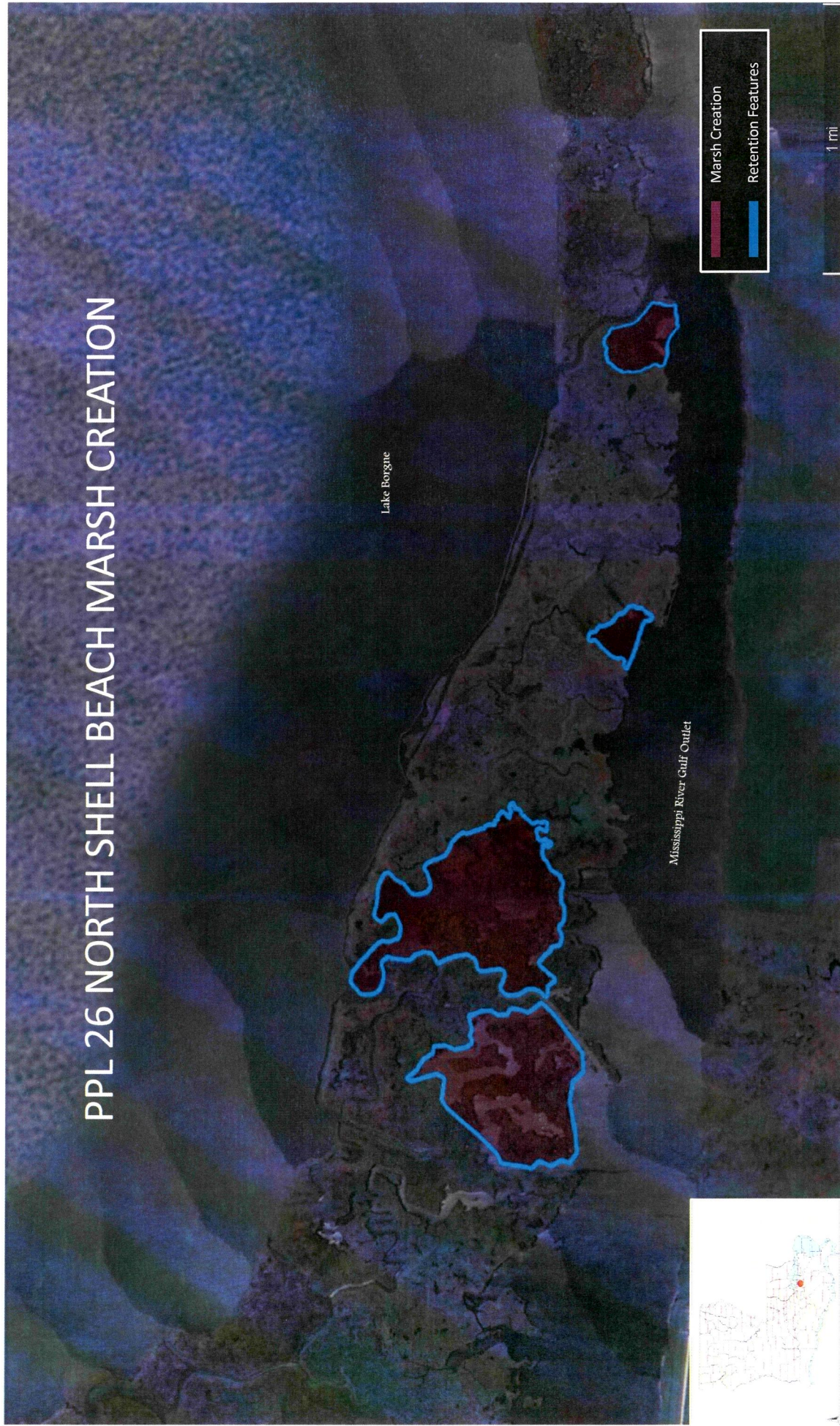
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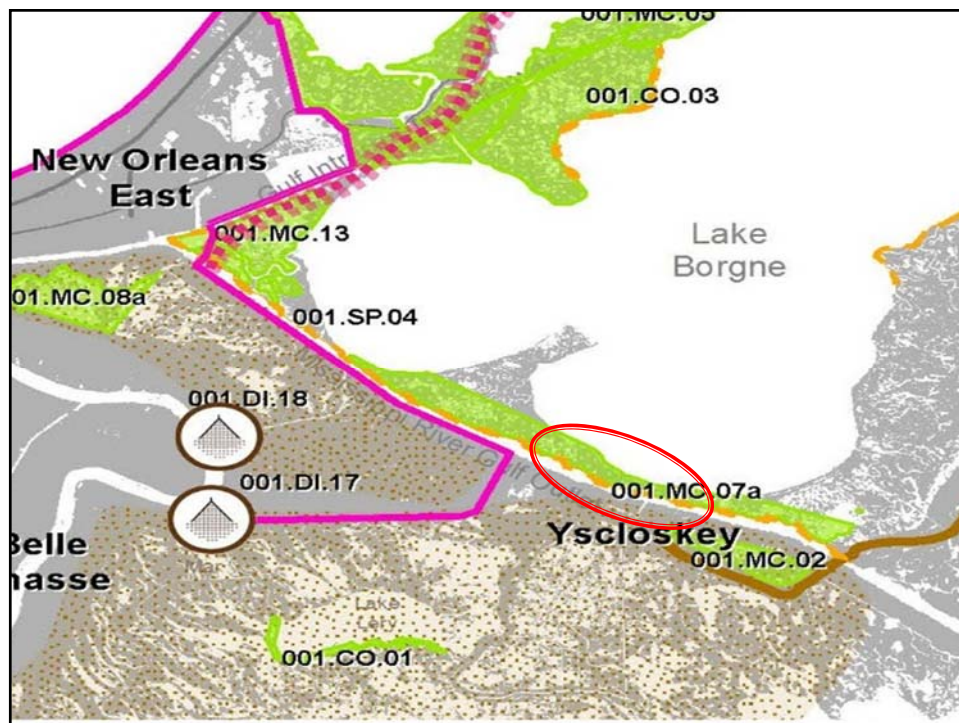
# PPL 26 NORTH SHELL BEACH MARSH CREATION





# NORTH SHELL BEACH MARSH CREATION

PPL 26  
Region 1  
Pontchartrain Basin







## Proposed Project Features:

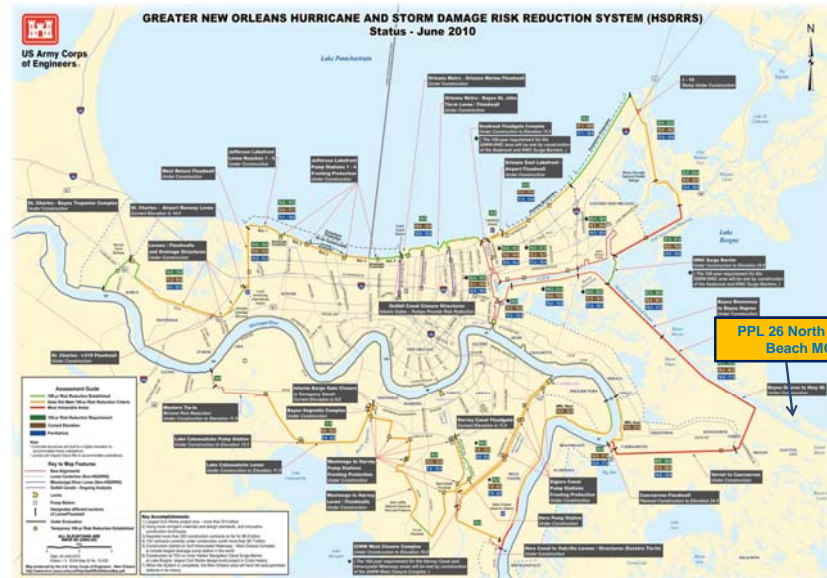
- ▶ Potentially restore 394 acres of marsh (223 created/171 nourished)
- ▶ Dredged material would be mined from NEPA cleared borrow site(s) in Lake Borgne
- ▶ Containment features built around Marsh Creation sites
- ▶ Estimated construction cost + 25% contingency is around \$20 M





## Project Benefits:

- ▶ Create 223 acres of new emergent brackish marsh
- ▶ Nourish 171 acres of existing degraded marsh
- ▶ Stabilize the landbridge between Lake Borgne and MRGO
- ▶ Protect the neighboring communities and infrastructure







# QUESTIONS

