

CWPPRA RPT Region 1

Pontchartrain Basin

PPL35 PROJECT FACT SHEET

February 6, 2025

Project Name

Central Wetlands Marsh Creation

Master Plan Strategy

Central Wetlands Marsh Creation (2023 Master Plan ID: 040; Implementation Period 1): Creation of marsh within a footprint of approximately 3,800 acres in Central Wetlands near Bayou Bienvenue to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location

Region 1, Pontchartrain Basin, St. Bernard Parish

Problem

Over the past decades, the wetlands and their function within the Central Wetlands Unit have been lost because of altered hydrology due to canals, impoundment, subsidence, and saltwater intrusion. The area was heavily impacted by the construction of the MRGO in the 1960s. Much of the area is shallow open water, littered with cypress stumps and snags. The land loss rate is 1.00%/yr, based upon the PO-169 revised WVA information

Proposed Solution

The Central Wetlands Marsh Creation (CWMC) will create/nourish 269 acres of marsh using sediment dredged from the Gulf Intracoastal Waterway (GIWW). The marsh creation polygons are strategically positioned to work synergistically with other projects in the immediate area. CWMC would also restore some of the natural hydrology of the upper Bayou Bienvenue watershed by reestablishing its southern bank, which is a critical landscape feature in the Central Wetlands Unit.

Project Benefits

The CWMC would create/nourish 269 acres (create 263 acres and 6 nourish acres) of emergent marsh with sediment dredged from the Mississippi River. The visibility of the project, due to its location, lends itself to educational and outreach opportunities. The Upper Bayou Bienvenue watershed has always been used for recreation and wildlife habitat. Paris Rd. is one of three evacuation routes for St. Bernard Parish, it lies directly south of the project area. Restoration in this area would build the greater New Orleans' area defenses against hurricanes and flooding.

Project Innovation

This concept will investigate a "low fill, high plantings" option. The marsh creation cells will be filled to a level high enough to support plant growth, most likely 1-1.5 feet below the water level. To stabilize the sediment and encourage accretion, a mix of Bulrush (*Schoenoplectus californicus*) and Giant Cutgrass (*Zizaniopsis miliacea*) will be planted. This project innovation is based on the extremely successful CWPPRA La. 39 Gentilly Unit planting in Bayou Sauvage NWR. The Gentilly Unit planting reduced fetch and in situ marsh vegetation expanded across the mud flat to meet the plantings.

Project Costs

The estimated construction cost including 25% contingency is \$25M-\$30M.

Preparer(s) of Fact Sheet:

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Central Wetlands Marsh Creation

119

12

138

Marsh Creation (270ac)



Basemap: 2023 NAIP
Produced by: EPA Region 6, Dallas, TX

0 0.075 0.15 0.3 0.45 0.6 Miles

N

Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Central Wetlands Marsh Creation PPL 35

EPA/Meraux Foundation

Blaise Pezold



Critical landscape feature and land loss:

USGS 1967



2024



Synergy with other plans and projects:



Ducks Unlimited Terrace Field

Central Wetlands
Reforestation Collective



COASTAL DIVISION
ST. BERNARD PARISH

**St. Bernard Parish Government
2021 Coastal Strategy Document**

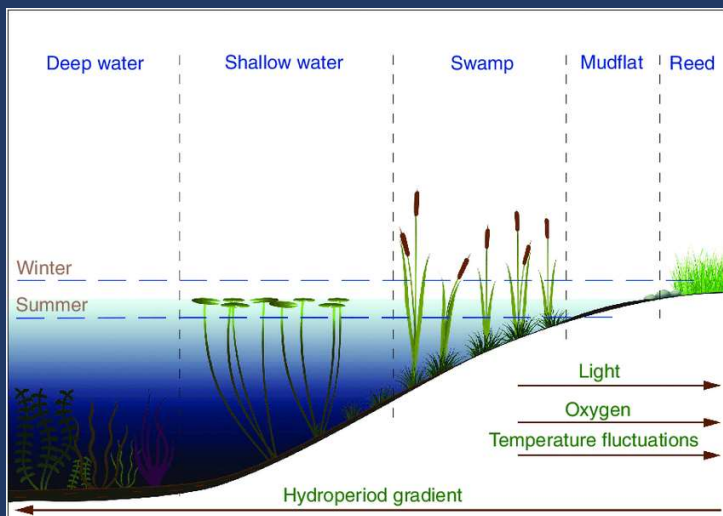
Marsh Creation
Central Wetlands Marsh Creation
Project ID: SBPO.03

PROBLEM
Prior to construction of the MRGO, the Central Wetlands Unit, a 29,000-acre semi-impounded marsh, was composed of Cypress-Tupelo swamps, freshwater marsh, and bottomland hardwood forests. However, as a result of the MRGO, sea-level rise, subsidence, and tropical weather events, much of the area has become open water and ghost swamp, with increased salinities in the surface water and soil.

PRIORITY
Tier 1 Tier 2 Tier 3

Marsh Creation

Innovation: Low fill/Plants rise!



CWPPRA La. 39- Gentilly Unit of Bayou Sauvage



Summary of key points:



269 total acres Creation/Nourishment

Marsh Creation: 263 acres

Marsh Nourishment: 6 acres

Total Cost + contingency = 25-30 million

PPL35 PROJECT FACT SHEET
February 6, 2025

Project Name

Three Mile Pass Restoration (West Increment)

Project Location

Region 1, Pontchartrain Basin, St. Bernard Parish

Master Plan Strategy

Three Mile Pass Marsh Creation and Hydrologic Restoration (2023 Master Plan ID: 310; Implementation Period 2): Creation of marsh within a footprint of approximately 11,000 acres including a 660 acre footprint filling areas deeper than 2.5 feet to create new wetland habitat and restore degraded marsh in Malheureaux Point and Grand Pass. 20,000 feet of oyster reef creation along the created marsh in Three Mile Bay to reduce hydrologic connectivity between Mississippi and the interior of the Biloxi Marsh Complex.

Problem

St. Bernard Parish is projected to face significantly increased wetland loss over the next 50 years (higher environmental scenario), and with no further action, most areas of the parish outside the levee system face severe future storm surge-based flood risk (2023 Master Plan). The Biloxi marsh landform is threatened by erosive forces. Oyster productivity is subject to the acute shocks with the opening of the Bonnet Carre Spillway (St. Bernard 2021 Coastal Strategy). The loss rate for the Biloxi Marsh Subunit is estimated to be -0.85%/yr. The Western side of the Pass has lost 122 acres (1989-2023).

Proposed Solution

The proposed project would create approximately 324 acres of marsh using sediment dredged from nearby areas. Approximately 4 miles of living shoreline will also be created to improve sustainability of the landform as well as enhance oyster fisheries due to close proximity of cultch plants and brood reefs.

Project Benefits

The proposed project will address areas identified in the 2023 Master Plan as well as restoration priorities identified in the St. Bernard Parish Master Plan (SBPO.02, 07, 15). Marsh creation features will help to stabilize the area, combatting erosion and increasing sustainability. The living shoreline feature will protect the shoreline, combat erosion, attenuate wave forces and trap/stabilize sediment. These structures produce a hard surface of calcium carbonate attracting oysters to build reef. Installing cultch material in this location will enhance local oyster productivity (St. Bernard 2021 Coastal Strategy).

Project Innovation

- Combines multiple restoration strategies (marsh creation, living shoreline, oyster fishery enhancement)
- Addresses multiple state and local restoration priorities

Project Costs

The estimated construction cost including 25% contingency is \$35-40M.

Preparer(s) of Fact Sheet:

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Three Mile Pass Restoration (Increment 1)





2023 Master Plan Strategy

Three Mile Pass Restoration



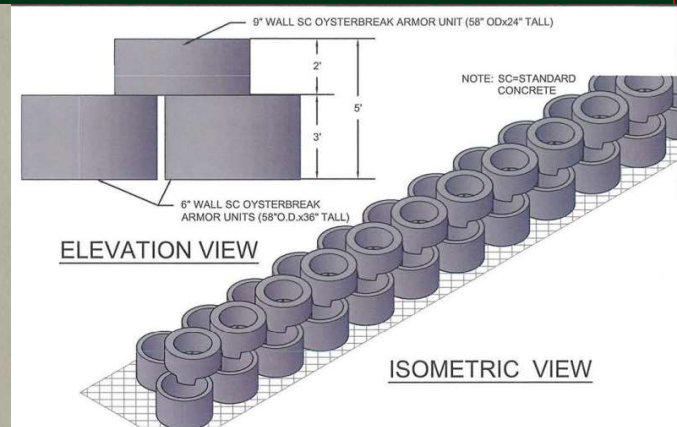
Three Mile Pass Marsh Creation and Hydrologic Restoration (2023 Master Plan ID: 310; Implementation Period 2): Creation of marsh within a footprint of approximately 11,000 acres including a 660 acre footprint filling areas deeper than 2.5 feet to create new wetland habitat and restore degraded marsh in Malheureux Point and Grand Pass. 20,000 feet of oyster reef creation along the created marsh in Three Mile Bay to reduce hydrologic connectivity between Mississippi and the interior of the Biloxi Marsh Complex.

Summary of Information and Features

Problem	The Biloxi marsh landform is threatened by erosive forces. Oyster productivity is subject to the acute shocks with the opening of the Bonnet Carre Spillway (St. Bernard 2021 Coastal Strategy). The western side of the Pass has lost 122 acres (1989–2023).
Benefits	<p>Create/ approximately 324 acres of marsh using sediment dredged from nearby areas.</p> <p>Create 4 miles of living shoreline to improve sustainability of the landform as well as enhance oyster fisheries due to close proximity of cultch plants and brood reefs.</p>
Cost	<p>The estimated construction cost including 25% contingency is \$35–40M.</p> <p>Marsh creation features will help to stabilize the area, combatting erosion and increasing sustainability.</p>
Innovation	<p>Addresses State Master Plan and Parish priorities from the 2021 St. Bernard Parish Master Plan (SBPO.02, 07, 15).</p> <p>The living shoreline feature will protect the shoreline, combat erosion, attenuate wave forces and trap/stabilize sediment.</p> <p>These structures produce a hard surface of calcium carbonate attracting oysters to build reef. Installing cultch material in this location will enhance local oyster productivity (St. Bernard 2021 Coastal Strategy).</p>



Three Mile Pass Restoration (Increment 1)



PPL35 PROJECT FACT SHEET

February 6, 2025

Project Name

Iles de Lapin et de Cochon Marsh Creation

Project Location

Region 1, Pontchartrain Basin, Orleans & St. Tammany Parish

Master Plan Strategy

New Orleans East Marsh Creation (2023 Master Plan ID: 037E; Implementation Period 2):

Creation of marsh within a footprint of approximately 29,000 acres in a portion of the New Orleans East Landbridge Marsh Creation project to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Problem

The project area includes fragmented marsh on the New Orleans landbridge in Orleans Parish, and an area in St. Tammany Parish adjacent to The Rigolets. The area has experienced impacts from storm surge, hurricanes and subsidence. Based on the New Orleans Landbridge (PO-169) project, loss rates in the area are estimated to be -0.35% per year; however the loss rate for Fritchie Marsh (PO-173) is -1.09%/yr.

Proposed Solution

The proposed project would create/nourish approximately 349 acres (create 212 acres and nourish 137 acres) of marsh using sediment dredged from nearby Little Lake or Lake Borgne. Restoring the marsh in this area would protect and maintain resources vital to nearby communities in addition to restoring wetland habitat.

Project Benefits

The proposed project will maintain the marshes on the New Orleans landbridge, separating Lake Pontchartrain and Lake Borgne and will maintain marsh on the St. Tammany Parish side of The Rigolets. The landbridge, along with the Biloxi Marsh area and the Chandeleur Islands, provides protection and improves local community resiliency for the New Orleans area. Infrastructure, such as a rail line and US Hwy 90, will indirectly benefit from this project.

Project Innovation

- Stabilize land on both sides of The Rigolets
- Protect rail line on Rabbit Island
- Potential to use rail line to bring sediment to Rabbit Island marsh creation cell

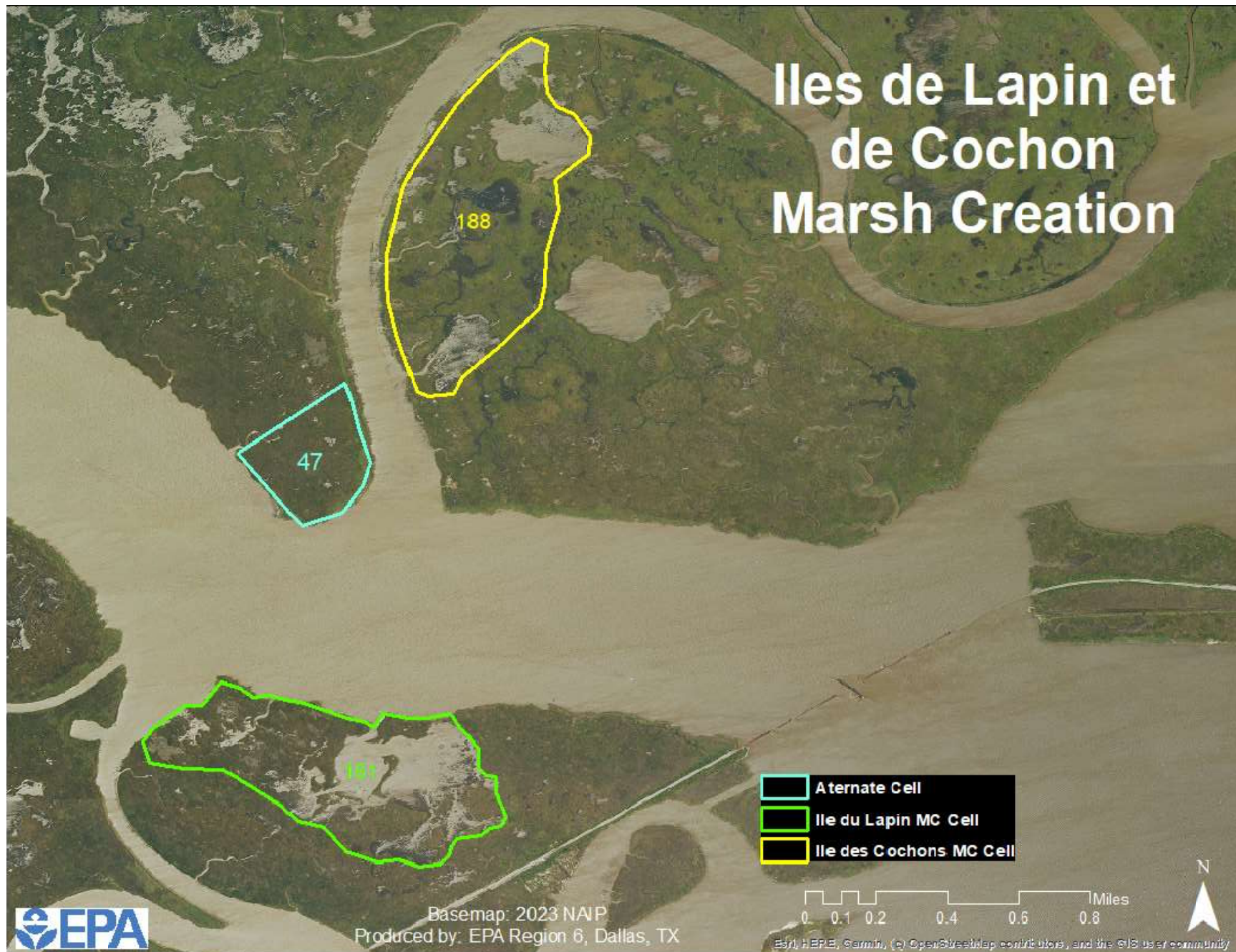
Project Costs

The estimated construction cost including 25% contingency is \$20M-\$25M.

Preparer(s) of Fact Sheet:

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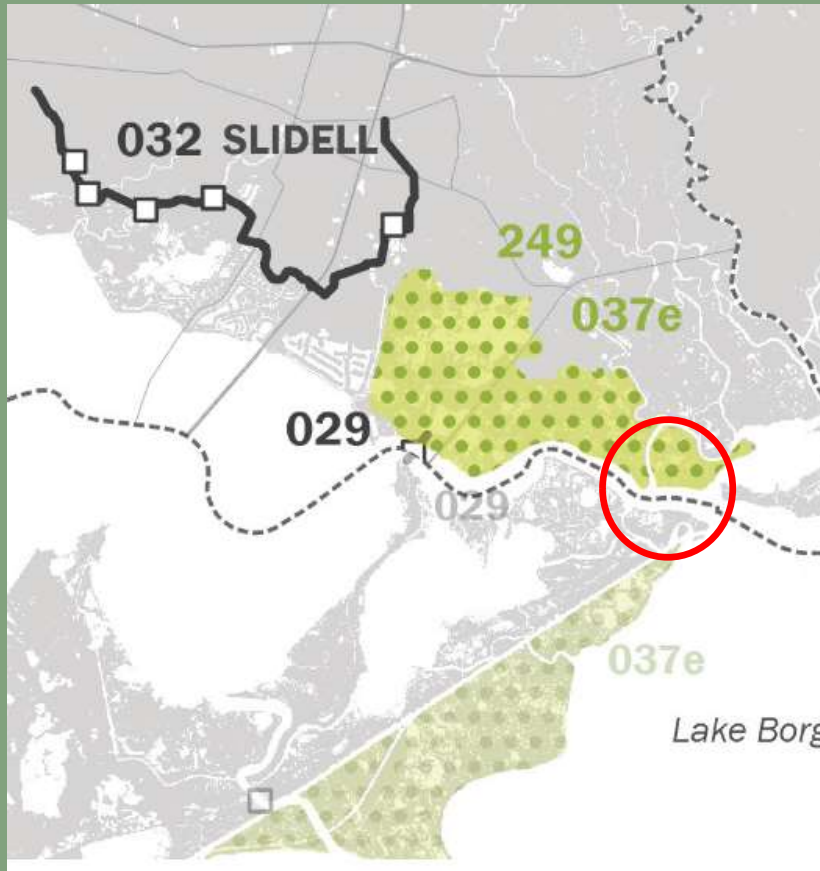
Iles de Lapin et de Cochon Marsh Creation



Iles de Lapin et de Cochon Marsh Creation



2023 Master Plan Strategy



New Orleans East Marsh Creation (2023 Master Plan ID: 037E): Creation of marsh within a footprint of approximately 29,000 acres in a portion of the New Orleans East Landbridge Marsh Creation project to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Summary of Information and Features

Problem	The project area includes fragmented marsh on the New Orleans landbridge in Orleans Parish, and an area in St. Tammany Parish adjacent to The Rigolets. The area has experienced impacts from storm surge and hurricanes as well as subsidence.
Benefits	Maintain the marshes on the New Orleans landbridge, separating Lake Pontchartrain and Lake Borgne and will maintain marsh on the St. Tammany Parish side of The Rigolets. Create/nourish 349 acres (212 acres marsh creation, 137 acres marsh nourishment) of emergent marsh with sediment from Little Lake or Lake Borgne.
Cost	Construction + 25% = \$20-\$25M.
Innovation	<p>Stabilize land on both sides of The Rigolets</p> <p>Protect rail line on Rabbit Island</p> <p>Potential to use rail line to bring sediment to Rabbit Island marsh creation cell</p>



EPA Region 6 CWPPRA Team Goals

- ❖ Protect human health and the environment, including water quality, by restoring coastal wetlands
- ❖ Improve local community resilience
- ❖ Restore wetland habitats and protect critical infrastructure
- ❖ Support local stakeholder priorities in synergy with EPA's mission

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PPL 35 PROJECT NOMINEE FACT SHEET
February 6, 2025

Project Name: Manchac WMA Shoreline Protection

Project Location

Region 1, Pontchartrain Basin, St. John the Baptist Parish, Lake Pontchartrain shoreline along the Manchac Wildlife Management Area

Problem

The Lake Pontchartrain shoreline along this reach has been retreating because of historical logging, soft organic soils, natural subsidence, sea level rise, and wind-driven wave impacts. Based on analysis of aerial imagery (2010-2019), the project area is experiencing shoreline loss at a rate of approximately 20 feet per year. It is estimated that without this shoreline protection project 62 acres will be lost within 20 yrs. This shoreline retreat is reducing the Manchac Landbridge between Lake Pontchartrain and Lake Maurepas which is a vital component to the entire ecosystem surrounding the landbridge and Lake Maurepas as it limits the amount of brackish water that can enter the lake. The landbridge also plays a critically important role in the Multiple Lines of Defense Strategy to protect surrounding communities against risks from coastal storm impacts.

Goals

The project goals are to 1) protect approximately 6,700 feet of critical shoreline, 2) protect approximately 62 acres of highly productive swamp and marsh habitat, and 3) protect the landbridge between Lake Pontchartrain and Lake Maurepas.

Proposed Solutions

Based on a 95% Design Report already completed by HDR Engineering, Inc. (HDR) for St. John the Baptist Parish, the proposed project would: 1) Construct approximately 6,700 LF (1.27 mi) of graded riprap with lightweight aggregate core (LWAC) along the Lake Pontchartrain shoreline. Rock would be placed on geotextile fabric and stacked to a settled height of +4.0 ft.

Preliminary Ranking Criteria

- 1) *What is the project's estimated total net acres after 20 years?*
62 net acres.
- 2) *What is the estimated construction cost plus 25% contingency and the estimated fully funded cost?*
The construction cost plus contingency is \$15-20M. The estimated fully funded cost is \$30-35M.
- 3) *What is the project cost effectiveness using fully funded cost/net acres?*
\$483,871 - \$564,516 / net acre.

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

This reach of shoreline is essentially the last segment along the western side of Lake Pontchartrain and the eastern side of the Manchac Landbridge in critical need of protection. This project would work synergistically with:

1. Approximately 5 miles of USACE rock breakwater immediately to the south of the proposed project area.
2. Two phases of rock breakwater north of the proposed project area, between Pass Manchac and Tangipahoa River, in Tangipahoa Parish; both complete. Approximately 2 miles were completed in 2014 (Phase I) using federal CIAP funds. An additional mile directly north of Pass Manchac (Phase II) was recently completed using CPRA RESTORE Act Parish Matching Program funds.
3. Approximately 2 miles of rock breakwater from Frenier Park south to nearly the parish line between St. John the Baptist and St. Charles. Construction of this southern reach of shoreline protection within St. John the Baptist Parish is nearly complete and was funded through GOMESA.

- 5) *What is the interior loss rate and/or shoreline loss rate? And what is the source of the data?*

The shoreline erosion rate of the proposed project area is 20 ft/yr. This erosion rate was sourced from HDR's 95% Design Report and calculated using NAIP imagery for 2010, 2013, 2015, 2017, and 2019 and DSAS software.

- 6) *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 or is part of a land bridge feature?*

This shoreline protection project would maintain the structural integrity of the Manchac Landbridge, a natural feature that directly impedes storm surge and is a vital component of the Multiple Lines of Defense Strategy for this region.

- 7) *Does the project result in net positive and direct benefits on critical infrastructure?*

The proposed project is intended to maintain the swamp and marsh of the Manchac Landbridge, which serves as a protective barrier against storm surge and waves during tropical events to communities west of Lake Pontchartrain.

U.S. Interstate 55 (I-55) is the main thoroughfare that runs north-south directly across the Manchac Landbridge, and although it is a raised stretch of interstate, it has been closed during periods of intense smoke and/or fog. When I-55 is closed, Old U.S. 51 (aka, "Low Road 51") is the only other access route across this corridor.

Other Considerations:

- Because St. John the Baptist Parish has already funded a 95% Design for this reach of shoreline protection, there may be a cost savings to the CWPPRA program and an ability to expedite this project through the Phase I CWPPRA process.
- St. John the Baptist Parish has already obtained coastal use permits through the state and USACE (expiration dates are April 2028 and May 2028, respectively).
- Surveys conducted by HDR indicate that there are no known pipelines or major anomalies within the project area. Additionally, no known cultural resources were found within the proposed reach.
- Access dredging is not needed for many portions of the project area because of the steep nearshore bathymetry.

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Manchac WMA Shoreline Protection PPL 35 Nominee



Manchac WMA Shoreline Protection

Region 1, Pontchartrain Basin, St. John the Baptist Parish, LA



NRCS Project Team

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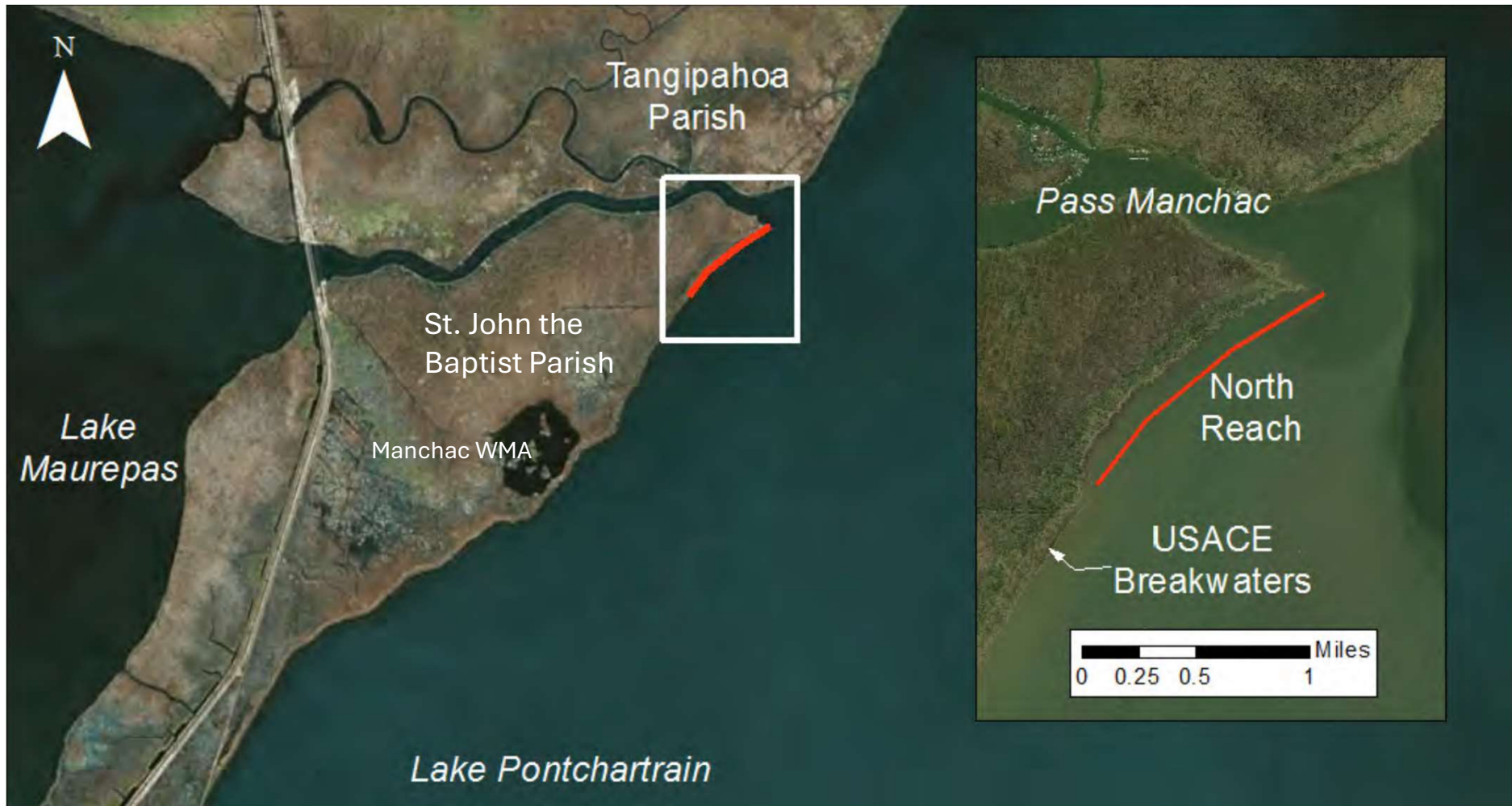


Partners

St. John the Baptist Parish

Louisiana Department of Wildlife and Fisheries



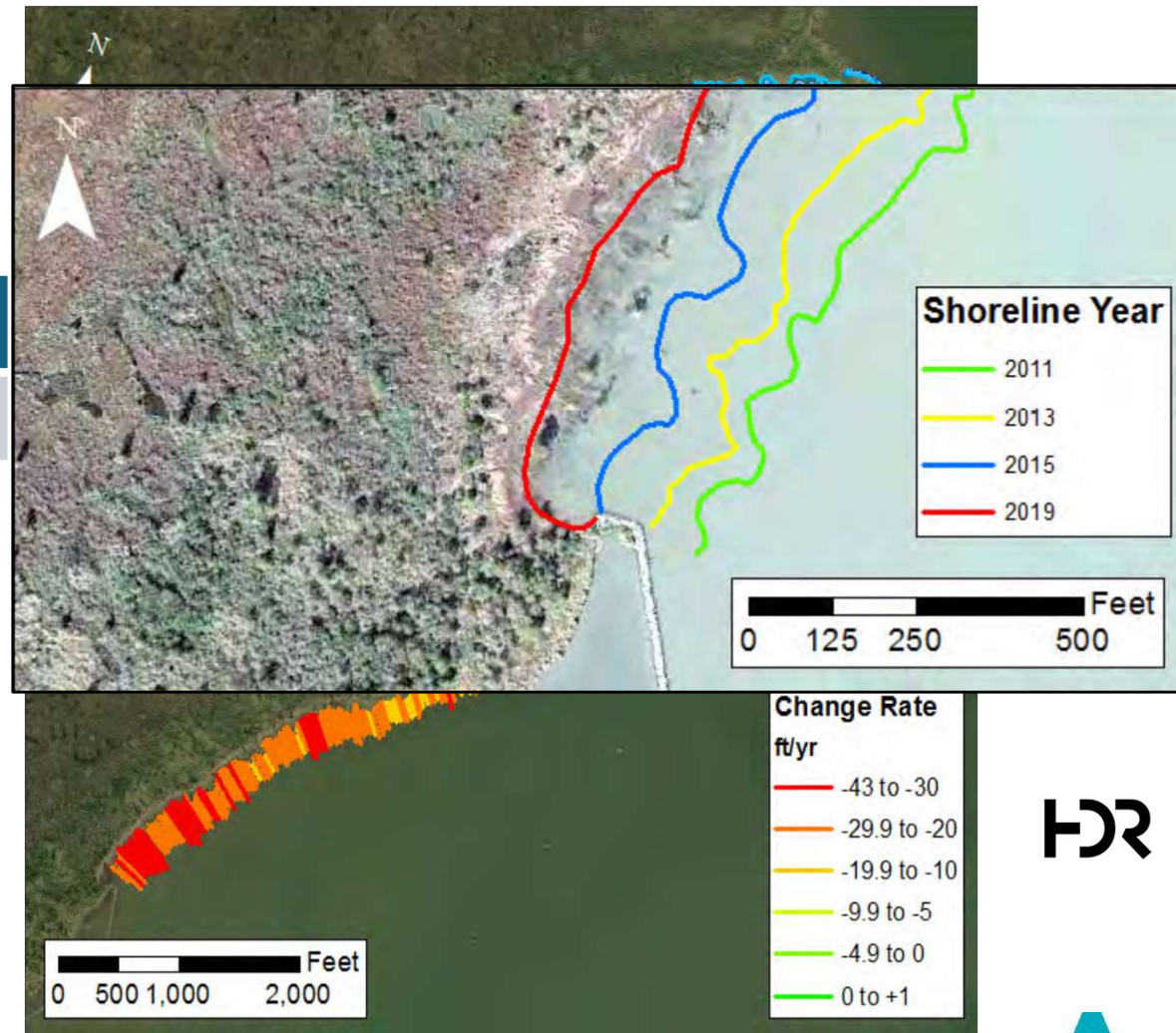


Manchac WMA Shoreline Erosion Rate

Time Period	Erosion Rate	Source
2010-2019	-20 ft/yr	HDR (DSAS)

Caused by:

- historic logging (cypress)
- soft organic soils
- subsidence
- sea level rise
- wind driven wave impacts



HDR



Goal

To reduce or halt shoreline erosion along the northeastern side of Manchac WMA

Proposed Solution

~6,700 LF (1.27 miles) of graded riprap with LWAC and stacked to a height of +4.0 ft

Preliminary Project Benefits

~62 acres protected

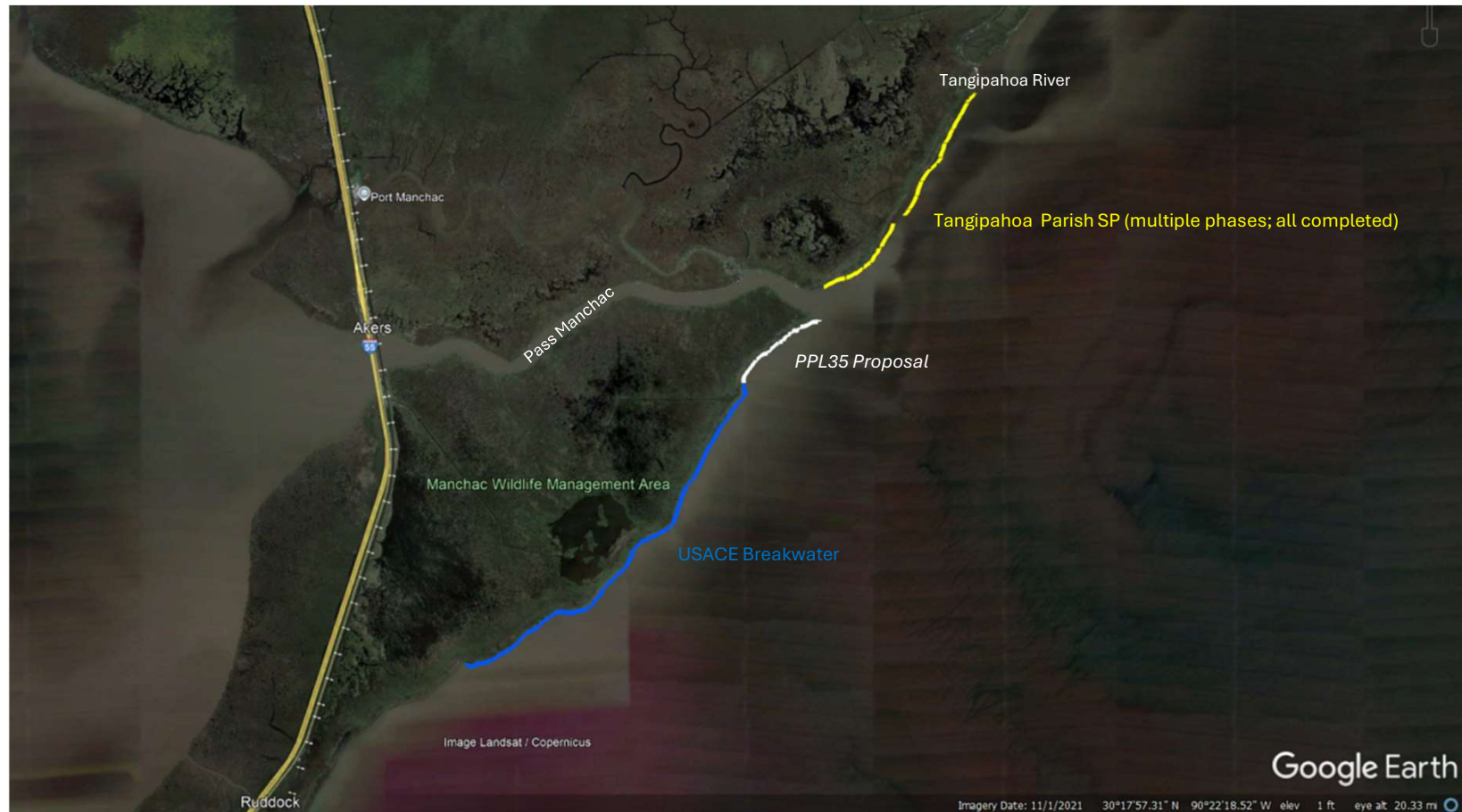
Cost Est + Contingency

~\$15-20M

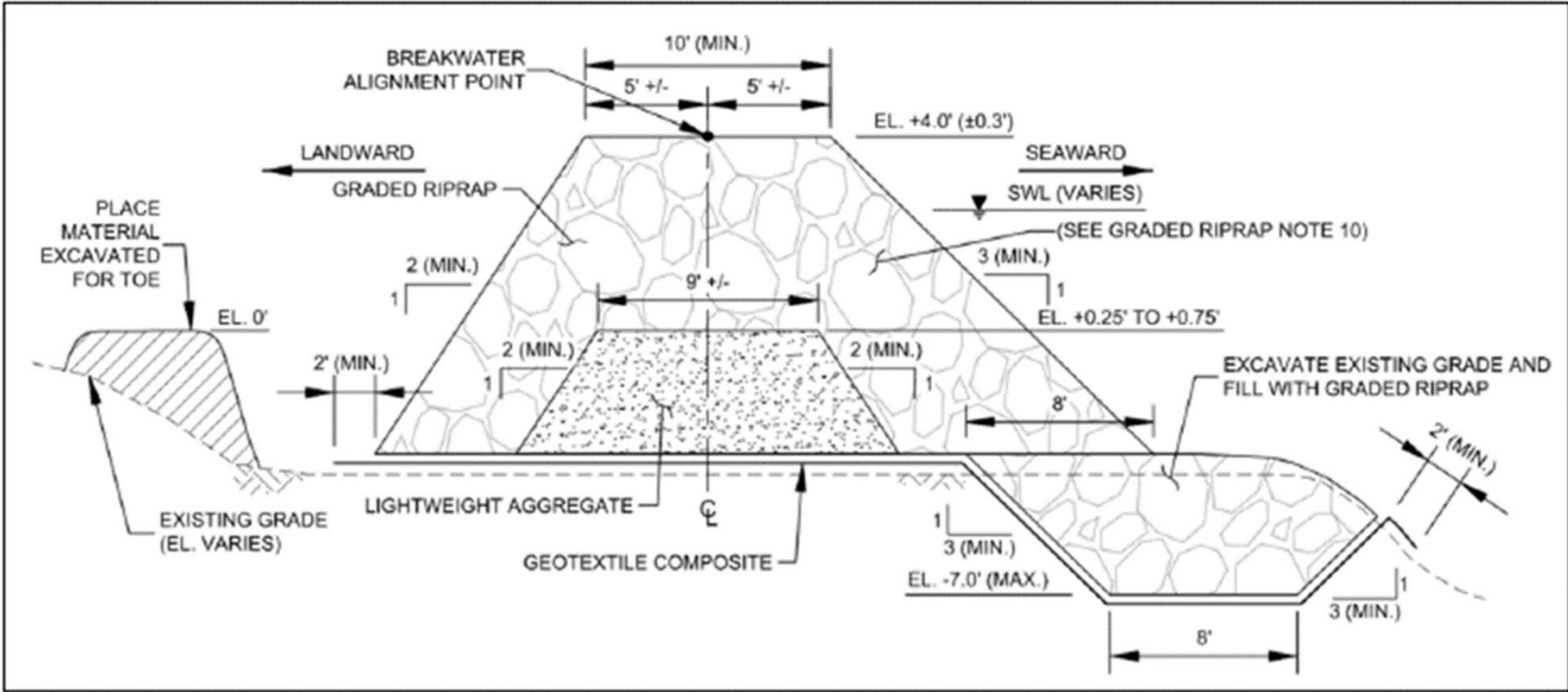


Manchac WMA Shoreline Protection

Synergy and Critical Infrastructure Protection



Manchac WMA Shoreline Protection Proposed Design



PPL35 PROJECT NOMINEE FACT SHEET

February 6, 2025

Project Name

North Rigolets Marsh Creation

Project Location

Region 1, Pontchartrain Basin, St. Tammany Parish

Problem

Wetland loss in the Pontchartrain Basin is due to erosion of wetlands, saltwater intrusion, subsidence, and hurricane-induced damage. Data from the nearby CRMS 3784 station show an average marsh elevation of +0.56 ft NAVD88 GEOID 12B, whereas the 5-year average water elevation is +0.77 ft NAVD88 GEOID 12B. Additionally, deep subsidence from the GEOTIFF Raster file is 2.20 mm/yr or 0.14 ft over 20 years. The USGS land change trend from 1985 to 2020 for the Pearl River Marshes subunit (244) is -0.14% per year, and the areas within the project footprint are converting to open water according to recent aerial imagery.

Proposed Solution

The proposed solution would be to create and nourish approximately 431 acres of tidal marsh, maintain hydrologic patterns and historic flow paths, along the northern shoreline of the Rigolets. Sediment will be hydraulically pumped from Lake St. Catherine into a fully contained marsh creation cells. Temporary earthen containment dikes will be constructed using internal borrow, and will be gapped within three years of construction to allow tidal exchange and access for estuarine organisms. Living shoreline structures will be added to the Rigolets-facing sides of three marsh creation cells to reduce shoreline erosion and enhance aquatic habitat.

Goals

The project goal is to restore approximately 431 acres of brackish tidal marsh, along the northern shoreline of the Rigolets and adjacent to Geoghegan Canal, that remains intertidal for as much of the 20 year project life as possible (Figure 1).

Project Features

Marsh Creation – 303 acres

Marsh Nourishment – 128 acres

Living Shoreline – 4,137 linear feet

Preliminary Project Benefits

- 1) *What is the project's estimated total net acres after 20 years?*
Net Acres – 300-350 acres
- 2) *What is the estimated construction cost plus 25% contingency and the estimated fully funded cost?*
The estimated construction cost (CC) plus 25% contingency is \$35-40M. The fully funded cost (FFC) is \$51,261,936.
- 3) *What is the project cost effectiveness using fully funded cost/net acres?*

Cost effectiveness - \$170,305 FFC/net acre

FFC (\$51,261,936) / Total Net Acres (301 ac) = Cost effectiveness (\$170,305 FFC/net acre)

- 4) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? (Provide details including proximity, funding/project status, and how the projects collectively contribute to restorations benefits larger than their individual footprints)*

The project will have synergistic effects (Figure 2) with: 1) PO-179 St. Catherine Island Marsh Creation and Shoreline Protection (7.0 miles to the southwest, funded for E&D), 2) PO-169 N.O. Land Bridge Shoreline Stabilization and Marsh Creation (0.9 miles to the southwest, constructed), 3) PO-22 Bayou Chevee Shoreline Protection (8.3 miles to the southwest, constructed), 4) PO-06 Fritchie Marsh Restoration (1.9 miles to the north, funded for E&D), and 5) New Zydeco (1.7 miles to the north, constructed) and NOV-NFL (1.6 miles to the northwest, funded for construction) USACE mitigation projects in the Fritchie Marsh.

- 5) *What is the interior loss rate and/or shoreline loss rate? And what is the source of the data?*

The USGS land change trend from 1985 to 2020 for the Pearl River Marshes subunit (244) is -0.14% per year.

- 6) *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 or is part of a land bridge feature?*

The project would help maintain the integrity of marshes along the northern Rigolets pass.

- 7) *Does the project result in net positive and direct benefits on critical infrastructure?*

The project may have moderate net positive impact to critical infrastructure including residences and businesses along Geoghagen Canal, Hwy 90/Chef Menteur Hwy and the intersection of LA 433/Old Spanish Trail, as well as the greater Slidell area.

Other Considerations

Gulf sturgeon critical habitat and land ownership.

Preparer(s) of Fact Sheet and Contact Information

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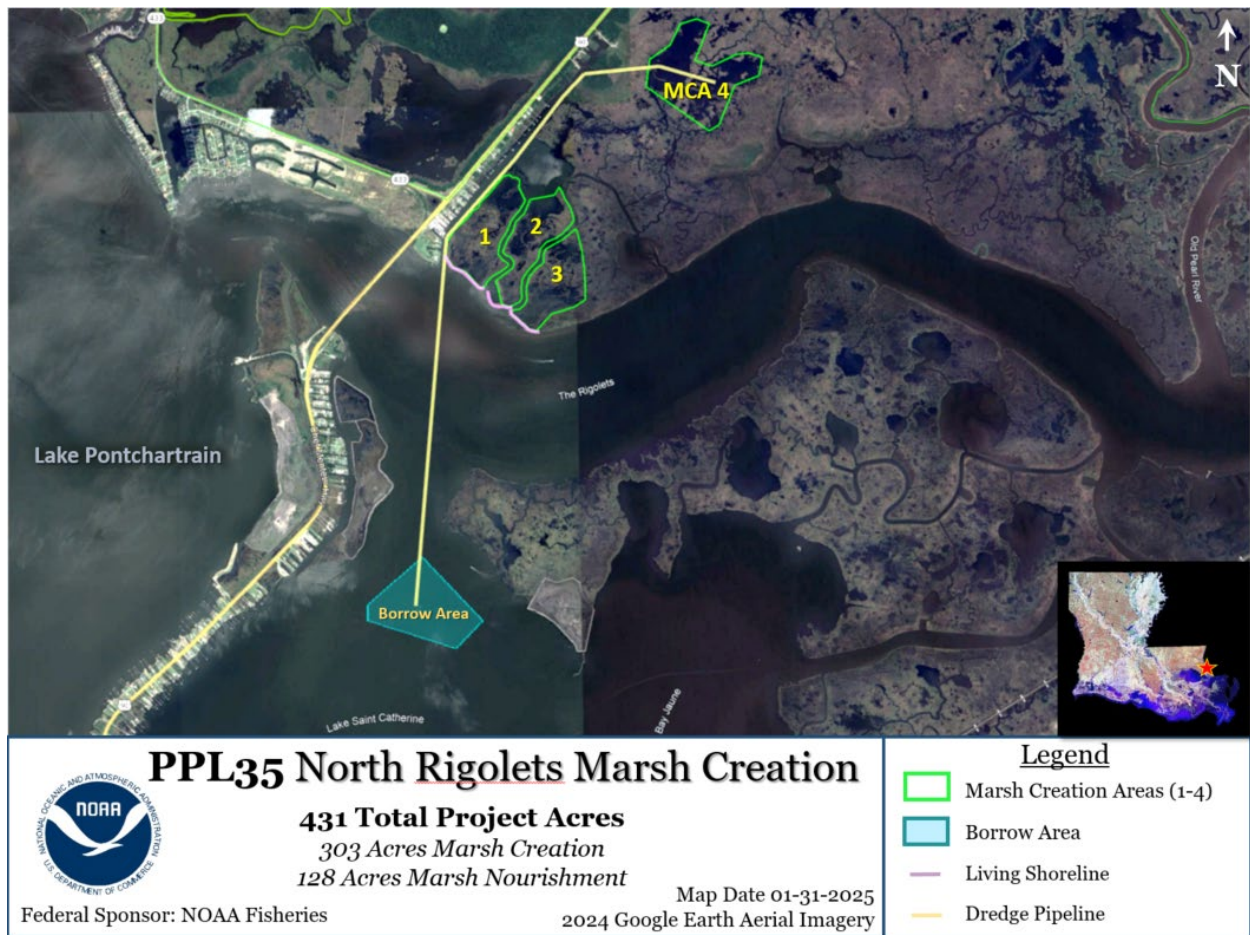


Figure 1. Project Map.



Figure 2. Synergy, Critical Infrastructure, and Critical Landscape Features.



PPL35 North Rigolets Marsh Creation

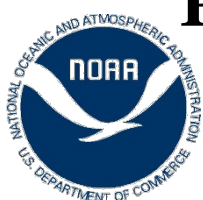
431 Total Project Acres

303 Acres Marsh Creation

128 Acres Marsh Nourishment





Map Date 01-31-2025

2024 Google Earth Aerial Imagery



Federal Sponsor: NOAA Fisheries

Legend

-  Marsh Creation Areas (1-4)
-  Borrow Area
-  Living Shoreline
-  Dredge Pipeline



NOAA
FISHERIES

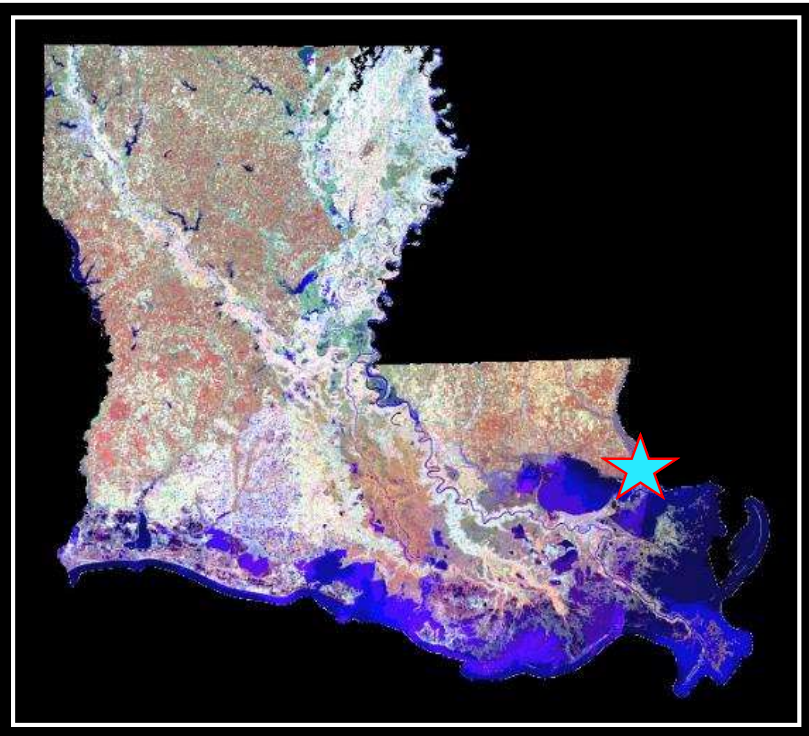
North Rigolets *Marsh Creation Project*

REGION 1: Pontchartrain Basin

Presenter: Craig Gothreaux, Fish Biologist, NOAA

Special Thanks

St. Tammany Parish



PPL 34 CWPPRA Regional Planning Team Meeting

February 6, 2025

Project Vicinity

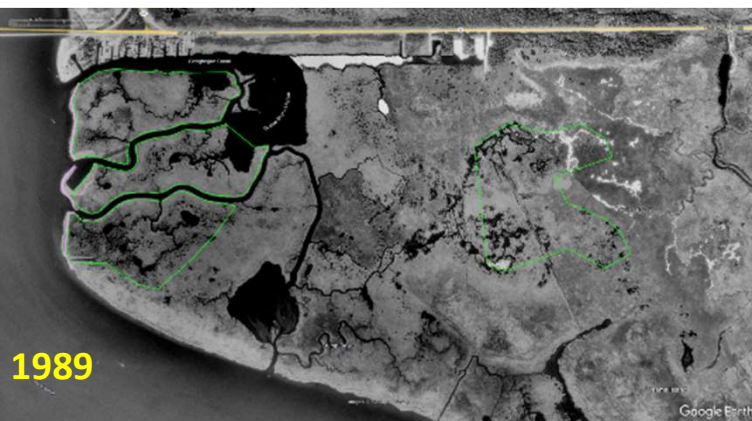
North Rigolets MC



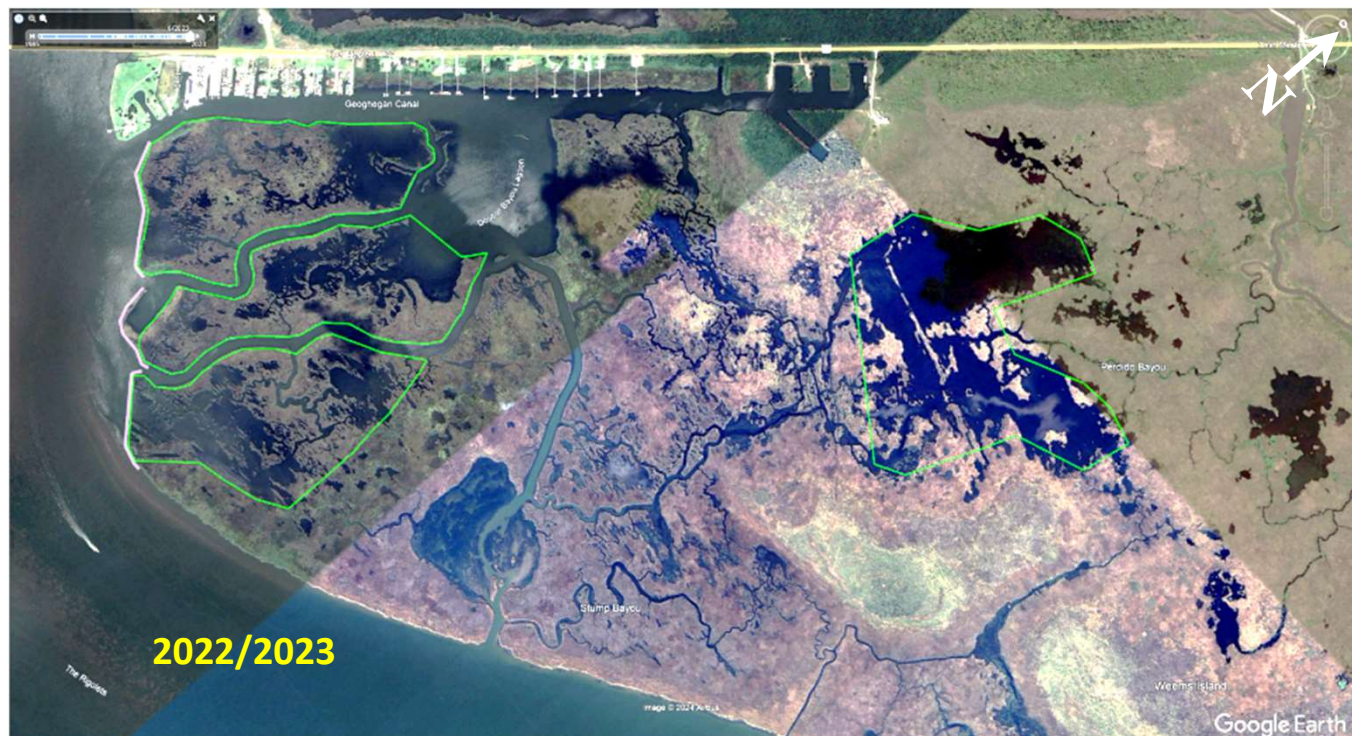
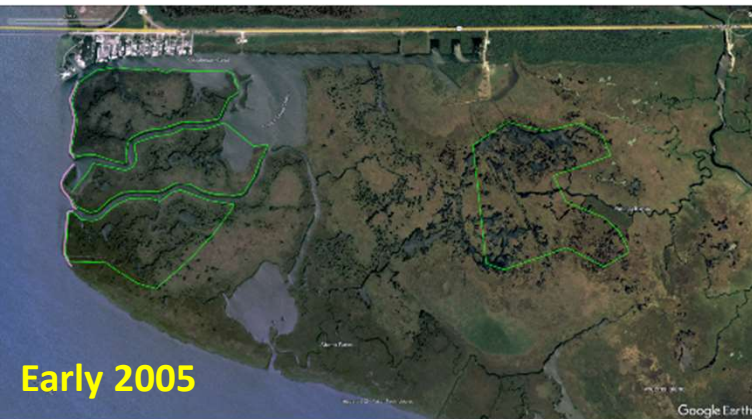
2023 Coastal Master Plan – New Orleans East Marsh Creation Polygon

Project Area Problems

North Rigolets MC



Land change rate (1985-2020 USGS data) for the Pearl River Marshes subunit (244) is $-0.14\%/yr$



Project Elements

North Rigolets MC



❖ 431 Total Project Acres

- Four MCAs
- 303 acres MC
- 128 acres MN
- ❖ 301 Net Acres

❖ Lake St. Catherine Borrow Area

- 130 acres
- 4.3 mile dredge pipeline (max)

❖ Living Shorelines

- Three MCAs along Rigolets

Selection Criteria

North Rigolets MC



Summary

North Rigolets Marsh Creation Project

❖ 431 Total Project Acres

- Four Marsh Creation Areas
 - MCA 1 = 104 ac, MCA 2 = 88 ac, MCA 3 = 92 ac, MCA 4 = 147 ac
- 303 Acres Marsh Creation, 128 Acres Marsh Nourishment

❖ Construction Cost + 25% Contingency: **\$35M – \$40M**

❖ Net Benefits: **300 – 350 Acres**

Contact information:

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PPL35 PROJECT NOMINEE FACT SHEET

February 6, 2025

Project Name

Bayou Sauvage Shoreline Protection

Project Location:

Region 1, Pontchartrain Basin, Orleans Parish

Shoreline Protection is programmatically consistent with the 2023 State Master Plan.

Problem:

Bayou Sauvage NWR is located along the eastern shoreline of Lake Pontchartrain and is considered one of the few urban refuges as it is located only a short distance from the city of New Orleans. This area experienced extensive loss of interior emergent wetlands and severe damage to the lake shoreline from Hurricanes Katrina (2005) and Ida (2021). Continued loss of the weakened project area shorelines has increased the vulnerability of the New Orleans East Hurricane Protection Levee and several roads and other infrastructure. The 1985 to 2020 USGS land loss rate for this area is -0.39%/year from the East Orleans Landbridge subunit. Shoreline erosion rates are estimated to be 1.8 ft/year.

Goals:

The primary goals of this project are to protect approximately 3.5 miles of Lake Pontchartrain shoreline, marsh habitat, and shallow open water in an area impacted by Hurricanes Katrina and Ida. The specific project goals are to 1) protect approximately 21,000 LF (4+ miles) of Lake Pontchartrain shoreline and marsh habitat through the placement of rock revetment along the shoreline, 2) protect approximately 36 acres of marsh, and 3) protect 240 acres of shallow open water and SAV habitat along Lake Pontchartrain shoreline with the placement of 2,000 LF of foreshore rock dike.

Service goals include restoration/protection of habitat for at-risk species. This project would restore habitat potentially utilized by the threatened black rail and other at-risk species such as the seaside sparrow.

Proposed Features

This project would place rock revetment along approximately 21,000 LF of the Lake Pontchartrain shoreline and construct 2,000 LF of foreshore rock dike.

Preliminary Project Benefits

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

The total project area is approximately 100 acres.

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

The project would result in approximately 0-50 net acres 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%)?*

A 50% -74% loss rate reduction is assumed for the marsh creation, marsh nourishment, and shoreline protection.

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 restore a portion of the Lake Pontchartrain shoreline.

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

This project would help protect a portion of the New Orleans East Hurricane Protection Levee, Highway 11, railroad tracks, Interstate 10, several businesses along Irish Bayou, and several camps and houses, and a major powerline.

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 constructed Bayou Chevee Shoreline Protection (PO-22), New Orleans Landbridge Shoreline Stabilization and Marsh Creation (PO-169), St. Catherine Shoreline Protection and Marsh Creation, FWS shoreline protection and a nearby Corps mitigation site.

Consideration

This project could have pipeline consideration.

Preliminary Cost

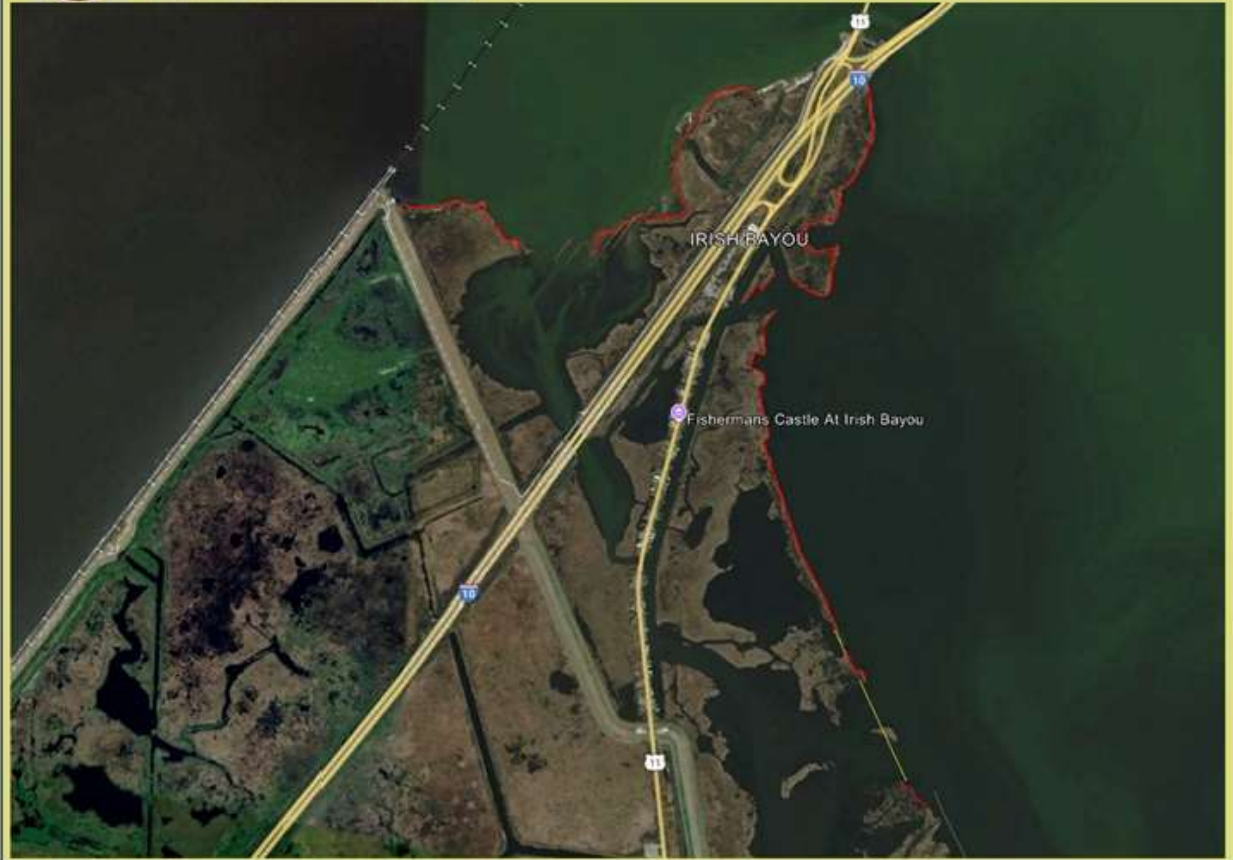
The fully funded cost range is \$15M-\$20M.

Preparer(s) of Fact Sheet:

Robert Dubois, U.S. Fish and Wildlife Service, 337-291-3127, Robert_Dubois@fws.gov



PPL 35
Bayou Sauvage Shoreline Protection
Orleans Parish, Louisiana



PPL35

Bayou Sauvage Shoreline Protection

Region 1, Pontchartrain Basin



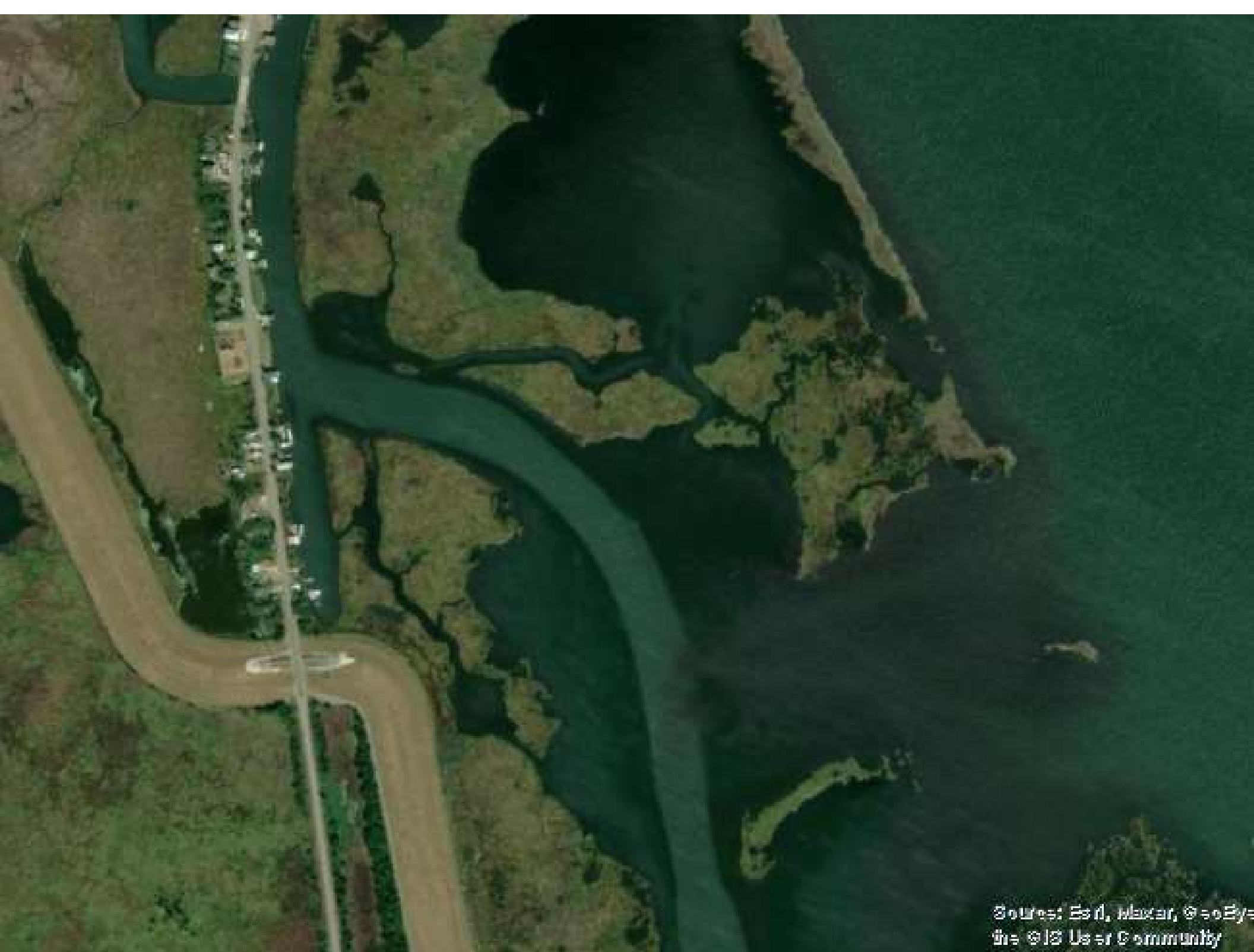
Contacts:

Robert Dubois
Fish and Wildlife Biologist
robert_dubois@fws.gov
(337) 291-3127



Bayou Sauvage Shoreline Protection

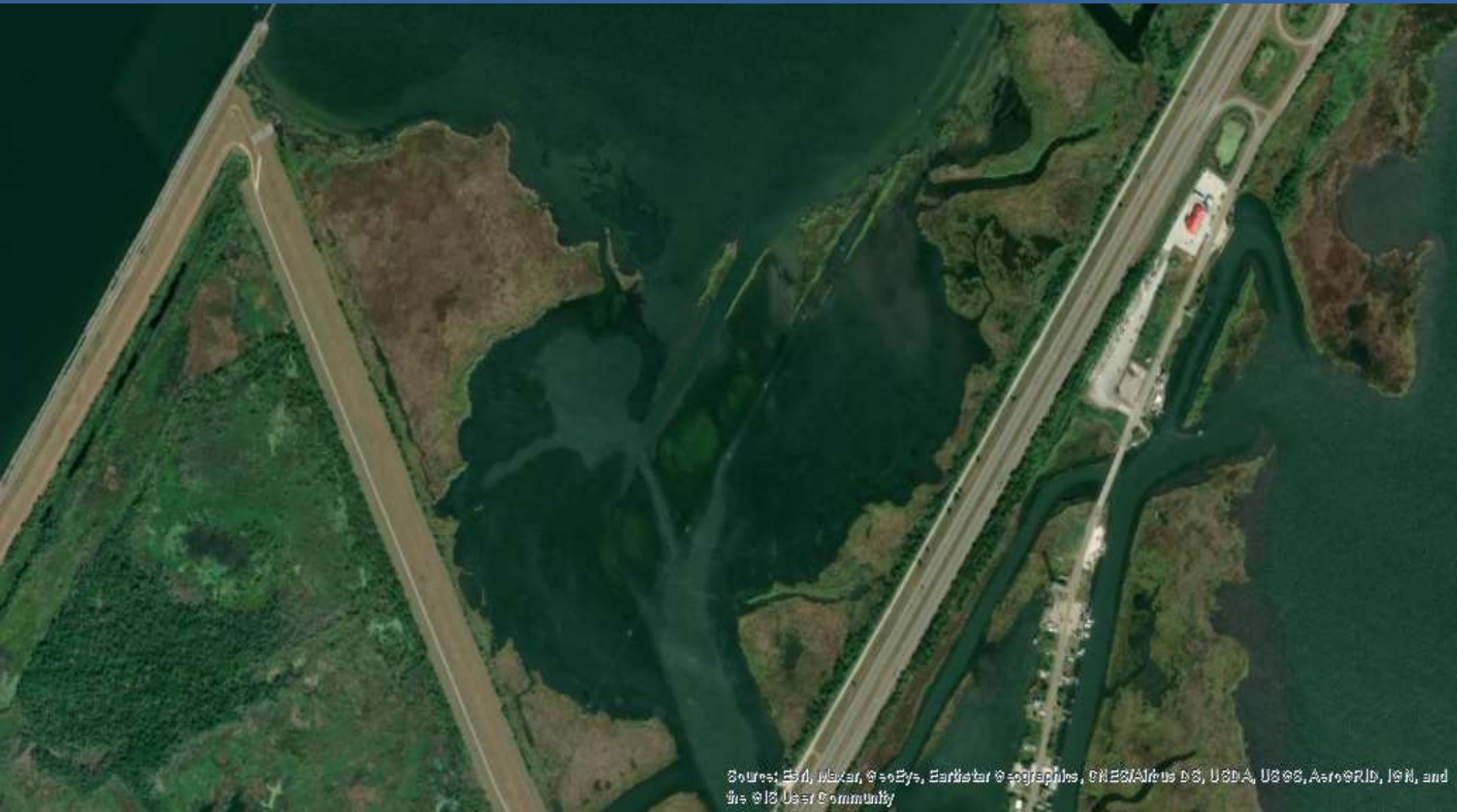




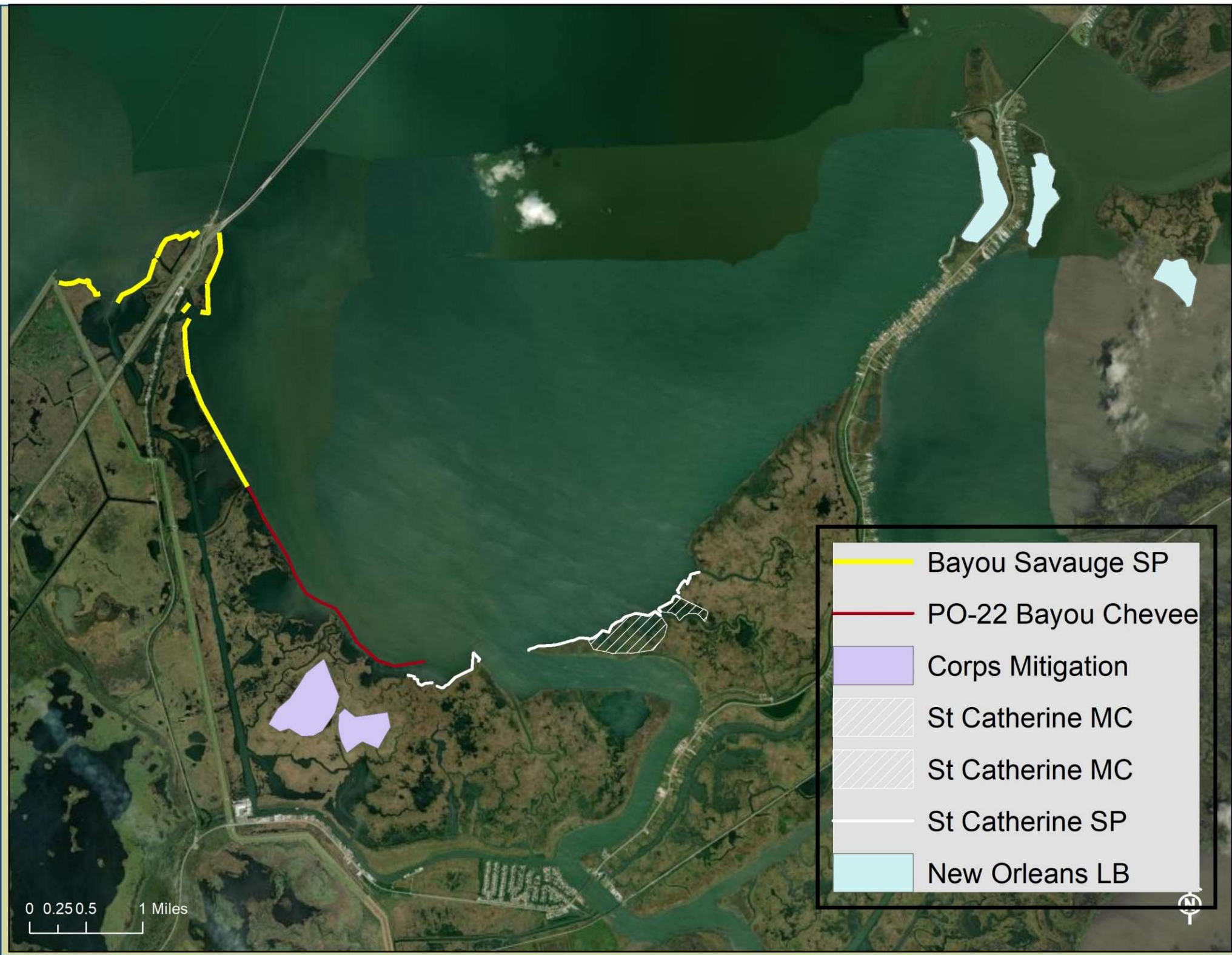
Source: Esri, Maxar, GeoEye,
the GIS User Community



Source: Esri, Maxar, GeoEye, Earthstar
the GIS User Community



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bayou Sauvage Shoreline Protection

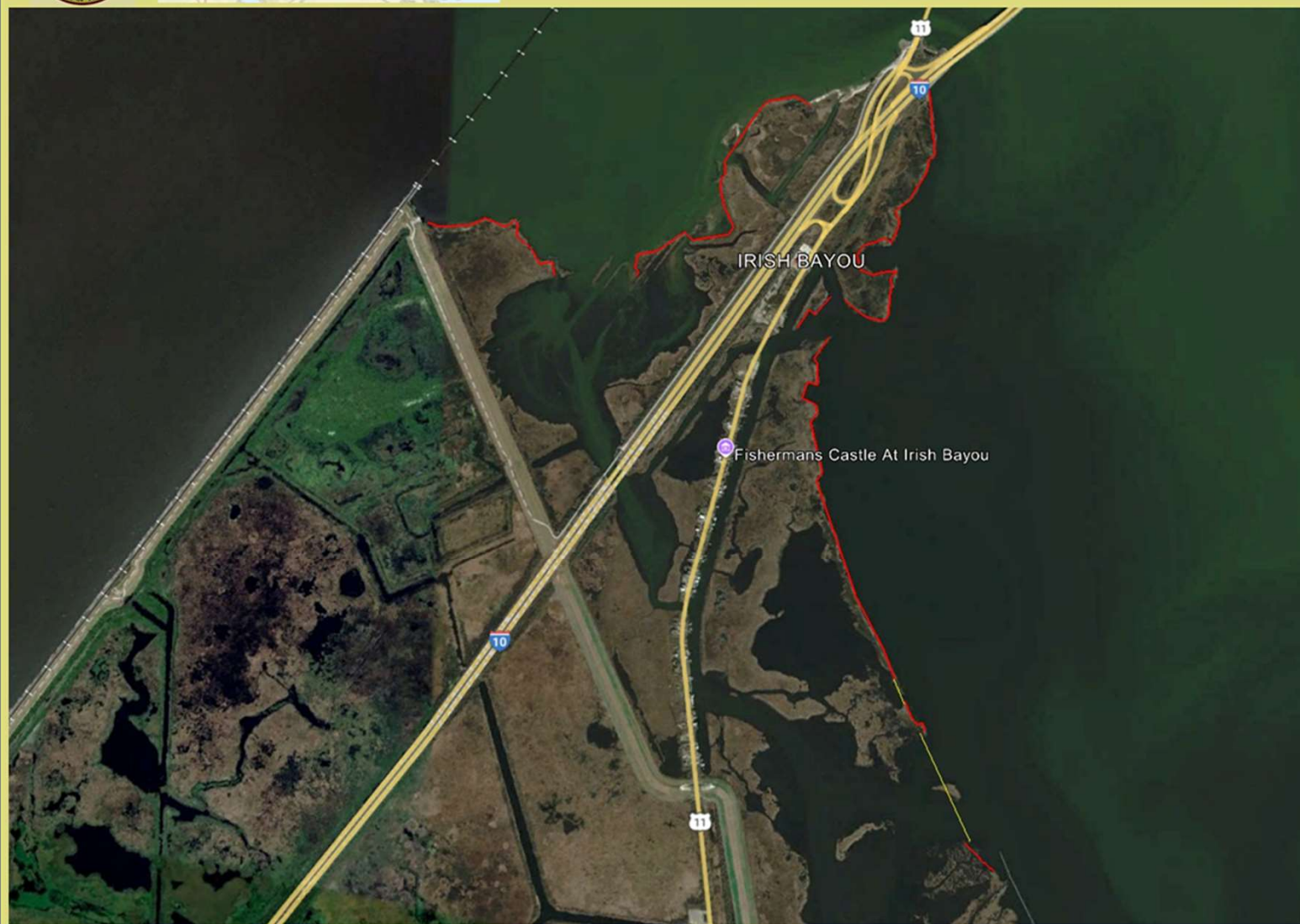
U.S Fish and Wildlife Service

Louisiana Ecological Services



PPL 35

Bayou Sauvage Shoreline Protection
Orleans Parish, Louisiana



- Protects 50-100 acres of marsh
- Protect 14,300 ft of Lake Pontchartrain Shoreline with Rock Revetment
- Construct 5,500 LF of Foreshore Rock Dike
- Construction plus contingency \$15M - \$20M
- Project synergy – PO-22, PO-179, PO-169, CORPS Mitigation
- Protects I-10, Hwy 11, Railroad, Hurricane Levee, Powerlines

Species of Concern and Rare Species



- Least Bittern
- Mottled Duck
- King Rail

PPL35 PROJECT NOMINEE FACT SHEET

February 6, 2025

Project Name

Biloxi Marsh Shoreline Protection

Project Location

Region 1, Pontchartrain Basin, St. Bernard Parish, Lake Borgne and Biloxi Marshes (Biloxi Marsh WMA)

Problem

Historic wetland loss in the area has been primarily due to shoreline erosion caused by seasonal wave action, sediment deprivation, and sea level rise. Additionally, changing salinity patterns from the Mississippi River Gulf Outlet (MRGO) has resulted in the loss of rangia clams that historically acted as natural shoreline buffers. Based on the hyper-temporal analysis conducted by USGS to detect land change trends from 1984 to 2022, the interior loss rate for the Biloxi Marsh area was calculated to be -0.32%/yr. Using maps from 1998 and 2021, Lake Borgne shoreline erosion rates were calculated along the Biloxi Marshes Wildlife Management Area. Shoreline erosion rates in that area ranged from -15 ft./yr. to -31 ft/yr with an average loss of coastal shoreline at a rate of 5.73 acres per year. It is estimated that without the project there would be 126 acres lost due to shoreline erosion.

Goals

The project goals are to 1) protect approximately 15,952 feet of critical shoreline and 2) protect approximately 100-150 acres of highly productive brackish and saline marsh habitat over the 20-year project life.

Proposed Solution

Approximately 15,952 LF of Lake Borgne shoreline would be protected with the construction of shoreline revetment. The shoreline would be straightened (as much as possible) with the use of a bucket dredge. An earthen dike (2 ft tall, 4 ft crown width) would be constructed on the shoreline. Geotextile cloth would be placed over this earthen dike and approximately 30 ft into the water and rock would be placed on the geotextile cloth. Large bayous and waterways would be left open for fisheries and boating access.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
The total project area is approximately 150 acres which includes the rock dike and the area between the rock dike and the shoreline would be directly benefited.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Net acres would be between 100-150 acres protected over the 20-yr project life.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
The loss rate would be reduced by greater than 75%.

- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?* This project would protect a large portion of the Lake Borgne shoreline as well as numerous interior ridges near that shoreline.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
None.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would work synergistically with the existing CIAP project, PO-30, PO-72, PO-178, and PO-180 projects.

Considerations

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 Costs

The estimated construction cost plus contingency that we will be using for this project (rock revetment) is between **\$20-\$25 M.**

FYI:

We are not proposing a foreshore dike but for informational purposes we estimated construction cost of Foreshore dike plus contingency to be between \$30-\$35M.

Preparer(s) of Fact Sheet:

Robert Dubois, FWS, 337-291-3127, robert_dubois@fws.gov



Biloxi Marsh Shoreline Protection (PPL33 Candidate)



- Shoreline Protection
- Project Boundary

Note: All features are proposed.



Scale: 1:35,000

Map ID: 2023-11-0015
Map Date: June 23, 2023

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Baton Rouge, LA

Image Source:
2021 NAIP CIR

PPL35

Biloxi Marsh Shoreline Protection

Region 1, Pontchartrain Basin



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Fish and Wildlife Biologist

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(337) 291-3127



2023 State Master Plan – Biloxi Marsh Shoreline Protection

PROGRAMMATIC RESTORATION PROJECTS

CPRA implements several types of projects that are not individually identified in the master plan. With the exception of barrier island maintenance, these projects are often smaller scale, designed to address site-specific issues, and typically provide highly localized benefits. While these types of projects are not explicitly listed in the plan, they are consistent with the master plan. More information on programmatic restoration projects can be found on p. 64.



Barrier Island Maintenance



Oyster Reef Restoration



Shoreline Protection



Bank Stabilization



Programmatic Restoration



Biloxi Marsh Shoreline Protection (PPL33 Candidate)



- Shoreline Protection
- Project Boundary

Note: All features are proposed.



Scale: 1:35,000

Map ID: 2023-11-0015
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U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Baton Rouge, LA

Image Source:
2021 NAIP CIR



Biloxi Marsh Shoreline Protection (PPL33 Candidate) Shoreline Change Rate from 1998 to 2021

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Baton Rouge, La.

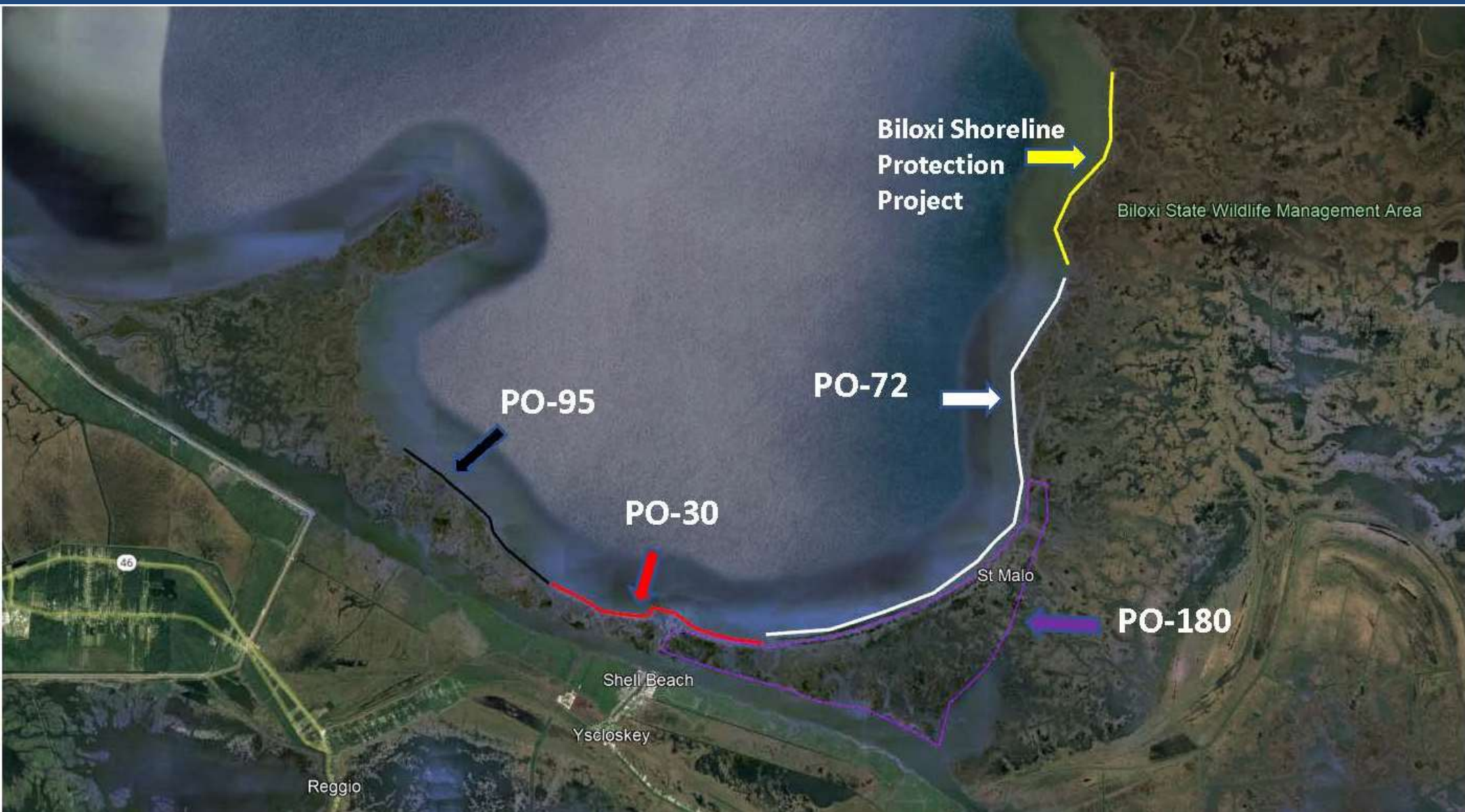
Background Imagery:
2021 NAIP Photography
Map Date: June 23, 2023
Map ID: USGS-NWRC 2023-11-0016

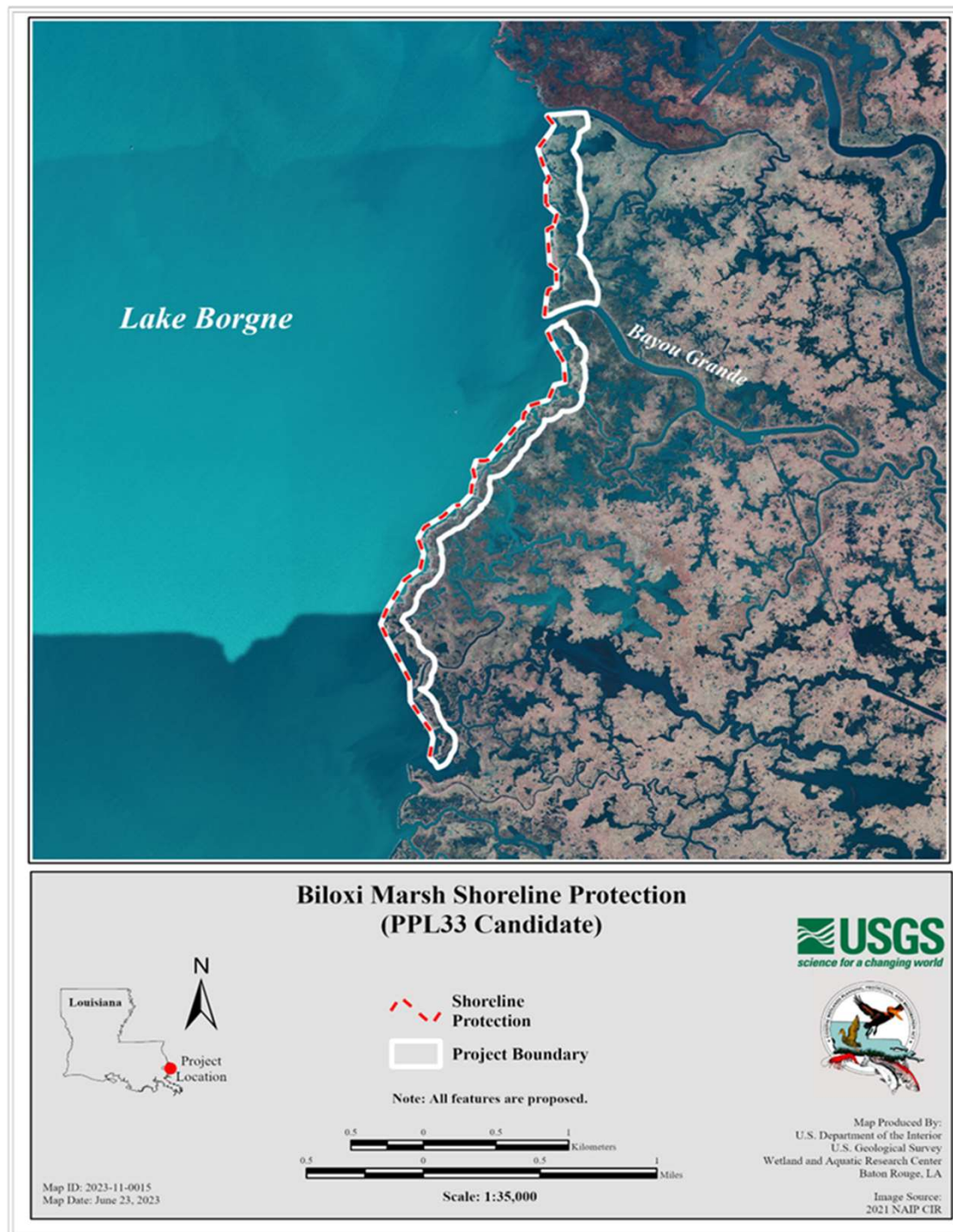
- 1998 DOQQ Photography Shoreline
- 2021 NAIP Photography Shoreline
- 1998-2021 Area of Shoreline Loss

	98-21 Area	Avg. Shoreline	Change Rate
Reach 1	5,432,172 sq. ft.	7,649 ft.	-31 ft./yr
Reach 2	5,962,759 sq. ft.	17,520 ft.	-15 ft./yr

1,000 0 1,000 2,000
Feet







- Construct 16,000 LF of Foreshore Rock Dike with Light Weight Agg. Core
- 233 acres of marsh protected
- Net acres = 100 - 150
- Construction plus contingency \$10M - \$15M
- Project synergy – Lake Borgne MC (PO-180), Lake Borgne SP (PO-30), MRGO and Lake Borgne (PO-95), and Biloxi Marsh SP (PO-72).

PPL35 PROJECT FACT SHEET

February 6, 2025

Project Name

Portman Lagoon Marsh Creation and Terraces

Master Plan Strategy

Portman Lagoon Marsh Creation (2023 Master Plan ID: 35; Implementation Period 1): Creation of marsh within a footprint of approximately 1,900 acres 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, St. Bernard Parish

Problem

As a result of canals, storm events, subsidence, and sea level rise, among other factors, the marsh has degraded between the Islenos fishing villages of Hopedale, Shell Beach and Yscloskey. As the marsh between the villages continues to degrade, they merge with Portman Lagoon creating a much larger open water area, bringing increased wave fetch, storm surge, and conversion of the remaining fragmented wetlands into open water areas. The area remains vulnerable to future hurricane damage and subsidence.

Proposed Solution

The Portman Lagoon marsh creation and terraces will impact 467 acres by providing coastal habitat, restore natural hydrology, provide storm surge attenuation, and improve local community resilience. Sediment sourced from Lake Ameda will create/nourish 323 acres of emergent marsh. In situ borrow will be utilized to build two terrace fields totaling 144 acres.

Project Benefits

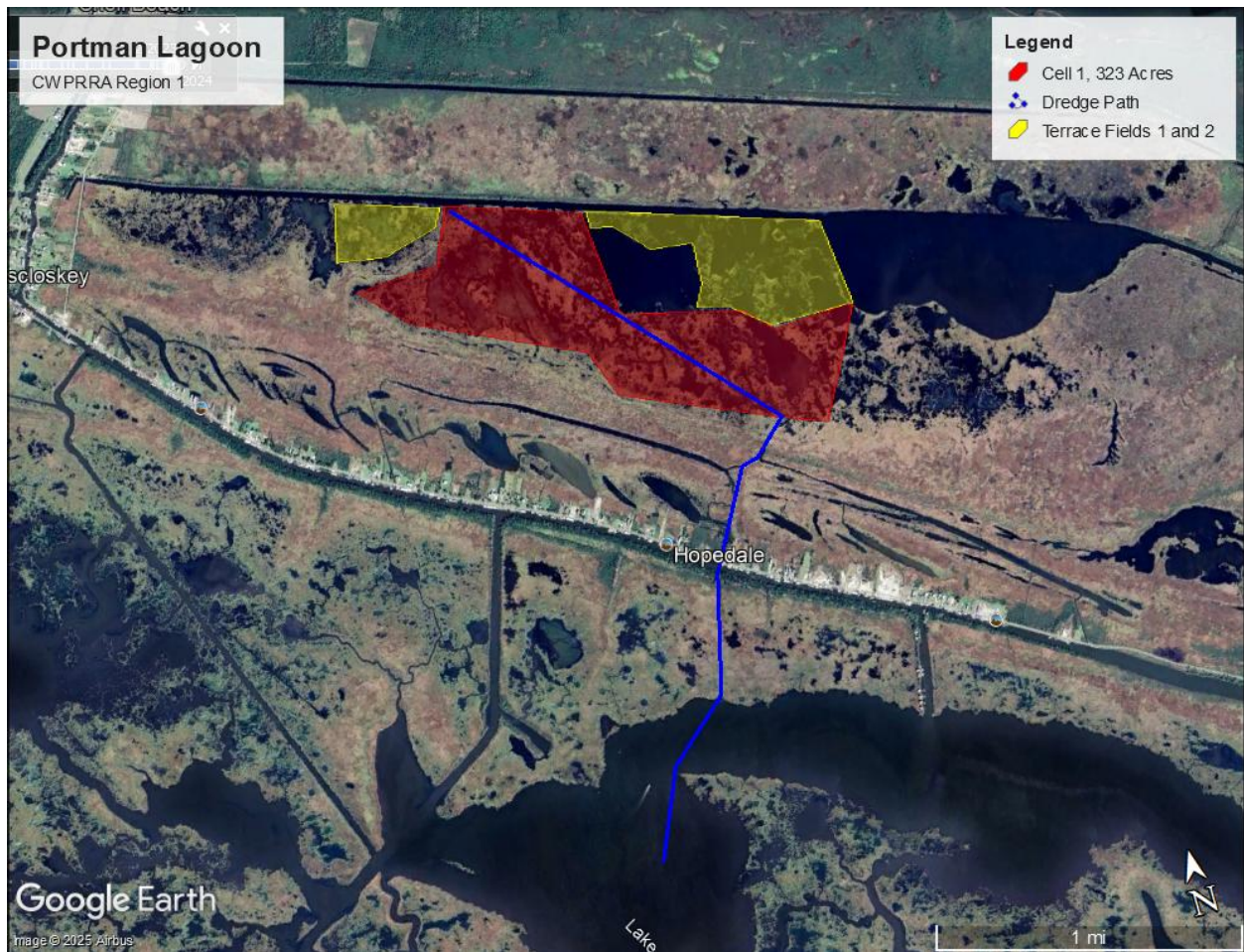
Create/nourish 323 acres of emergent marsh and 144 acres of terrace field.

Project Costs

The estimated construction cost, including 25% contingency, is \$25-30M.

Preparer(s) of Fact Sheet:

Blaise Pezold, Meraux Foundation; (504) 264-8125; blaise@merauxfoundation.org



Portman Lagoon Marsh Creation and Terraces

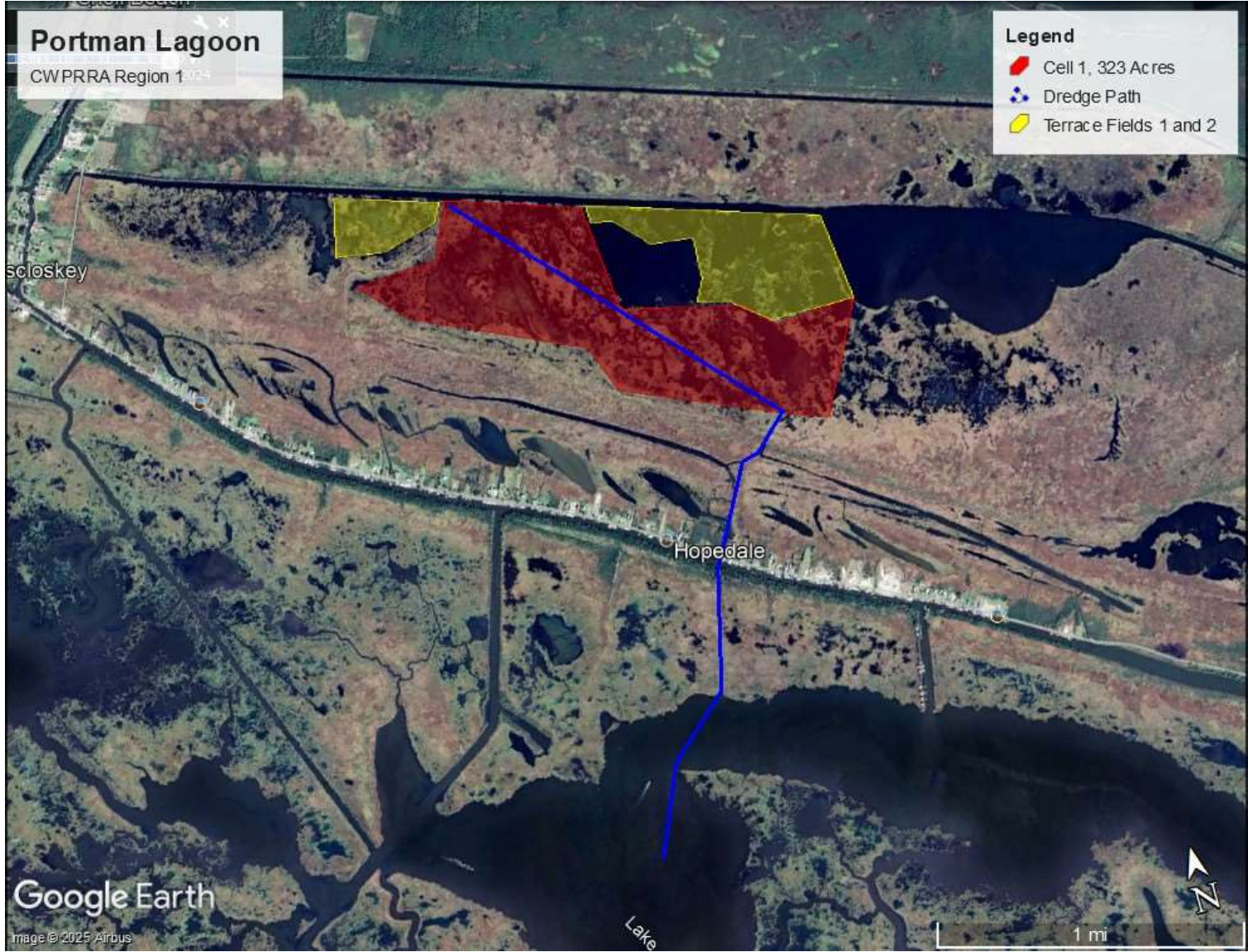
NRCS/Meraux Foundation

Blaise Pezold



Land lost from 1989-2023





Synergy with other plans and projects:



Marsh Creation

Hopedale Marsh Creation

Project ID: SBBS.03

PROBLEM

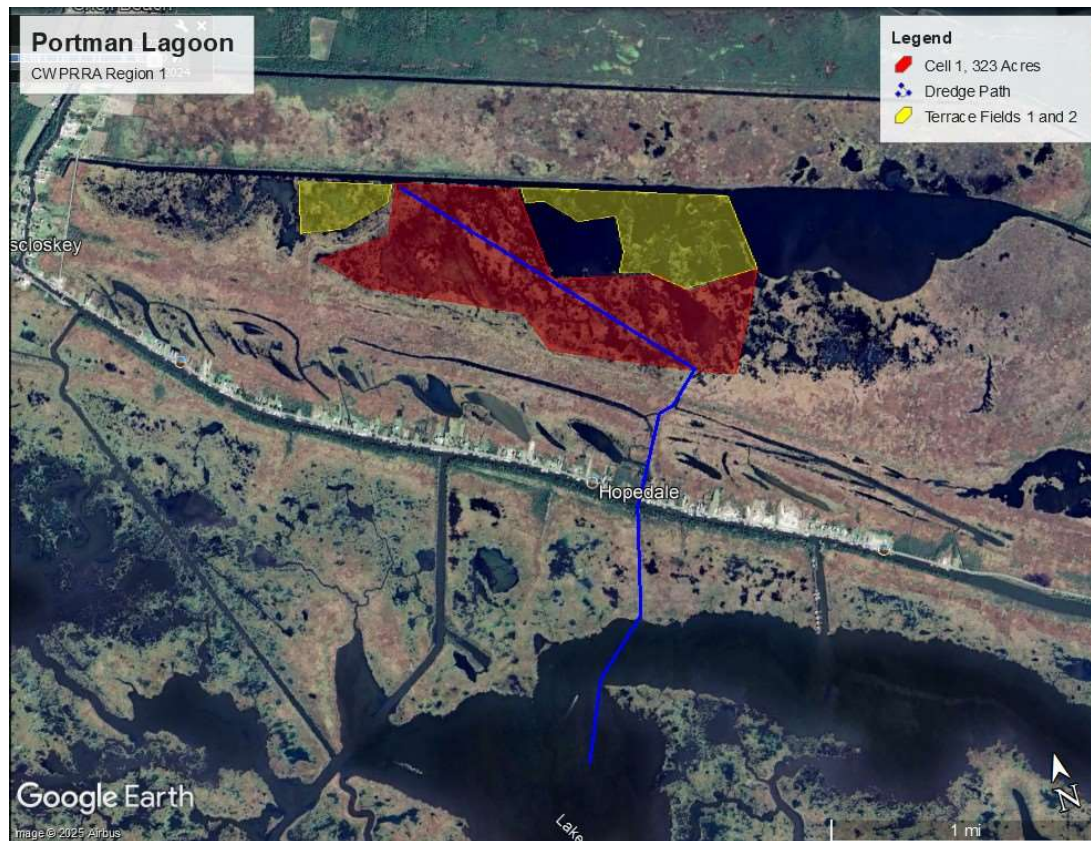
Subsidence, saltwater intrusion, erosion, tropical weather events, and the construction of the MRGO have caused the marsh near Hopedale to deteriorate over time. The deterioration of the marsh has resulted in the loss of land and critical habitat.



PRIORITY



Portman Lagoon project totals:



Total acres: 467

Marsh Creation: 323 acres

Terraces: 144 acres

\$25-30 million